IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

CARTIER, a division of RICHEMONT NORTH AMERICA, INC. 645 Fifth Avenue, 5th Floor New York, New York 10022, Plaintiff, v. WING HON METAL MANUFACTORY LTD., Unit A-B, 10th Floor, Block No. 1, Wah Fung Industrial Centre, 33-39 Kwai Fung Crescent, Kwai Chung, New Territories, Hong Kong, China, Defendant.	Case Number 1:06CV01747/RMC

AMENDED COMPLAINT FOR DECLARATORY JUDGMENT

Plaintiff Cartier ("Cartier"), a division of Richemont North America, Inc. ("Richemont"), for its Amended Complaint against defendant Wing Hon Metal Manufactory Ltd. ("Wing Hon"), upon knowledge as to itself and upon information and belief as to Wing Hon, by and through its undersigned attorneys, alleges as follows:

THE PARTIES

1. Plaintiff Cartier is a division of Richemont, a corporation incorporated under the laws of the State of Delaware, having its principal place of business at 645 Fifth Avenue, 5th Floor, New York, New York 10022. Cartier regularly conducts business in this District.

2. Defendant Wing Hon is a corporation incorporated under the laws of Hong Kong, China, having its principal place of business at Unit A-B, 10th Floor, Block No. 1, Wah Fung Industrial Centre, 33-39 Kwai Fung Crescent, Kwai Chung, New Territories, Hong Kong, China.

THE '153 PATENT

3. Wing Hon is named as the assignee of U.S. Patent No. 6,964,153 (the "'153 patent"), entitled "Components for Timepiece and Method of Manufacturing Thereof," a copy of which is attached hereto as Exhibit A. The '153 patent issued on November 15, 2005 from U.S. Application No. 10/328,474 (the "U.S. application"), which was filed on December 24, 2002.

4. Wing Hon is also named as the proprietor of United Kingdom Patent No. GB2374516 (the "UK patent"), entitled "Band for timepiece and method of manufacturing same," a copy of which is attached hereto as Exhibit B. The UK patent issued on June 4, 2003 from UK Application No. 0200046.1 (the "UK application"), which was filed on January 2, 2002.

5. The U.S. application that issued as the '153 patent claims priority to the filing date of the UK application.

NATURE OF ACTION

6. This is an action seeking a declaratory judgment that Cartier does not infringe and has not infringed the '153 patent, and that the '153 patent is invalid and void for failure to comply with one or more of the conditions and requirements of the patent laws, including without limitation 35 U.S.C. §§ 101, 102, 103 and/or 112, and/or the rules, regulations and laws pertaining thereto.

JURISDICTION AND VENUE

7. This Court has subject matter jurisdiction over this action pursuant to 28 U.S.C. §§ 1331, 1332(a), 1338, 2201 and 2202.

8. This Court has jurisdiction over this action pursuant to 28 U.S.C. §§ 2201 and 2202 because there is an actual and justiciable controversy between Cartier and Wing Hon with respect to the infringement and validity of the '153 patent for which Cartier requests a

declaration by this Court. Cartier has a reasonable apprehension that Wing Hon will file suit against Cartier for infringement of the '153 patent, based on the allegations, threats and general course of conduct of Wing Hon, as detailed in paragraphs 9 to 13 below, and Cartier's marketing and sale in the United States of the product accused by Wing Hon of infringement, as detailed in paragraphs 14 and 15 below.

9. In a letter dated June 2, 2006, a copy of which is attached hereto as Exhibit C, from Wing Hon's solicitors in Hong Kong ("Wing Hon's solicitors") to Cartier S.A. c/o Richemont Asia Pacific Limited, an affiliate of plaintiff Cartier in Hong Kong, Wing Hon's solicitors stated that Wing Hon is the proprietor of the UK patent and that the Cartier "Pasha Seatimer" watch infringed the UK patent. Wing Hon's solicitors also stated that they would sue for infringement unless Cartier S.A. agreed to settle within 14 days, stating that "[Wing Hon] has instructed us to take out legal proceedings for appropriate legal remedies to stop your act of infringement" and "[u]nless this matter is settled amicably within 14 days, our client shall have no alternative but to take such steps as are necessary, including commencement of legal proceedings in order to protect its right and interest."

10. In a letter dated June 28, 2006, a copy of which is attached hereto as Exhibit D, from Wing Hon's solicitors to Richemont International Limited ("Richemont International"), an affiliate of plaintiff Cartier in the United Kingdom, Wing Hon's solicitors stated that in addition to the UK patent, Wing Hon "has been granted corresponding patents in the U.S." and elsewhere. Wing Hon's solicitors also stated that they would sue for infringement, stating that "our client shall commence legal action . . . for the infringement of our client's patent[,]" unless Richemont International and its subsidiaries and distributors, *inter alia*, ceased manufacturing, marketing

and selling the Cartier Pasha Seatimer watch, paid Wing Hon damages, and reimbursed Wing Hon for its legal costs, within 14 days.

11. In a letter dated August 2, 2006, a copy of which is attached hereto as Exhibit E, from Wing Hon's solicitors to Richemont International, Wing Hon's solicitors stated that they would sue for infringement, stating that "we are in the course of preparing our client's case for litigating this matter in Court[,]" unless Richemont International accepted Wing Hon's offer of a license under the UK patent and its Hong Kong counterpart patent.

12. In a separate letter dated August 2, 2006, a copy of which is attached hereto as Exhibit F, from Wing Hon's solicitors to Richemont International, Wing Hon's solicitors stated that "corresponding patents . . . have been granted in both the U.S. and the PRC notwithstanding the prior arts [sic] cited in [Richemont International's] letter." Wing Hon's solicitors also stated that they would sue for infringement, stating that "[u]nless we receive from you forthwith confirmation that the demands set out in our previous letters will be complied with, legal action will be taken by our client without further notice."

13. In a letter dated August 30, 2006, a copy of which is attached hereto as Exhibit G, from Wing Hon's solicitors to Richemont International, Wing Hon's solicitors stated that an argument made by Richemont International with respect to the UK patent "does not apply to corresponding patents in other jurisdictions." Wing Hon's solicitors also stated that they would sue for infringement in several jurisdictions, stating that "our client have [sic] already obtained a validity report from US Patent Attorneys[,]" that "[e]nforcement proceedings will be instituted in multi-jurisdictions [sic] if circumstances require[,]" that "[w]e are instructed to remind you not to underestimate our client's determination to enforce their rights in connection with their patents"

and that "[i]f we again fail to receive your favourable reply in the near future, we have instructions to cease negotiation and proceed with enforcement action."

14. Plaintiff Cartier has sold and offered for sale, and continues to sell and offer for sale, in the United States, including in this District, watches under the name "Cartier Pasha Seatimer."

15. The "Cartier Pasha Seatimer" watch sold and offered for sale by Cartier in the United States as described in paragraph 14 above is the same watch that Wing Hon has accused of infringement in the letters attached hereto as Exhibits C to G and described in paragraphs 9 to 13 above.

16. This Court also has original jurisdiction over this action pursuant to 28 U.S.C. §§ 1331 and 1338(a), because it involves claims arising under the Patent Act, 35 U.S.C. § 1 *et seq.*

17. This Court also has original jurisdiction over this action pursuant to 28 U.S.C. § 1332(a) because the matter in controversy exceeds $75,000 and the action is between Cartier, a citizen of the State of Delaware, and Wing Hon, a citizen of a foreign state.

18. This Court has personal jurisdiction over Wing Hon pursuant to 35 U.S.C. § 293 because Wing Hon is the patentee of the '153 patent, Wing Hon does not reside in the United States, and Wing Hon has not filed in the United States Patent and Trademark Office a written designation stating the name and address of a person residing within the United States on whom may be served process or notice of proceedings affecting the patent or rights thereunder.

19. Venue is proper in this District pursuant to 28 U.S.C. § 1391(d) because Wing Hon is an alien.

COUNT I

DECLARATORY JUDGMENT OF PATENT NONINFRINGEMENT

20. Cartier repeats and realleges each and every allegation contained in paragraphs 1 to 19 above as if fully set forth herein.

21. Cartier's sale and offer for sale in the United States of watches under the name "Cartier Pasha Seatimer" does not infringe, contribute to the infringement of, or induce the infringement of, the '153 patent, nor has it ever done so.

COUNT II

DECLARATORY JUDGMENT OF PATENT INVALIDITY

22. Cartier repeats and realleges each and every allegation contained in paragraphs 1 to 21 above as if fully set forth herein.

23. The '153 patent is invalid and void for failure to comply with one or more of the conditions and requirements of the patent laws, including without limitation 35 U.S.C. §§ 101, 102, 103 and/or 112, and/or the rules, regulations and laws pertaining thereto.

PRAYER FOR RELIEF

WHEREFORE, Cartier respectfully requests that the Court enter judgment:

(a) Declaring that Cartier has not infringed and is not infringing the '153 patent;

(b) Declaring that the '153 patent is invalid;

(c) Permanently enjoining Wing Hon and its affiliates, shareholders, officers, directors, agents, employees, attorneys and all persons or entities in active concert or participation with them, from asserting the '153 patent against Cartier and its affiliates, officers, directors, agents, employees and attorneys;

(d) Awarding Cartier its costs pursuant to Rule 54 of the Federal Rules of Civil Procedure; and

(e) Granting Cartier such other and further relief as the Court deems just and proper.

DEMAND FOR JURY TRIAL

Pursuant to Rule 38 of the Federal Rules of Civil Procedure, Cartier respectfully requests a trial by jury of all issues so triable.

Dated: November 9, 2006

CARTIER, a division of
RICHEMONT NORTH AMERICA, INC.

By: _____

John R. Hutchins (D.C. Bar No. 456749)
KENYON & KENYON LLP
1500 K Street, N.W.
Suite 700
Washington, D.C. 20005
(202) 220-4200

Counsel for Plaintiff Cartier, a division of Richemont North America, Inc.

EXHIBIT A

US006964153B2

(12) **United States Patent**
So et al.

(10) **Patent No.: US 6,964,153 B2**
(45) **Date of Patent: Nov. 15, 2005**

(54) **COMPONENTS FOR TIMEPIECE AND METHOD OF MANUFACTURING THEREOF**

(75) Inventors: **Chin Hung Eddy So**, Kwai Chung (HK); **Chin Ping So**, Kwai Chung (HK)

(73) Assignee: **Wing Hon Metal Manufactory LTD**, Kwai Chung (HK)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 69 days.

(21) Appl. No.: **10/328,474**

(22) Filed: **Dec. 24, 2002**

(65) **Prior Publication Data**

US 2003/0121280 A1 Jul. 3, 2003

(30) **Foreign Application Priority Data**

Jan. 2, 2002 (GB) 0200046

(51) **Int. Cl.**[7] **B29C 45/14**; B29C 65/64

(52) **U.S. Cl.** ..... **59/79.1**; 59/79.3; 59/80; 24/265 WS; 24/71 J

(58) **Field of Search** ..... 59/79.1, 79.3, 59/80; 24/71 J, 68 J, 265 WS

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,178,751 A	12/1979	Liautaud		
5,441,686 A *	8/1995	Jackl et al.		59/79.3
5,748,571 A *	5/1998	Jackl		59/79.1
5,781,968 A *	7/1998	Widmer		24/71 J
5,845,478 A *	12/1998	Ripley		63/5.1
6,289,562 B1 *	9/2001	Linder et al.		24/265 WS
6,311,373 B1 *	11/2001	Hashimoto		24/265 WS

FOREIGN PATENT DOCUMENTS

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CH	667 784	11/1988
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EP	0 081 464	6/1983
EP	0 570 638	11/1993
GB	2 330 427	4/1999
JP	7-329110	12/1995
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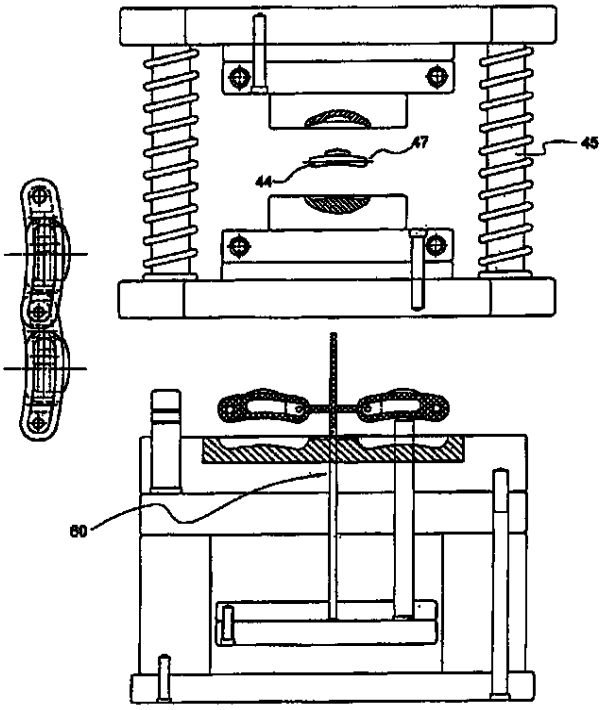
* cited by examiner

Primary Examiner—David Jones
(74) *Attorney, Agent, or Firm*—Smith-Hill and Bedell

(57) **ABSTRACT**

There is provided a band for a timepiece comprising a plurality of inter-connected links, at least one of the links including a first portion made at least principally of a metallic material and a second portion made at least principally of an injection moldable material and fixedly secured thereto and molded thereover by injection moulding.

18 Claims, 96 Drawing Sheets



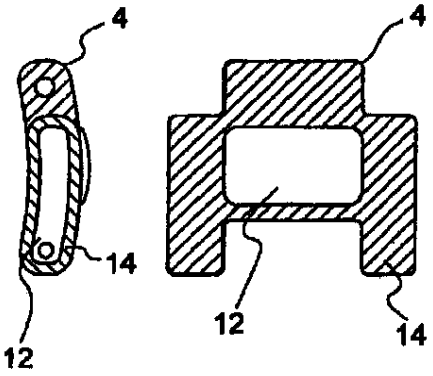


Fig.2b

Fig.2a

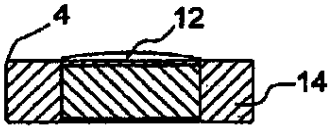
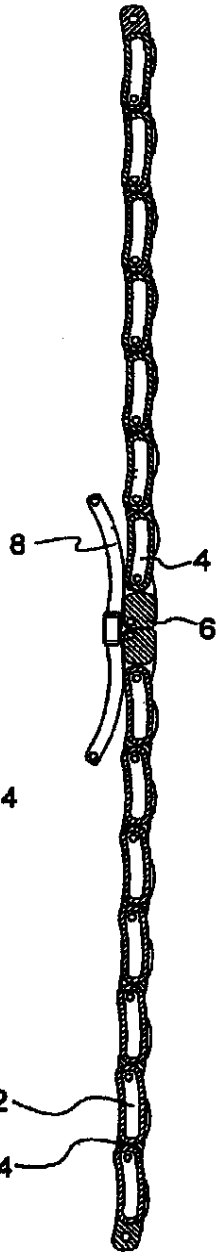


Fig.2c



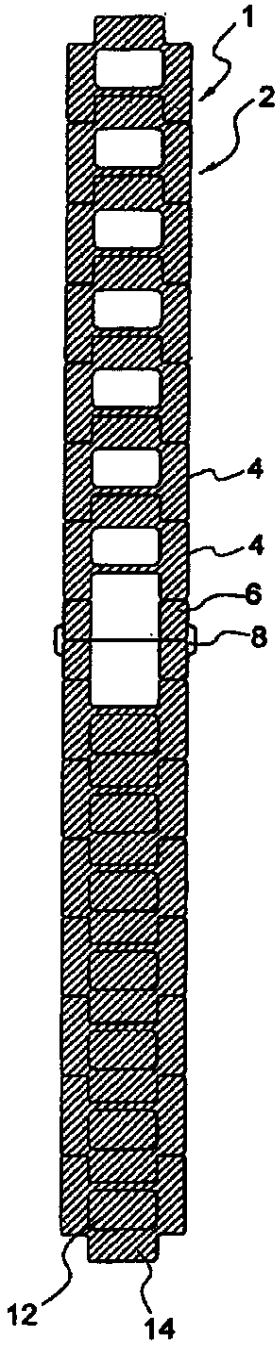


Fig.1b Fig.1a

Fig.3a

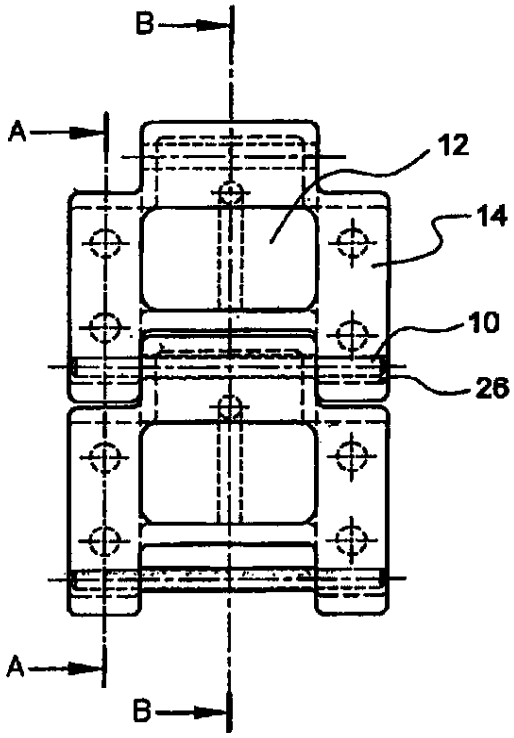


Fig.3b

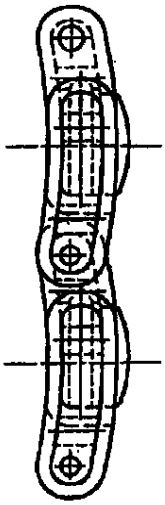


Fig.3c



SECTION B–B

Fig.3d



SECTION A–A

Fig.4a

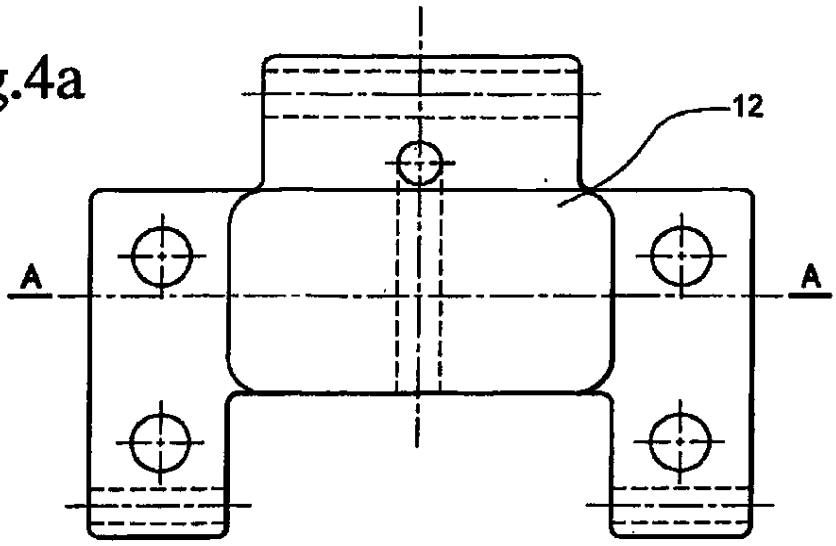
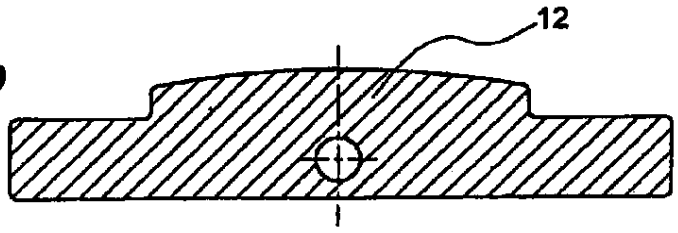


Fig.4b



SECTION A–A

Fig.4c

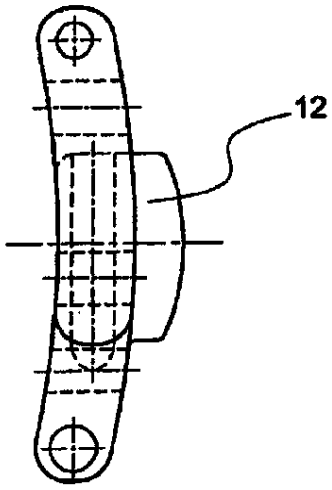


Fig.5a

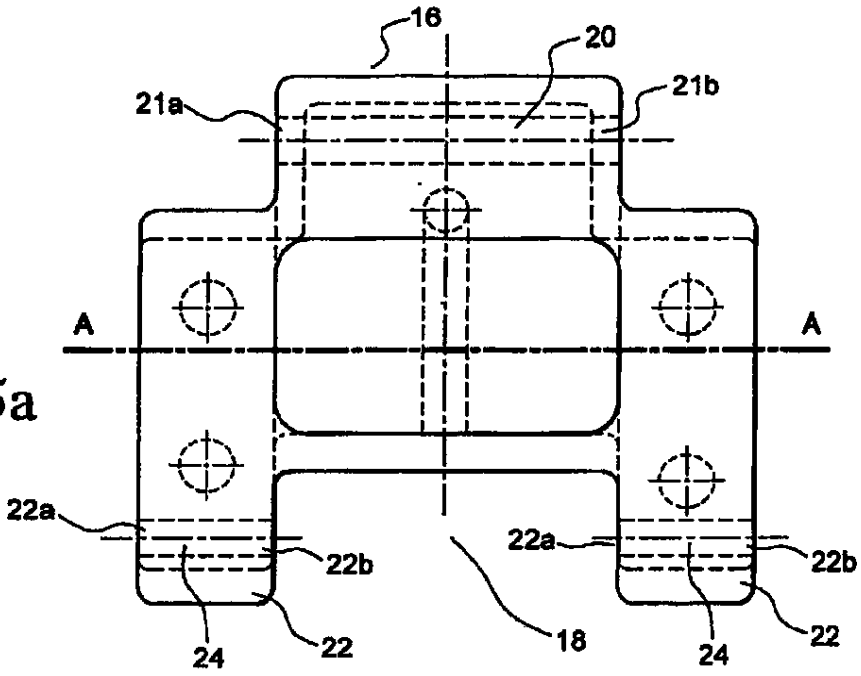
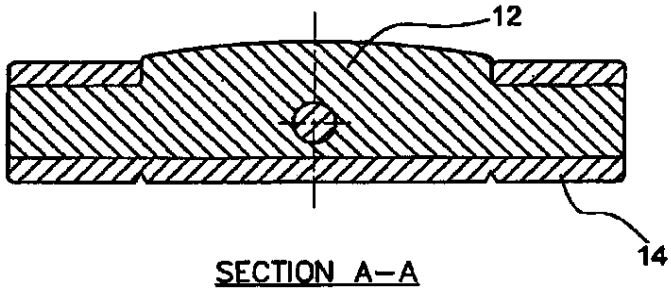


Fig.5b



SECTION A–A

Fig.5c

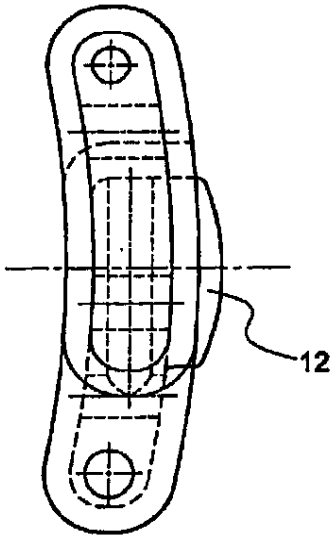


Fig.6a

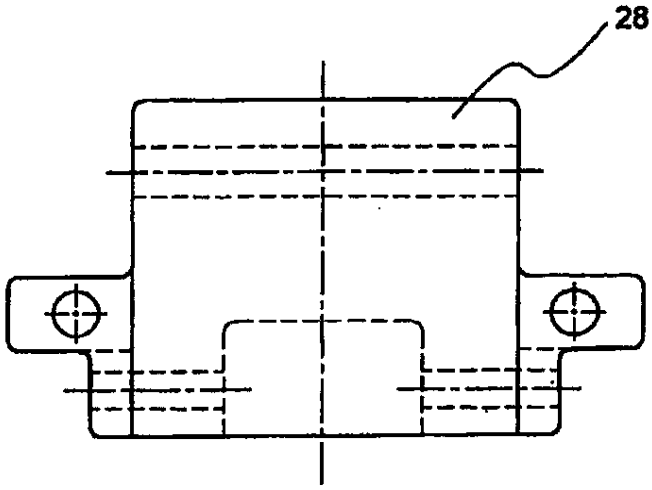


Fig.6b

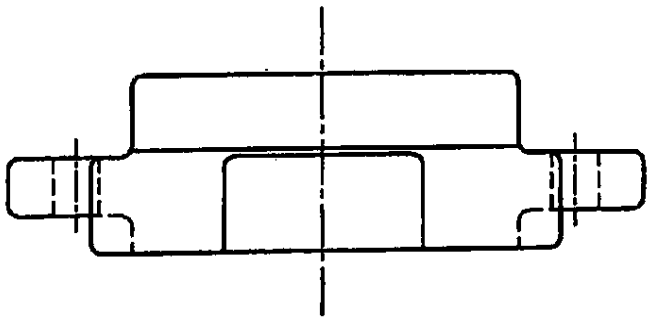


Fig.6c

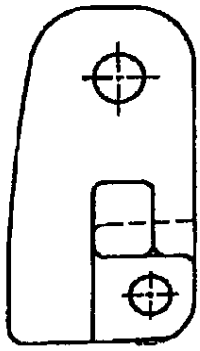


Fig.7a

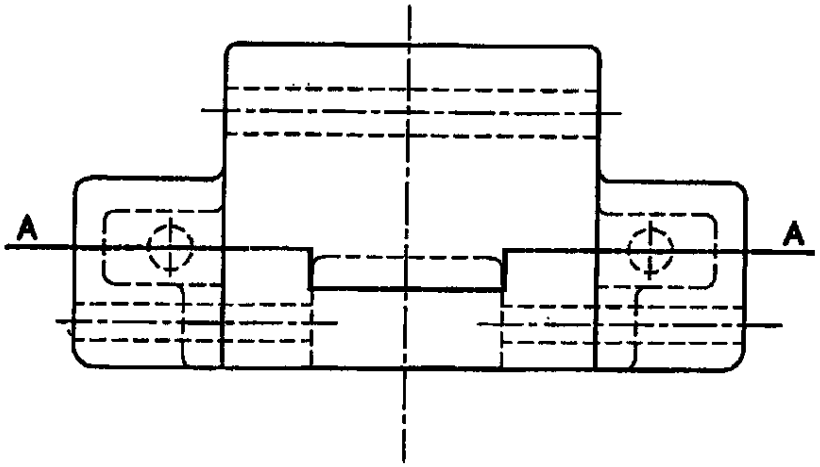
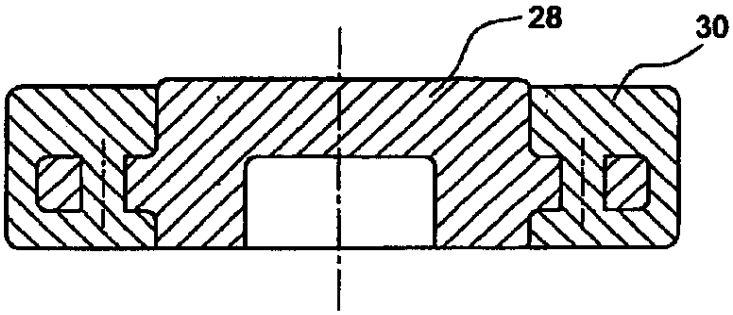
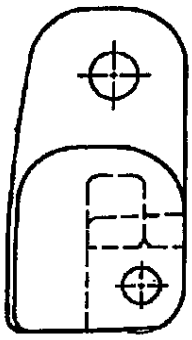


Fig.7b



SECTION A—A

Fig.7c



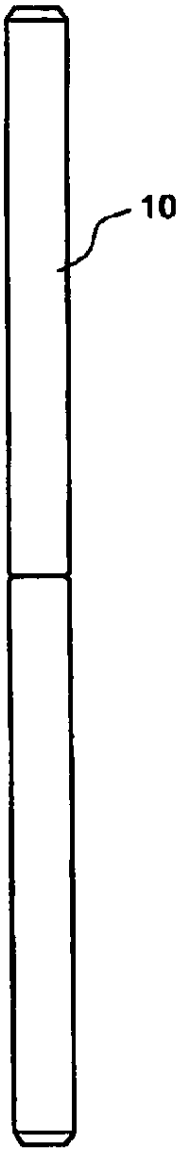


Fig.8

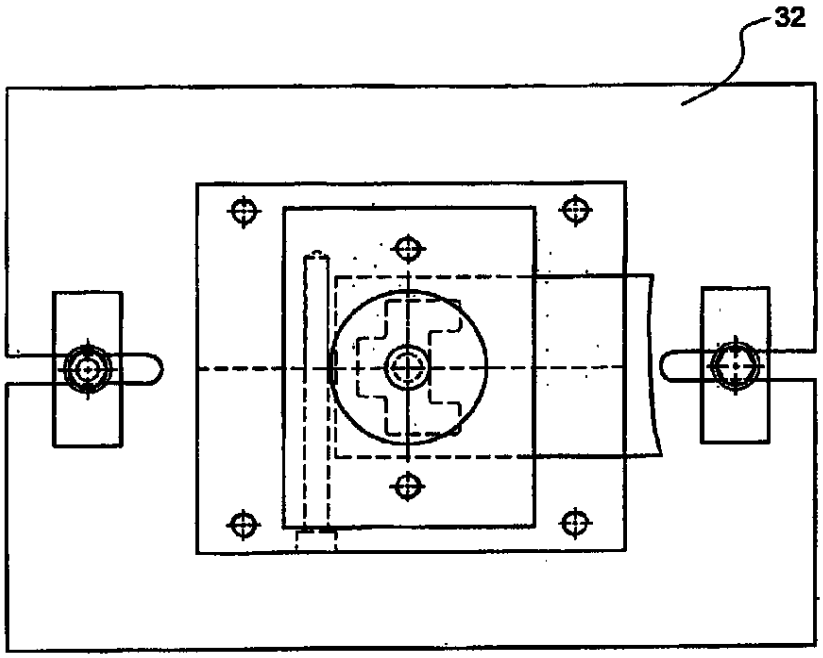


Fig.9a

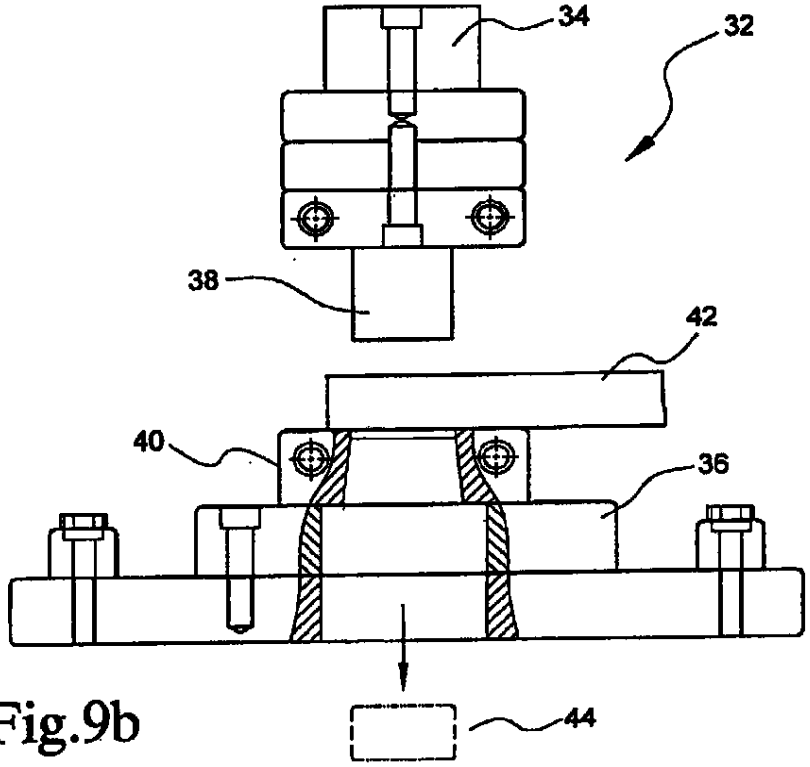


Fig.9b

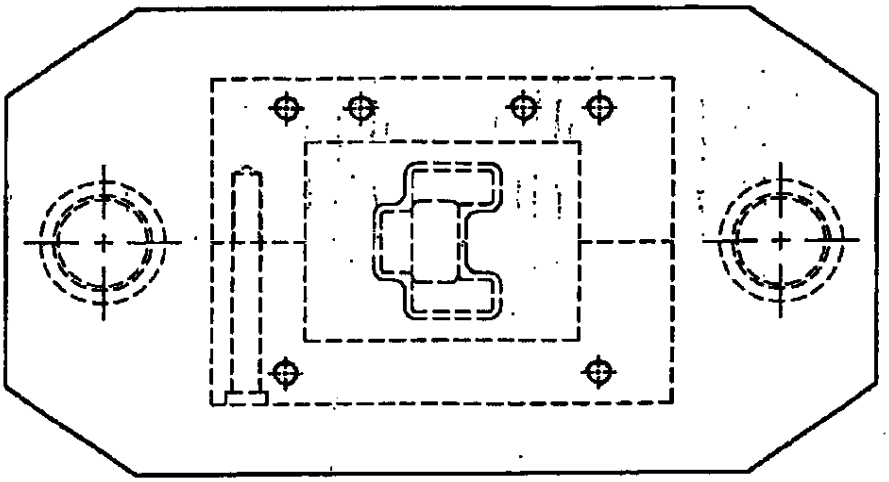


Fig.10a

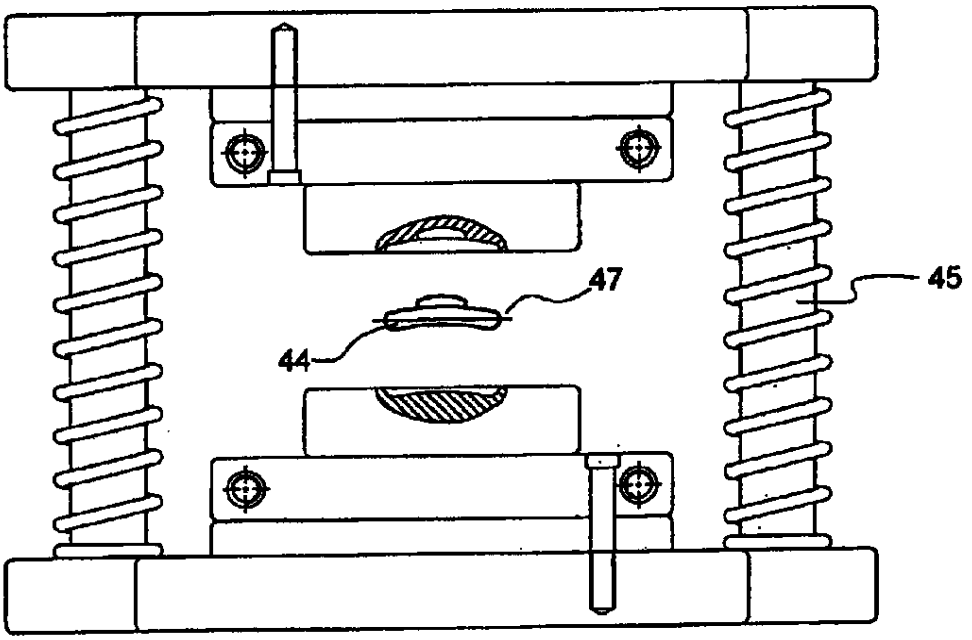


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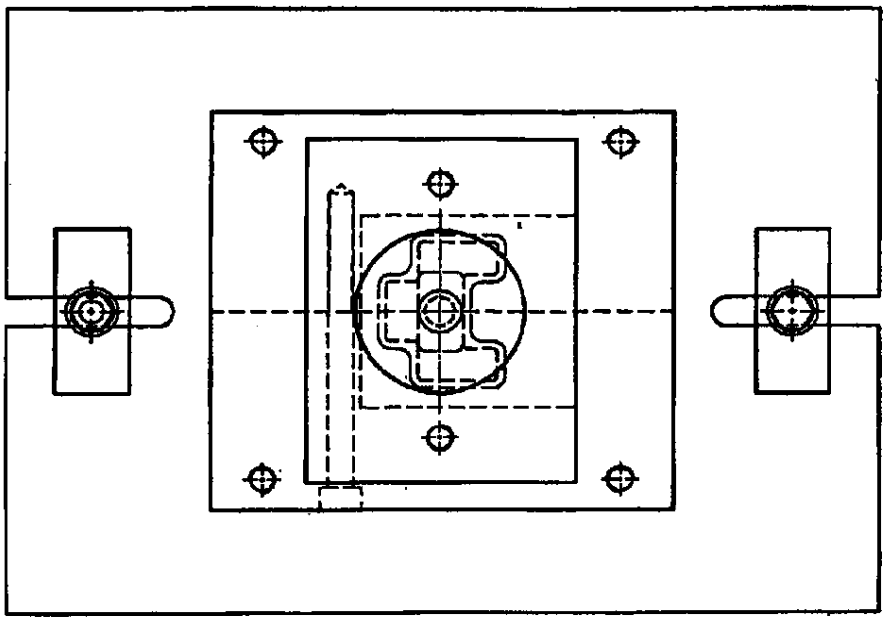


Fig.11a

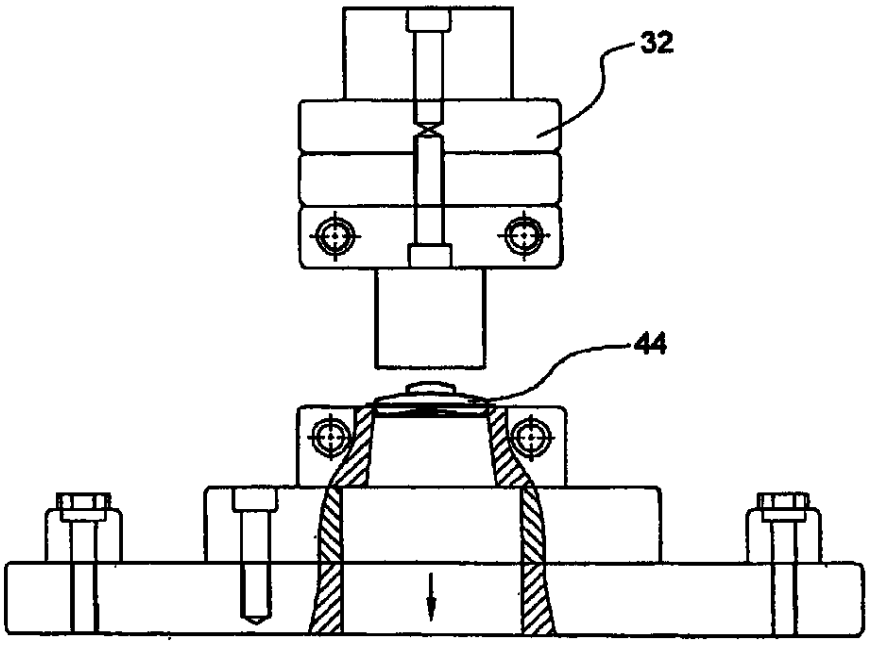


Fig.11b



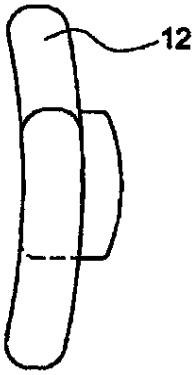


Fig.12b

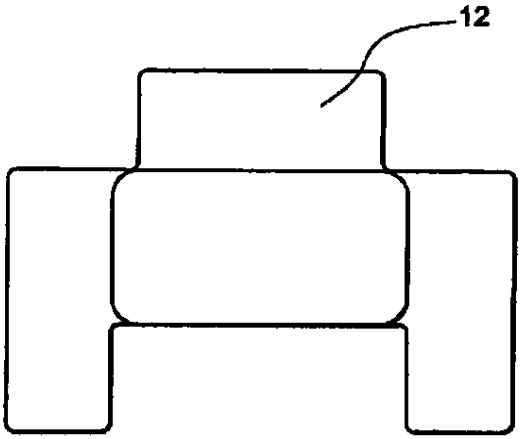


Fig.12a

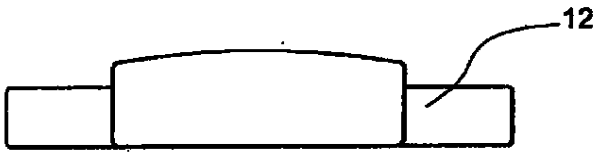


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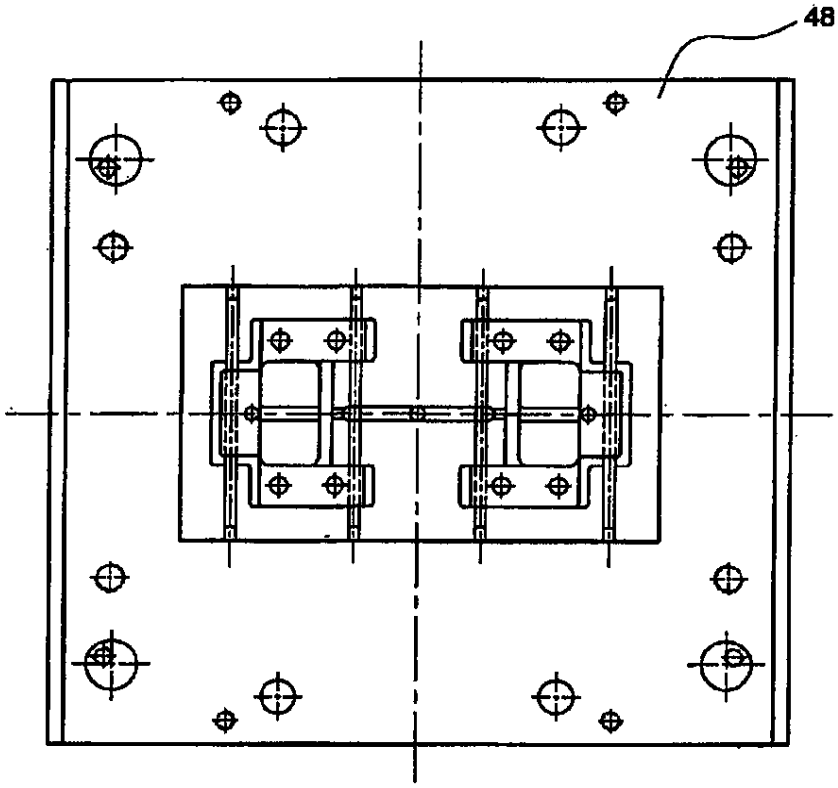


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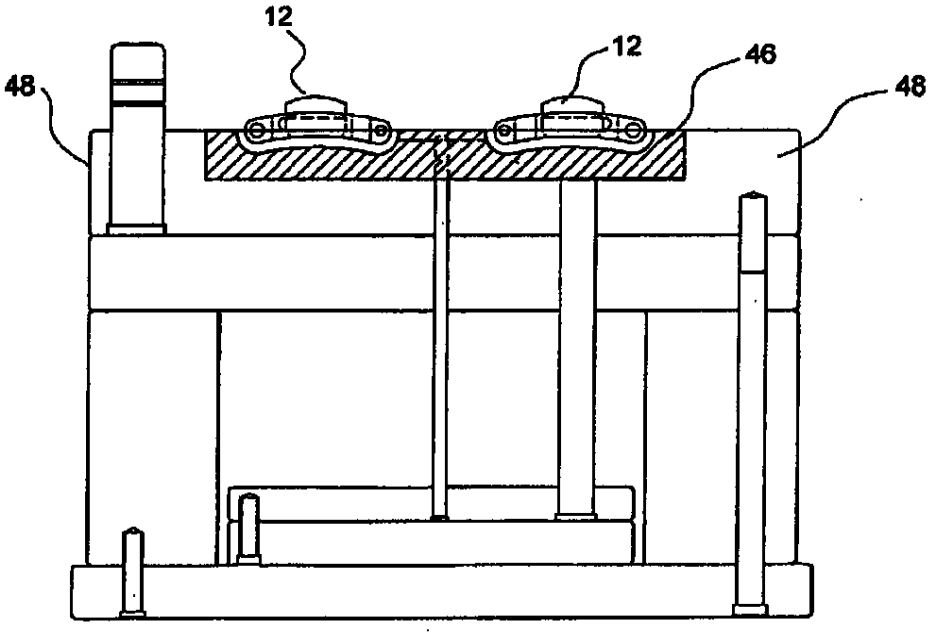


Fig.13b

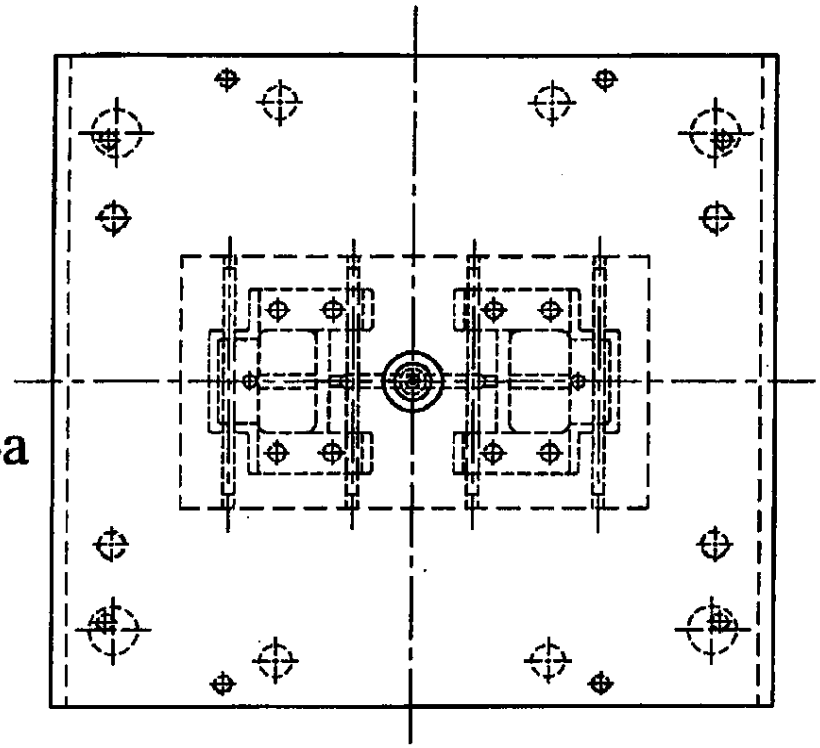


Fig.14a

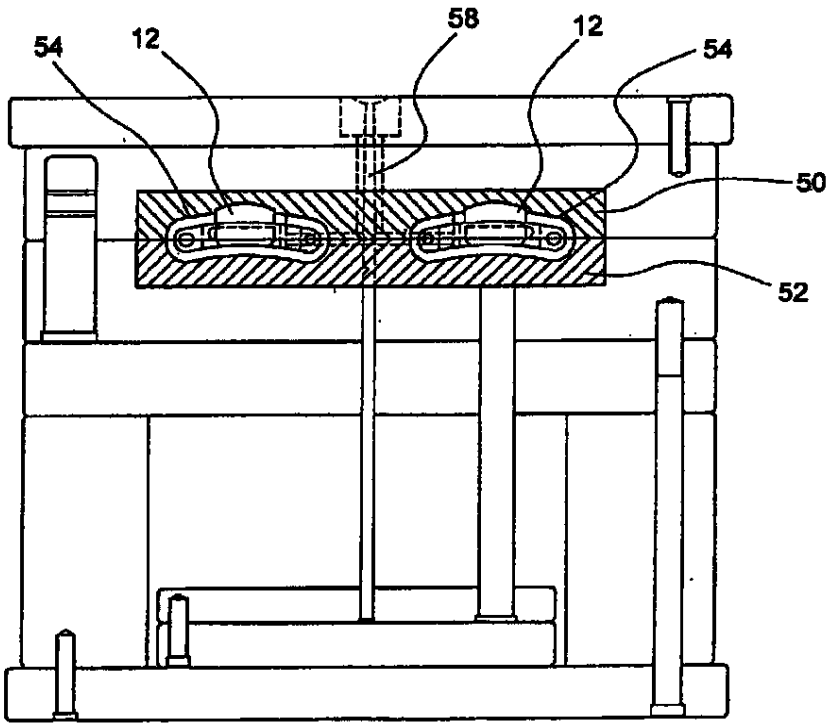


Fig.14b

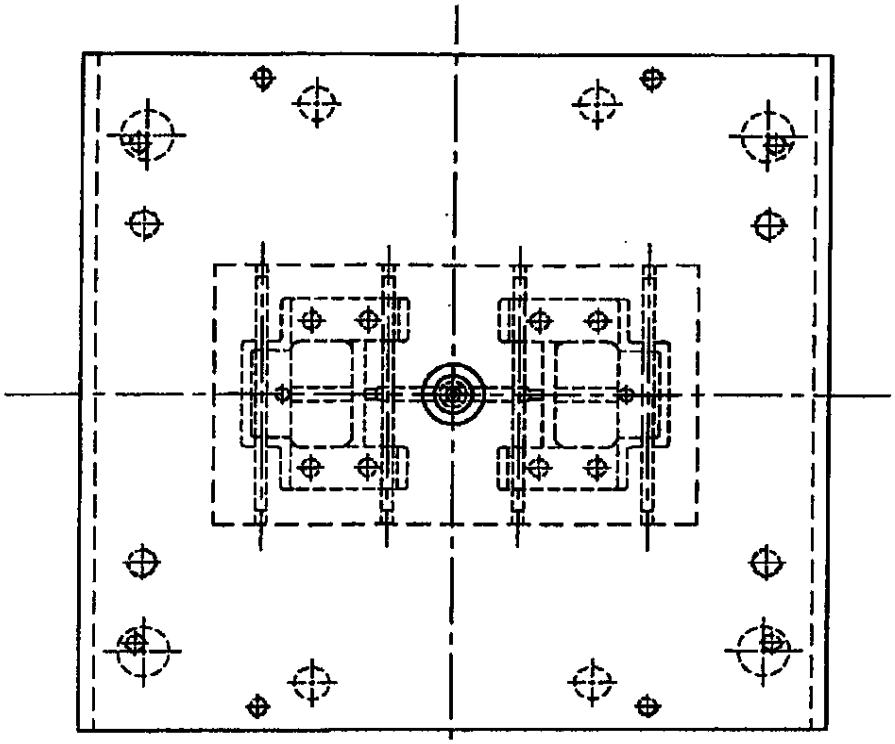


Fig.15a

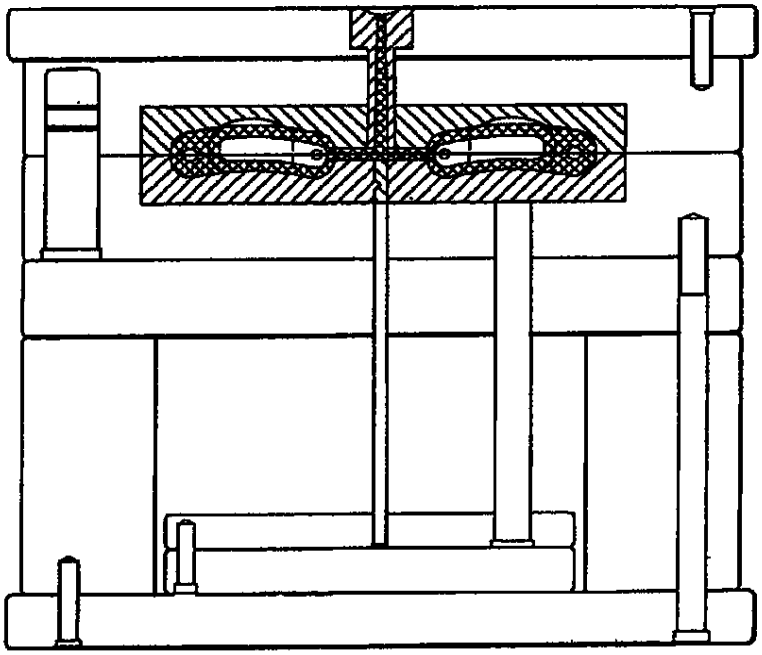


Fig.15b

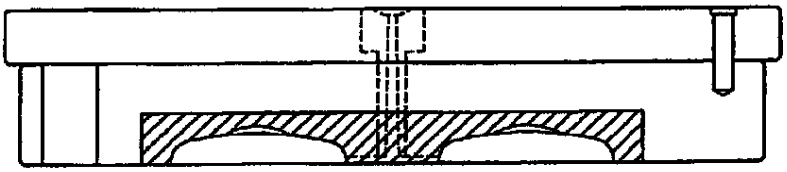


Fig.16a

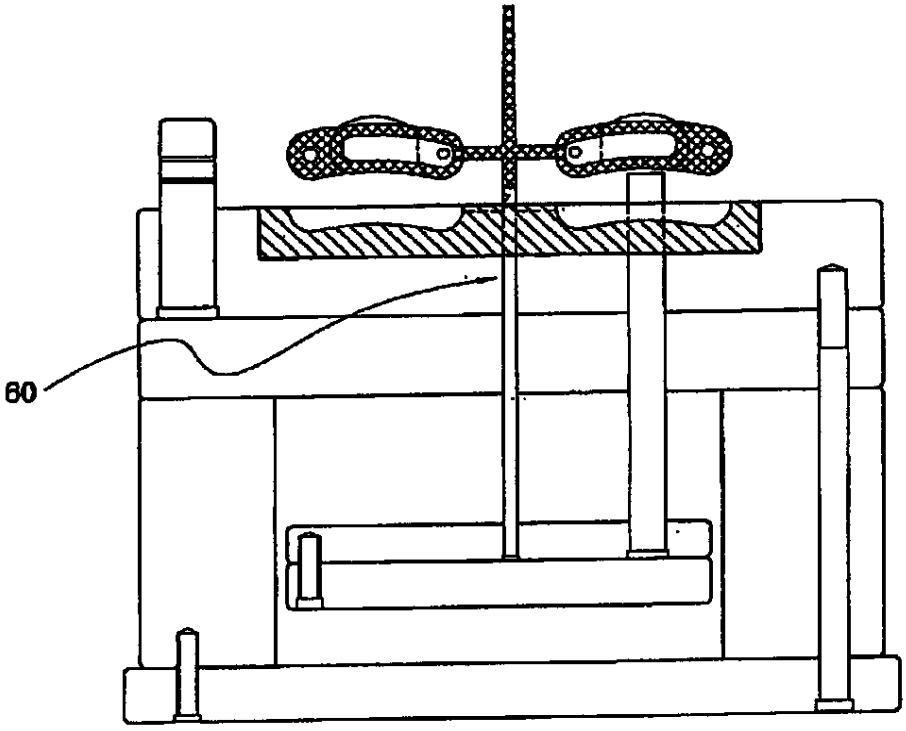


Fig.16b

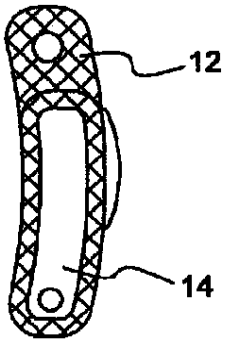


Fig.17b

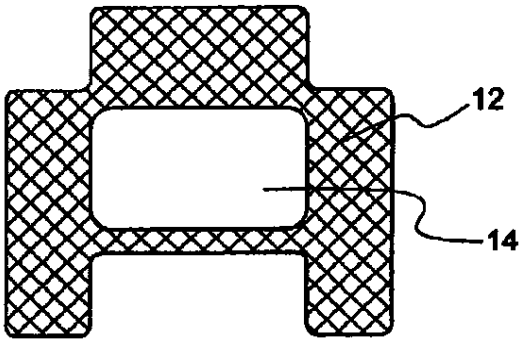


Fig.17a

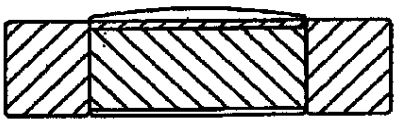


Fig.17c

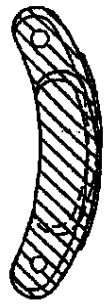


Fig.18d

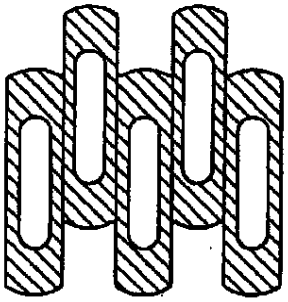


Fig.18c

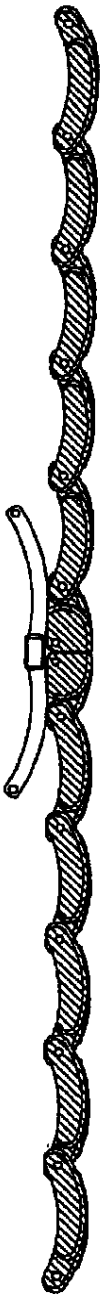


Fig.18b

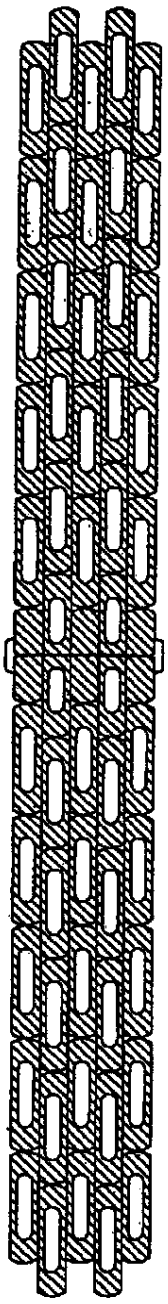


Fig.18a

Fig.19b

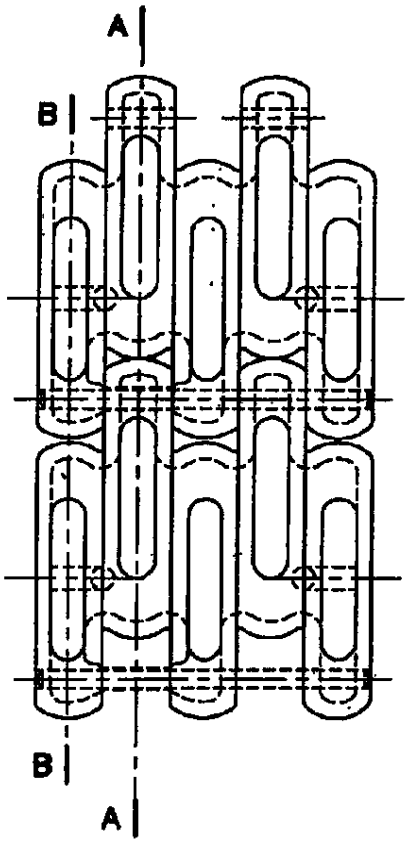
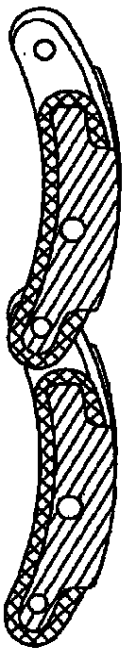


Fig.19a



Fig.19c



SECTION B–B

Fig.19d



SECTION A–A

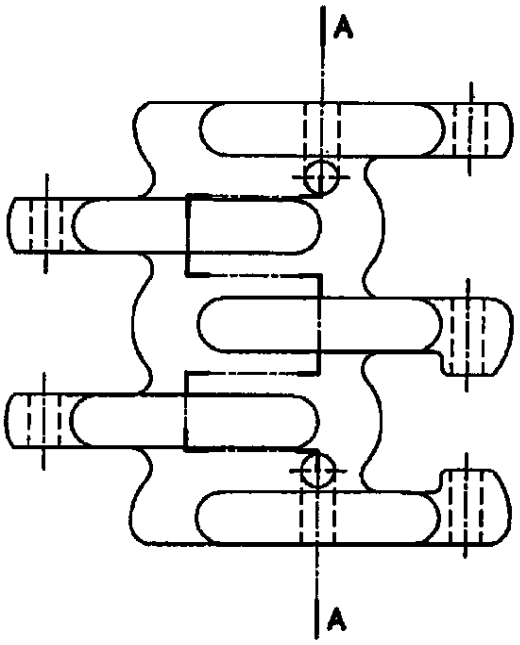


Fig.20a

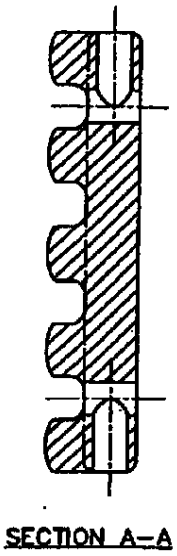


Fig.20b

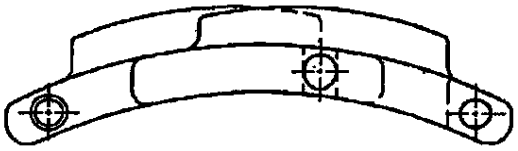


Fig.20c

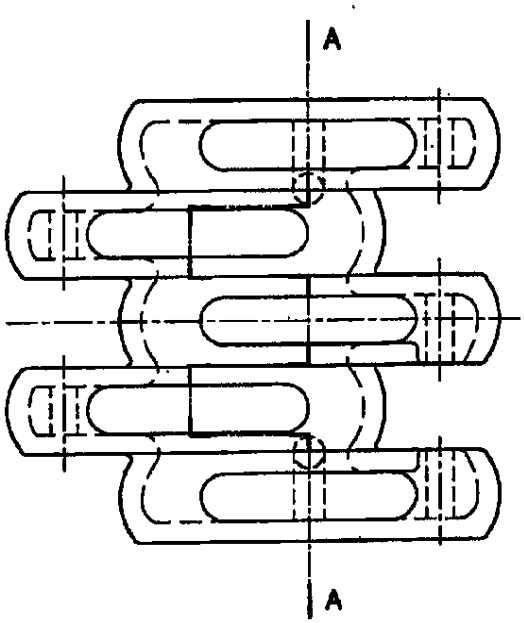


Fig.21a

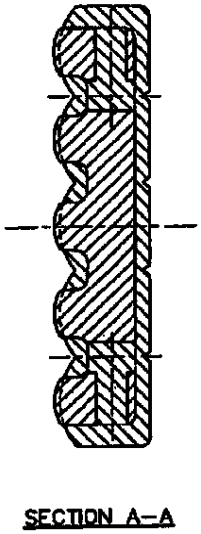


Fig.21b



Fig.21c

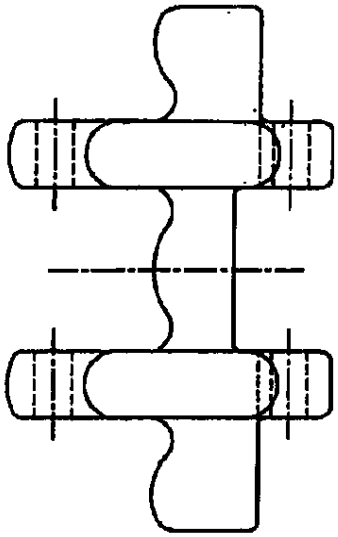


Fig.22a

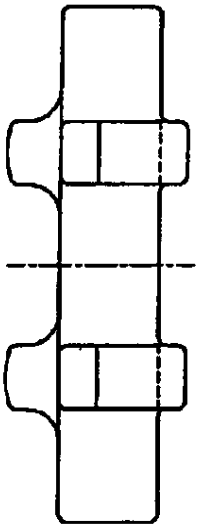


Fig.22b

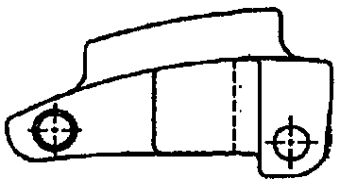


Fig.22c

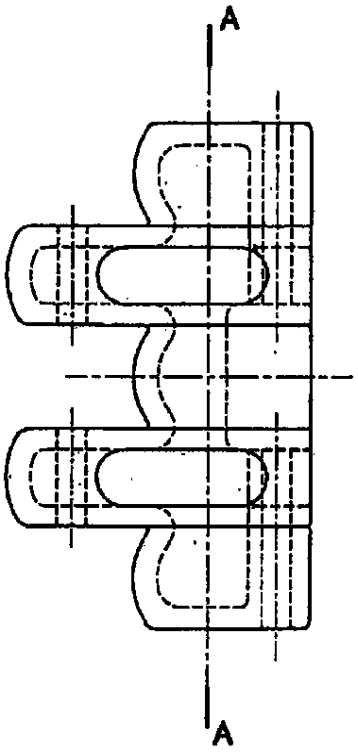


Fig.23a

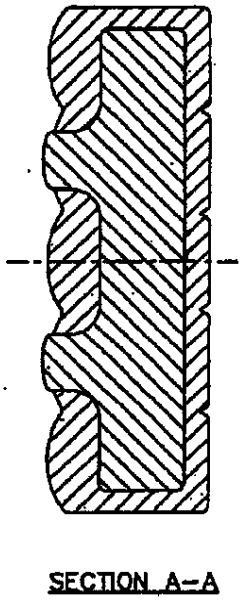


Fig.23b

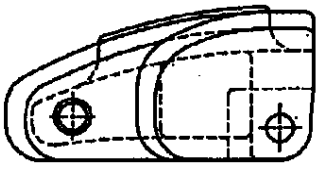


Fig.23c

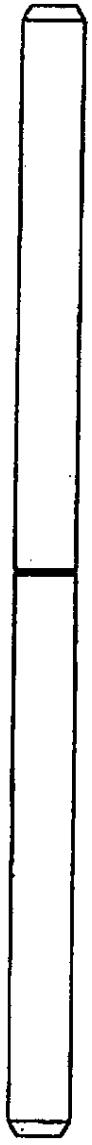


Fig.24a



Fig.24b

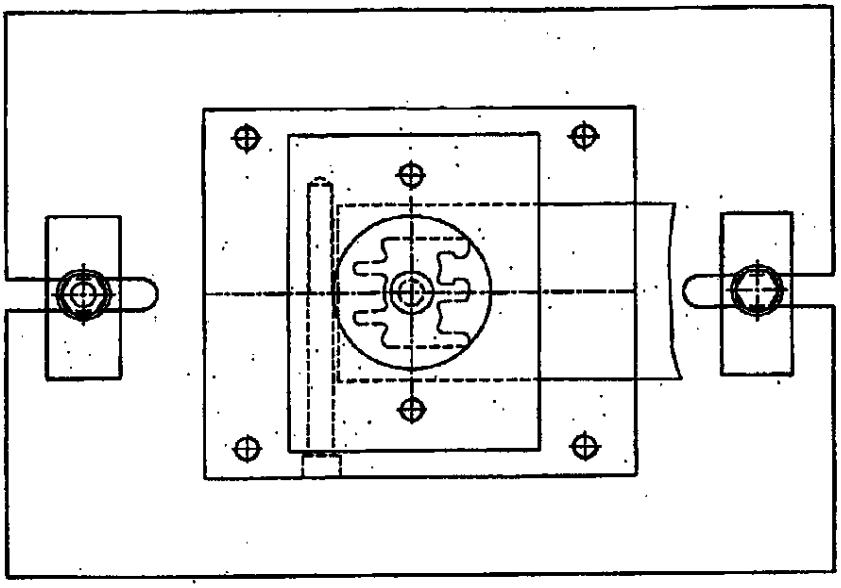


Fig.25a

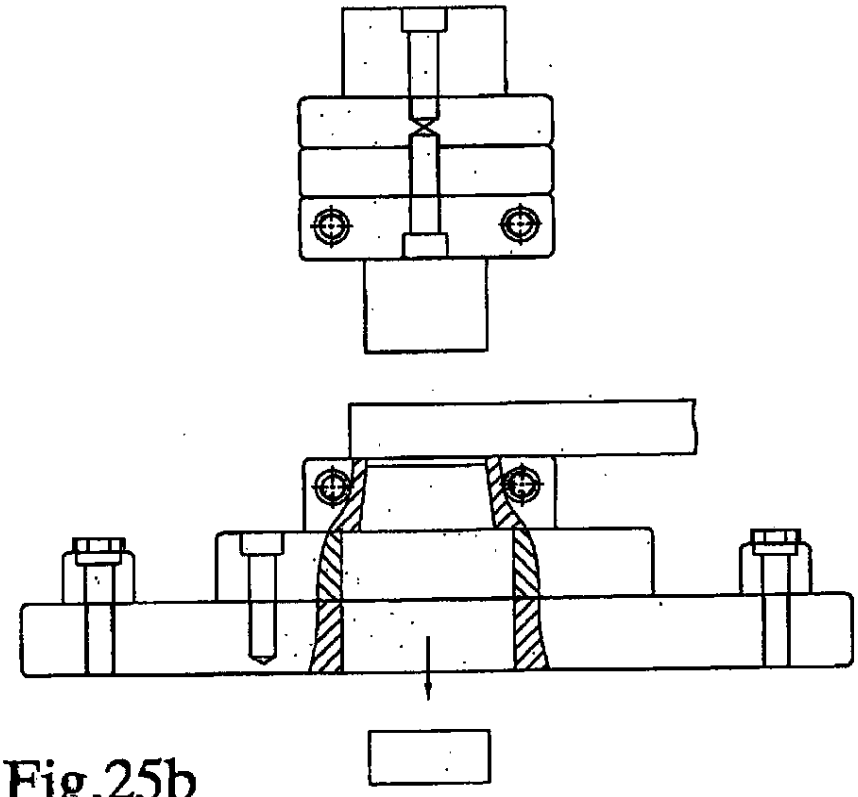


Fig.25b

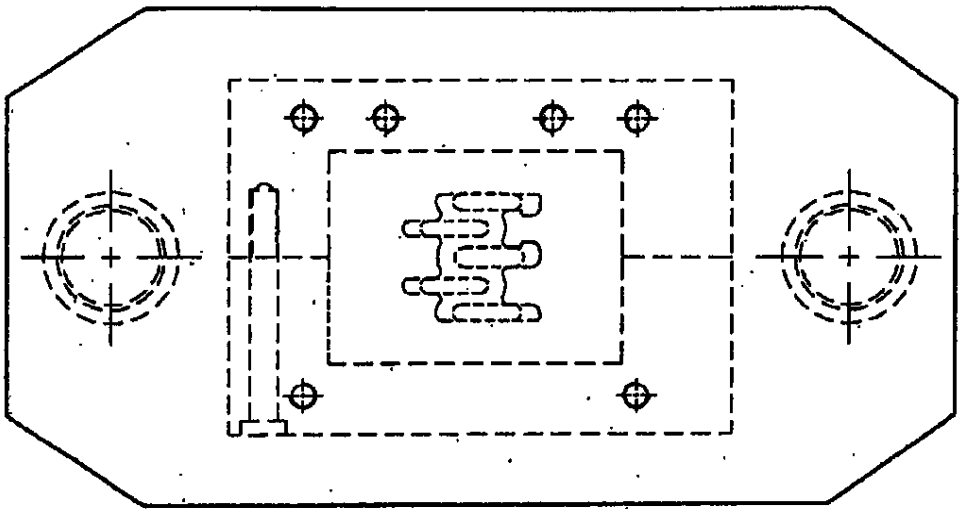


Fig.26a

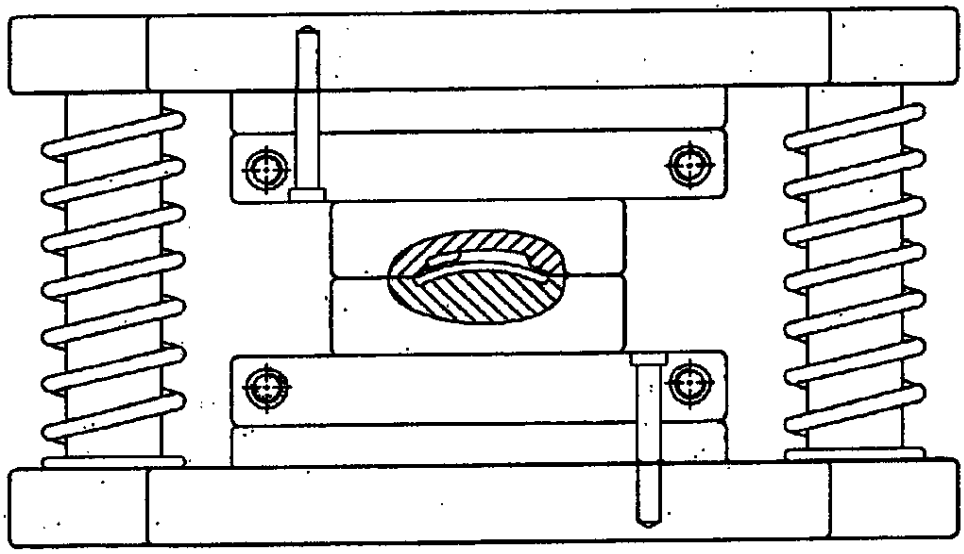


Fig.26b

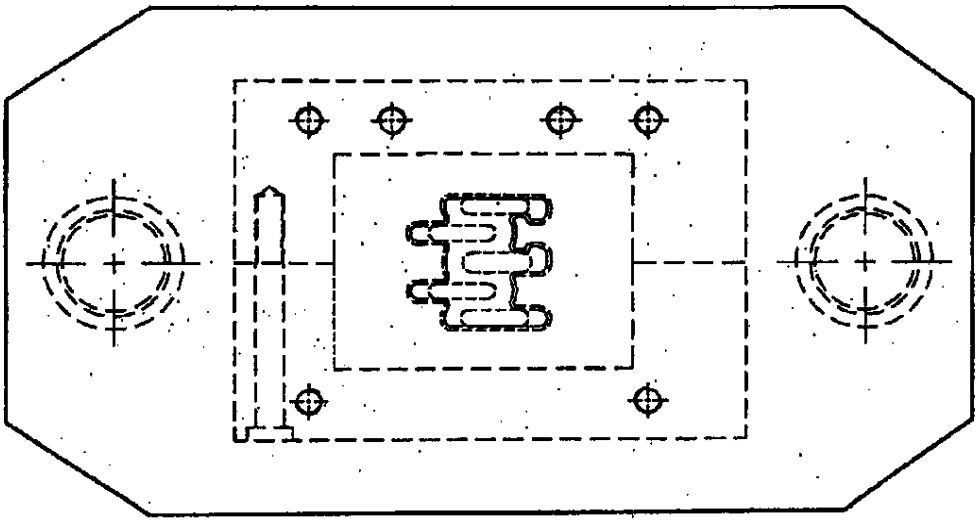


Fig.27a

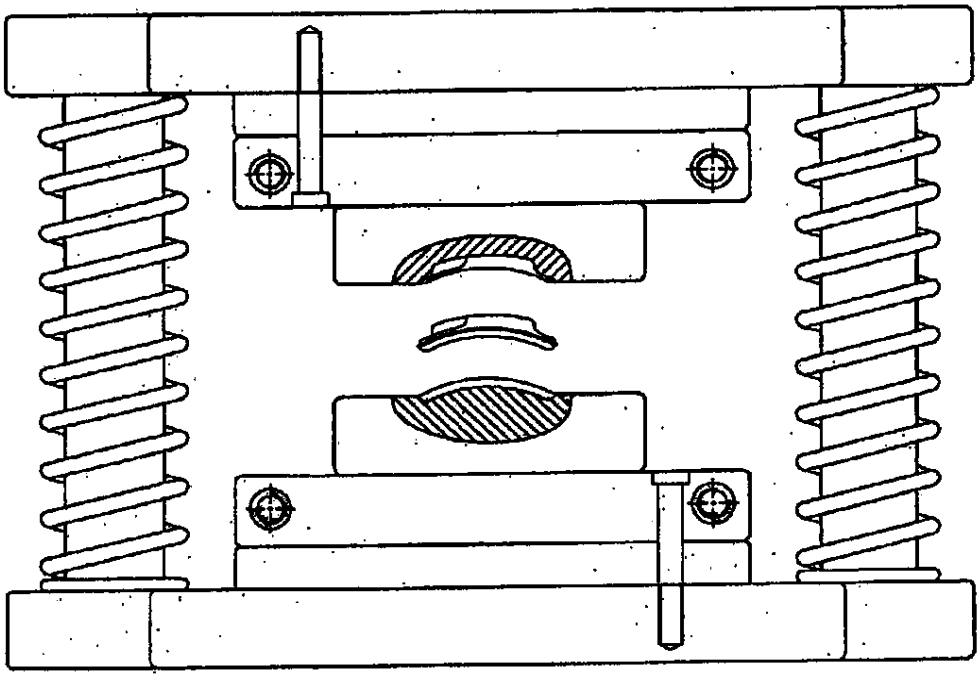


Fig.27b

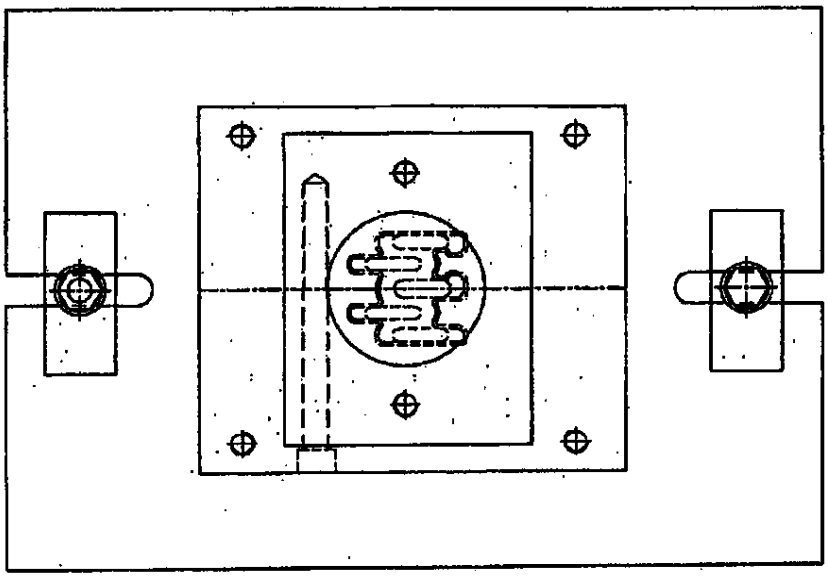


Fig.28a

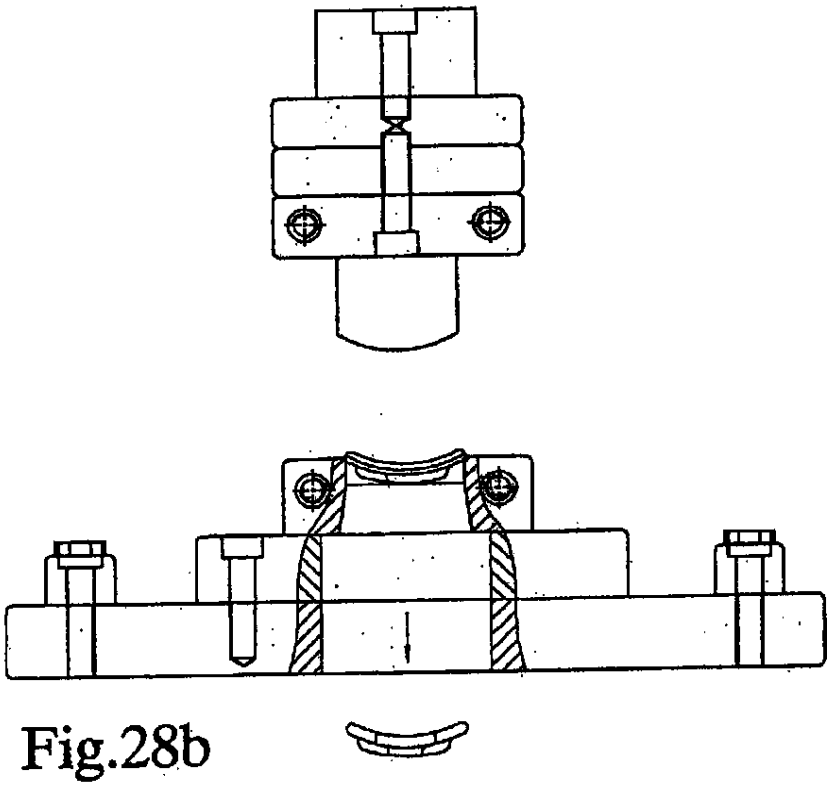


Fig.28b

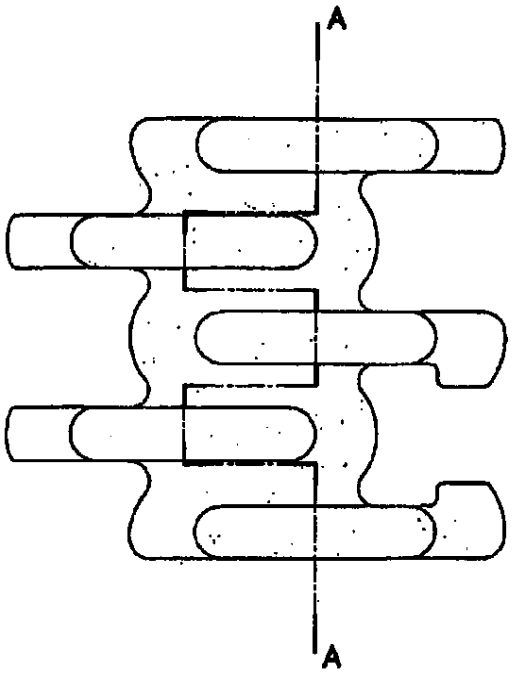
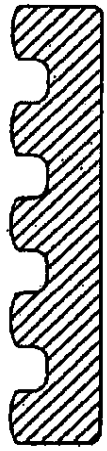


Fig.29a



SECTION A—A

Fig.29b



Fig.29c

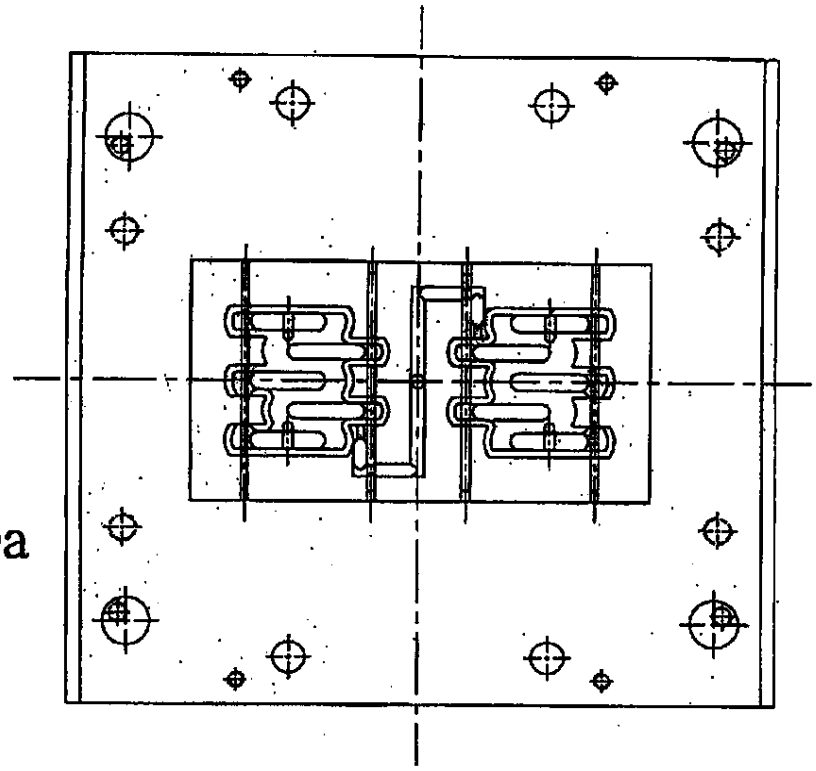


Fig.30a

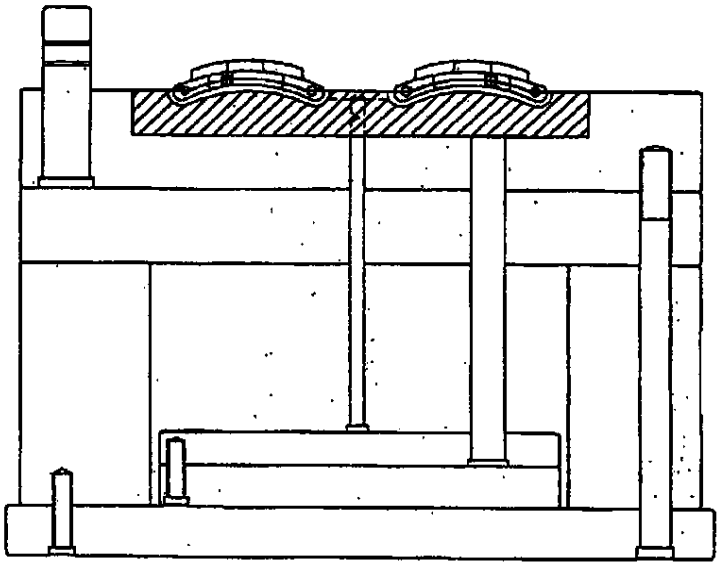


Fig.30b

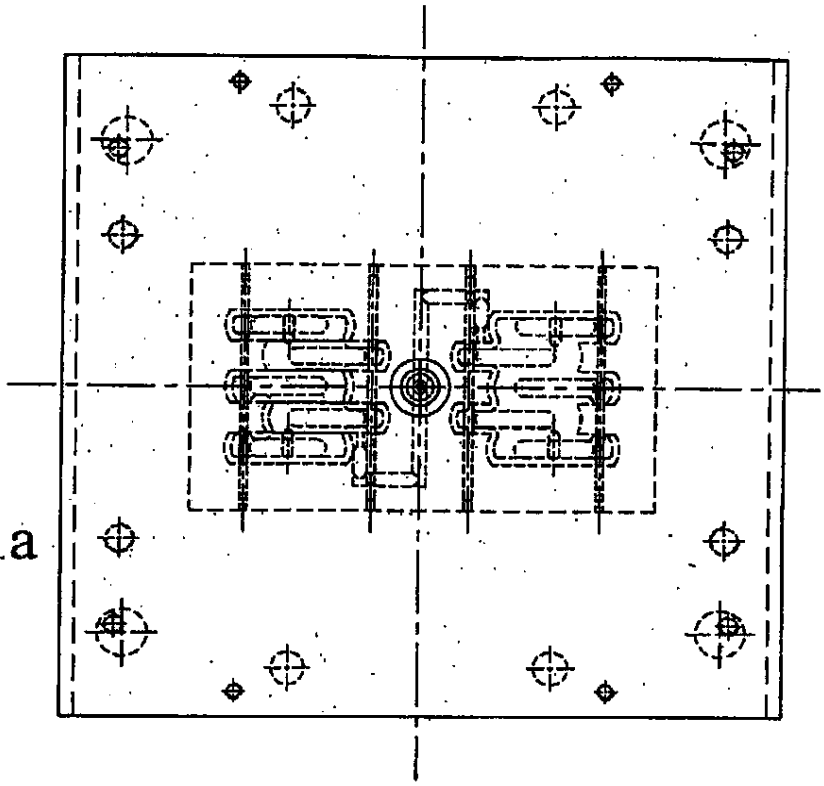


Fig.31a

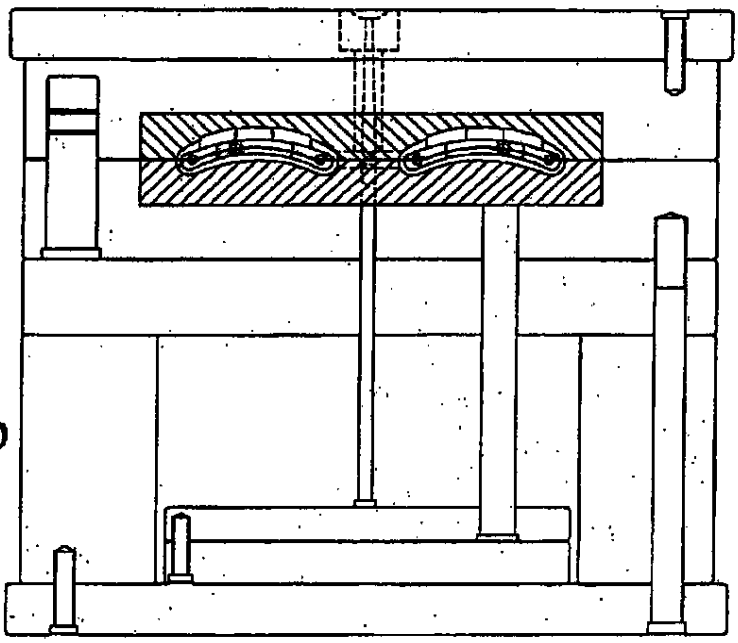


Fig.31b

Fig.32a

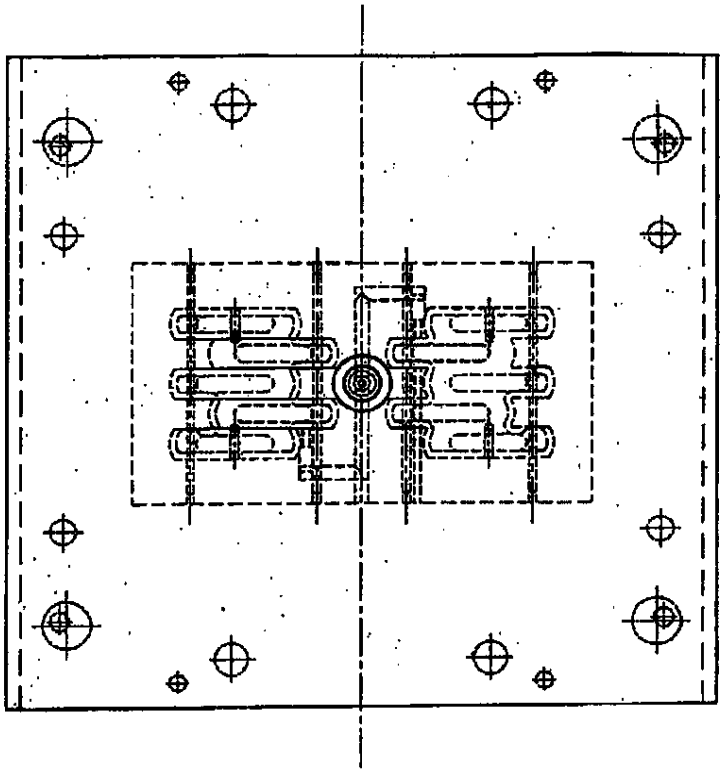
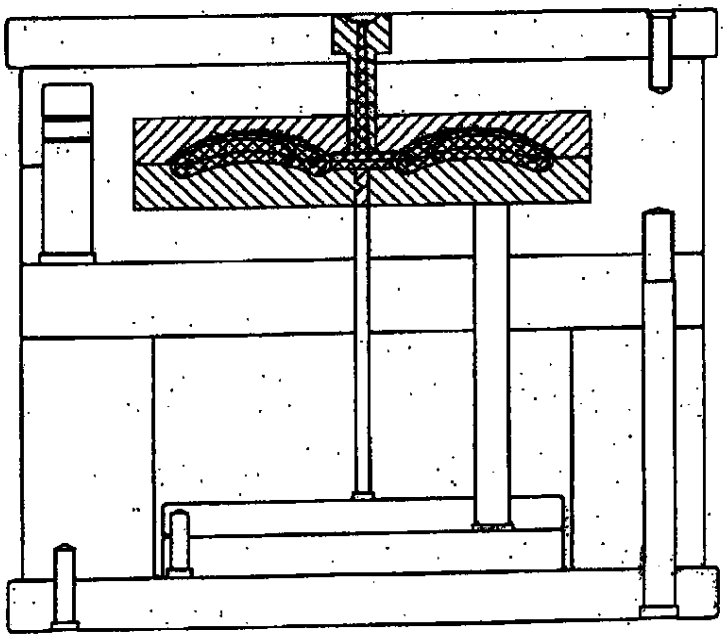


Fig.32b



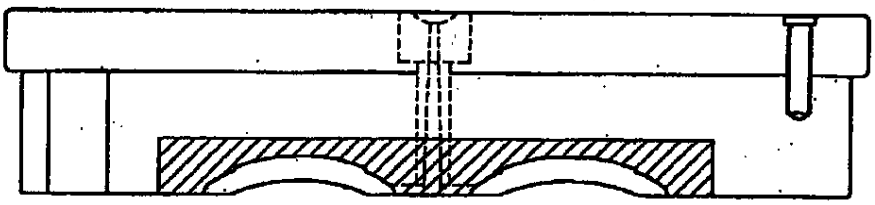


Fig.33a

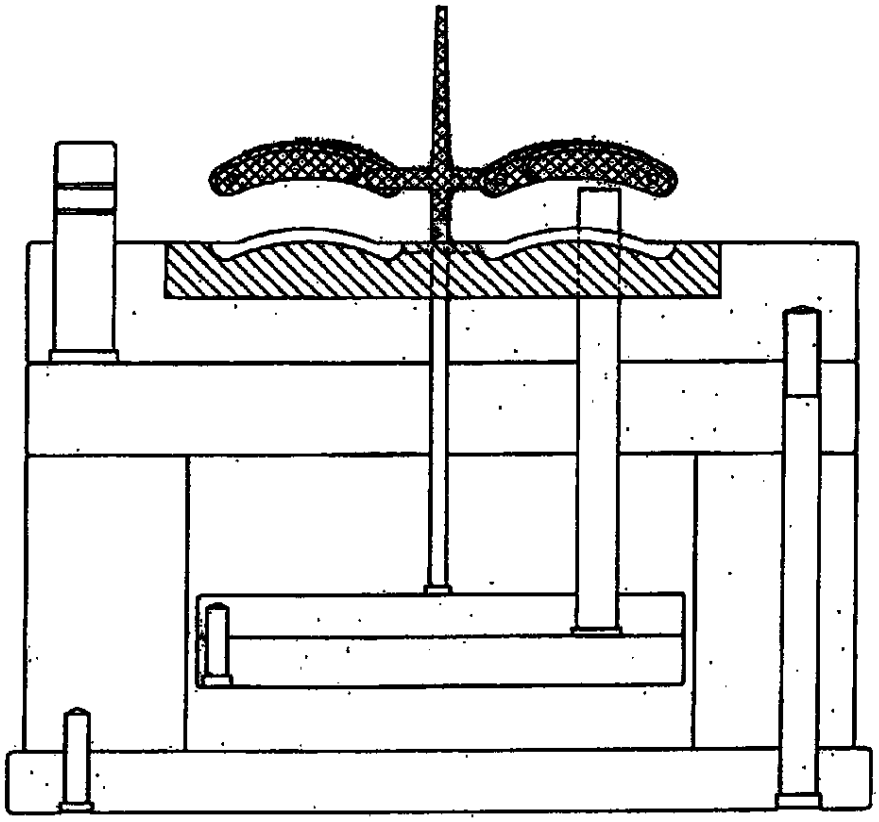


Fig.33b

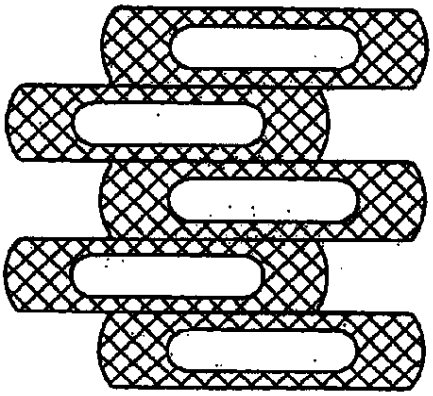


Fig.34a

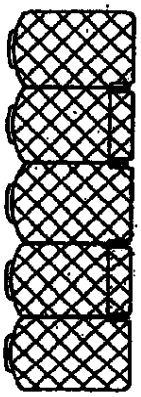


Fig.34b

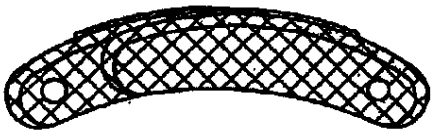


Fig.34c

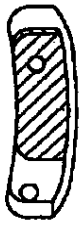


Fig.35d

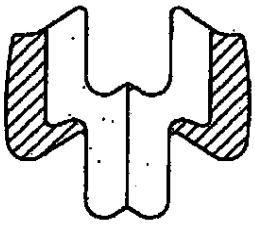


Fig.35c



Fig.35e

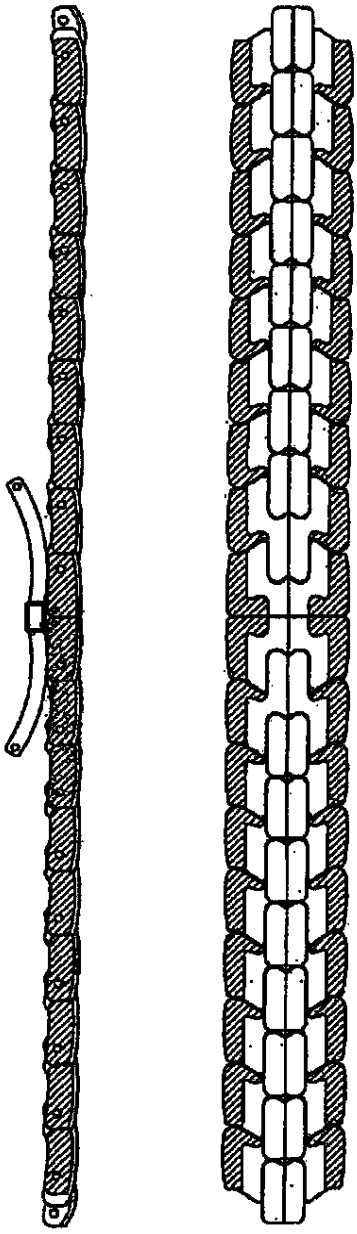


Fig.35b Fig.35a

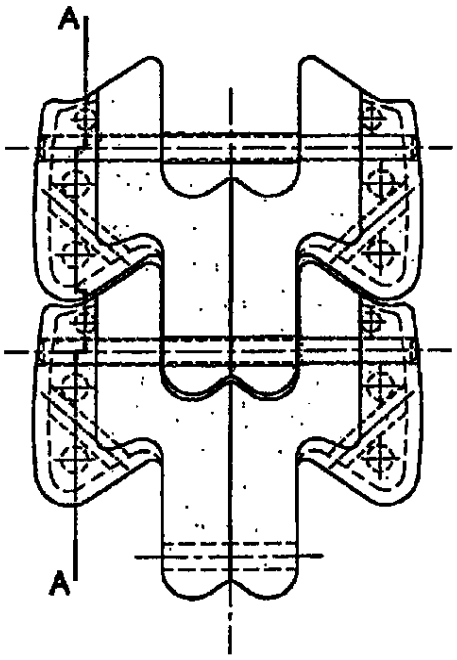


Fig.36a

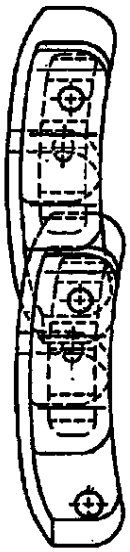
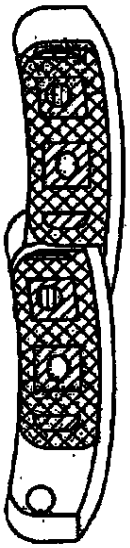


Fig.36b



SECTION A–A

Fig.36c

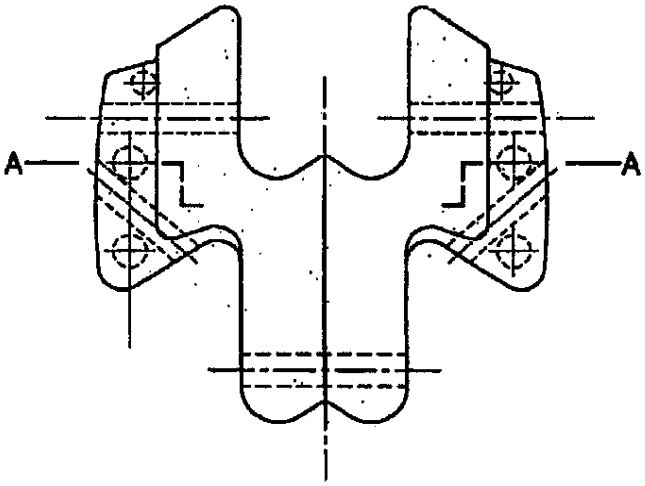


Fig.37a

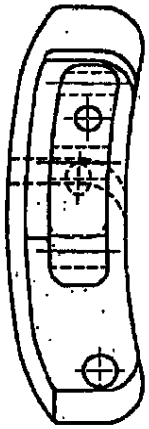


Fig.37b

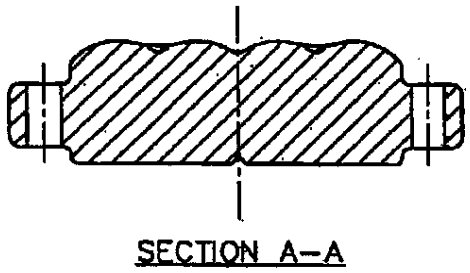


Fig.37c

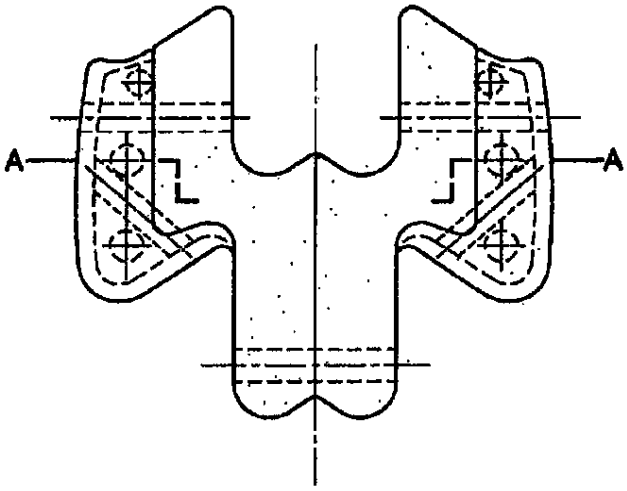


Fig.38a

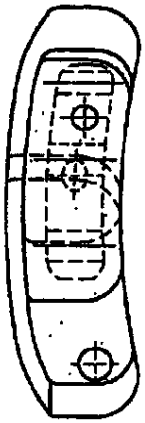


Fig.38b

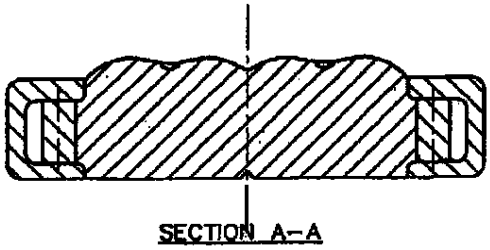


Fig.38c

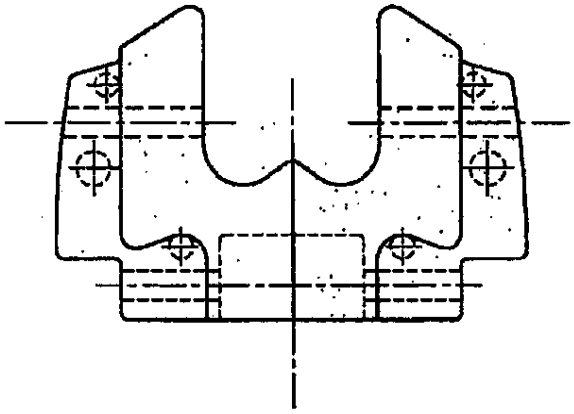


Fig.39a

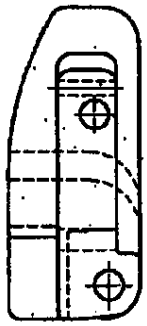


Fig.39c

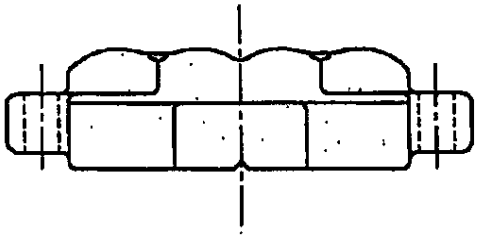


Fig.39b

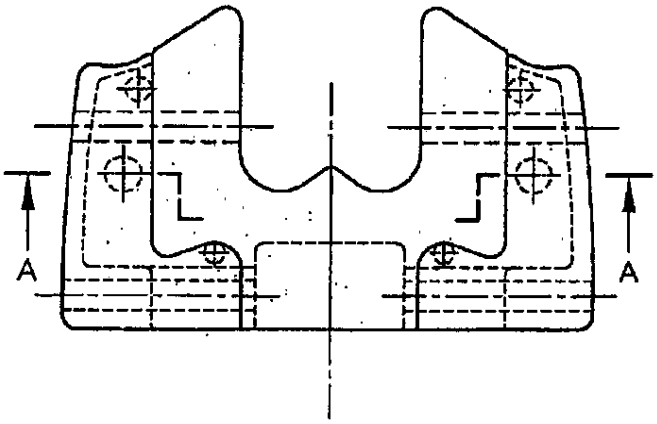


Fig.40a

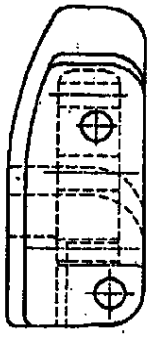


Fig.40c

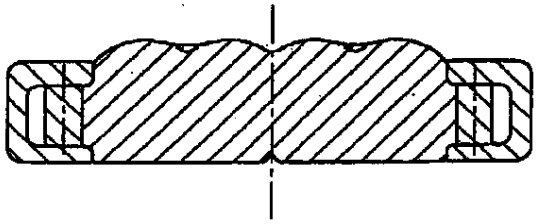


Fig.40b

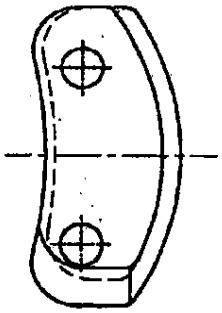


Fig.41b

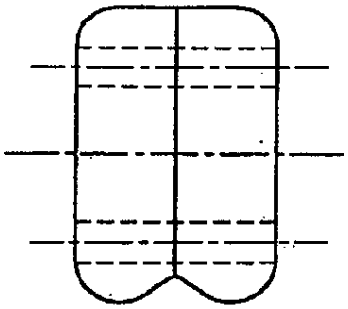


Fig.41a

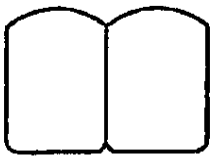


Fig.41c



Fig.42

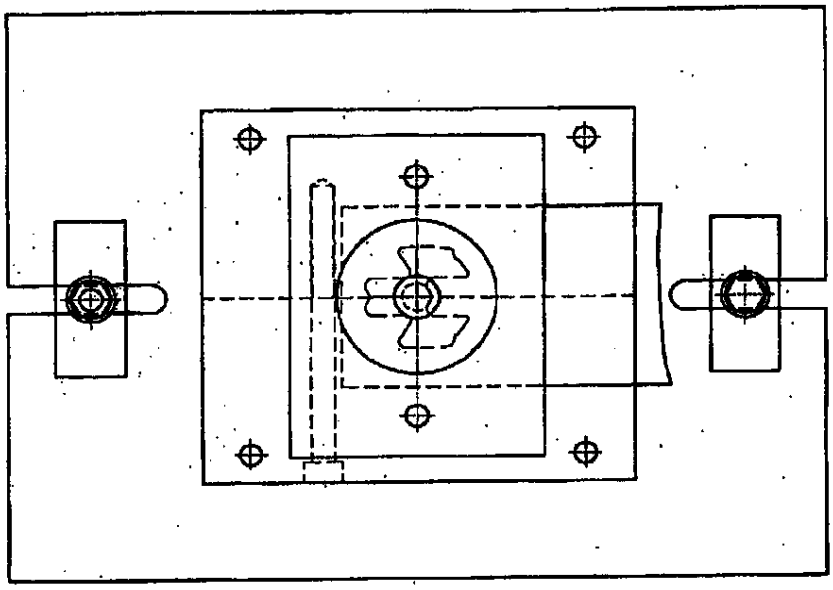


Fig.43a

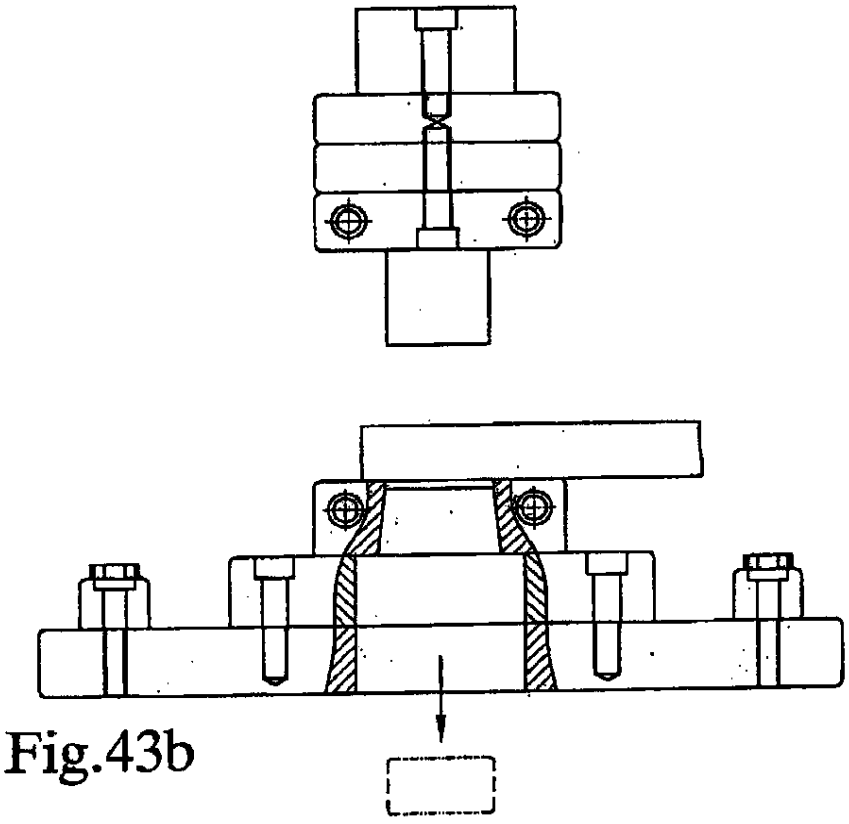


Fig.43b

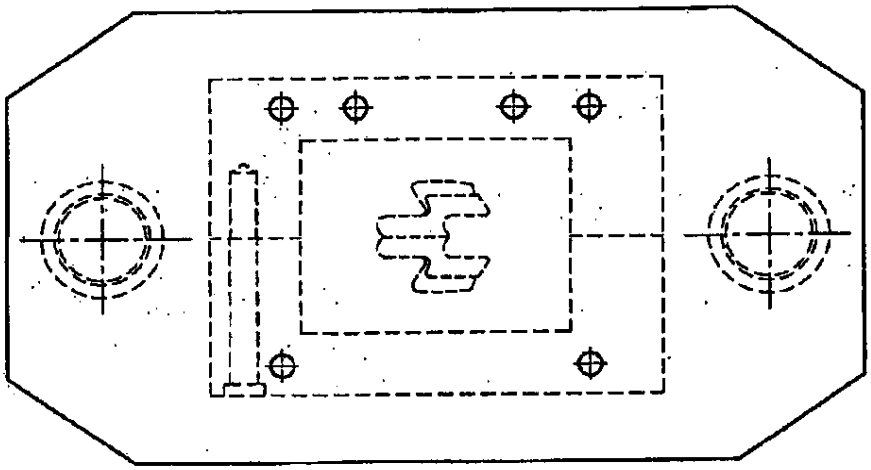


Fig.44a

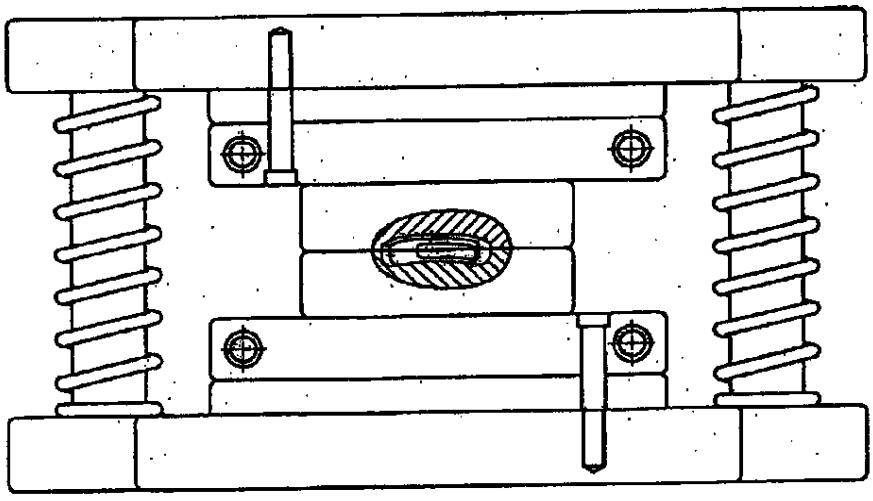


Fig.44b

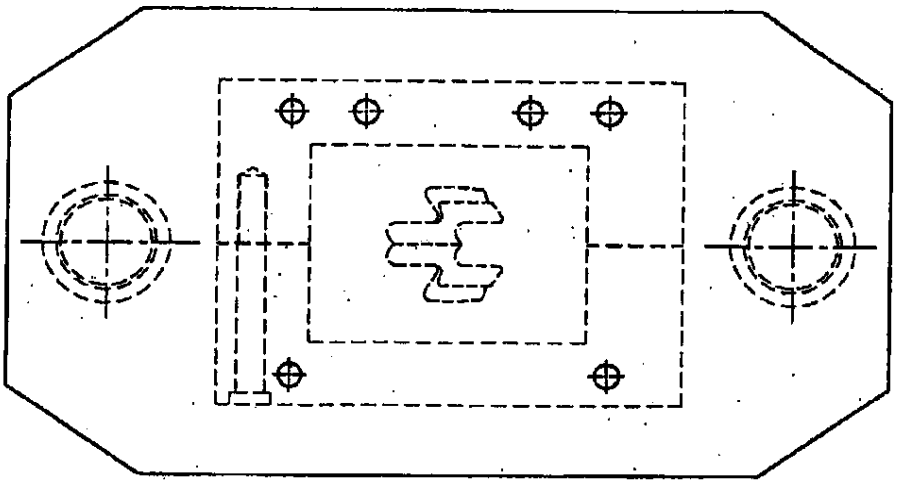


Fig.45a

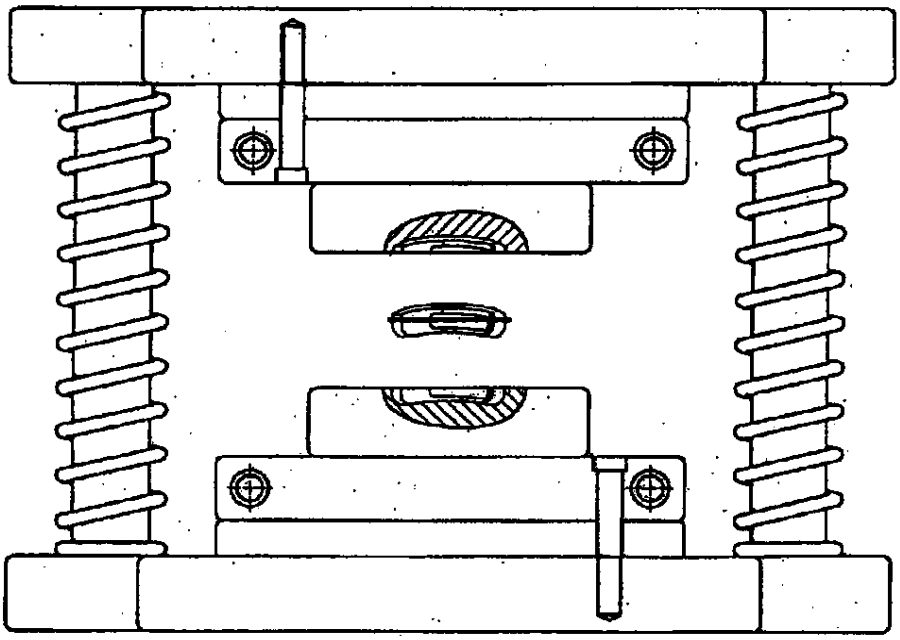


Fig.45b

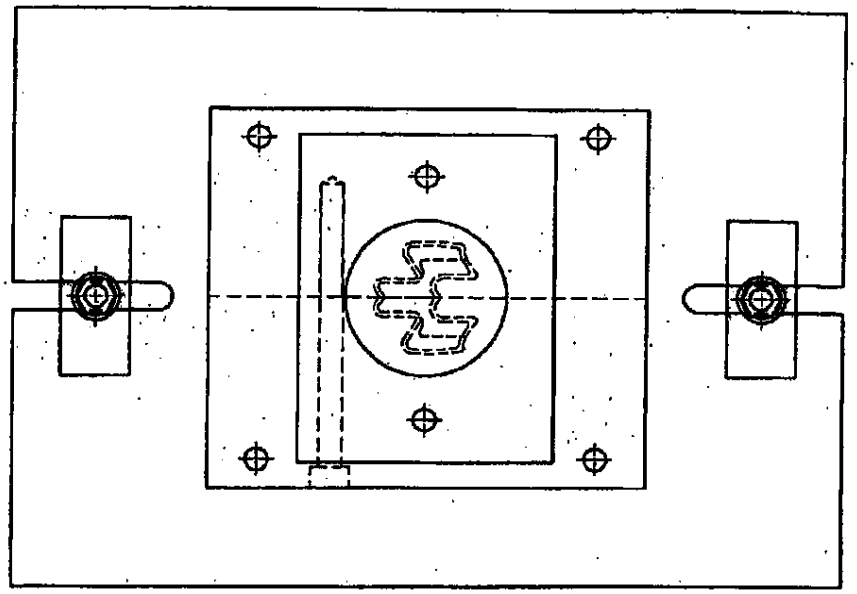


Fig.46a

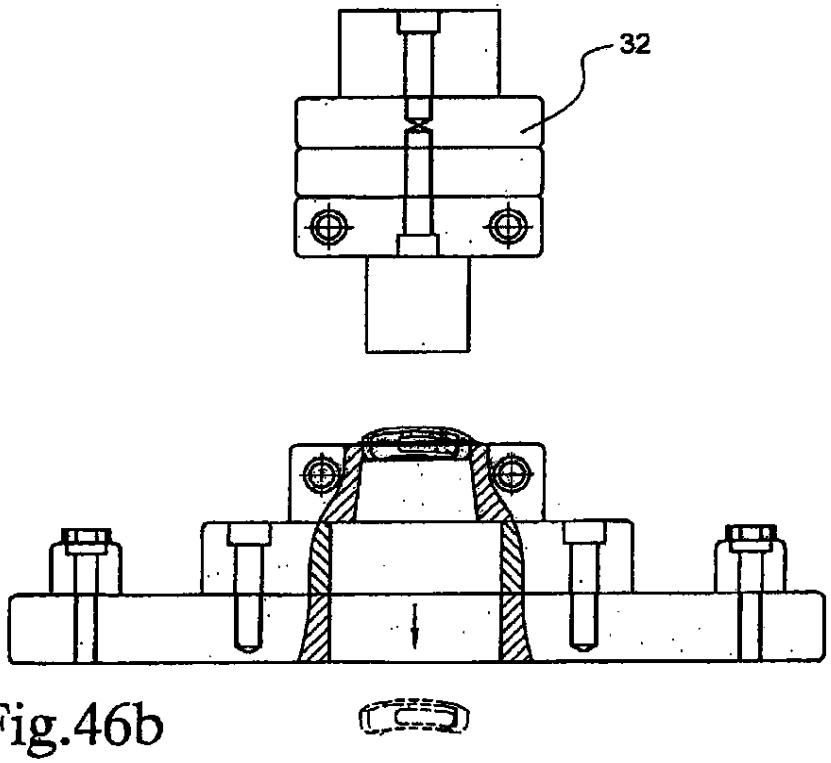


Fig.46b

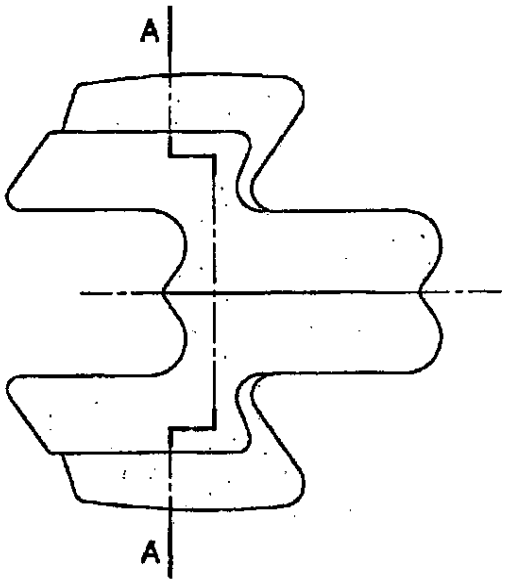


Fig.46c

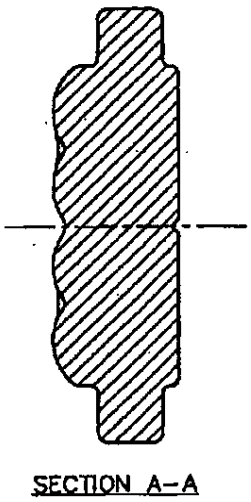


Fig.46d

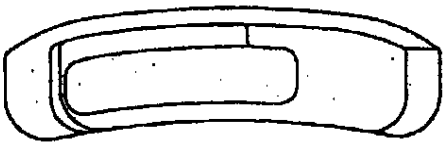


Fig.46e

Fig.47a

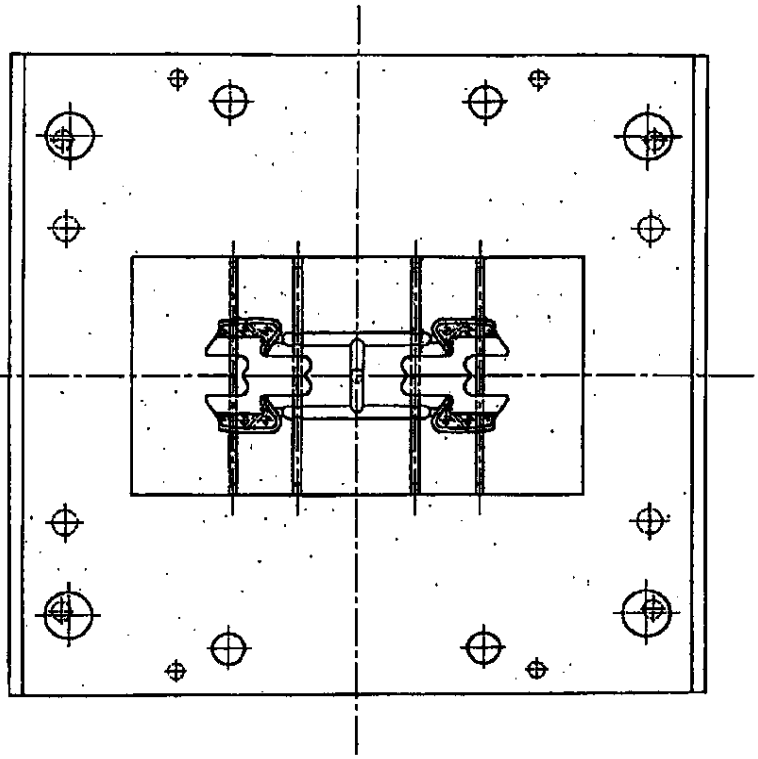


Fig.47b

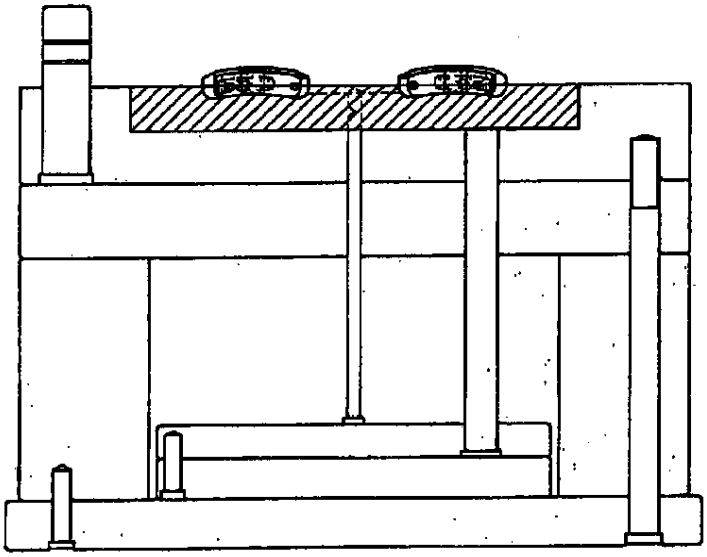


Fig.48a

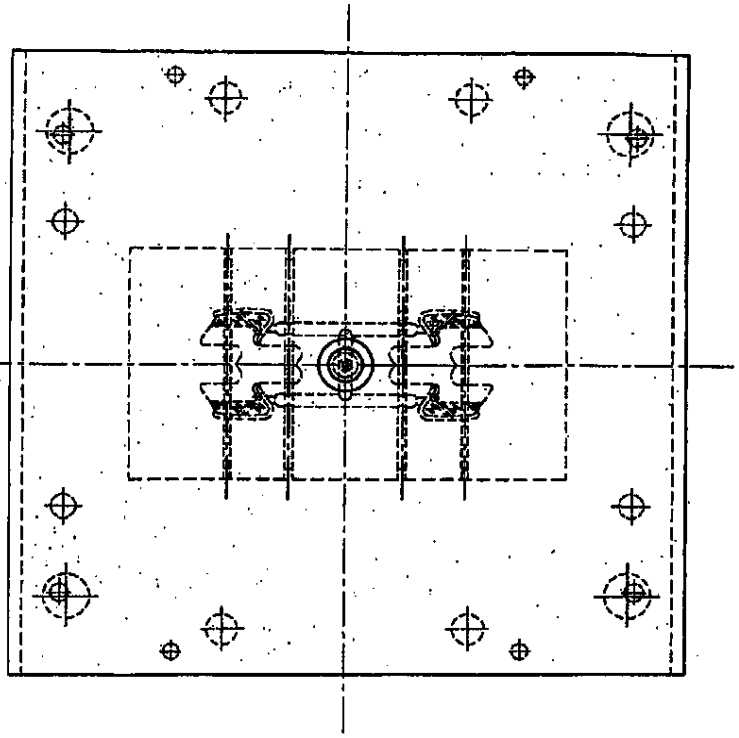


Fig.48b

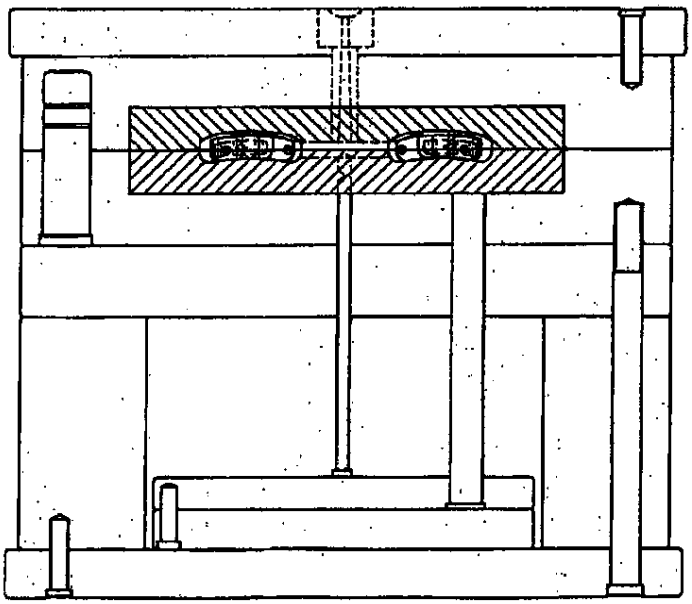


Fig.49a

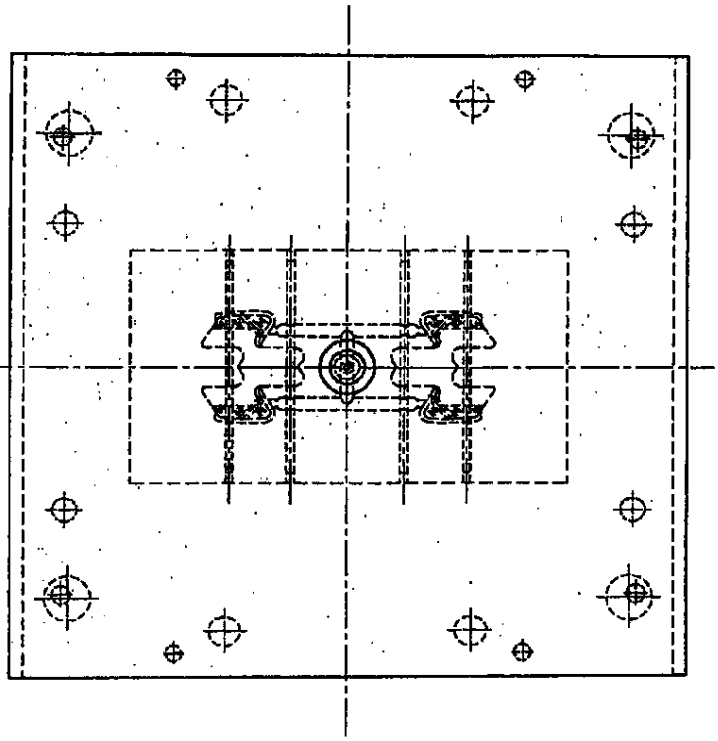
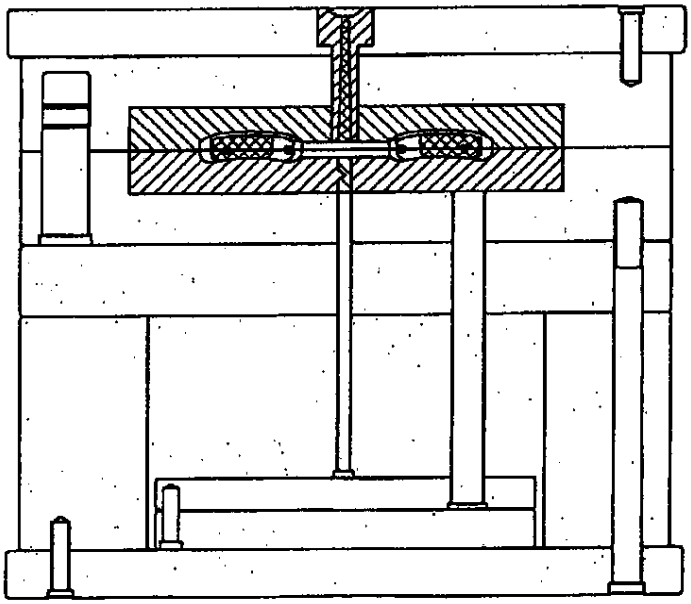


Fig.49b



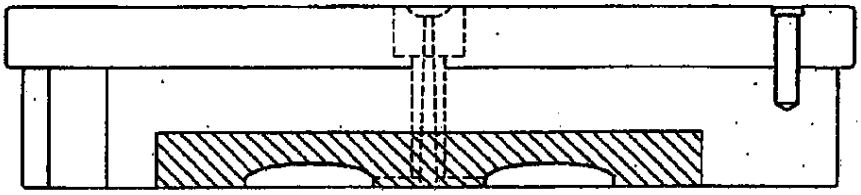


Fig.50a

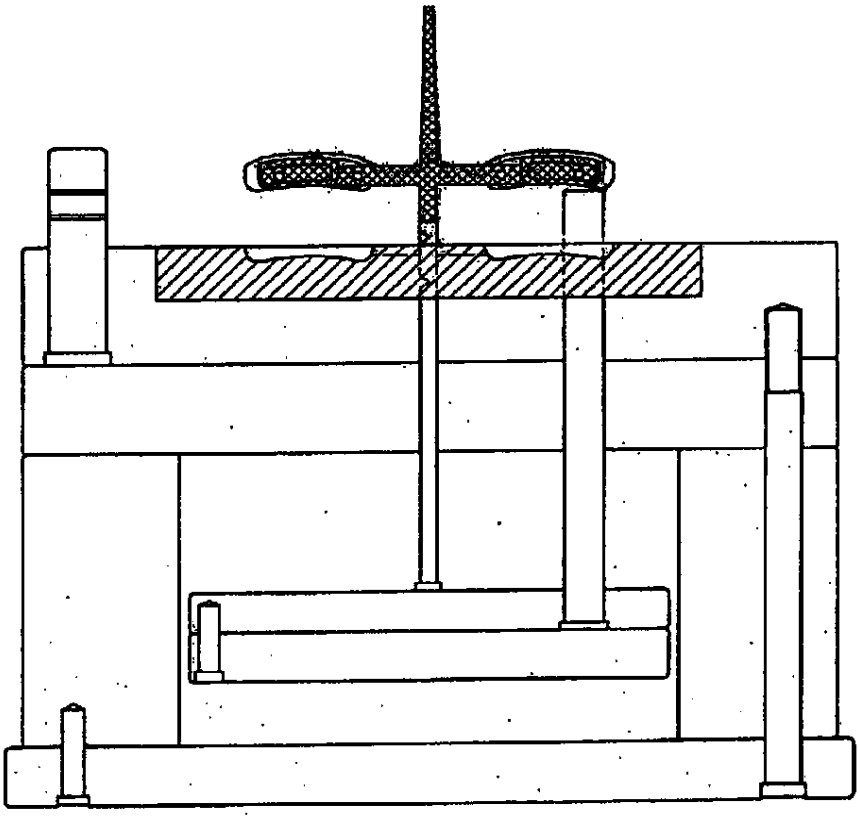


Fig.50b

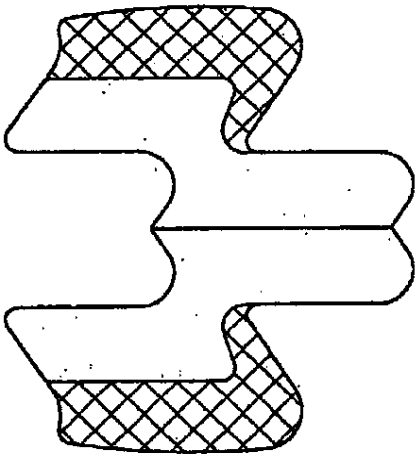


Fig.51a

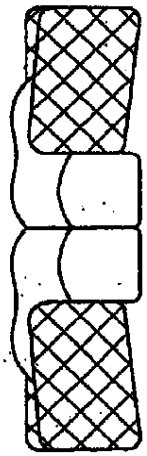


Fig.51b

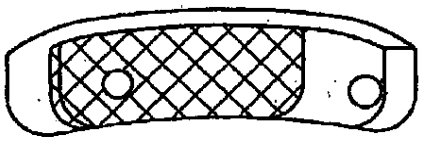


Fig.51c

Fig.52b

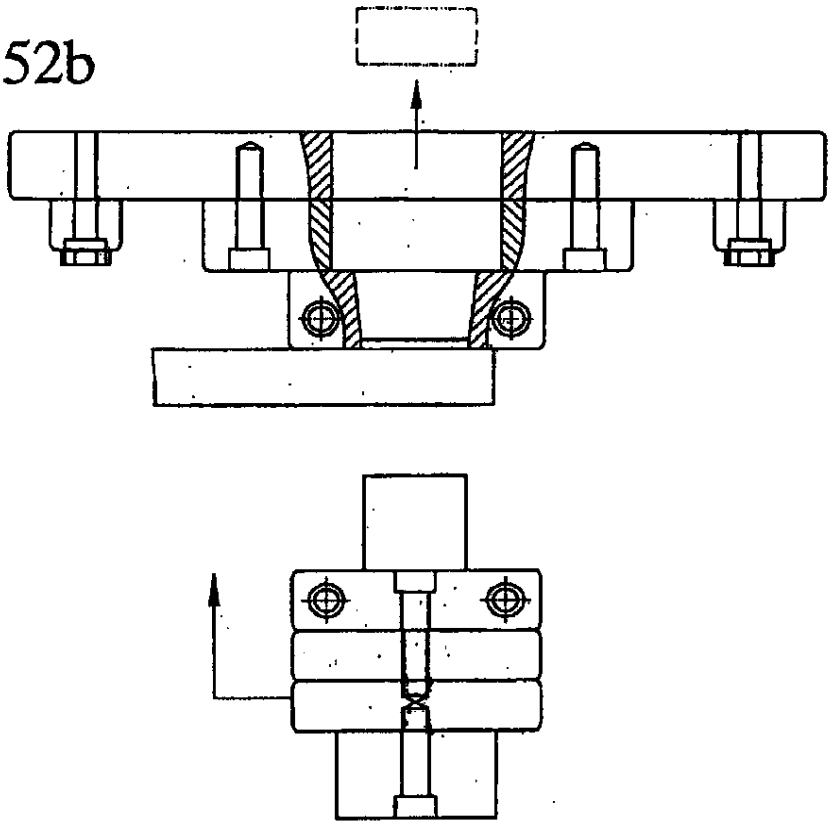
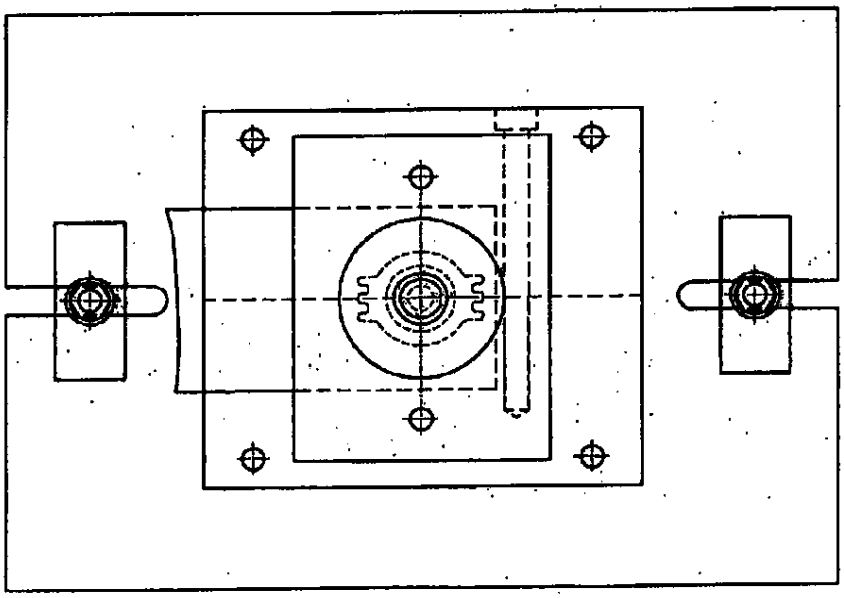


Fig.52a



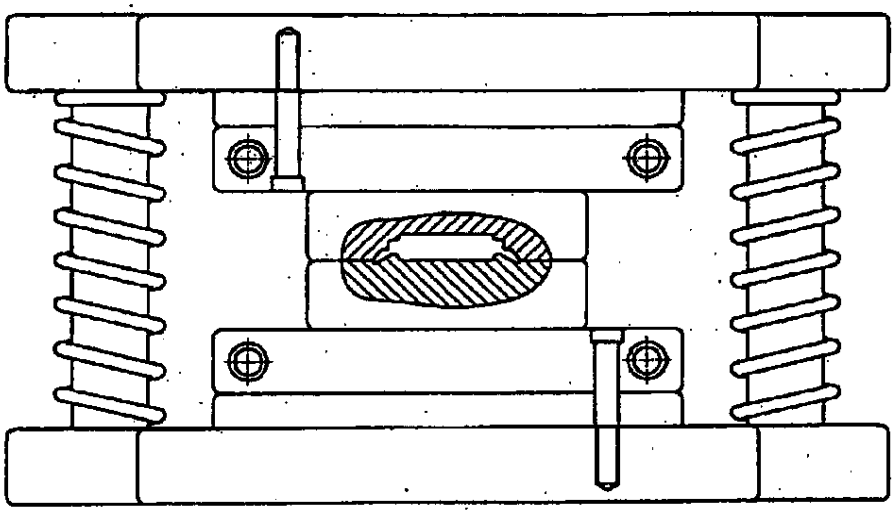


Fig.52d

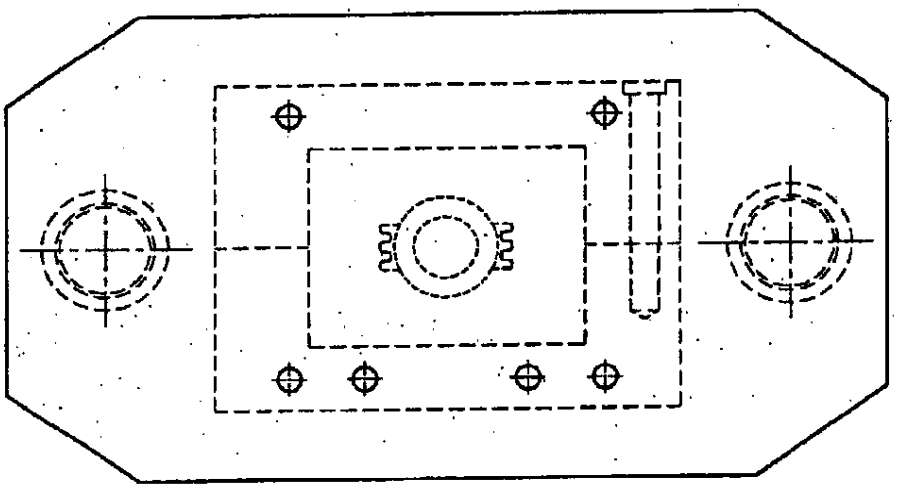


Fig.52c

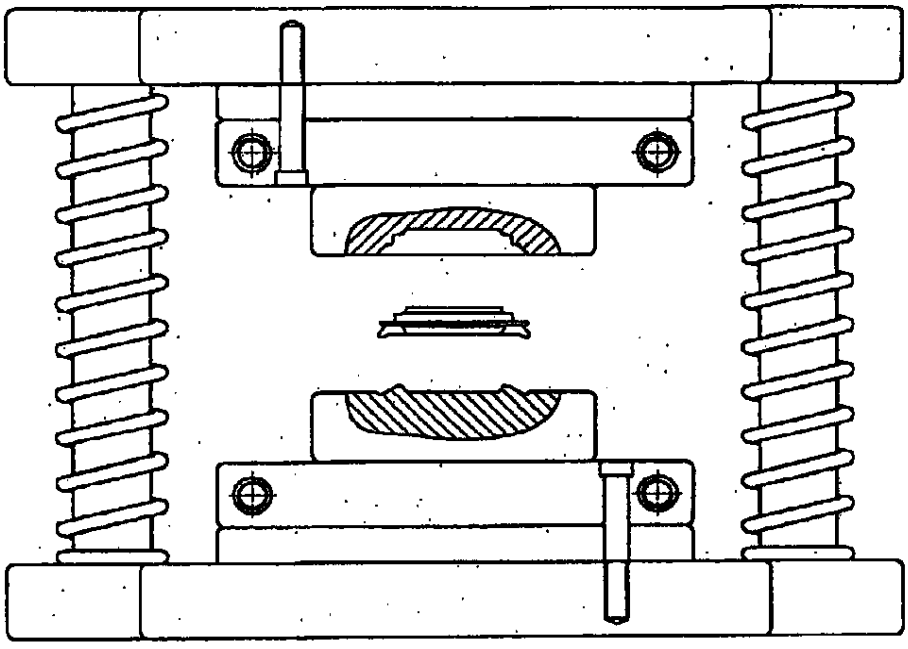


Fig.52f

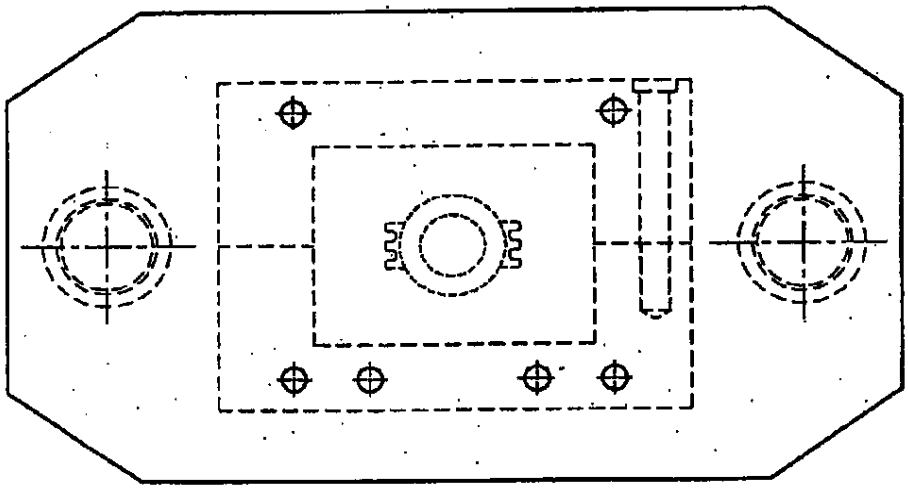


Fig.52e

Fig.53b

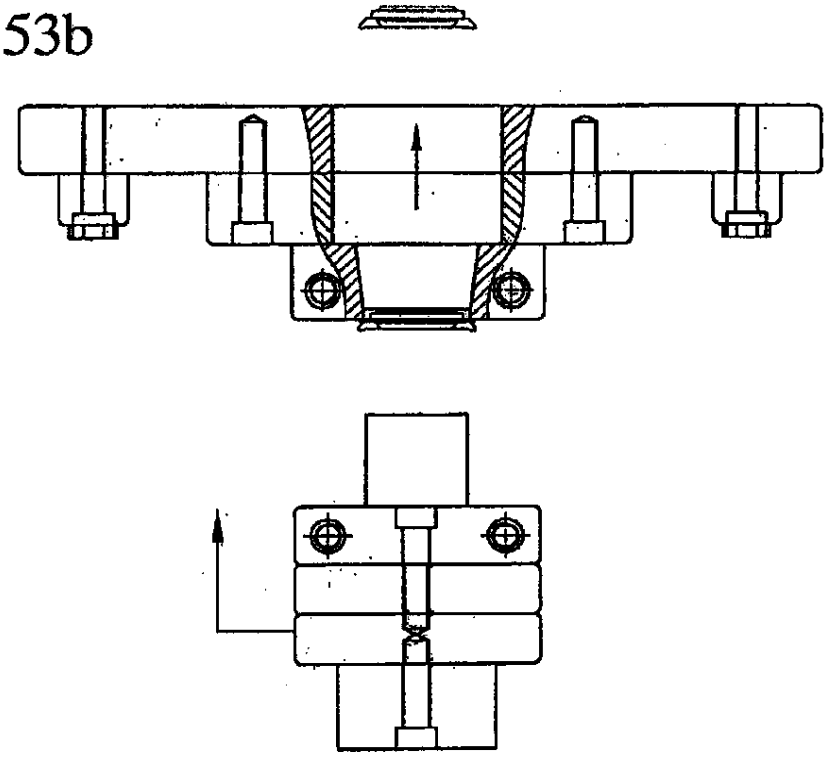
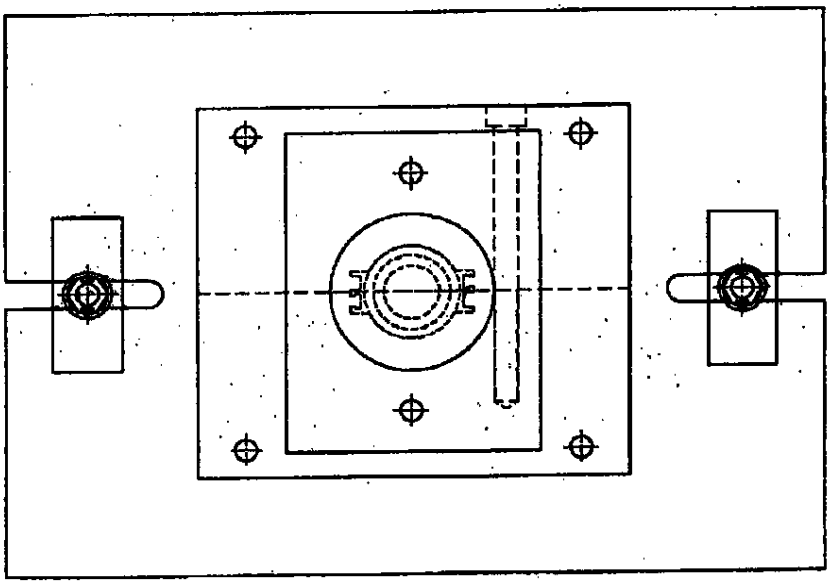


Fig.53a



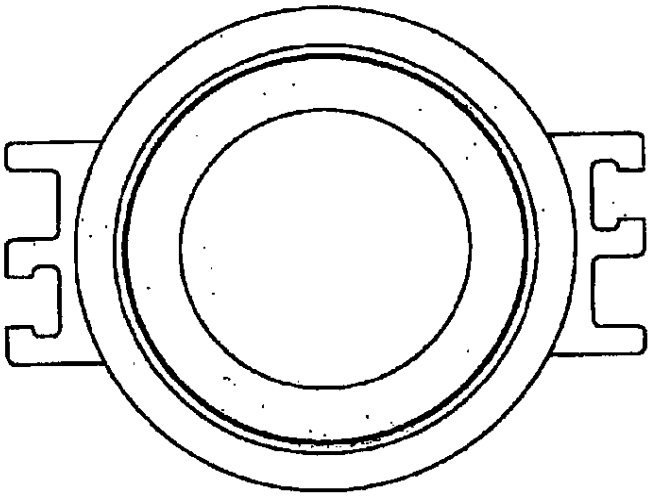


Fig.54a

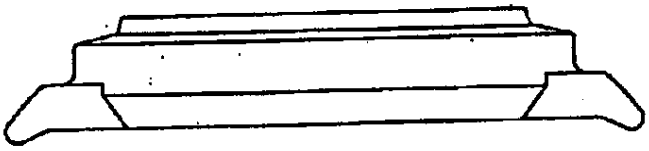


Fig.54b

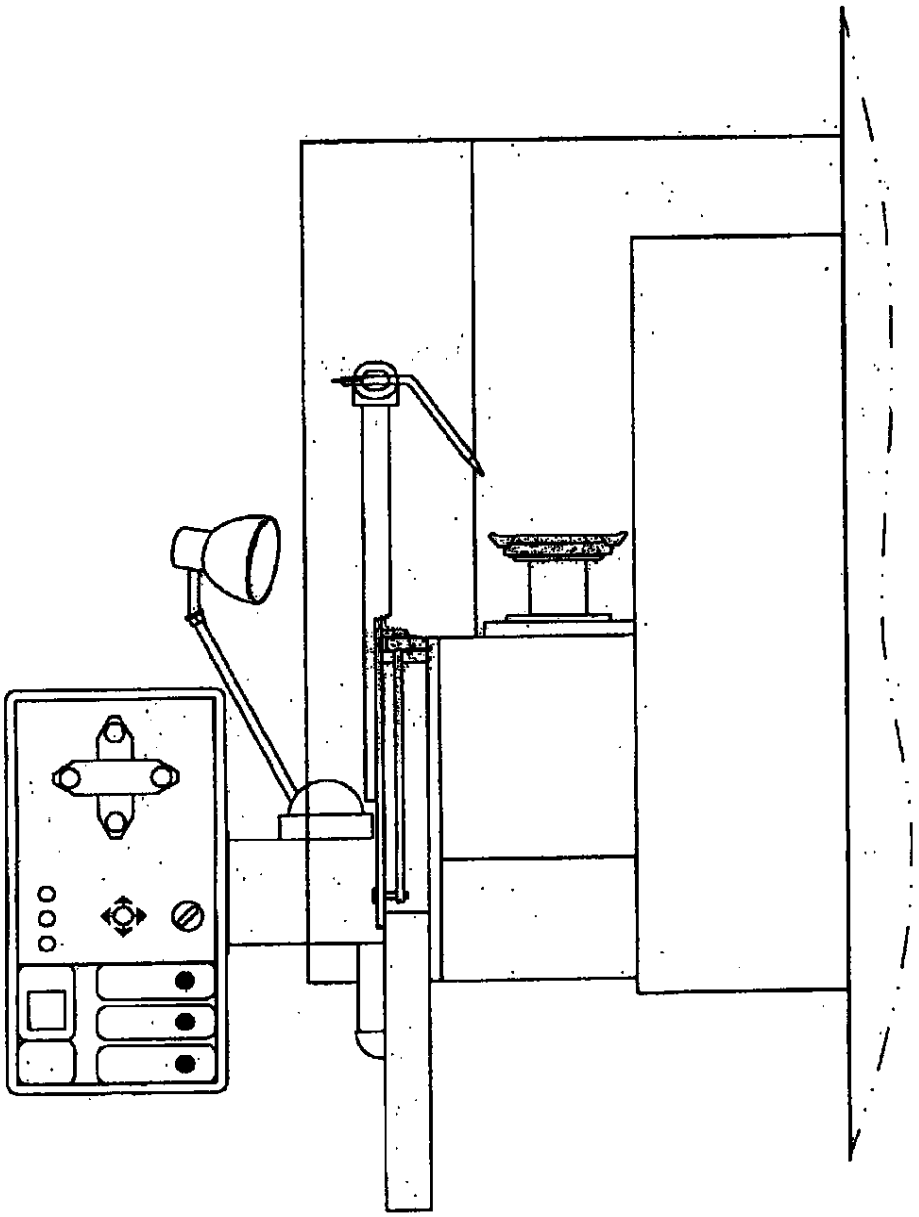


Fig.55a

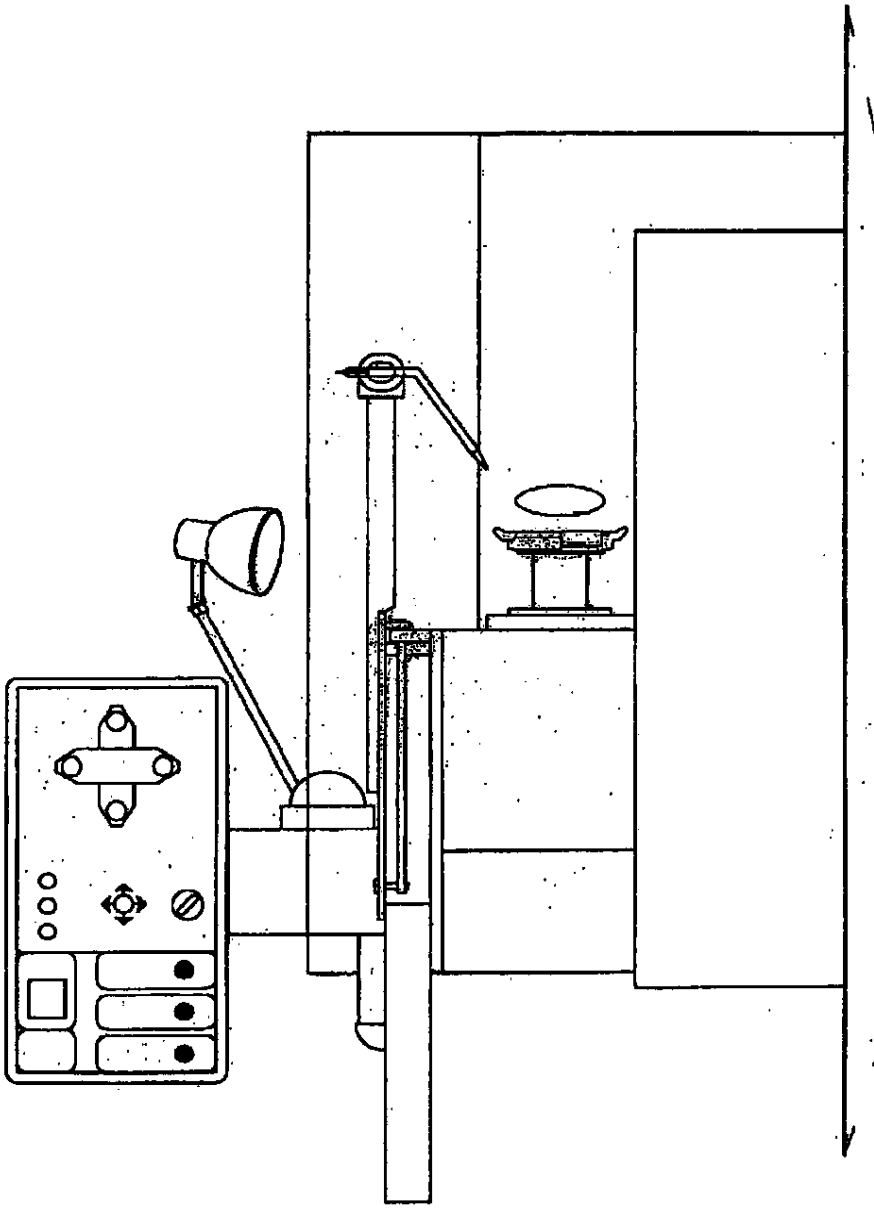


Fig.55b

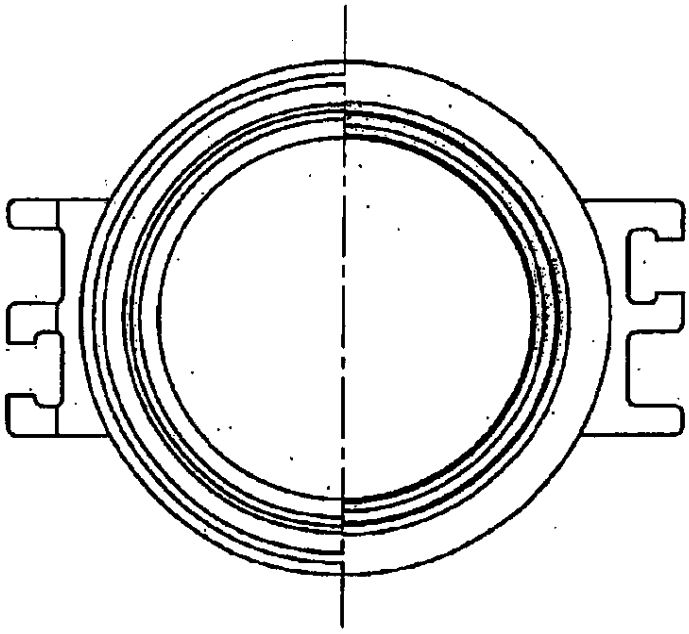


Fig.56a

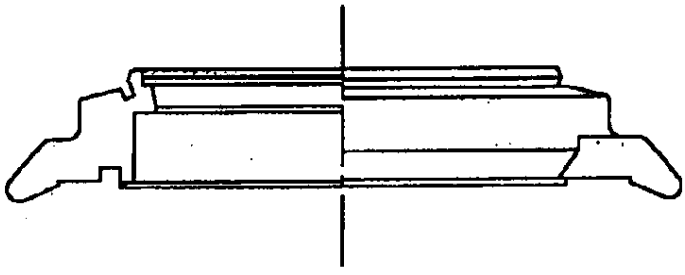


Fig.56b

Fig.57a

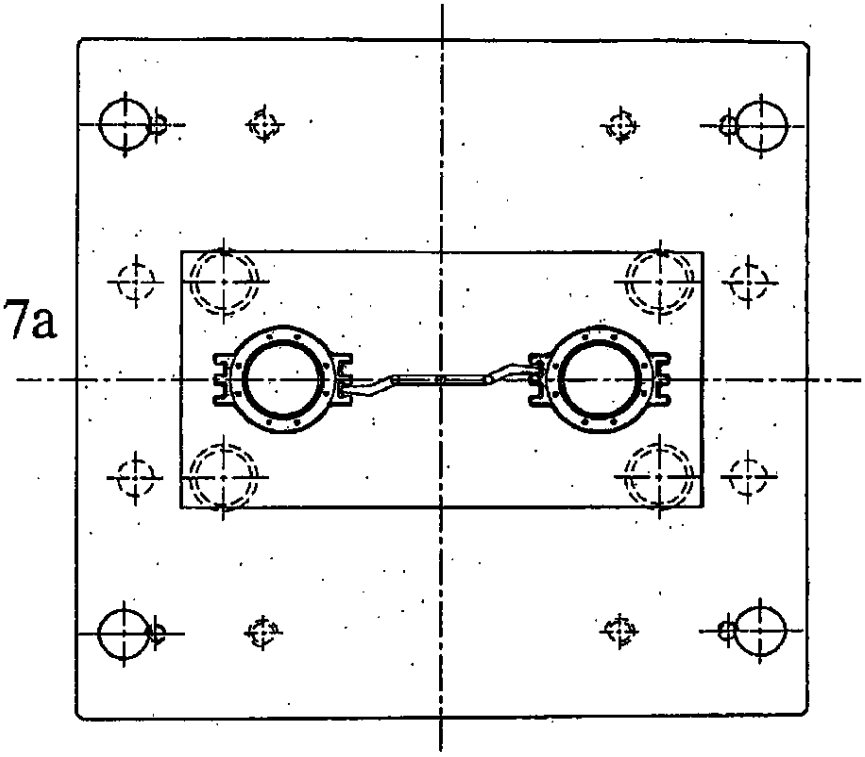


Fig.57b

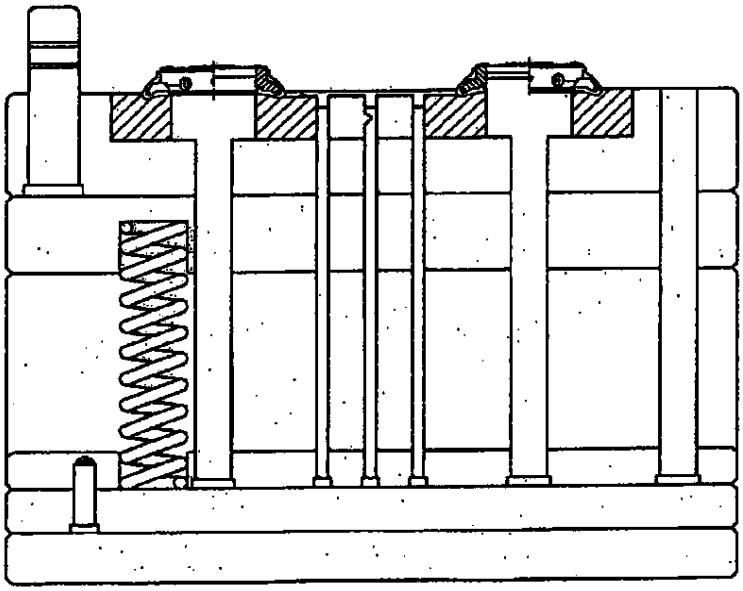


Fig.57c

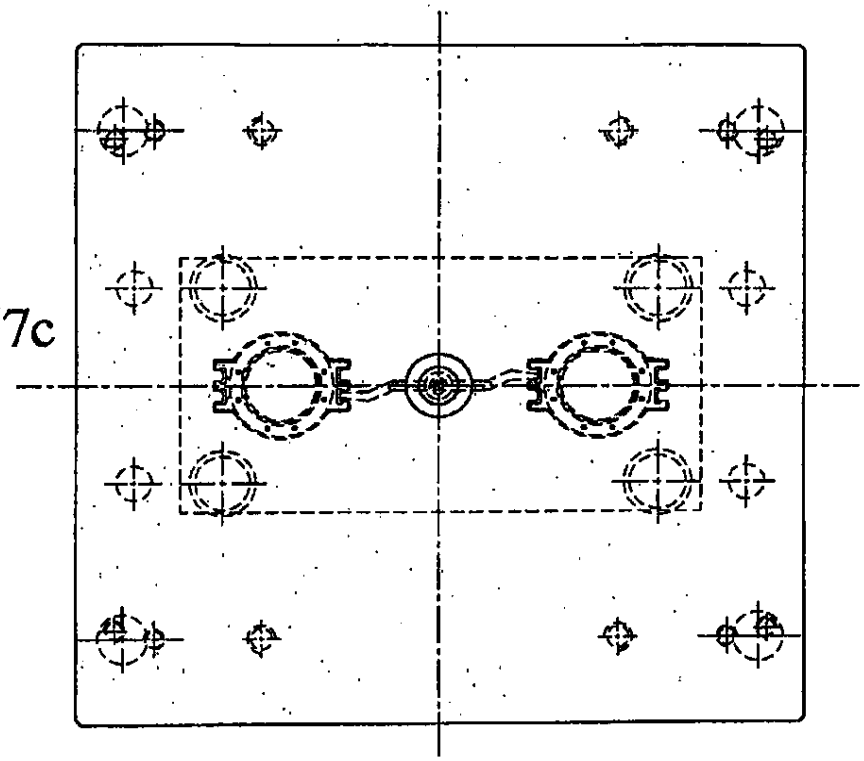


Fig.57d

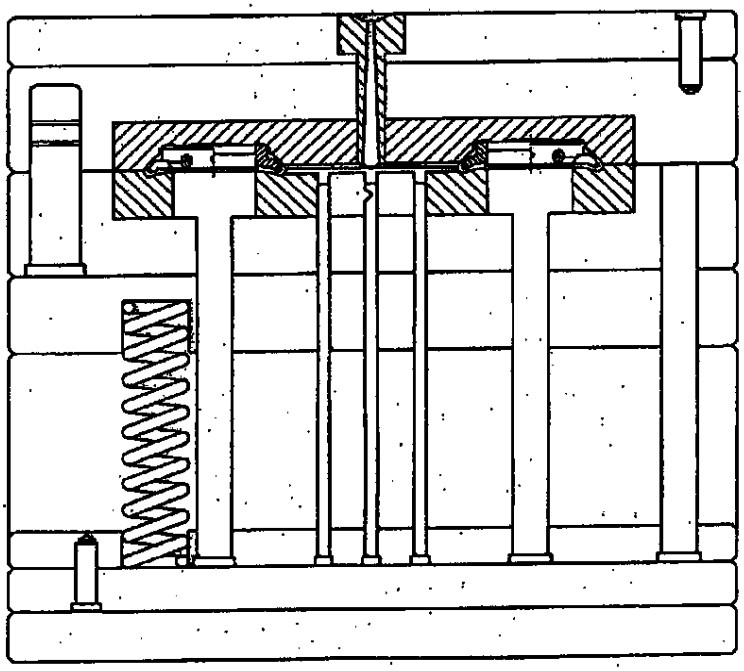


Fig.57e

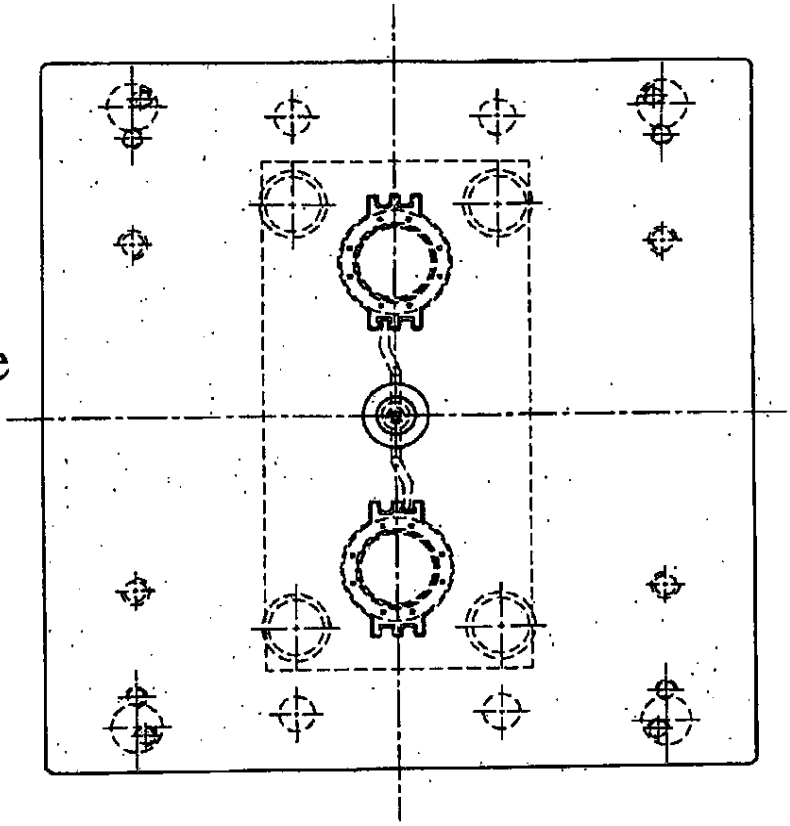
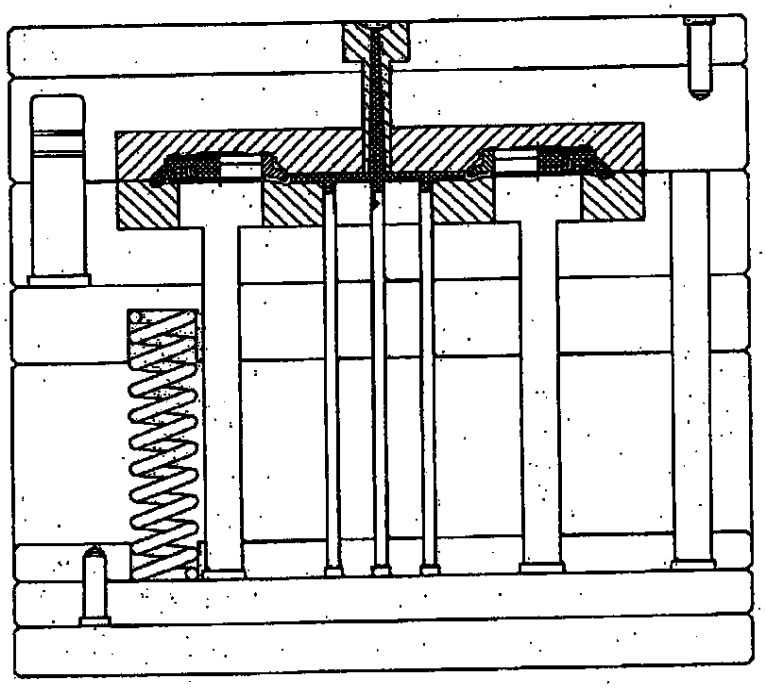


Fig.57f



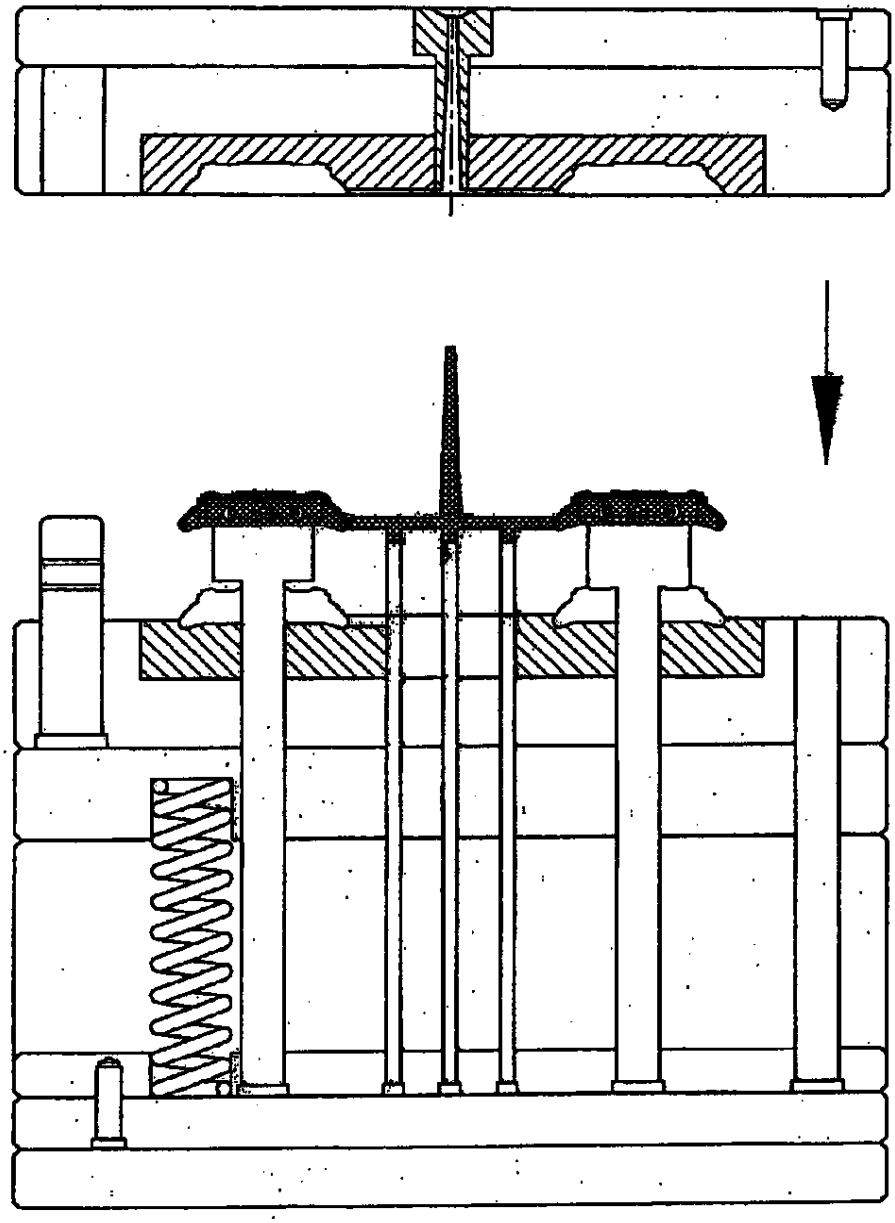


Fig.57g

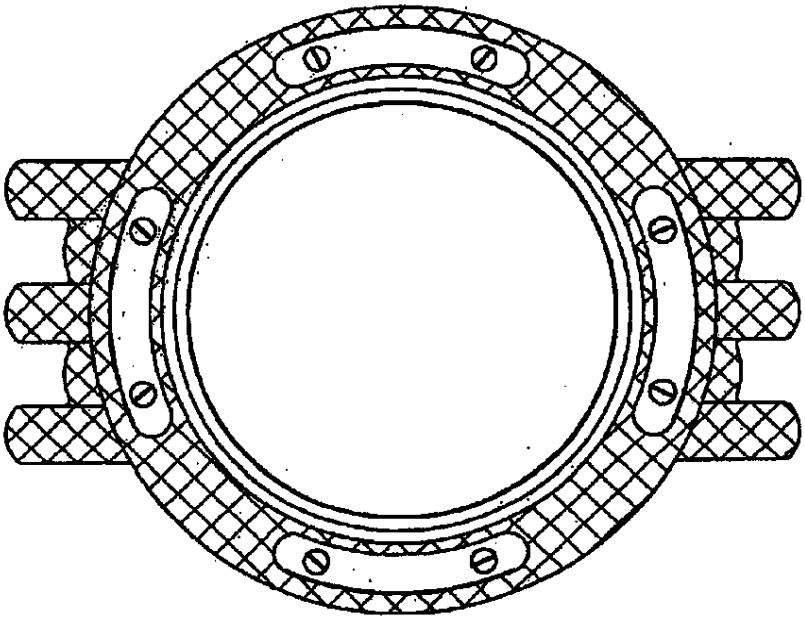


Fig.58a

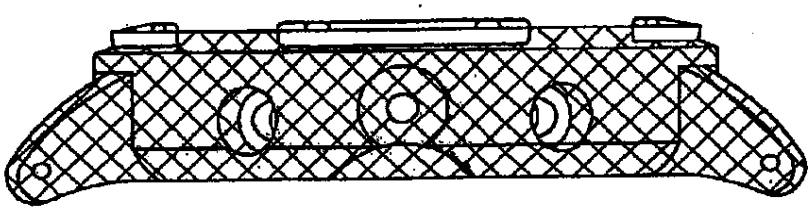


Fig.58b

Fig.59b

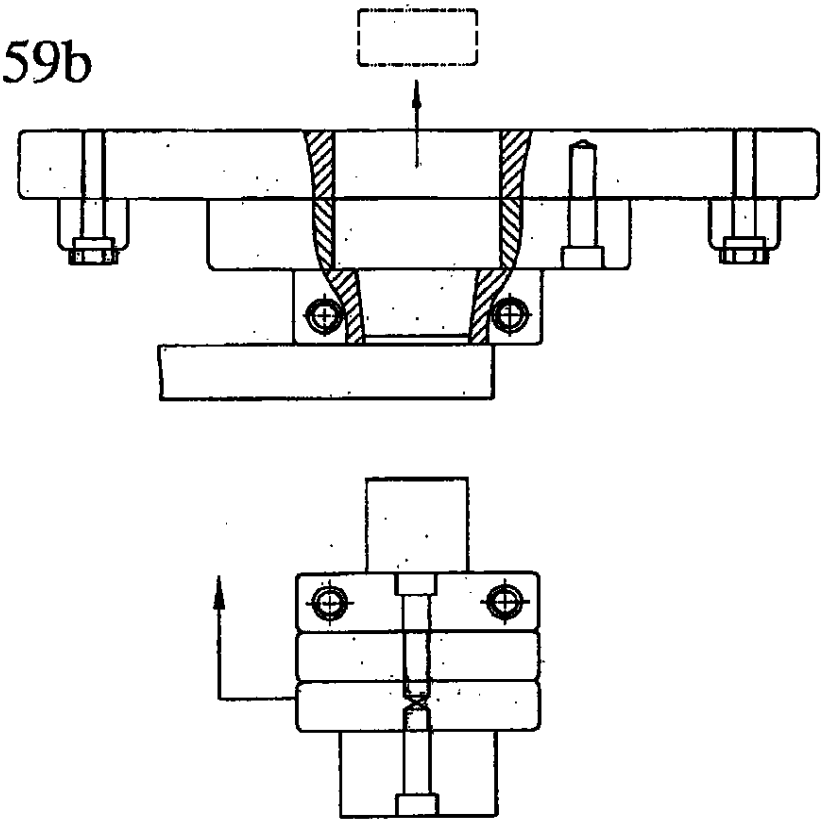
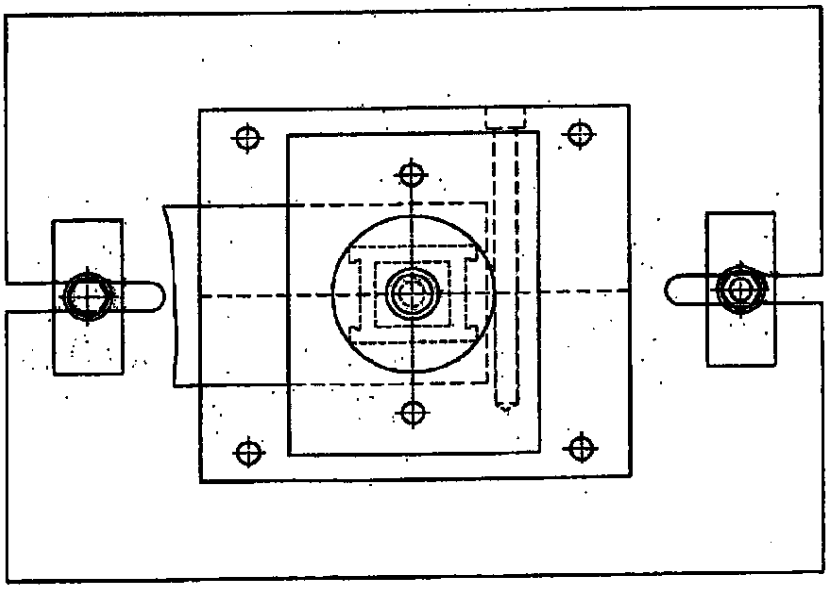


Fig.59a



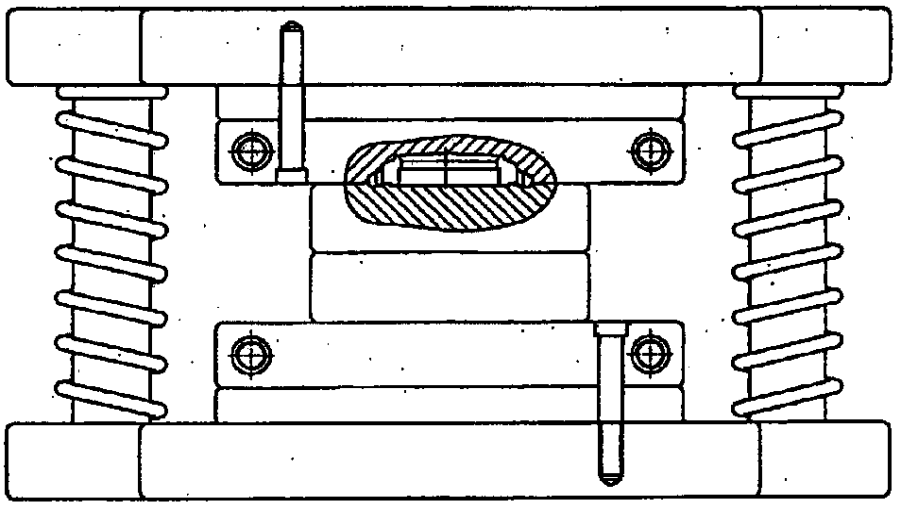


Fig.59d

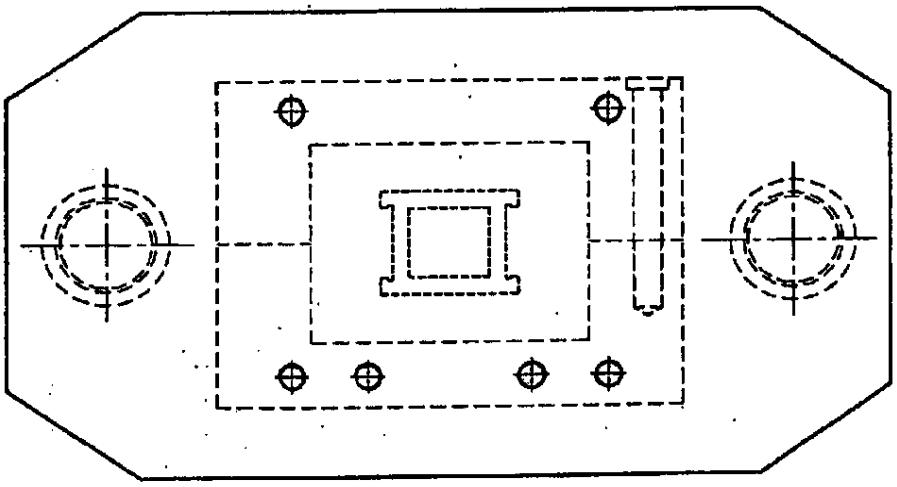


Fig.59c

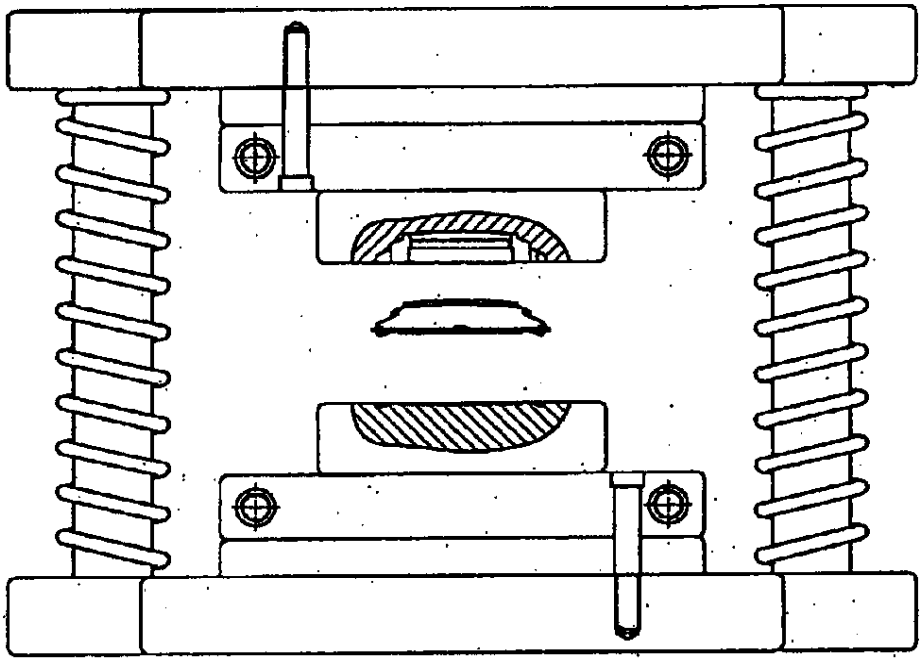


Fig.59f

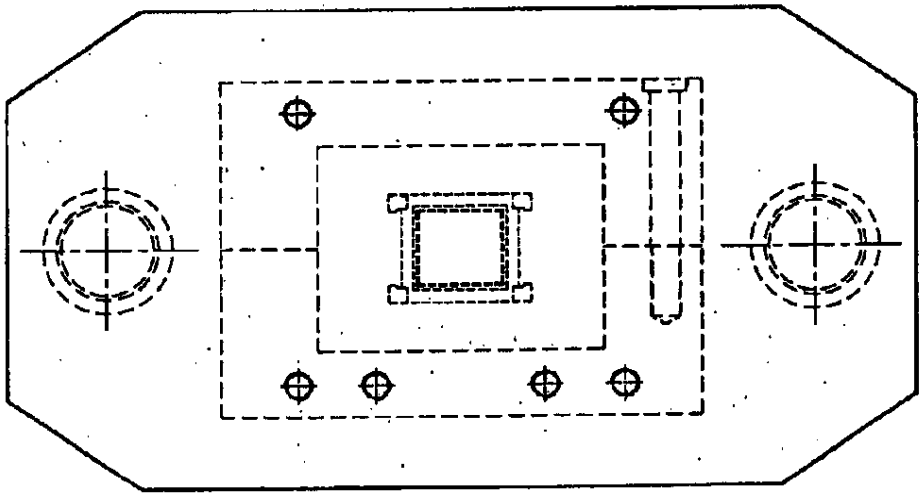


Fig.59e

Fig.59h

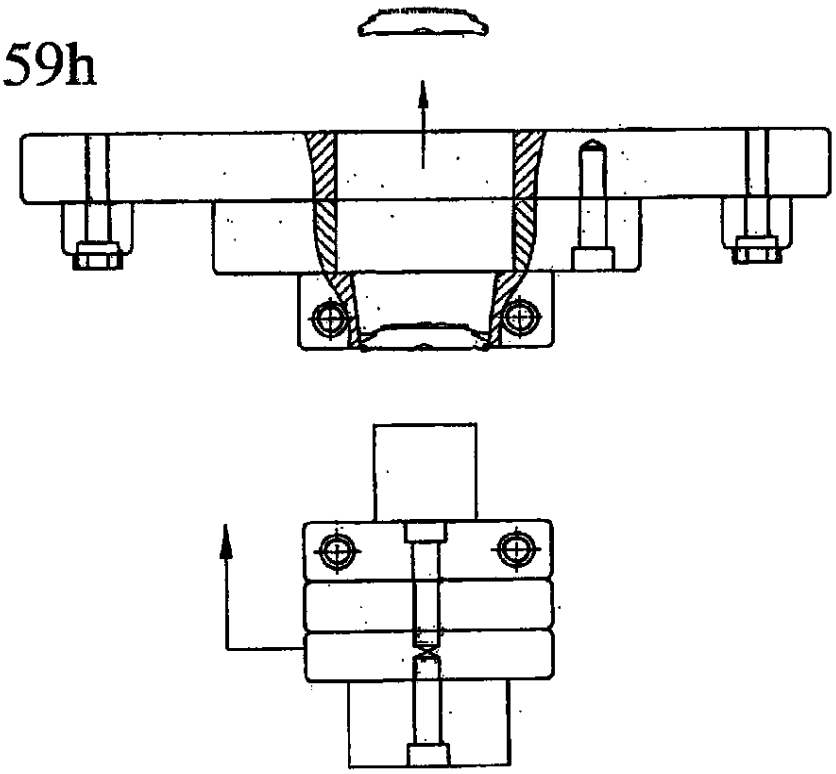
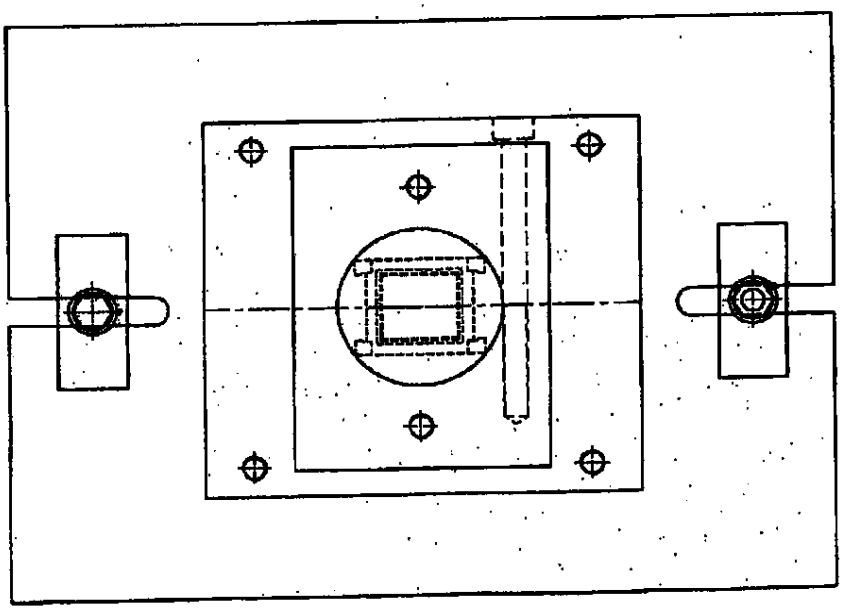


Fig.59g



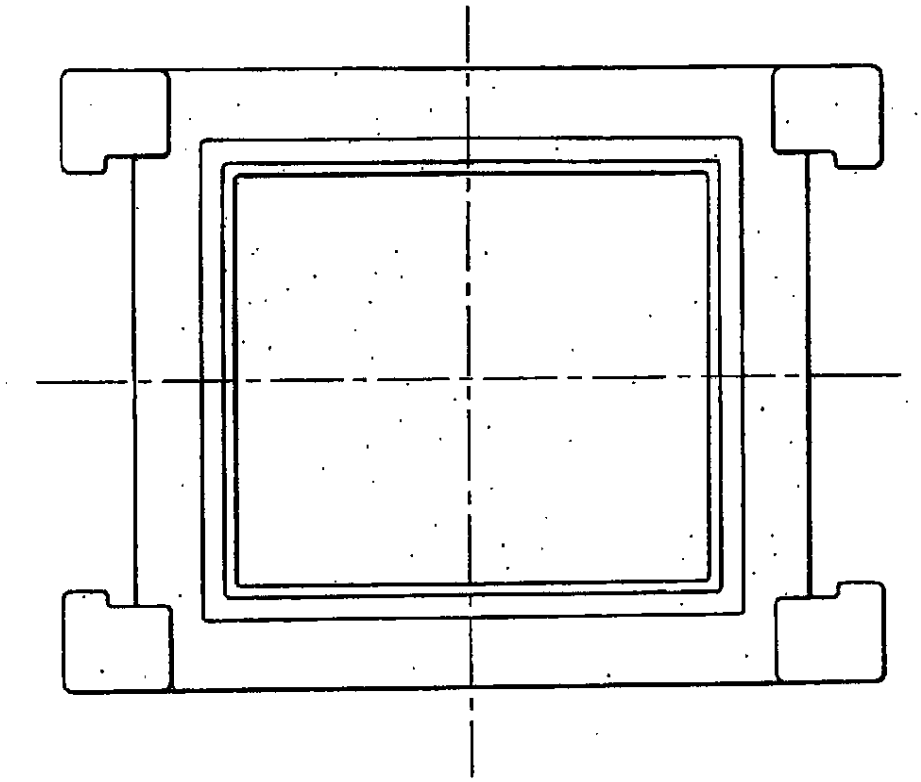


Fig.59i

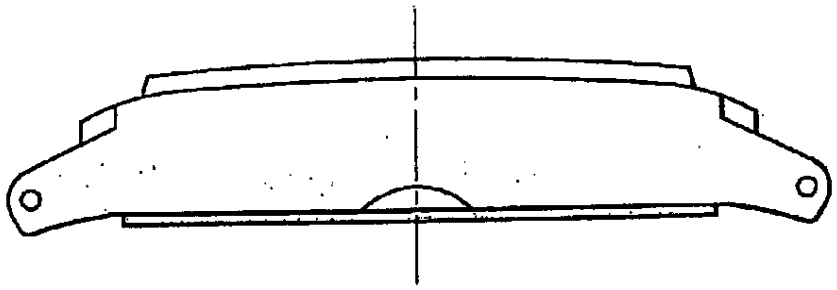


Fig.59j

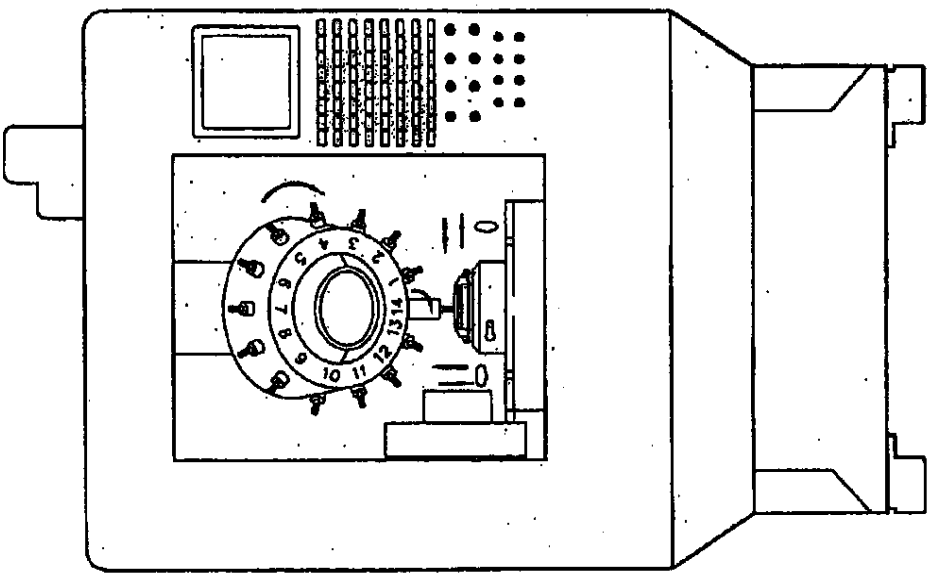


Fig.60b

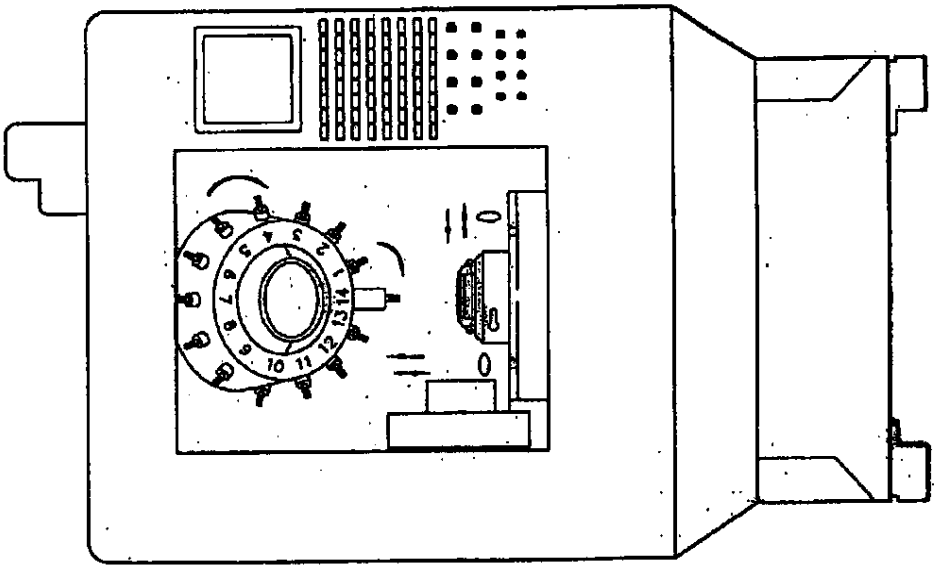


Fig.60a

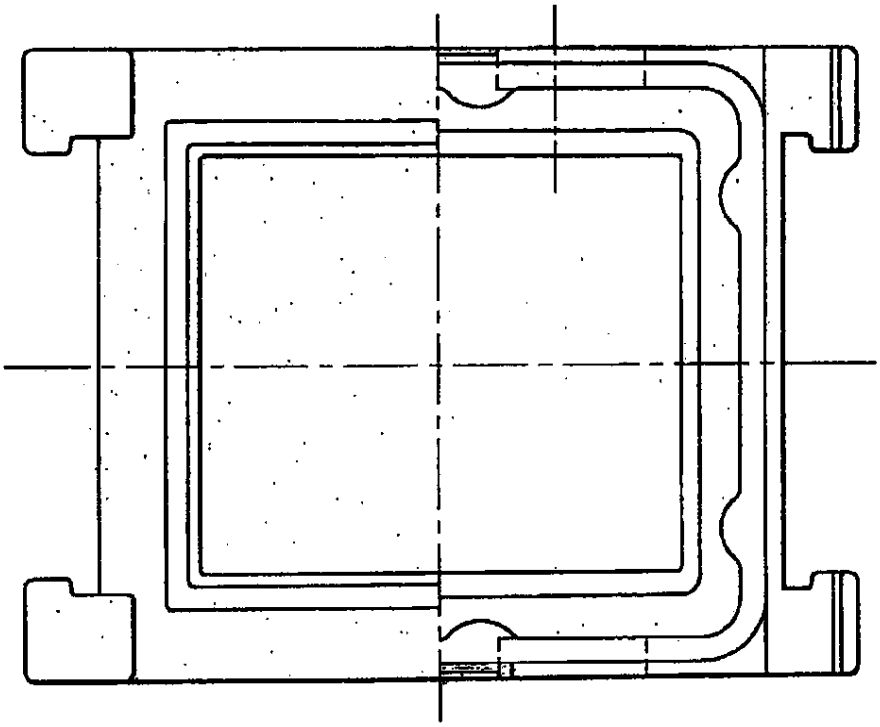


Fig.60c

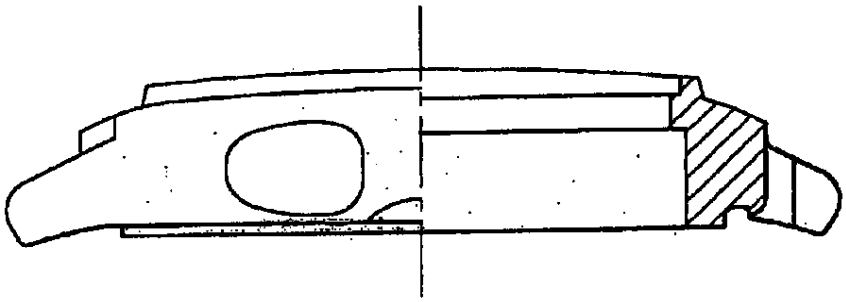


Fig.60d

Fig.61f

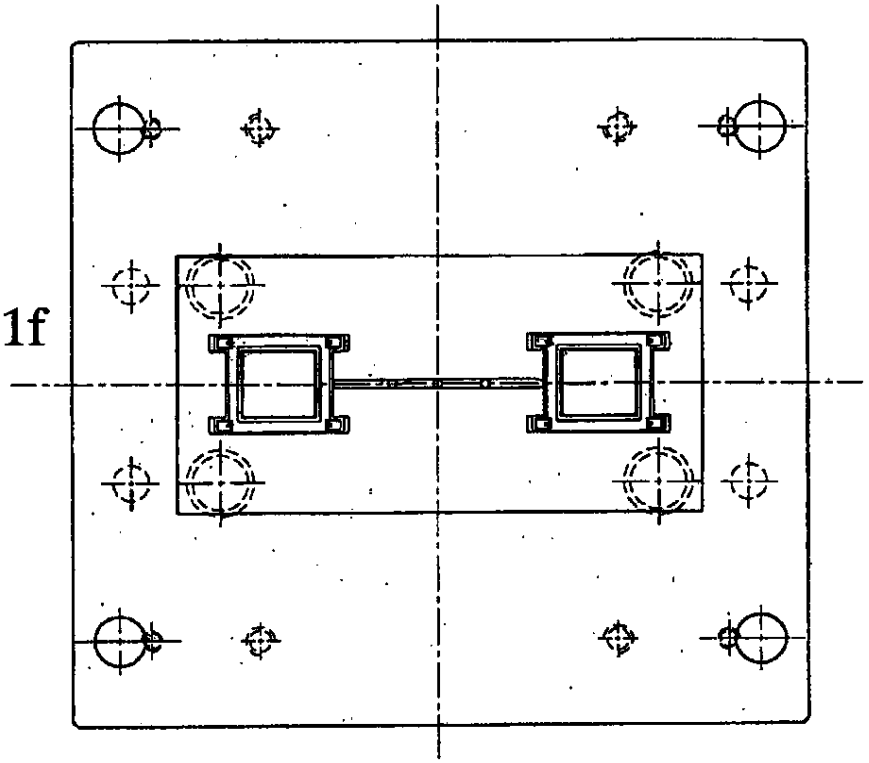


Fig.61e

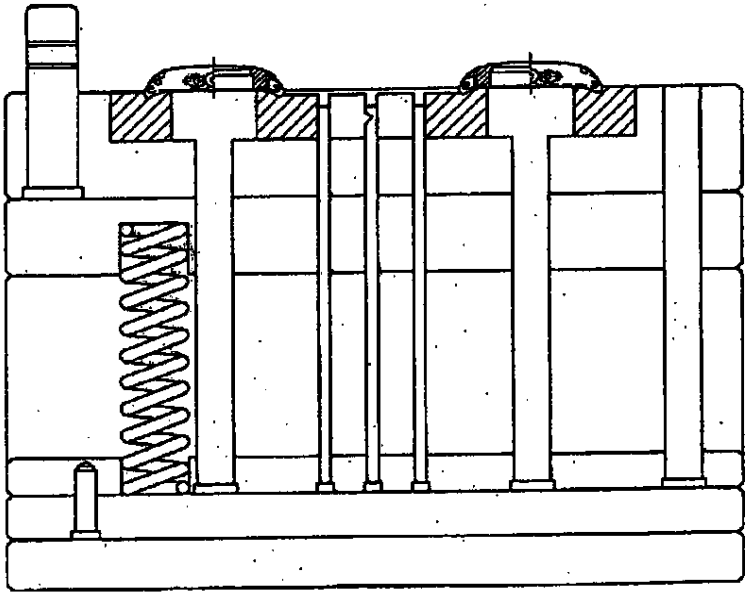


Fig.61h

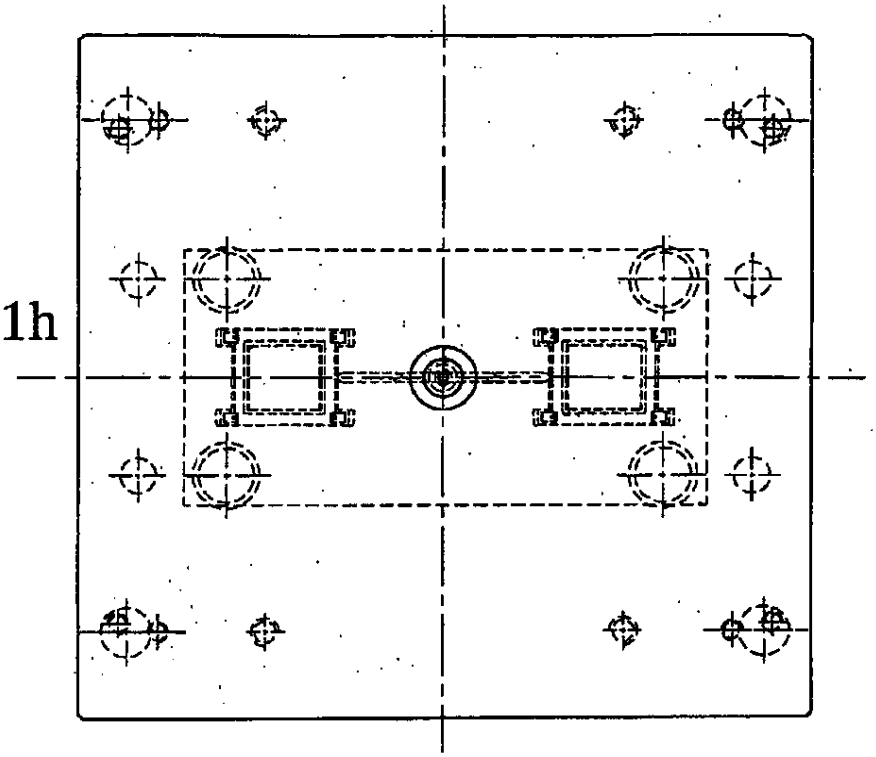


Fig.61g

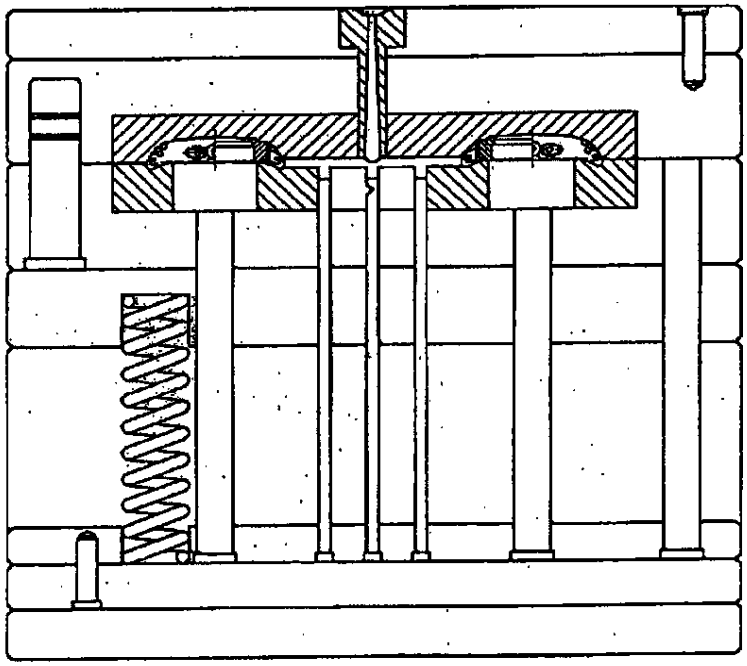


Fig.61j

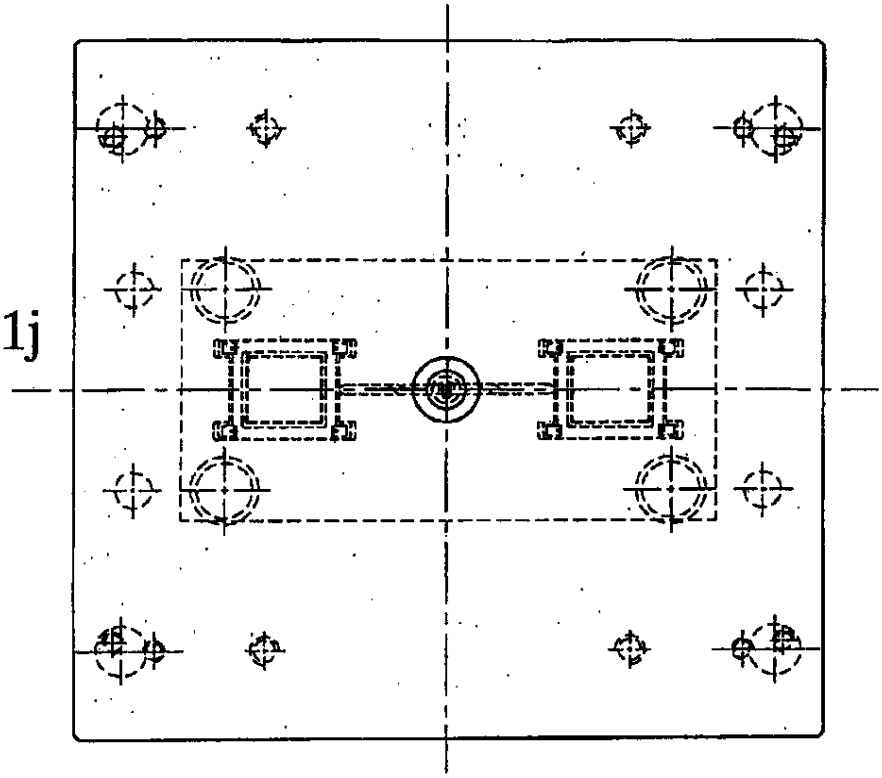
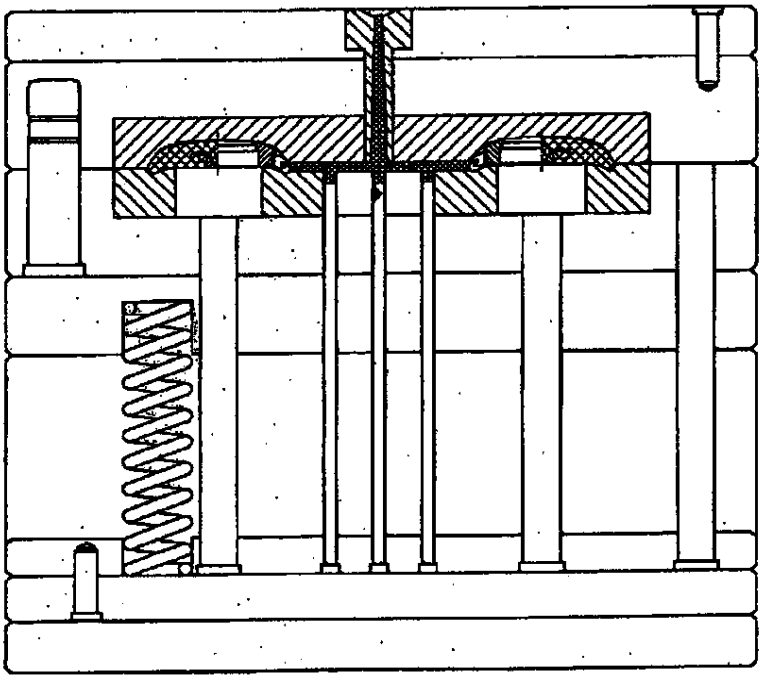


Fig.61i



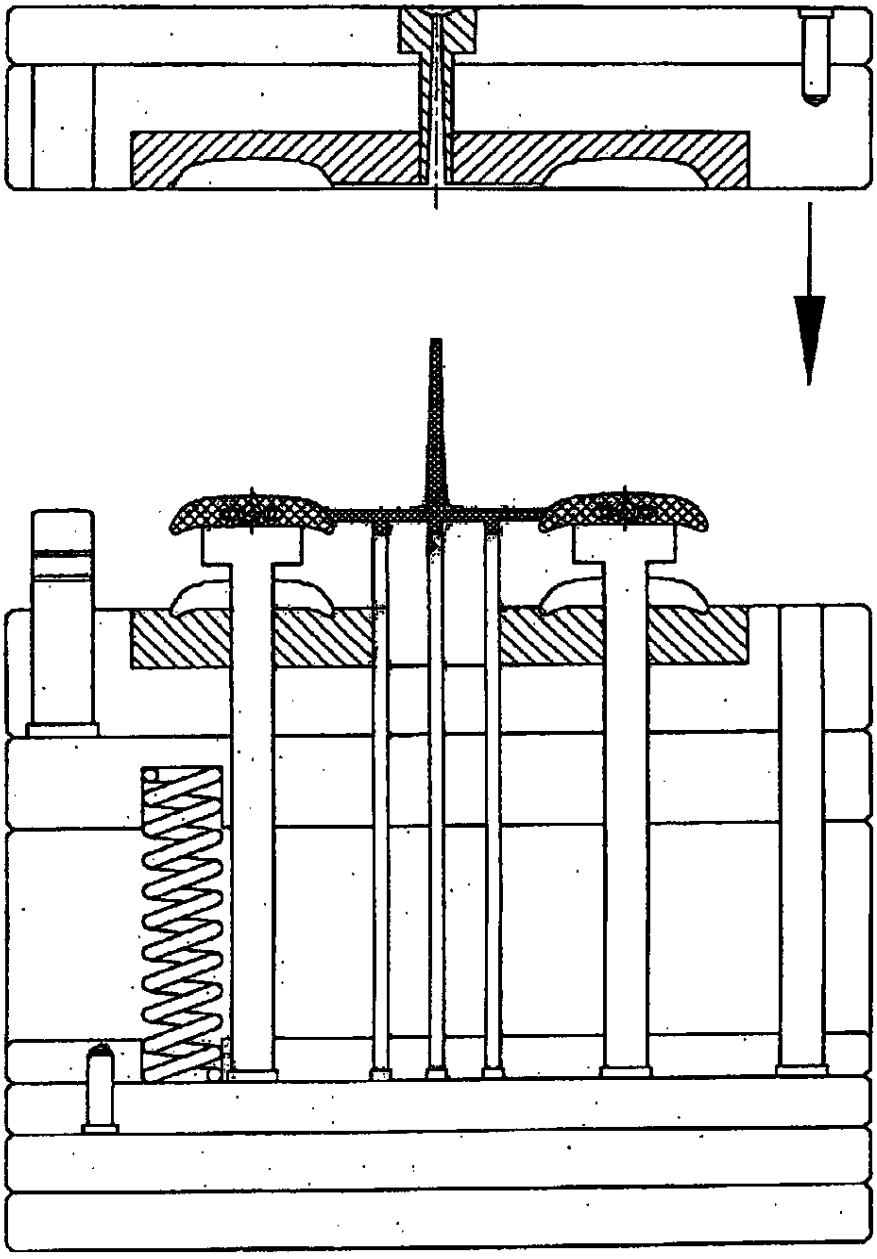


Fig.61k

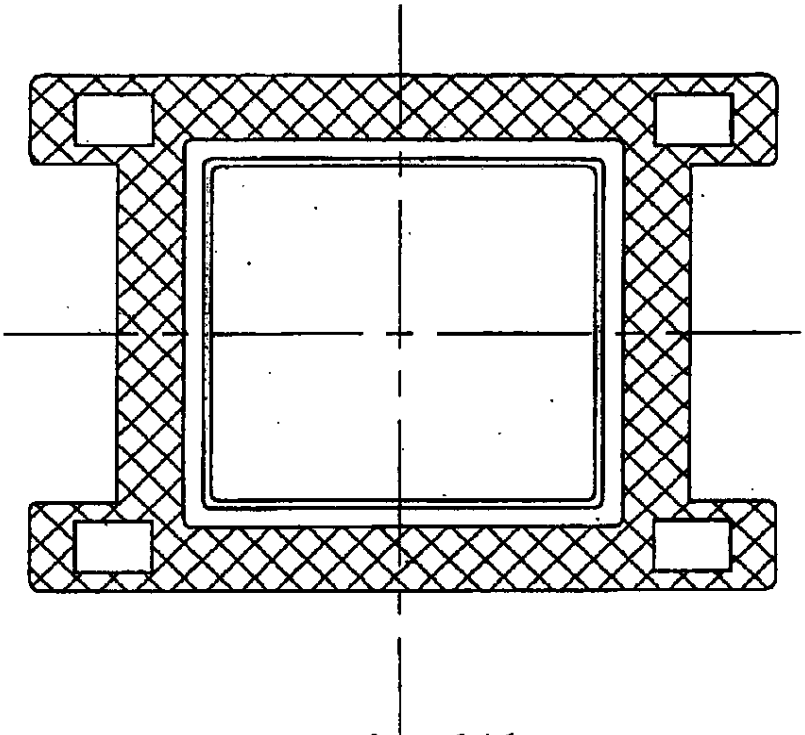


Fig.61l

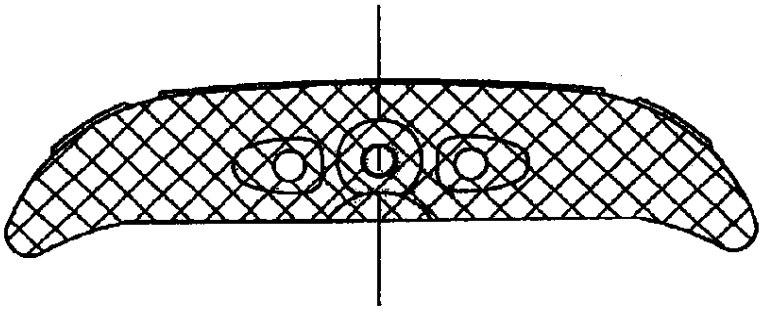


Fig.61m

Fig.62b

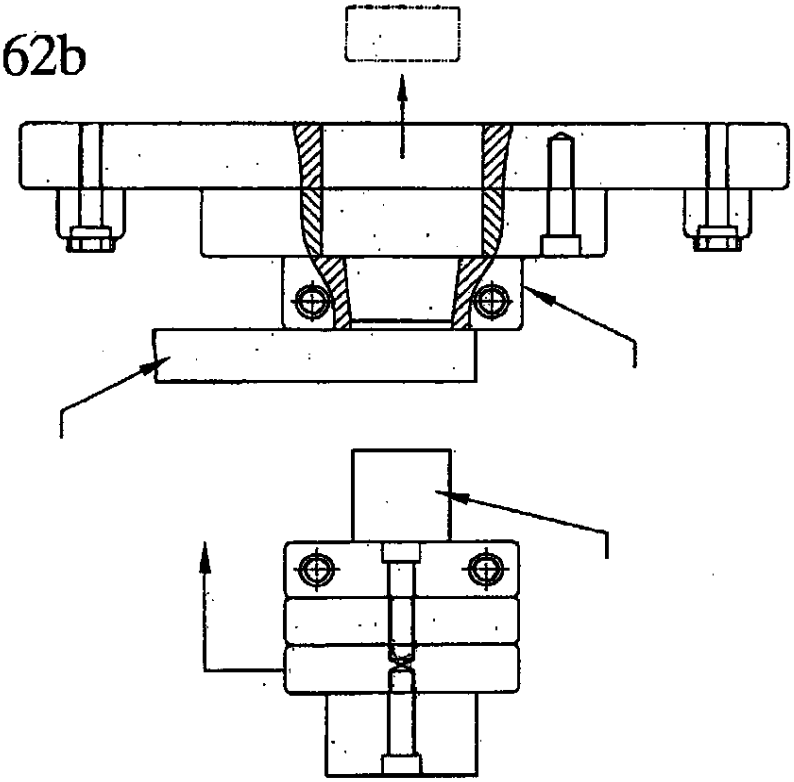
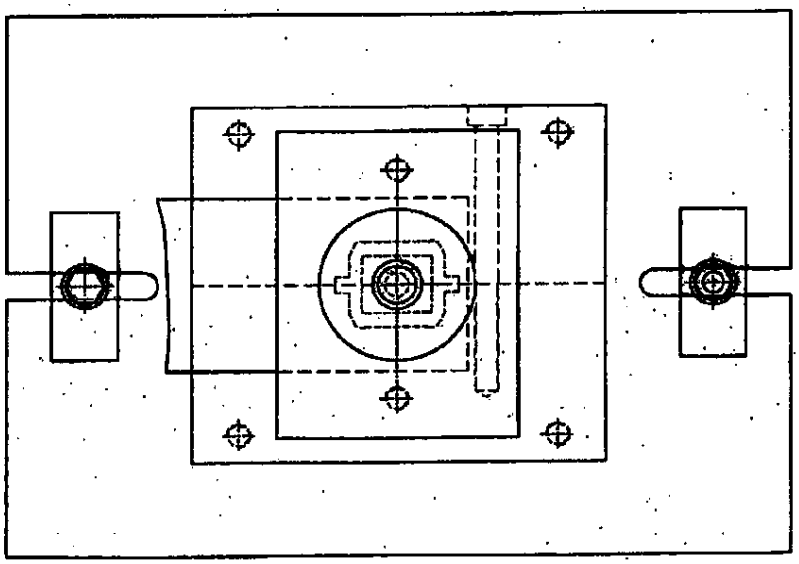


Fig.62a



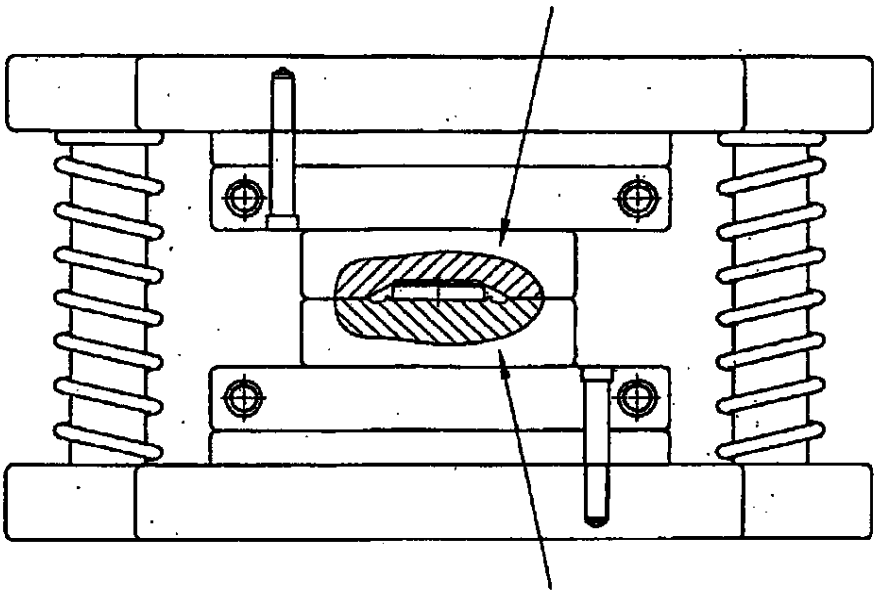


Fig.62d

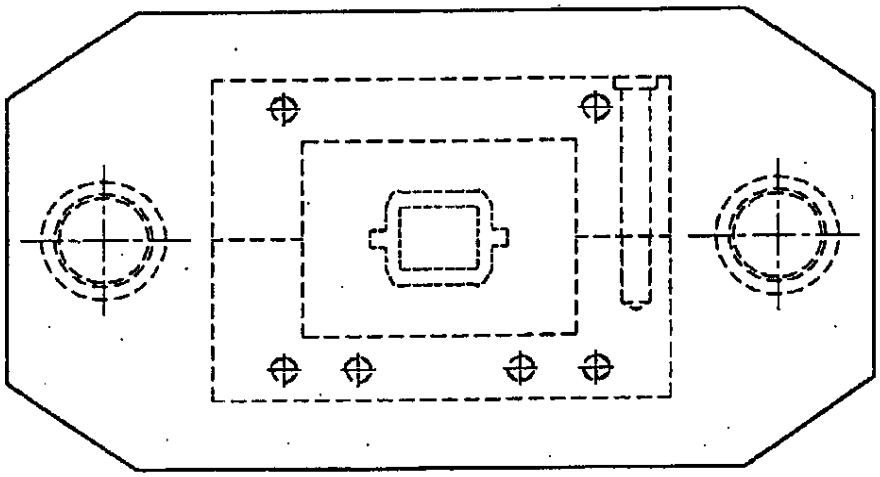


Fig.62c

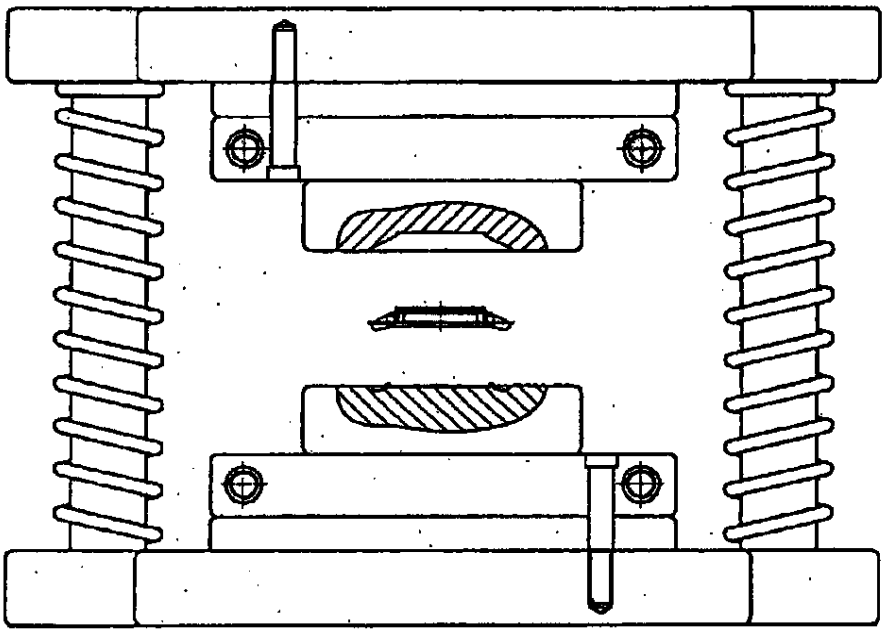


Fig.62f

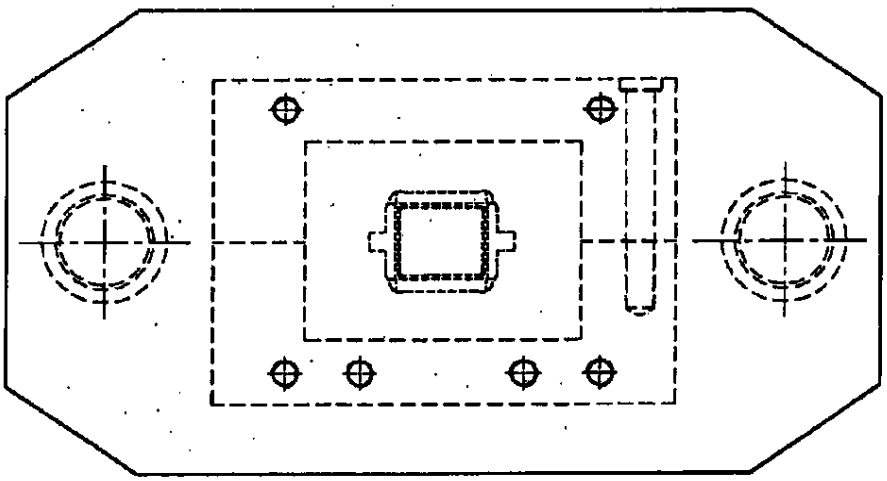


Fig.62e

Fig.62h

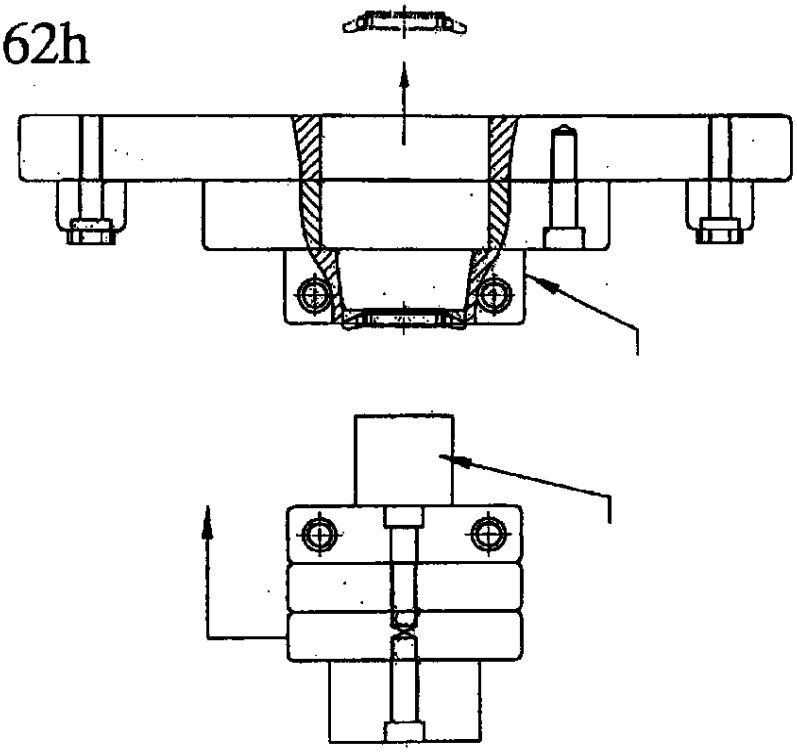
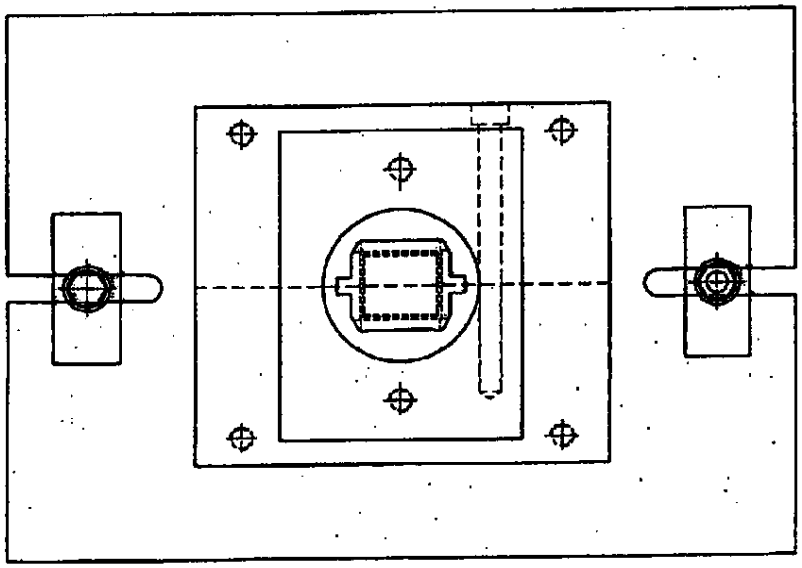


Fig.62g



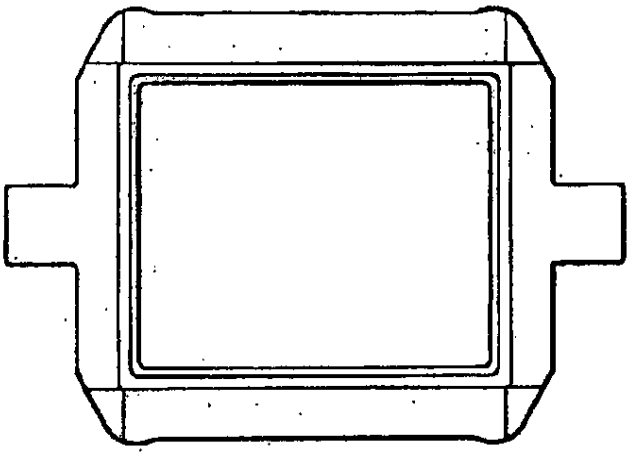


Fig.62i

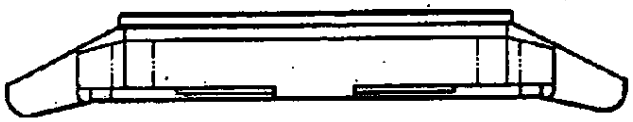


Fig.62j

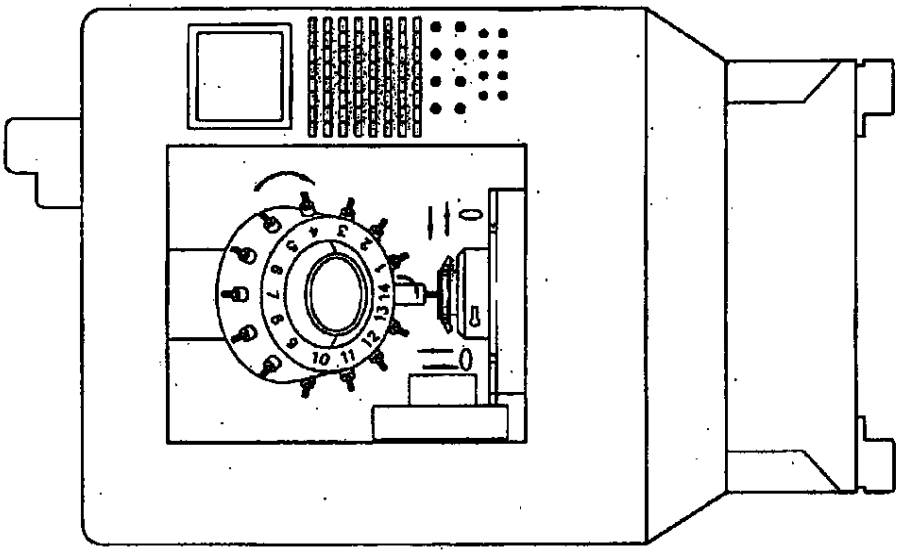


Fig.63b

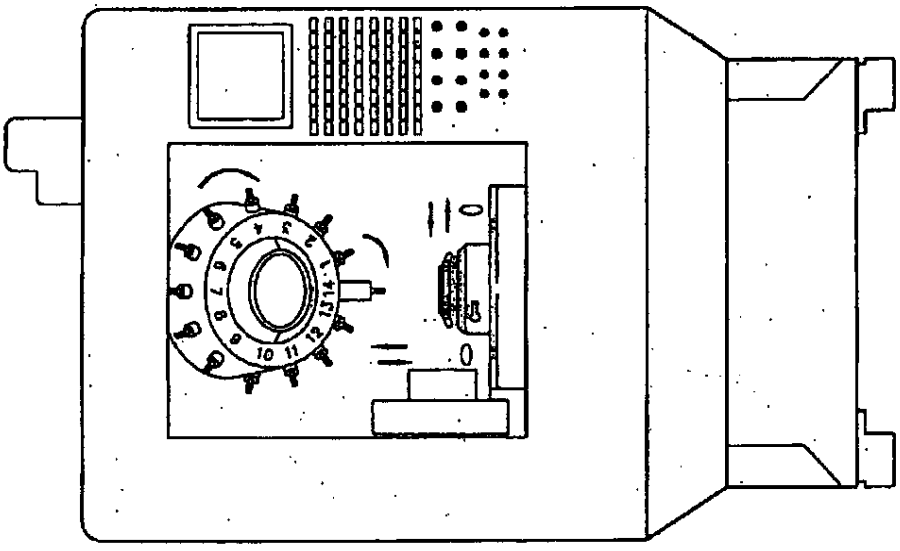


Fig.63a

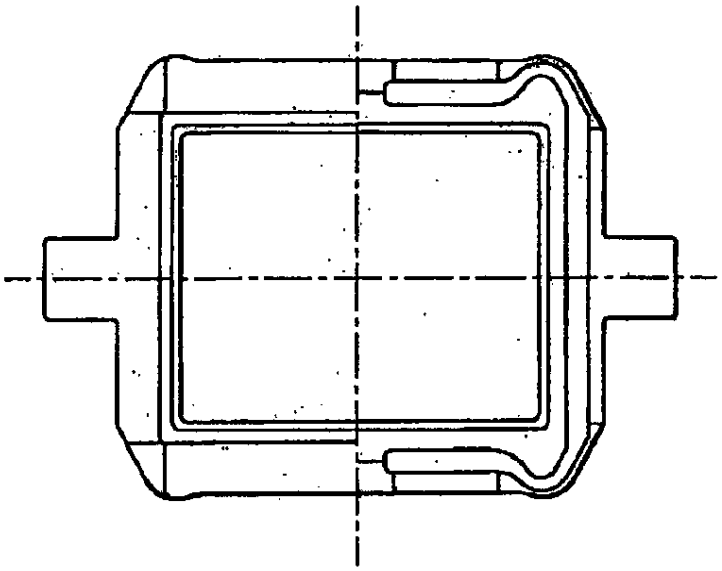


Fig.63c

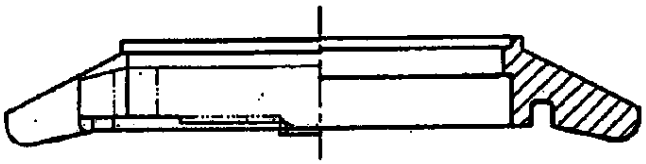


Fig.63d

Fig.64a

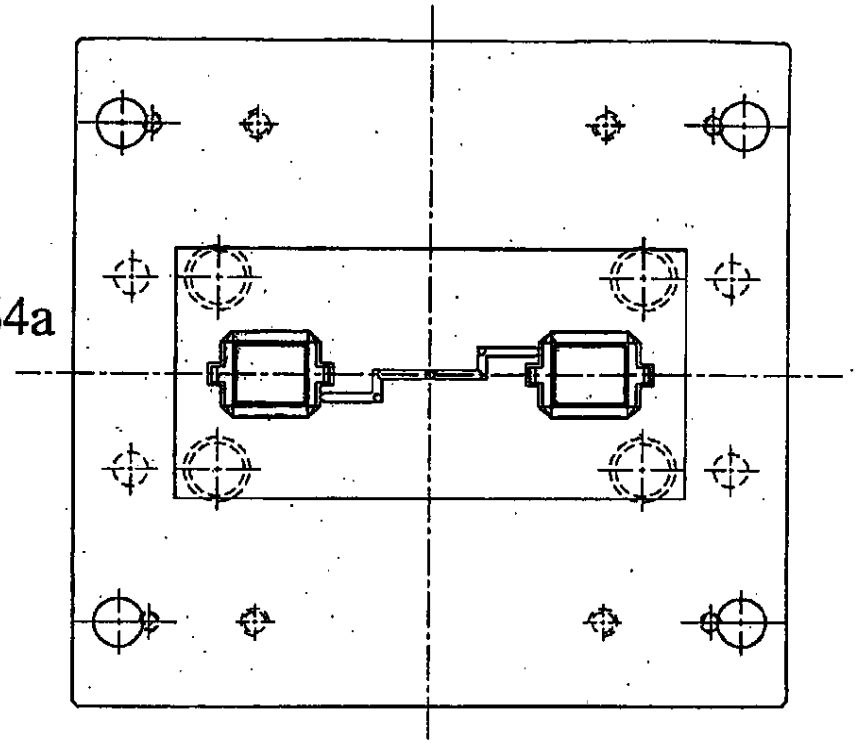


Fig.64b

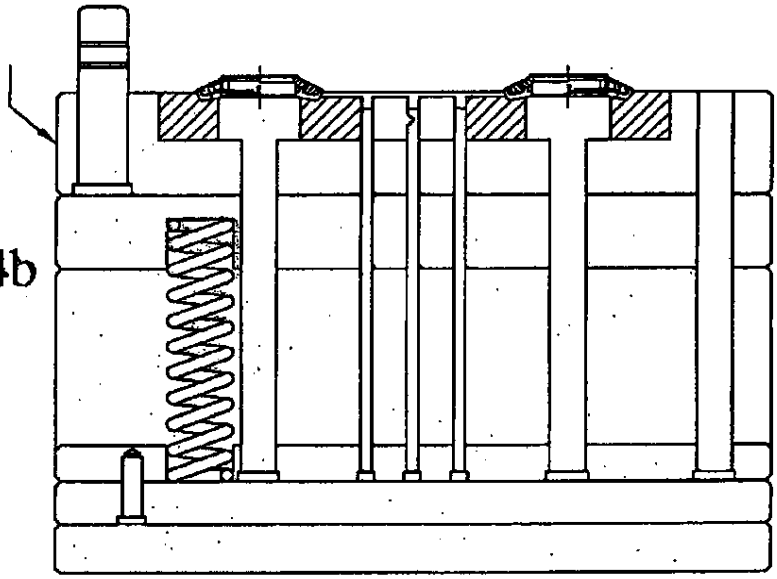


Fig.64c

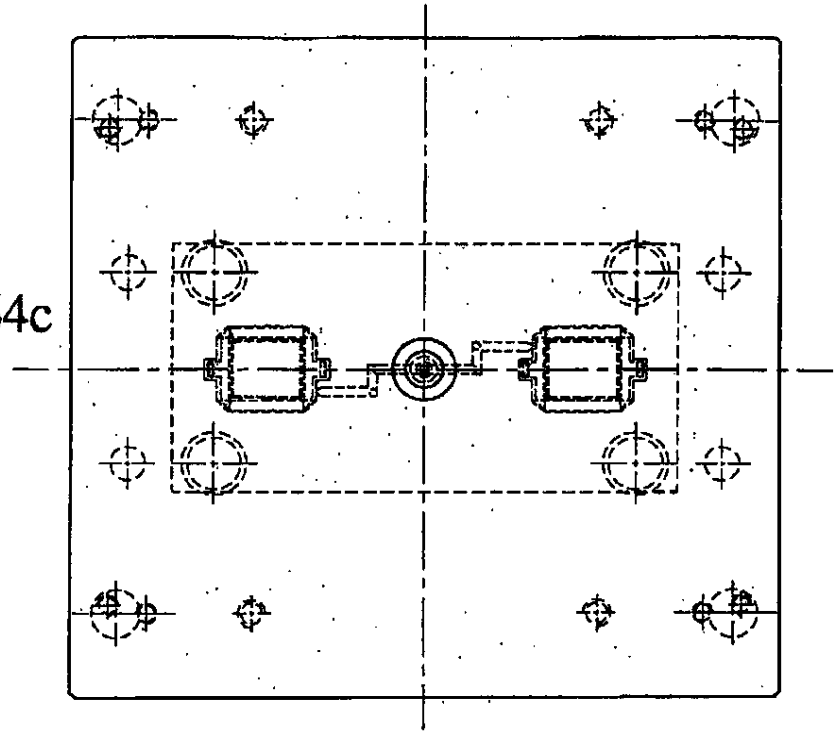


Fig.64d

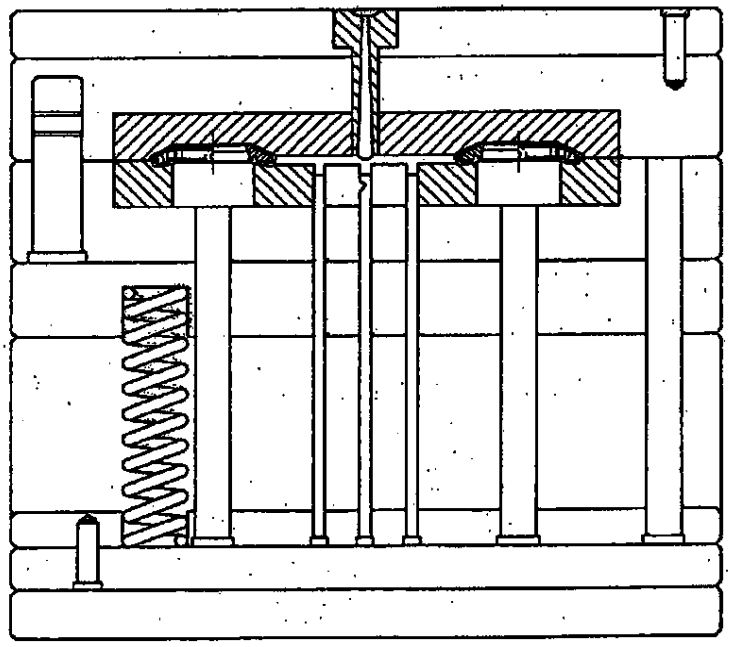


Fig.64e

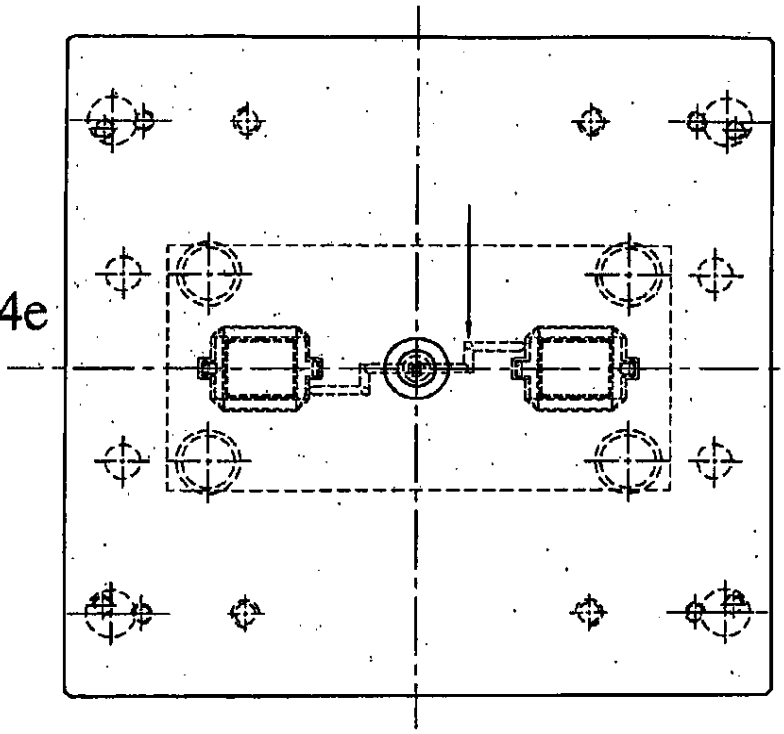
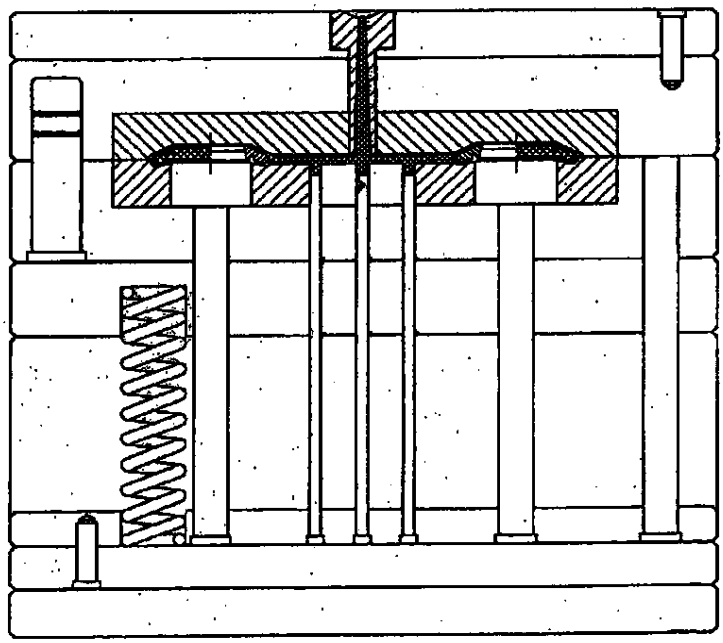


Fig.64f



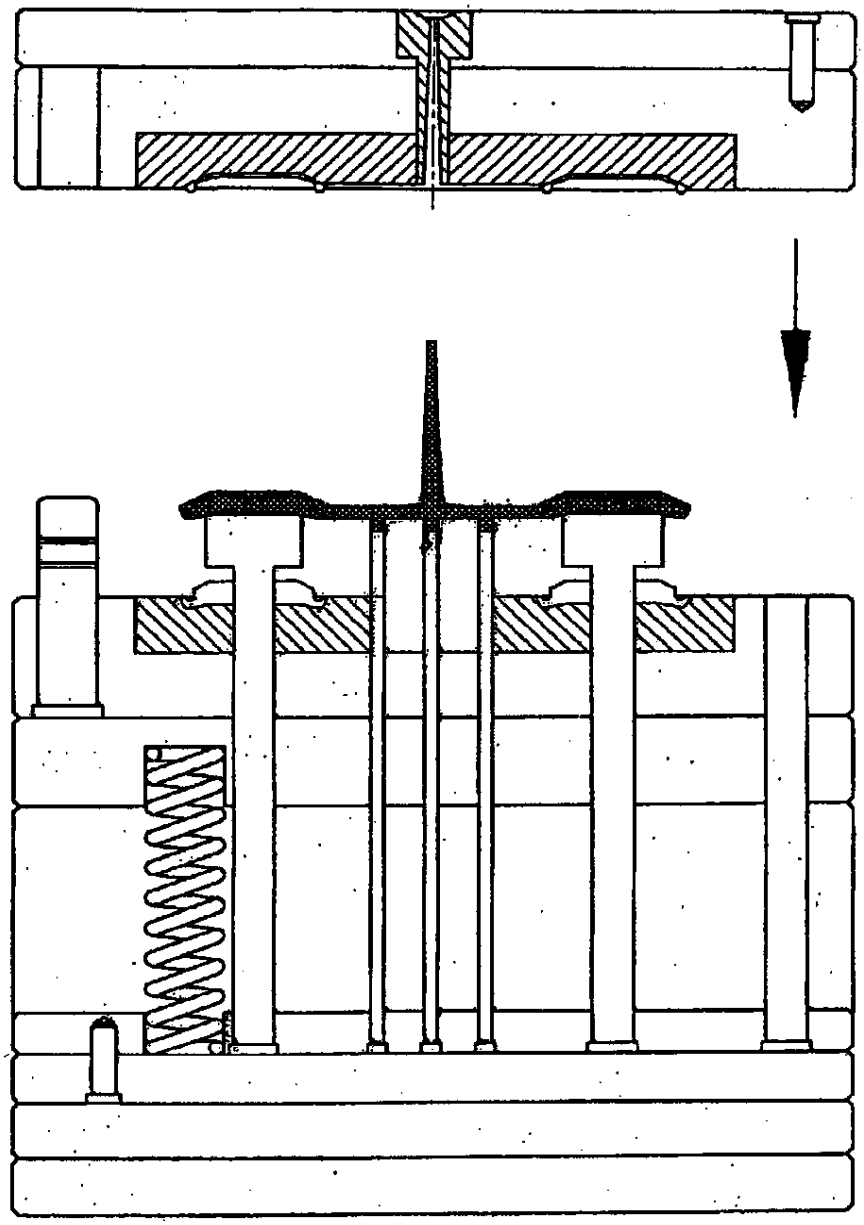


Fig.64g

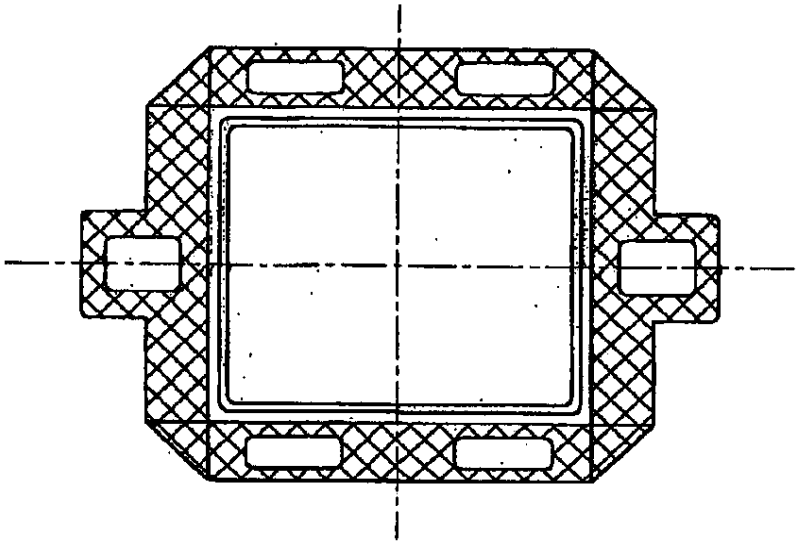


Fig.64h

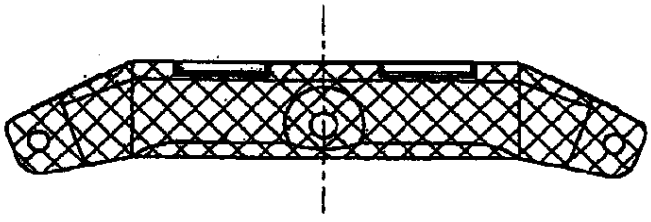


Fig.64i

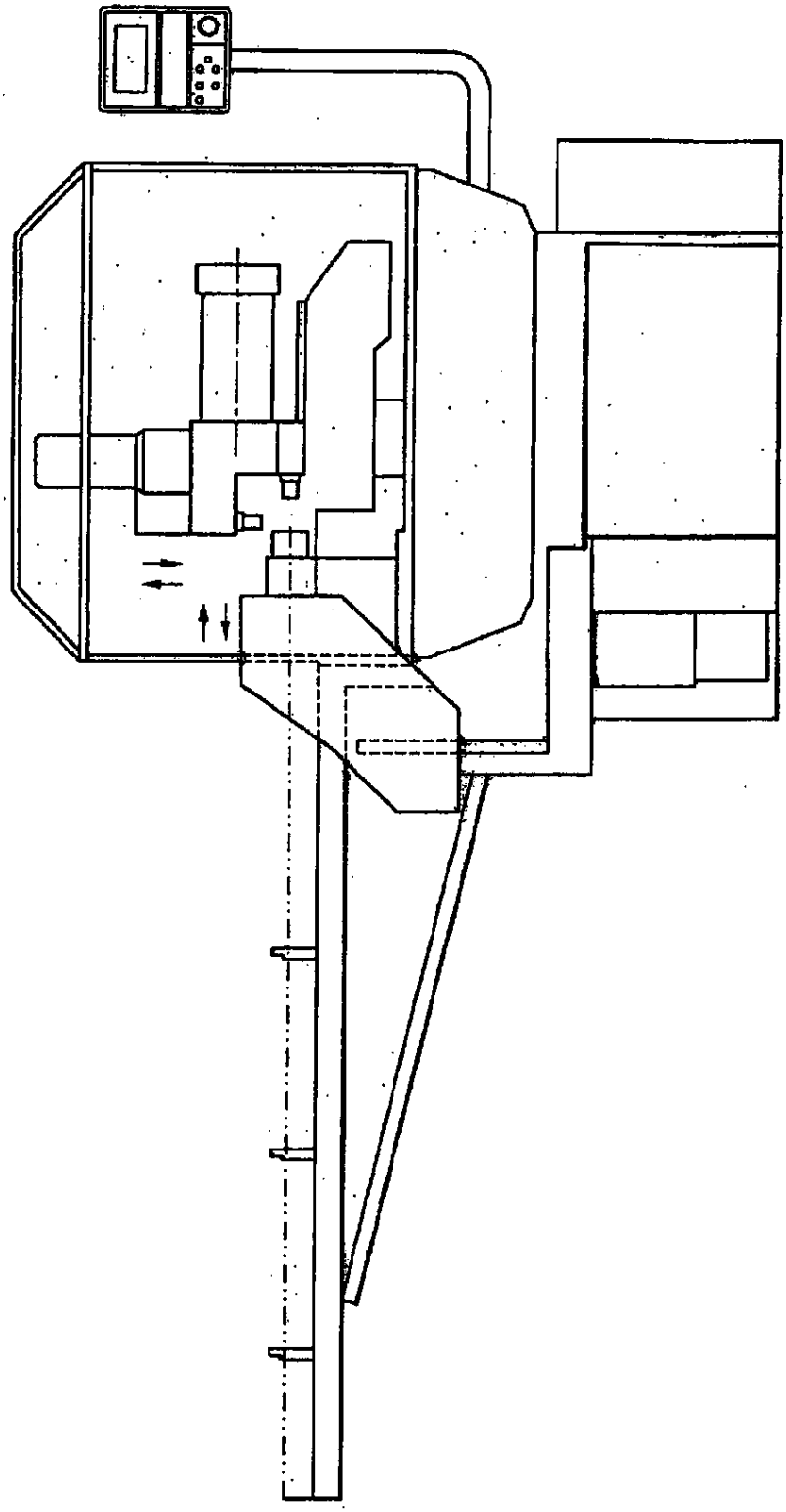


Fig.65a

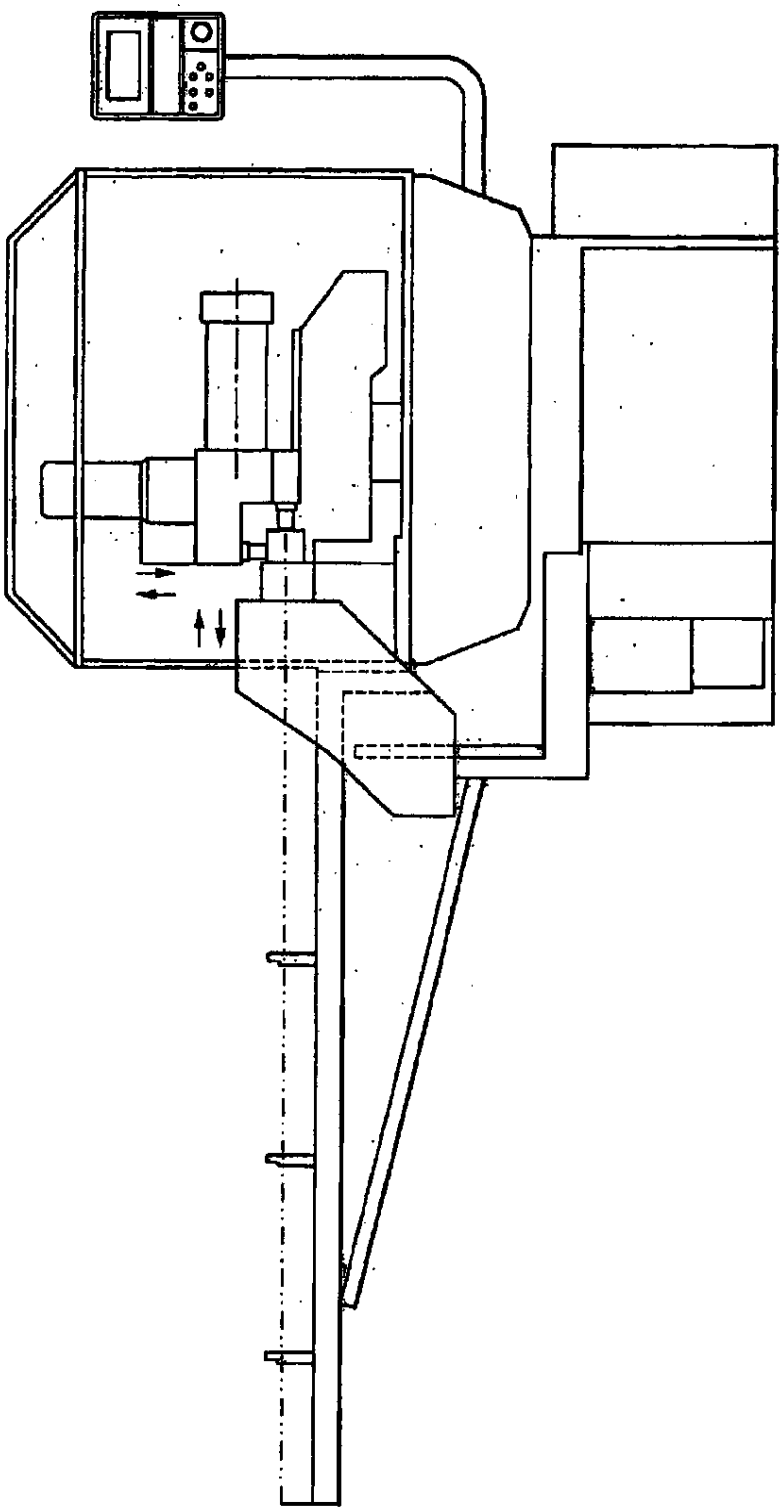


Fig.65b

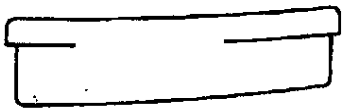


Fig.65c

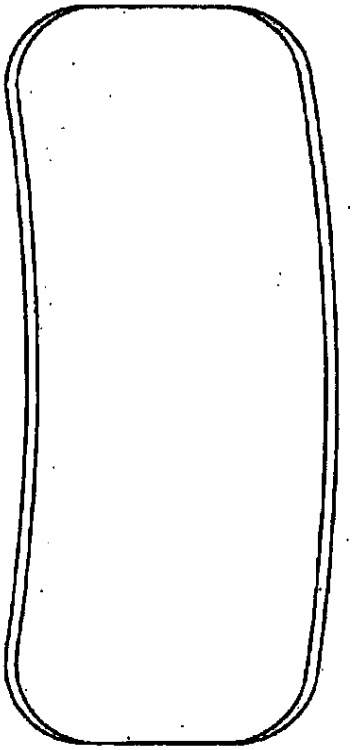


Fig.65d

Fig.66a

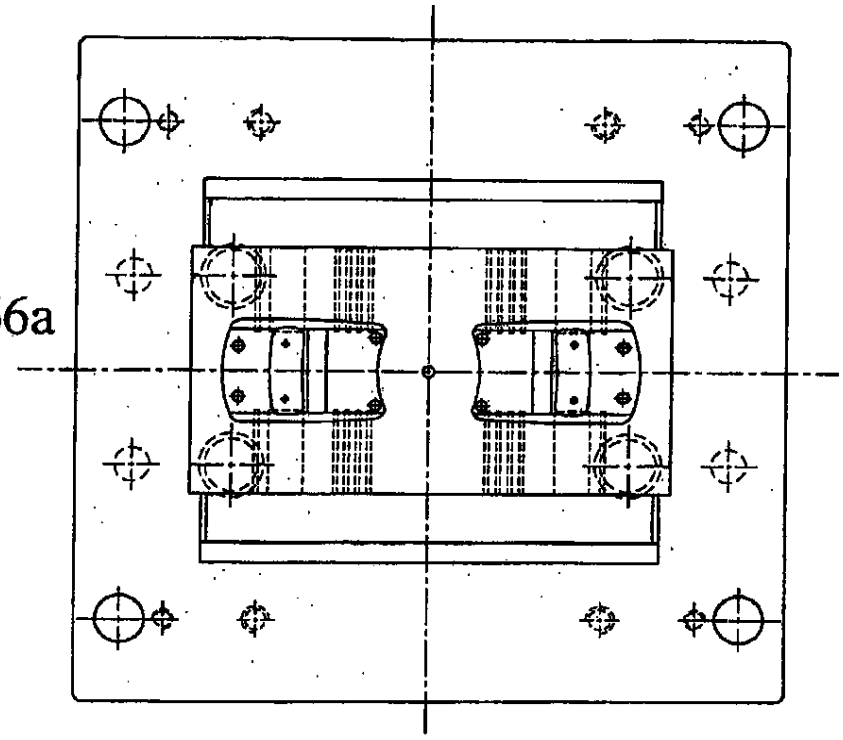


Fig.66b

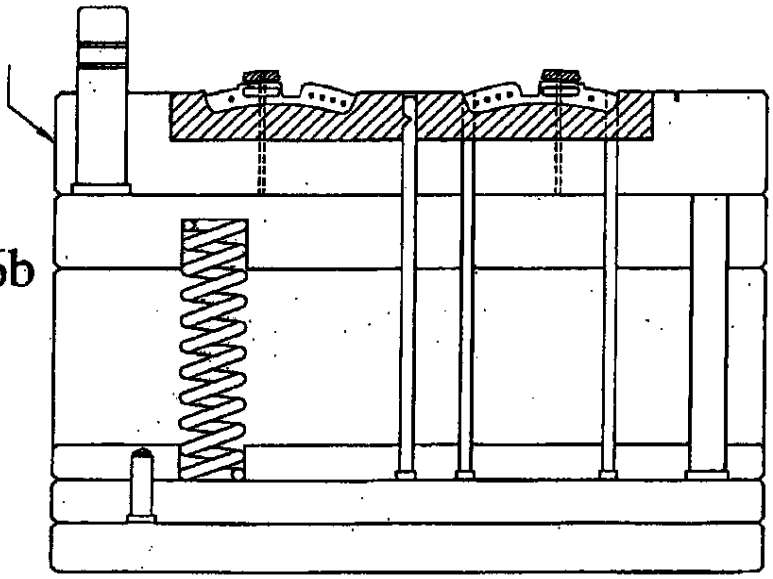


Fig.66c

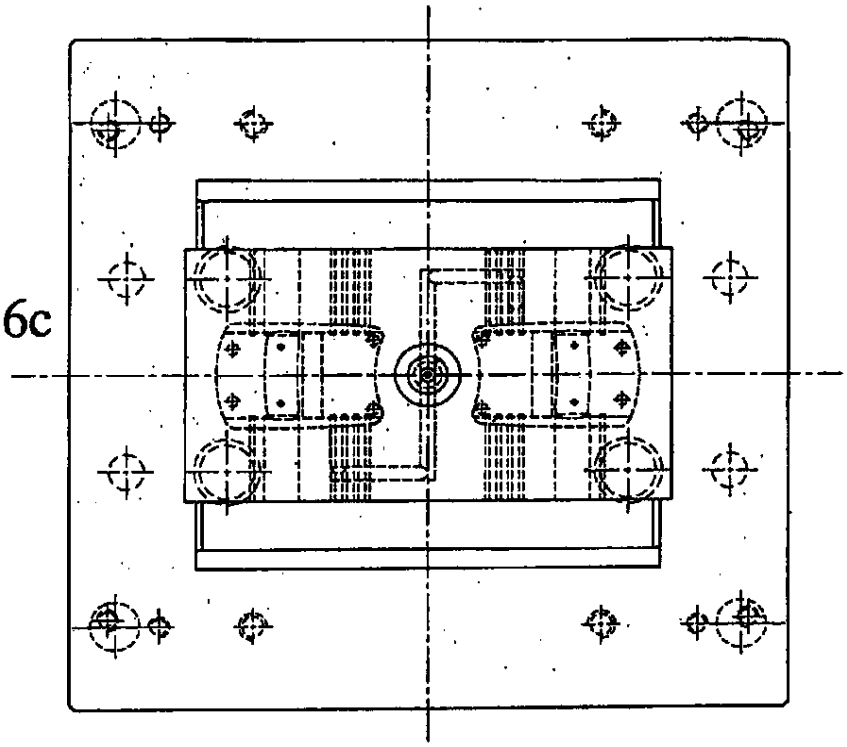


Fig.66d

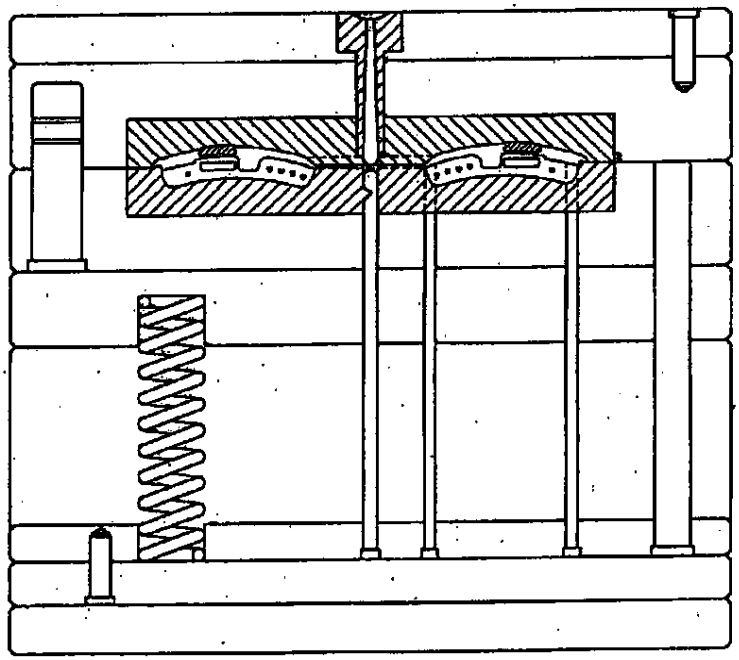


Fig.66e

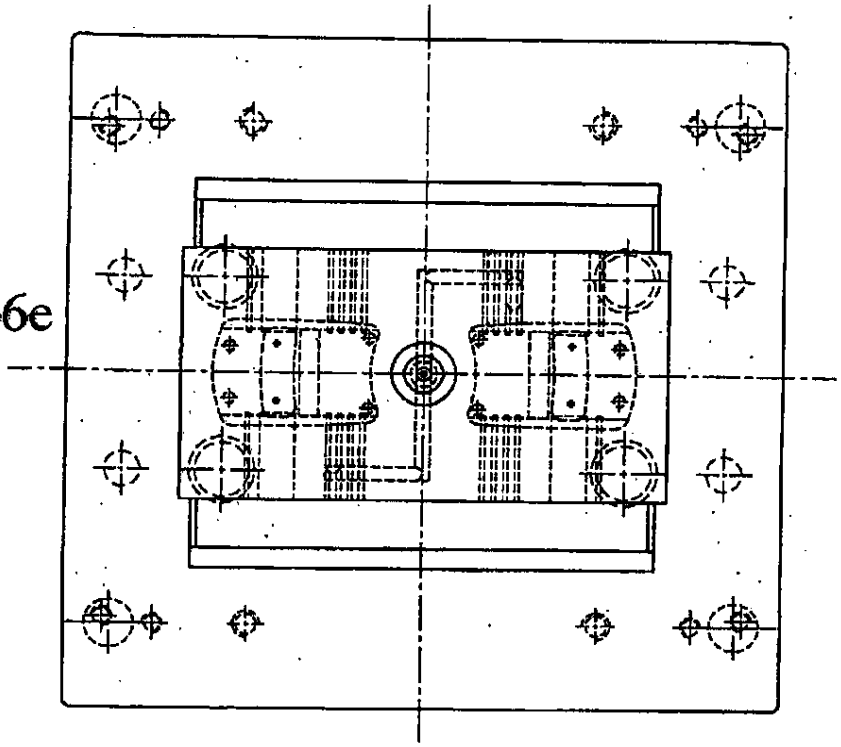
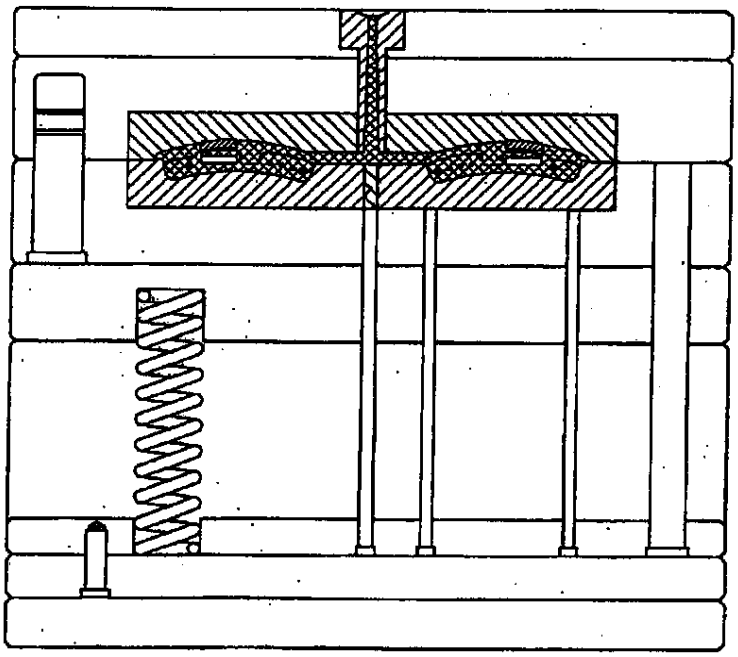


Fig.66f



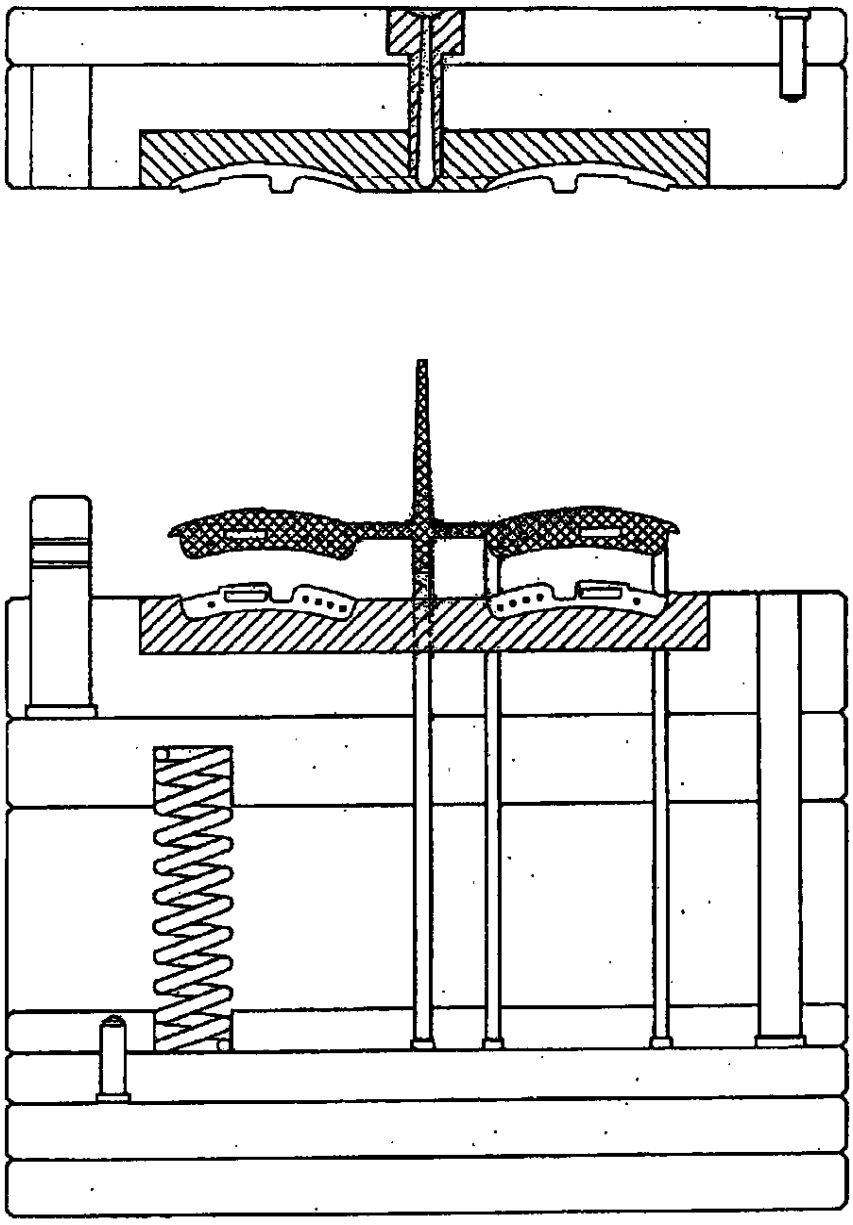


Fig.66g

Fig.66h

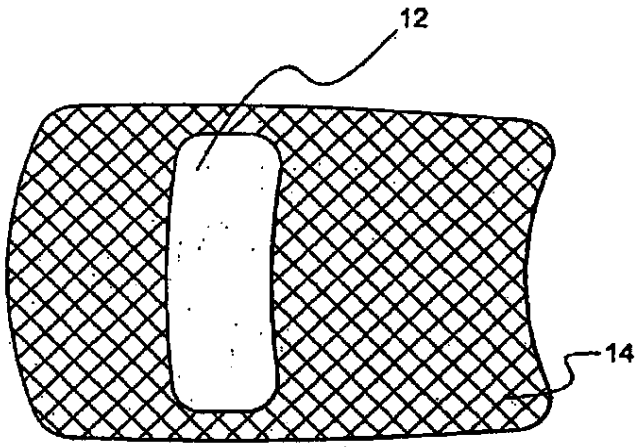
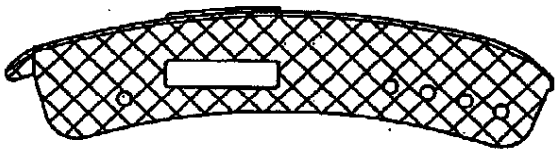


Fig.66i



COMPONENTS FOR TIMEPIECE AND METHOD OF MANUFACTURING THEREOF

FIELD OF INVENTION

The present invention relates to components for a timepiece or similar article, and in particular a watchcase, a wristband and a length adjuster for a watchband.

BACKGROUND OF THE INVENTION

There are a variety of watches equipped with different types of watchcases and wristbands. The watchcases or wristbands may be made predominantly of a single material selected from a variety of materials such as metal or stainless steel.

It is an object of the present invention to provide components for a timepiece, which are relatively light, durable and aesthetic, or at least to provide a useful alternative to the public, the components being a watchcase, a band and a length adjuster for the band.

It is a further object of the present invention to produce a timepiece having one or more such components.

It is a further object of the present invention to provide a method of manufacturing such components.

SUMMARY OF THE INVENTION

According to a first aspect of the present invention, there is provided a band for a timepiece (e.g. watch) comprising a plurality of inter-connected links, at least one of the links including a first portion made at least principally of a metallic material and a second portion made at least principally of an injection moldable material and fixedly secured thereto and molded thereover by injection moulding, wherein the injection moldable material is a synthetic rubber material, a natural rubber material, a silicon compound or a polymeric material selected from the group consisting of thermoplastic polyurethane, thermoplastic elastomer, acrylonitrile butadiene styrene, polycarbonate and polyvinyl chloride. The rubber material may be a melt processable rubber. Alternatively, other suitable injection moldable materials may also be used. In a preferred embodiment, the first portion may at least be partially enveloped by the second portion.

Preferably, the links may be inter-connected by at least a pin. However, other suitable means for connecting the links may also be used.

Suitably, protrusions and/or recesses may be provided at at least one end of the links allowing connection of the links with each other. In particular, two adjacent links may be connected at the protrusions and recesses.

Preferably, the links may be provided with a plurality of apertures at the protrusions and recesses, and the pin may connect the links at the apertures. In a preferred embodiment, two links which are adjacent each other are connected together by the pin and may be pivotably movable relative to each other.

Preferably, the metallic material may be stainless steel.

According to a second aspect of the present invention, there is provided a length adjuster for a band as defined in any preceding claim for adjusting the length of the band comprising a first portion made at least principally of a metallic material and a second portion made at least principally of an injection moldable material. The length adjuster may be in the form of a fastener or a buckle. The

injection moldable material may be a synthetic rubber material, a natural rubber material, a silicon compound or a polymeric material selected from the group consisting of thermoplastic polyurethane, thermoplastic elastomer, acrylonitrile butadiene styrene, polycarbonate and polyvinyl chloride. The rubber material may be a melt processable rubber. Alternatively, other suitable injection moldable materials may also be used.

The second portion of the length adjuster may be fixedly secured to the first portion of the length adjuster by molded thereover. Alternatively, the first and second portions of the length adjuster may be connected together by snap fitting. Suitably, the metallic material may be stainless steel. The length adjuster may be connectable to the band.

According to a third aspect of the present invention, there is provided a case for a timepiece comprising a first portion made at least principally of a metallic material and a second portion made at least principally of an injection moldable material and fixedly secured thereto and molded thereover by injection moulding.

Preferably, the injection moldable material may be a synthetic rubber material, a natural rubber material, a silicon compound or a polymeric material selected from the group consisting of thermoplastic polyurethane, thermoplastic elastomer, acrylonitrile butadiene styrene, polycarbonate and polyvinyl chloride. However, similar to the band and the length adjuster as described above, other suitable injection moldable materials may also be used. The metallic material may be stainless steel. The case described above may be connectable to a band as described above. The case may also be connectable to a conventional band for a timepiece.

According to a fourth aspect of the present invention, there is provided a timepiece comprising a band, a length adjuster and/or a case as described above. It is to be appreciated that the timepiece having the matching band, length adjuster and case exhibits an unusual appearance in that there are exposed alternate metallic regions and injectionmolded regions.

According to a fifth aspect of the present invention, there is provided a method of manufacturing a component for a timepiece, the component being a band, a length adjuster or a case for the timepiece, the component having a first portion and a second portion, comprising the steps of (i) positioning at least the first portion made at least principally of a metal in a mould of a moulding machine, (ii) injecting an injection moldable material for forming the second portion into a cavity of the mould whereby the second portion envelopes at least part of the first portion, wherein the injection moldable material is a synthetic rubber material, a natural rubber material, a silicon compound or a polymeric material selected from the group consisting of thermoplastic polyurethane, thermoplastic elastomer, acrylonitrile butadiene styrene, polycarbonate and polyvinyl chloride, (iii) allowing the second portion to solidify whereby the first portion and second solidified portion together form the component, and (iv) releasing the component from the mould. The rubber material may be a melt processable rubber. Alternatively, other suitable injection moldable materials may also be used. The timepiece may comprise a plurality of interconnected components.

Preferably, the component may be made at least principally of stainless steel.

Suitably, the plurality of components may be connected by pins.

In a preferred embodiment, after the step (iv), at least part of the first portion of the component is exposed to the

environment, and at least part of the first portion of the component may be protected by the injection-molded material.

In a preferred embodiment, the first portion of the component may be formed by cutting a blank from a plate or slab made at least principally of the metallic material, and pressing the blank. The blank may suitably be cut from the plate or slab by a punching machine. The pressed blank may be pressed by a pressing machine. The pressed blank may be processed at least a second time by the punching machine.

The method may also comprise a step of connecting a plurality of the components. For example, a plurality of the links may be connected to form a band which may be connected with the length adjuster and the case to form a watch. The finished timepiece will have a plurality of parts of the first portions exposed to the environment. In other words, at least part of the first portions may be protected by the second portions. In the event that the first portions are made of stainless steel having a metallic and/or shiny appearance, the exposed surface of the first portions and the second portions together produce an unusual aesthetic appearance.

BRIEF DESCRIPTION OF THE DRAWINGS

Some embodiments of the present invention will now be described by way of example only, with reference to the accompanying drawings, in which:

FIG. **1***a* is a top view showing a band for a timepiece according to a first embodiment of the present invention, generally formed of a plurality of first and second links;

FIG. **1***b* is a side view of the band shown in FIG. **1***a;*

FIG. **2***a* is a top view of one of the first links shown in FIG. **1***a;*

FIG. **2***b* is a side view of the first link shown in FIG. **2***a;*

FIG. **2***c* is an end view of the first link shown in FIG. **2***a;*

FIG. **3***a* is a top view of two of the first links shown in FIG. **1***a* connected with each other,

FIG. **3***b* is a side view of the two first links shown in FIG. **3***a,*

FIG. **3***c* is a cross-section view of the two first links taken along line B—B of FIG. **3***a;*

FIG. **3***d* is a cross-section view of the two first links taken along line A—A of FIG. **3***a;*

FIG. **4***a* is a top view of an interior portion of the first link shown in FIG. **2***b;*

FIG. **4***b* is a cross-section view of the interior portion of the first link taken along line A—A of FIG. **4***a;*

FIG. **4***c* is a side view of the interior of the first link shown in FIG. **4***a;*

FIG. **5***a* is an alternative top view of the first link shown in FIG. **2***a* incorporating the interior portion shown in FIG. **4***a;*

FIG. **5***b* is a cross-section view of the first link taken along line A—A of FIG. **5***a;*

FIG. **5***c* is a side view of the first link shown in FIG. **5***a;*

FIG. **6***a* is a top view of an interior portion of one of the second links of the band shown in FIG. **1***a;*

FIG. **6***b* is an end view of the interior portion of the second link shown in FIG. **6***a;*

FIG. **6***c* is a side view of the interior portion of the second link shown in FIG. **6***a;*

FIG. **7***a* is a top view of the second link incorporating the interior portion shown in FIG. **6***a;*

FIG. **7***b* is a cross-section view of the second link taken along line A—A of FIG. **7***a;*

FIG. **7***c* is a side view of the second link shown in FIG. **7***a;*

FIG. **8** is a side view of a pin in the band shown in FIG. **1***a;*

FIGS. **9***a* to **11***b* show a series of steps for producing the interior portion of the first link shown in FIGS. **4***a* to **4***c;*

FIGS. **12***a* to **12***c* are different views of the interior portion of the first link produced from the steps illustrated in FIGS. **9***a* to **11***b;*

FIGS. **13***a* to **16***b* show a series of steps for moulding an exterior portion onto the interior portion of the first link shown in FIGS. **12***a* to **12***c;*

FIG. **17***a* is a top view of the finished first link produced from the steps illustrated in FIGS. **13***a* to **16***b;*

FIG. **17***b* is a side view of the finished first link shown in FIG. **17***a;*

FIG. **17***c* is an end view of the finished first link shown in FIG. **17***a;*

FIG. **18***a* is a top view showing a band for a timepiece according to a second embodiment of the present invention, generally formed of a plurality of third and fourth links;

FIG. **18***b* is a side view of the band shown in FIG. **18***a;*

FIG. **18***c* is a top view of one of the third links shown in FIG. **18***a;*

FIG. **18***d* is a side view of the third link shown in FIG. **18***c;*

FIG. **19***a* is a top view of two of the third links shown in FIG. **18***a* connected with each other,

FIG. **19***b* is a side view of the two third links shown in FIG. **19***a,*

FIG. **19***c* is a cross-section view of the third links taken along line B—B of FIG. **19***a;*

FIG. **19***d* is a cross-section view of the two third links taken along line A—A of FIG. **19***a;*

FIG. **20***a* is a top view of an interior portion of the third link shown in FIG. **18***c;*

FIG. **20***b* is a cross-section view of the interior portion of the third link taken along line A—A of FIG. **20***a;*

FIG. **20***c* is a side view of the interior portion of the third link shown in FIG. **18***c;*

FIG. **21***a* is an alternative top view of the third link shown in FIG. **18***c* incorporating the interior portion shown in FIG. **20***a;*

FIG. **21***b* is a cross-section view of the third link taken along line A—A of FIG. **21***a;*

FIG. **21***c* is a side view of the third link shown in FIG. **21***a;*

FIG. **22***a* is a top view of an interior portion of one of the fourth links of the band shown in FIG. **18***a;*

FIG. **22***b* is an end view of the interior portion of the fourth link shown in FIG. **22***a;*

FIG. **22***c* is a side view of the interior portion of the fourth link shown in FIG. **22***a;*

FIG. **23***a* is a top view of the fourth link incorporating the interior portion shown in FIG. **22***a;*

FIG. **23***b* is a cross-section view of the fourth link taken along line A—A of FIG. **23***a;*

FIG. **23***c* is a side view of the fourth link shown in FIG. **23***a;*

FIGS. **24***a* to **24***d* are side views of two pins which may be used in the band shown in FIG. **18***a;*

FIGS. **25***a* to **28***b* show a series of steps for producing the interior portion of the third link shown in FIGS. **20***a* to **20***c;*

FIGS. **29***a* to **29***c* are different views of the interior portion of the third link produced from the steps illustrated in FIGS. **25***a* to **28***b;*

FIGS. **30***a* to **33***b* show a series of steps for moulding an exterior portion onto the interior portion of the third link shown in FIGS. **29***a* to **29***c;*

FIG. **34***a* is a top view of the finished third link produced from the steps illustrated in FIGS. **30***a* to **33***b;*

FIG. **34***b* is an end view of the finished third link shown in FIG. **34***a;*

FIG. **34***c* is a side view of the finished third link shown in FIG. **34***a;*

FIG. **35***a* is a top view showing a band for a timepiece according to a third embodiment of the present invention, generally formed of a plurality of fifth, sixth and seventh links;

FIG. **35***b* is a side view of the band shown in FIG. **35***a;*

FIG. **35***c* is a top view of one of the fifth links shown in FIG. **35***a;*

FIG. **35***d* is a side view of the fifth link shown in FIG. **35***c;*

FIG. **35***e* is an end view of the fifth link shown in FIG. **35***c;*

FIG. **36***a* is a top view of two of the fifth links shown in FIG. **35***a* connected with each other,

FIG. **36***b* is a side view of the two fifth links shown in FIG. **36***a;*

FIG. **36***c* is a cross-section view of the two fifth links taken along line A—A of FIG. **36***a;*

FIG. **37***a* is a top view of the interior portion of the fifth link shown in FIG. **35***c;*

FIG. **37***b* is a side view of the interior portion of the fifth link shown in FIG. **37***a;*

FIG. **37***c* is a cross-section view of the interior portion of the fifth link taken along line A—A of FIG. **37***a;*

FIG. **38***a* is an alternative top view of the fifth link shown in FIG. **35***c* incorporating the interior portion shown in FIG. **37***a;*

FIG. **38***b* is a side view of the fifth link shown in FIG. **38***a;*

FIG. **38***c* is a cross-section view of the fifth link taken along line A—A of FIG. **38***a;*

FIG. **39***a* is a top view of an interior portion of one of the sixth links of the band shown in FIG. **35***a;*

FIG. **39***b* is an end view of the interior portion of the sixth link shown in FIG. **39***a;*

FIG. **39***c* is a side view of the interior portion of the sixth link shown in FIG. **39***a;*

FIG. **40***a* is a top view of the sixth link incorporating the interior portion shown in FIG. **39***a;*

FIG. **40***b* is a cross-section view of the sixth link taken along line A—A of FIG. **40***a;*

FIG. **40***c* is a side view of the sixth link shown in FIG. **40***a;*

FIG. **41***a* is a top view of one of the seventh links of the band shown in FIG. **35***a;*

FIG. **41***b* is a side view of the seventh link shown in FIG. **41***a;*

FIG. **41***c* is an end view of the seventh link shown in FIG. **41***a;*

FIG. **42** is a side view of a pin in the band shown in FIG. **35***a;*

FIGS. **43***a* to **46***b* show a series of steps for producing the interior portion of the fifth link shown in FIGS. **37***a* to **37***c;*

FIGS. **46***c* to **46***e* are different views of the interior portion of the fifth link produced from the steps illustrated in FIGS. **43***a* to **46***b;*

FIGS. **47***a* to **50***b* show a series of steps for moulding the exterior portion onto the interior portion of the fifth link shown in FIGS. **46***c* to **46***e;*

FIG. **51***a* is a top view of the finished fifth link produced from the steps illustrated in FIGS. **47***a* to **50***b;*

FIG. **51***b* is an end view of the finished fifth link of FIG. **51***a;*

FIG. **51***c* is a side view of the finished fifth link shown in FIG. **51***a;*

FIGS. **52***a* to **53***b* show a series of steps for producing an interior portion of a watchcase according to a fourth embodiment of the present invention;

FIGS. **54***a* to **54***b* are different views of the interior portion produced from the steps illustrated in FIGS. **52***a* to **53***b;*

FIGS. **55***a* to **55***b* shows a series of steps for further processing the interior portion shown in FIGS. **54***a* to **54***b;*

FIGS. **56***a* to **56***b* are different views of the interior portion produced from the steps illustrated in FIGS. **55***a* to **55***b;*

FIGS. **57***a* to **57***g* show a series of steps for moulding an exterior portion onto the interior portion of the watchcase shown in FIGS. **56***a* to **56***b;*

FIGS. **58***a* to **58***b* are different views of the watchcase produced from the steps illustrated in FIGS. **57***a* to **57***g;*

FIGS. **59***a* to **59***h* show a series of steps for producing an interior portion of a watchcase according to a fifth embodiment of the present invention;

FIGS. **59***i* to **59***j* are different views of the interior portion produced from the steps illustrated in FIGS. **59***a* to **59***h;*

FIGS. **60***a* to **60***b* show a series of steps for further processing the interior portion shown in FIGS. **59***i* to **59***j;*

FIGS. **60***c* to **60***d* are different views of the interior portion produced from the steps illustrated in FIGS. **60***a* to **60***b;*

FIGS. **61***e* to **61***k* show a series of steps for moulding an exterior portion onto the interior portion of the watchcase shown in FIGS. **60***c* to **60***d;*

FIGS. **61***l* to **61***m* are different views of the watchcase produced from the steps illustrated in FIGS. **61***e* to **61***k;*

FIGS. **62***a* to **62***h* show a series of steps for producing an interior portion of a watchcase according to a sixth embodiment of the present invention;

FIGS. **62***i* to **62***j* are different views of the interior portion produced from the steps illustrated in FIGS. **62***a* to **62***h;*

FIGS. **63***a* to **63***b* show a series of steps for further processing the interior portion shown in FIGS. **62***i* to **62***j;*

FIGS. **63***c* to **63***d* are different views of the interior portion produced from the steps illustrated in FIGS. **63***a* to **63***b;*

FIGS. **64***a* to **64***g* show a series of steps for moulding an exterior portion onto the interior portion of the watchcase shown in FIGS. **63***c* to **63***d;*

FIGS. **64***h* to **64***i* are different views of the watchcase produced from the steps shown in FIGS. **64***a* to **64***g;*

FIGS. **65***a* to **65***b* show a series of steps for producing an interior portion of a buckle component according to a seventh embodiment of the present invention;

FIGS. **65***c* to **65***d* are different views of the interior portion produced from the steps illustrated in FIGS. **65***a* to **65***b;*

FIGS. 66*a* to 66*g* show a series of steps for moulding an exterior portion onto the interior portion of the watchcase shown in FIGS. 65*c* to 65*d*; and

FIGS. 66*h* to 66*i* are different views of the buckle component produced from the steps illustrated in FIGS. 66*a* to 66*g*.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

A first embodiment of a component for a watch and a method of manufacture thereof according to the present invention are shown in FIGS. 1*a* to 17*c*. The component in this embodiment is a wristband and is generally designated as **1**. Referring firstly to FIG. 1*a*, a body **2** of the wristband **1** comprises a plurality of link members **4**, **6** and a fastener **8**. The fastener **8** may be used for adjusting the length of the wristband **1**, thus enabling a watch (not shown) to which the wristband **1** is engaged to be worn by a user. Two types of link members **4**, **6** are used in this embodiment. The first-type of the link members **4**, which is shown in FIGS. 2*a* to 2*c*, constitutes the majority of the body **2** of the wristband **1**. The second-type of link members **6** are arranged on opposite sides of and immediately adjacent to the fastener **8**.

The link members **4**, **6** and the fastener **8** are connected together by connecting means, such as pins **10** as shown in FIG. **8**.

FIGS. 2*a* to 2*c* show, respectively, the top, side and end views of the first-type link member **4**. FIGS. 3*a* and 3*b* show, respectively, the top and side views of two of the first-type link members **4** connected together. FIGS. 3*c* and 3*d* show the cross-section views of the two first-type link members **4** taken along lines B—B and A—A of FIG. 3*a* respectively. The first-type link members **4** are connected by the pins **10** whereby each of these first-type link members **4** may pivotably move relative to the adjacent link member (**4** and/or **6**).

Referring to FIGS. 1*a* to 3*d*, each link member **4** generally **5** comprises an inner (or interior) portion **12** (or link element) and an outer (or exterior) portion **14**. FIG. 4*a* shows a top view of the inner portion **12** of the first-type link member **4**. FIG. 4*b* shows a cross section view of the inner portion of the link member **4** and FIG. 4*c* shows a side view of the inner portion of the same link member **4**. The inner portion **12** is made principally of stainless steel although other suitable metallic material may also be used. FIGS. 5*a* to 5*c* show the first-type link member **4** including both the inner portion **12** shown in FIG. 4*a* and an outer portion **14**. The outer portion **14** is made of an injection moldable material and in particular polymeric material, e.g. thermoplastic polyurethane, thermoplastic elastomer, acrylonitrile butadiene styrene, polycarbonate or polyvinyl chloride. Alternatively, the injection moldable material may be a natural or synthetic rubber material, or a silicon compound.

Turning specifically to FIG. 5*a*, a tongue-shaped protrusion **16** is provided at one end of the link member **4** and a recess **18** sandwiched by two legs **22** is provided at the opposite end thereof whereby the protrusion **16** of the link member **4** is engageable with a recess **18** of its adjacent link member **4** arranged therebelow. Such an arrangement is shown more clearly in FIGS. 3*a* to 3*d*. A channel **20** with two apertures **21***a*, **21***b* at its ends thereof is provided within the protrusion **16** and arranged from left to right thereof and such is illustrated by the dashed lines at numeral **20**. A further channel **24**, also with two apertures **22***a*, **22***b* at its ends (and such is illustrated by the dashed lines at numerals **24**), is provided within each of the legs **22**, whereby when the protrusion **16** of the link member **4** is received within the recess **18** of its adjacent link member **4**, the channel **20** of the protrusion **16** of the link member **4** and the channels **24** of the legs **22** of its adjacent link member **4** are aligned to form a continuous channel **26** through which the pin **10** may be inserted. Referring to FIGS. 3*a* to 3*d*, the pin **10** serves as means for connecting two adjacent link members **4**. The pin **10** is sized and shaped to fit tightly in the channel **26**.

FIG. 6*a* shows a top view of an inner portion **28** of the second-type link member **6** used in the first embodiment. FIGS. 6*b* and 6*c* are respectively end view and side view of the inner portion **28**. FIG. 7*a* shows a top view of the second-type link member **6** incorporating the inner portion **28** and an outer portion **30**. Similar to the first-type link members **4**, the inner portion **28** of the second-type link member **6** is made principally of stainless steel and the outer portion **30** is made of an injection moldable material

FIGS. 9*a* to 11*b* show the process of manufacturing the inner portion **12** of the first-type link member **4**. The process firstly involves the use of a conventional cutting/punching machine. FIGS. 9*a* and 9*b* show a top view and a side view respectively of such a punching machine **32**. The punching machine **32** comprises a presser **34** and a station **36**. The presser **34** includes an upper mould **38** while the station **36** includes a lower mould **40**. During the cutting process, a steel plate **42** is firstly inserted between the upper and lower moulds **38**, **40** after which the presser **34** is pressed down causing the upper mould **38** to stamp onto the lower mould **40** through the steel plate **42**. A steel blank **44** is thereby cut out and removed from the steel plate **42**. The steel blank **44** thus produced has a shape roughly corresponding to the overall shape of the inner portion **12** of the link member **4**.

The steel blank **44** is then subject to a pressing step which is shown in FIGS. 10*a* and 10*b*. In this step, the steel blank **44** is pressed and deformed by a conventional pressing machine **45** to a desired shape and curvature. If the shape of the resultant inner portion is relatively complicated, it may be necessary to press the steel blank **44** more than once, to ensure that the required shape is formed.

Usually, burr **47** will be formed after the pressing step. In this case, the pressed blank **44** will then be again processed by the punching machine **32** (see FIGS. 11*a* and 11*b*) to cut off the burr **47**. An inner portion **12** of the link member **4** is produced, as shown in dashed line in FIG. 11*b*. The inner portion **12** produced after the above steps will possess the required shape, dimension and surface. In FIG. 12*a*, the top view of the inner portion **12** of the link member **4** produced by the above steps is shown. FIGS. 12*b* and 12*c* show a side view and an end view of the same inner portion **12**.

After the inner portion **12** is produced it is positioned in a mould **46** of an injection-moulding machine **48** as shown in FIGS. 13*a* and 13*b*. The mould **46** comprises an upper member **50** and a lower member **52** (as shown in FIG. 14*b*) which together define a cavity **54** in which the inner portion **12** is housed. The mould **46** defining the cavity **54** is sized and shaped with the desired characteristics to produce the link member **4**. After the inner portion **12** is properly positioned in the lower member **52** of the mould **46**, the upper member **50** of the mould **46** will move downward to engage with the lower member **52**, defining the cavity **54** described above. A suitable fluid injection moldable material such as polymeric material, e.g. thermoplastic polyurethane, thermoplastic elastomer, acrylonitrile butadiene styrene, polycarbonate or polyvinyl chloride, or a synthetic or natural rubber material or a silicon compound, is then injected into the cavity **54**. A channel **58** is provided in the upper member

50 through which the injection moldable material is injected into the mould cavity 54. Once the injection is completed, the inner portion 12 is at least partially enveloped in and/or molded over with the injection moldable material. The injection-molded material is then allowed to cool down and solidify so that the inner portion 12 and an outer portion 14 formed of the solidified material are fixedly secured together and become one continuous piece. The inner portion 12, which has been coated with a jacket of the solidified material, is then released by being pushed upwardly away from the mould by a push pin 60 as shown in FIG. 16*b*. In FIGS. 13*a* to 16*b*, two inner portions 12 are molded with the solidified material together. After being released from the mould 46, the jacketed inner portions are subject to trimming to remove the unnecessary solidified material and polishing to provide a finished appearance of the link member 4, a top view, a side view and an end view thereof are shown in FIGS. 17*a* to 17*c*.

The second-type link members 6 are produced using the same method as illustrated above.

The finished link members 4, 6 produced according to the steps described above and the fastener 8 may then be assembled together by the pins 10. The novel wristband 1 made in accordance with the present invention provides an unusual aesthetic appearance. Surfaces of the exposed inner portion 12 (of each link member 4), which is made principally of stainless steel, provide metallic appearance. The stainless steel may be electroplated with a material having a gold or silver color. Various color additives may be added to the injection moldable material before injection moulding and the outer portion 14 of the link members may thus have such color. As can be seen, a band made according to the present invention is capable of having a very wide combination of colors from the exposed surfaces of the metallic inner portion, and the injection-molded jacket allows the design of many different patterns or ornament. It is to be noted that the exposed surface of the inner portion of each of link member 4, 6 includes an exposed top surface and side surfaces as shown in FIGS. 17*a* to 17*c*. The shape of the inner portion 12 may be designed so that different combinations of surfaces may be exposed after the moulding step.

Second and third embodiments of a component for a watch and a method of manufacture thereof according to the present invention are shown in FIGS. 18*a* to 34*c* and FIGS. 35*a* to 51*c* respectively. The component in these two embodiments is also a wristband. In these two embodiments, construction of its link members, wristbands and method of manufacture thereof are generally similar to that of the first embodiment as explained above and illustrated in FIGS. 1*a* to 17*c* and are therefore not repeated here. However, it is to be noted that the link members in the second and third embodiments are of different shapes and dimensions and the exposed surfaces of the inner portion of the link members are different. In the second embodiment, the wristband shown therein is formed of third and fourth link members together with a fastener and pins. In the third embodiment, the wristband shown therein is formed of fifth, sixth and seventh link members together with a fastener and pins. As a result, the overall appearance of the wristbands in these two embodiments produces a different aesthetic appearance.

A fourth embodiment of a component for a watch and a method of manufacture thereof according to the present invention are shown in FIGS. 52*a* to 58*b*. The component in this embodiment is a watchcase instead of a wristband. In this embodiment, construction of the watchcase and method of manufacture thereof are generally similar to that of the first three embodiments. However, it is to be noted that an inner portion of the watchcase after having being cut from a steel blank (see FIG. 52*b*) and pressed into a desired shape (see FIG. 53*b*) is subject to a further process such that grooves and recesses (e.g. for accommodating movement and front and back covers of the watchcase) are formed on the inner portion (see FIGS. 56*a* and 56*b*). As shown in FIGS. 58*a* and 58*b*, the finished watchcase comprises of a region 100 with the inner portion exposed and a region 102 of the injection-molded material.

Fifth and sixth embodiments of a component for a watch and a method of manufacture thereof according to the present invention are shown in FIGS. 59*a* to 61*m* and FIGS. 62*a* to 64*i* respectively. The components in these two embodiments are also watchcases. In these two embodiments, construction of the watchcases and method of manufacture thereof are generally similar to that of the first to fourth embodiments as explained above and are therefore not repeated here. However, it is to be noted that the watchcases in the fifth and sixth embodiments are generally of rectangular shape.

A seventh embodiment of a component for a timepiece and a method of manufacture thereof according to the present invention are shown in FIGS. 65*a* to 66*i*. The component in this embodiment is a buckle component for adjusting the length of a wristband and fastening the wristband to a user and may be called as length adjuster or fastener. In particular, FIGS. 65*a* and 65*b* show steps for forming an inner portion of the buckle component, FIGS. 65*c* and 65*d* show the side and top views of an inner portion of the buckle component, FIGS. 66*a* to 66*g* show steps for moulding injection moldable material onto the inner portion, and FIGS. 66*h* and 66*i* show the top and side views of the finished buckle component. It is to be noted in FIGS. 66*h* and 66*i* that a region 104 of the inner portion is exposed. A region 106 of the injection-molded material is of course also exposed.

It is envisaged that a watch comprising a matching watchcase, band and fastener according to the present invention exhibits an unusual appearance in that there are exposed alternate metallic regions and injection-molded regions. It is to be noted that unlike watches made principally of stainless steel, a watch made with the components according to the present invention retains the metallic strength, but yet is lighter because there is a lower content of metallic material and can be more durable because at least part of the metallic portion of the watch is protected by a injection-molded material.

Although the invention described above show seven embodiments, it is envisaged that components with a variety of patterns may be produced with surfaces having different combinations of metallic and injection-molded regions. For example, a watch may be constructed to include one or more of a watchcase, wristband and buckle component according to the present invention. It is also to be noted that the whole content of published UK Patent Publication No. 2374516 incorporated herein.

What is claimed is:

1. A band for a timepiece comprising a plurality of inter-connected links, at least one said link including a first portion made at least principally of a metallic material and a second portion made at least principally of an injection moldable material and fixedly secured thereto and molded thereover by injection moulding, wherein said injection moldable material is a natural rubber material, a synthetic rubber material, a silicon compound or a polymeric material selected from the group consisting of thermoplastic polyurethane, thermoplastic elastomer, acrylonitrile butadi-

ene styrene, polycarbonate and polyvinyl chloride, and wherein protrusions and/or recesses are provided at at least one end of said links allowing connection of said links with each other.

2. A band according to claim **1**, wherein said first portion is at least partially enveloped by said second portion.

3. A band according claim **1**, wherein said links are inter-connected by at least a pin.

4. A band according to claim **1**, wherein two of said adjacent links are connected at said protrusions and recesses.

5. A band according to claim **1**, wherein said links are provided with a plurality of apertures at said protrusions and recesses.

6. A band according to claim **5**, wherein said pin connects said links at said apertures.

7. A band according to claim **1**, wherein two said links which are adjacent to each other are pivotably movable relative to each other.

8. A band according to claim **1**, wherein said metallic material is stainless steel.

9. A combination of a band according to claim **1** and a length adjuster for adjusting the length of said band, wherein said length adjuster comprises a first portion made at least principally of a metallic material and a second portion made at least principally of an injection moldable material.

10. A combination according to claim **9**, wherein said second portion of said length adjuster is fixedly secured to said first portion of said length adjuster by molded thereover.

11. A combination according to claim **9**, wherein said first and second portions of said length adjuster are connected together by snap-fitting.

12. A combination according to claim **9**, wherein said injection moldable material of said length adjuster is a synthetic rubber material, a natural rubber material, a silicon compound or a polymeric material selected from the group consisting of thermoplastic polyurethane thermoplastic elastomer, acrylonitrile butadiene styrene, polycarbonate and polyvinyl chloride.

13. A combination according to claim **9**, wherein said metallic material is stainless steel.

14. A combination of a band according to claim **1** and a case for a timepiece, wherein said case comprises a first portion made at least principally of a metallic material and a second portion made at least principally of an injection moldable material and fixedly secured thereto and molded thereover by injection moulding.

15. A combination according to claim **14**, wherein said injection moldable material of said case is a synthetic rubber material, a natural rubber material, a silicon compound or a polymeric material selected from the group consisting of polyurethane, thermoplastic elastomer, acrylonitrile butadiene styrene, polycarbonate and polyvinyl chloride.

16. A combination according to claim **14**, wherein said case is connectable to said band.

17. A combination according to claim **14**, wherein said metallic material of said case is stainless steel.

18. A timepiece comprising a band as defined in claim **1**.

* * * * *

EXHIBIT B

Certificate of Grant of Patent

Patent Number: GB2374516

Proprietor(s): Wing Hon Metal Manufactory Ltd

Inventor(s): Chin H E So
Chin P So

This is to Certify that, in accordance with the Patents Act 1977,

a Patent has been granted to the proprietor(s) for an invention entitled "**Band for timepiece and method of manufacturing same**" disclosed in an application filed **2 January 2002.**

Dated 4 June 2003

Alison Brimelow
Comptroller General of Patents,
Designs and Trade Marks
UNITED KINGDOM PATENT OFFICE

The attention of the proprietor(s) is drawn to the important notes overleaf.

IMPORTANT NOTES FOR PROPRIETORS OF UNITED KINGDOM PATENTS

1. DURATION OF PATENT AND PAYMENT OF RENEWAL FEES

(i) Your patent took full effect on the date of the certificate, as shown overleaf.

(ii) By paying annual renewal fees, you can keep your patent in force for 20 years from the date of filing of the patent application, which is also shown overleaf.

(iii) The annual renewal fee is due on the fourth and each subsequent anniversary of the date of filing of the patent application. The fee can be paid up to three months before each such anniversary of the filing date. Each renewal fee payment should be accompanied by Patents Form 12/77. If the Form with the fee is not lodged in the Patent Office by the anniversary of the filing date, the fee can still be paid at any time during the following six months. However, you may have to pay a late payment fee. The patent will cease if the renewal fee (and any late payment fee) is not paid before the end of the six month period. When renewing the patent it is advisable to check the current fee rates.

(iv) **It is important that you should set up and maintain effective renewal arrangements to ensure that renewal fees are paid on time.** You should not wait for any reminder from the Patent Office before paying the fee. The Patent Office will send a reminder to the last recorded address for service within six weeks after the anniversary of the date of filing, but this reminder is only intended to alert you to the possible failure of your renewal arrangements.

2. PROCEDURE FOR PAYMENT OF RENEWAL FEES

Patents Form 12/77, together with the fee(s) and fee sheet (FS2) should be addressed to "The Cashier, The Patent Office, Concept House, Cardiff Road, Newport, South Wales NP10 8QQ" and may be posted or delivered by hand to this address. Alternatively, they may be **delivered by hand** to The Patent Office at Harmsworth House, 13-15 Bouverie Street, London, EC4.

Blank Patents Forms 12/77 and fee sheets (FS2) can be requested by post from The Central Enquiry Unit, The Patent Office, Concept House, Cardiff Road, Newport, South Wales NP10 8QQ, by telephone on 08459-500505 (Minicom 08459-222250), by fax on 01633-813600 or by e-mail (enquiries@patent.gov.uk). The Forms and fee sheets can also be downloaded from the Patent Office website (www.patent.gov.uk).

3. REGISTRATION OF OWNERSHIP AS EVIDENCE OF ENTITLEMENT

Any person who becomes legally entitled to a patent or to a share or interest in a patent should apply to the Patent Office to register their entitlement, share or interest.

Wing Hon Metal Manufactory Ltd
c/o Lloyd Wise
Commonwealth House
1-19 New Oxford Street
LONDON
WC1A 1LW

For further information or assistance you can contact the Central Enquiry Unit of the Patent Office as indicated above.

(12) UK Patent (19) GB (11) 2 374 516 (13) B

(45) Date of publication: 04.06.2003

(54) Title of the invention: Band for timepiece and method of manufacturing same

(51) Int Cl[7]: A44C 5/02

(21) Application No: 0200046.1

(22) Date of Filing: 02.01.2002

(43) Date A Publication: 23.10.2002

(52) UK CL (Edition V):
A3H H1X H31B

(56) Documents Cited:
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(58) Field of Search:
As for published application 2374516 A *viz:*
UK CL (Edition T) A3H H1X H3 H31B H7 H8
INT CL[7] A44C 5/00 5/02 5/08 11/00 11/02
Other: Online: EPODOC, JAPIO, WPI.
updated as appropriate

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Chin Ping So

(73) Proprietor(s):
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Commonwealth House,
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WC1A 1LW, United Kingdom

2374516

1/51

Fig.1b

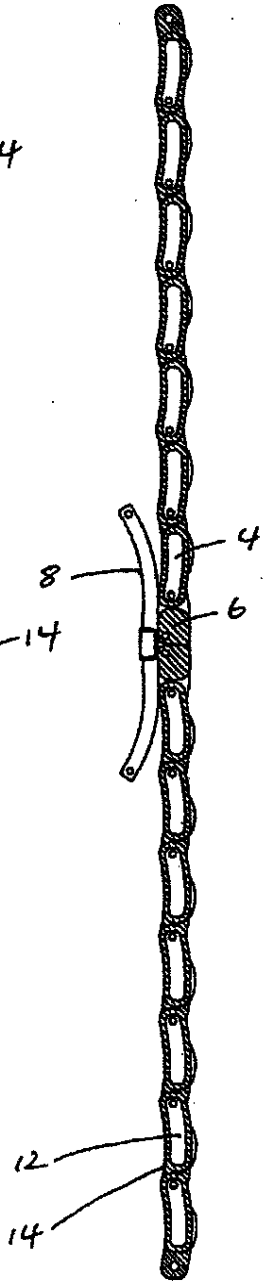


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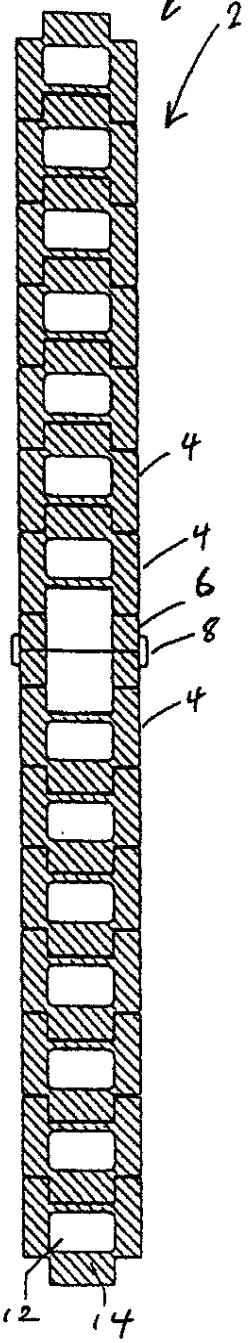


Fig.2b

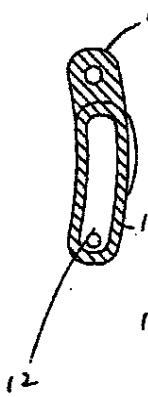
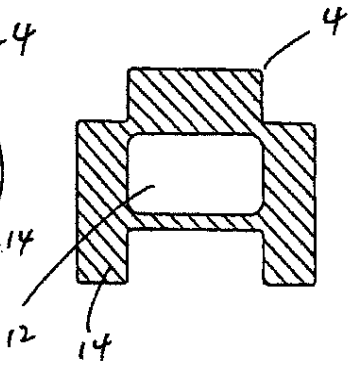


Fig.2a



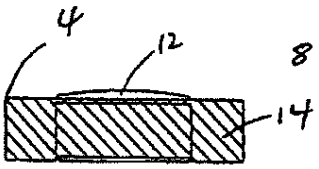


Fig.2c

Fig. 3a

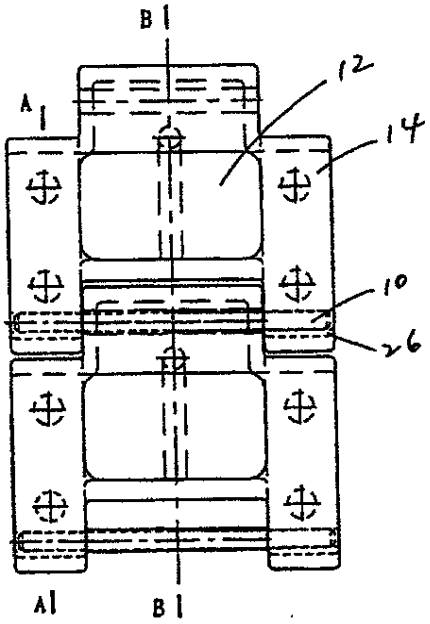


Fig. 3b





Fig. 3c



Fig. 3d

Fig. 4a

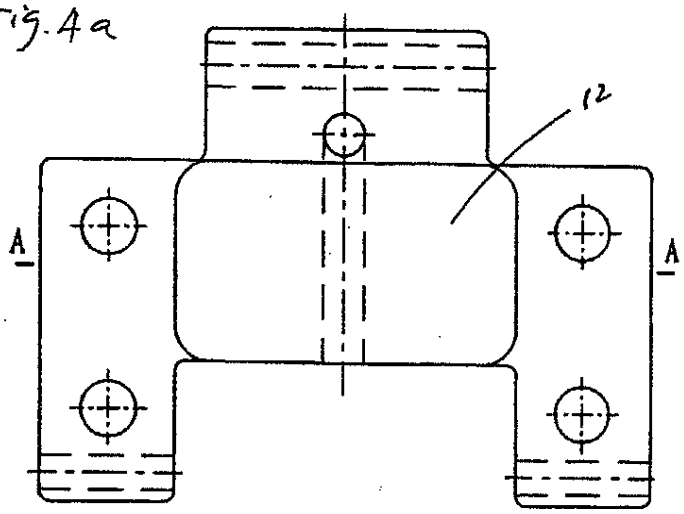


Fig. 4b

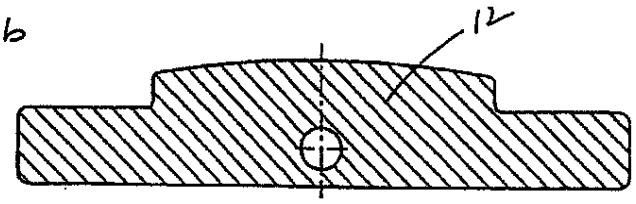


Fig. 4c

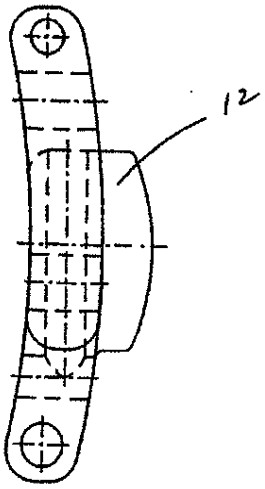


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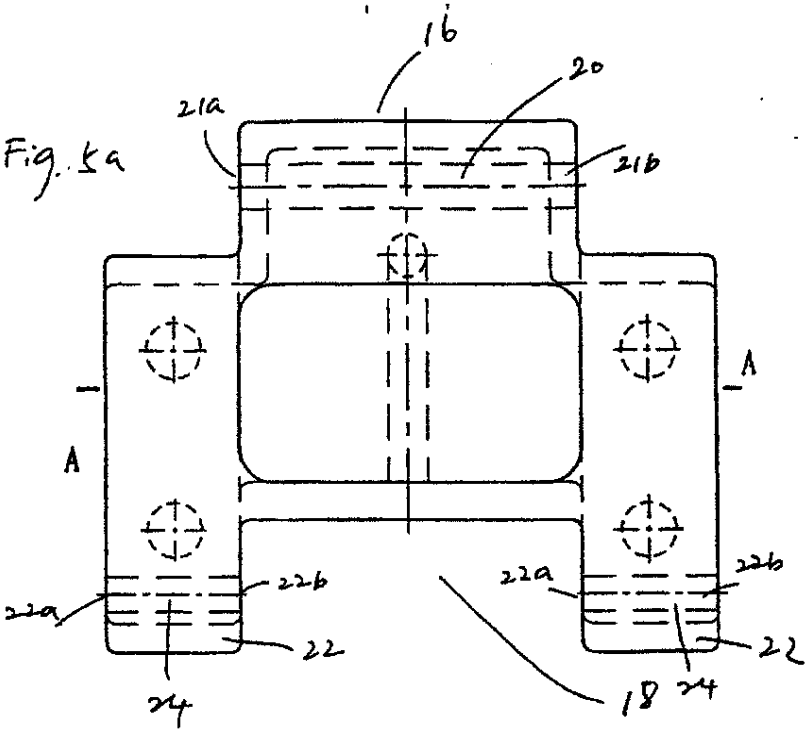


Fig. 5b

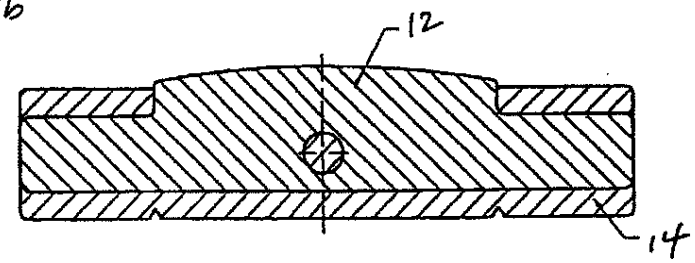


Fig. 5c

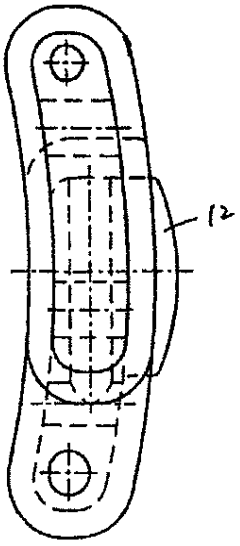


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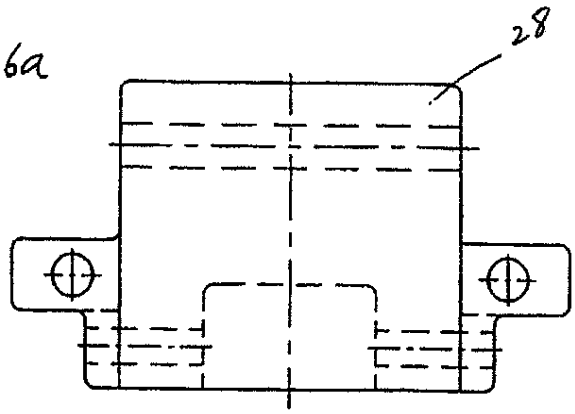


Fig. 6b

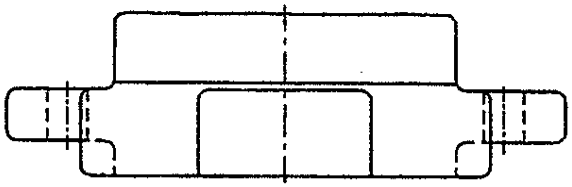


Fig. 6c

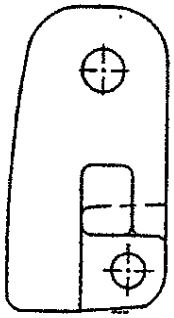


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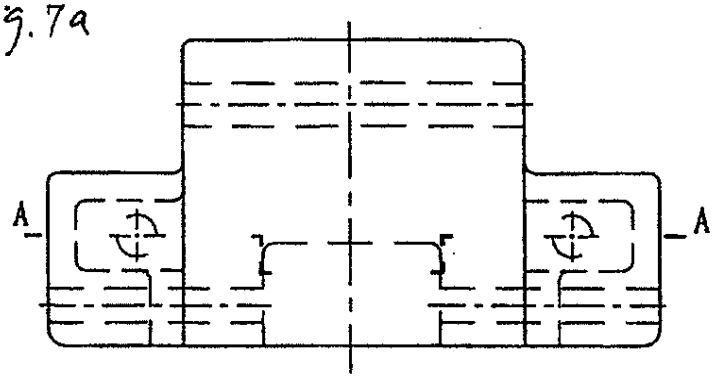


Fig. 7b

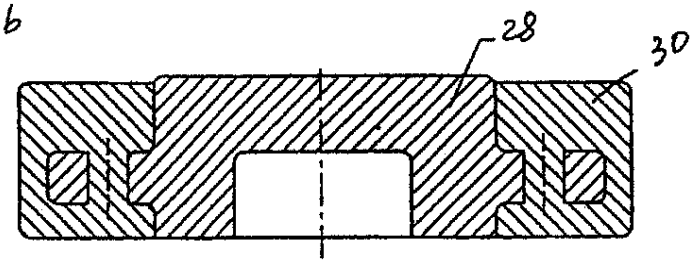


Fig. 7c

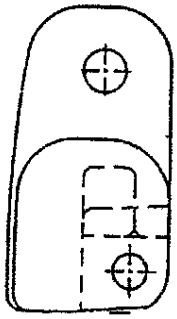


Fig. 8

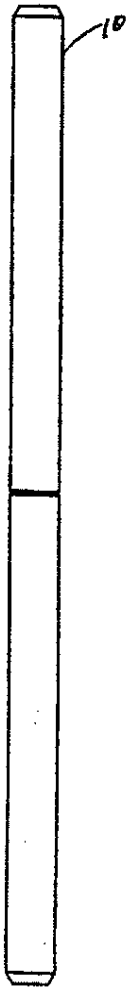


Fig. 9a

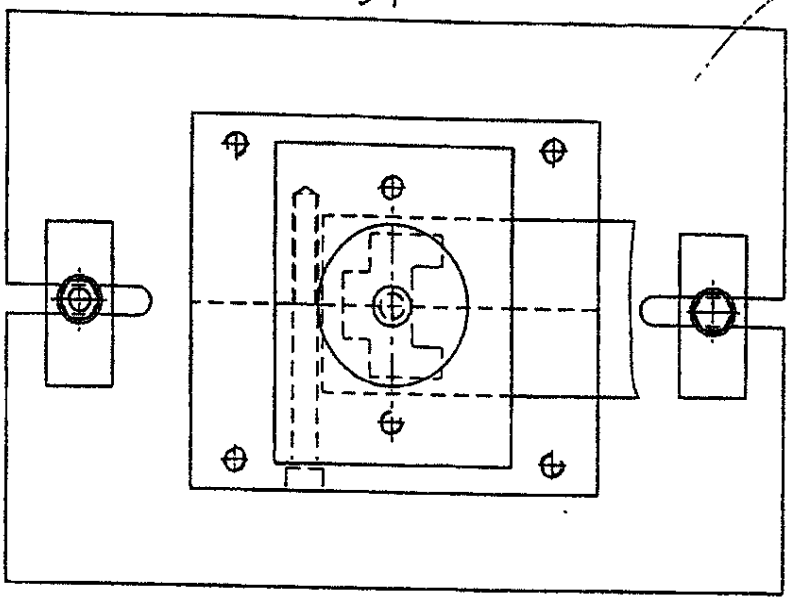


Fig. 9b

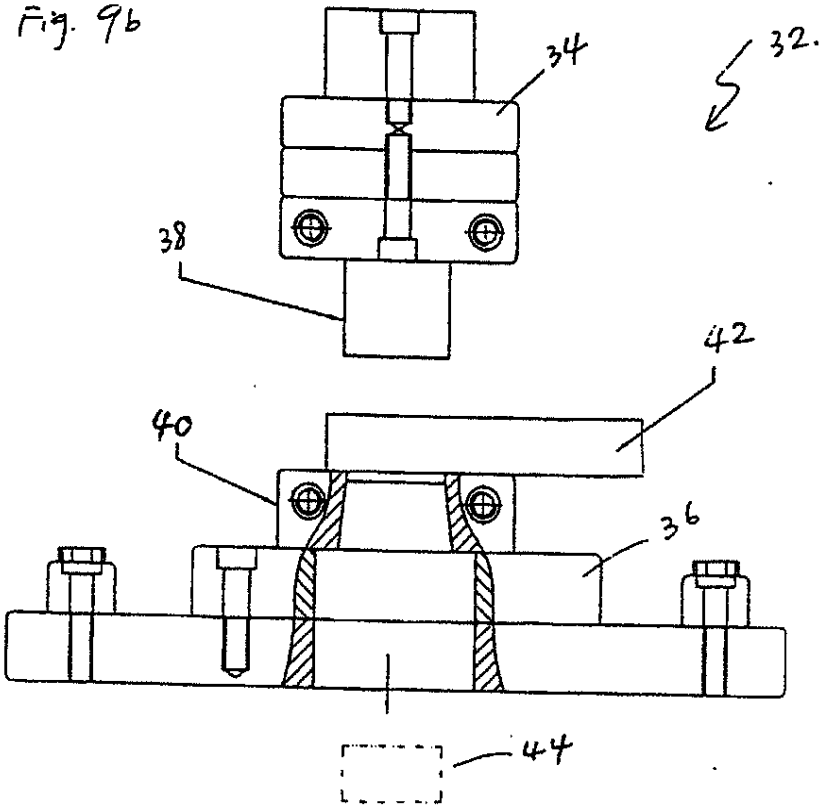


Fig. 10a

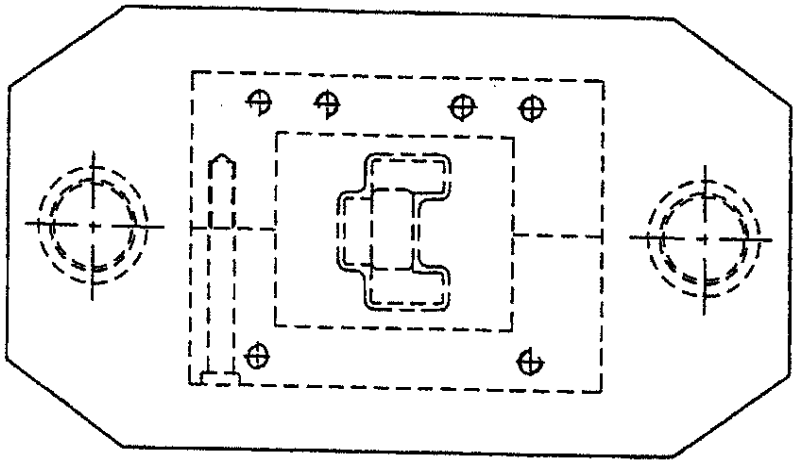


Fig. 10b

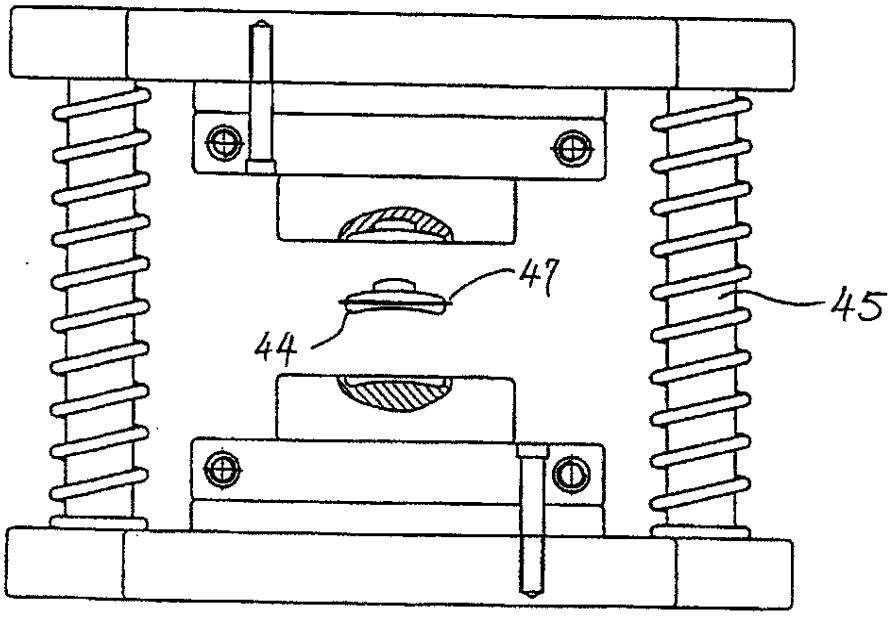


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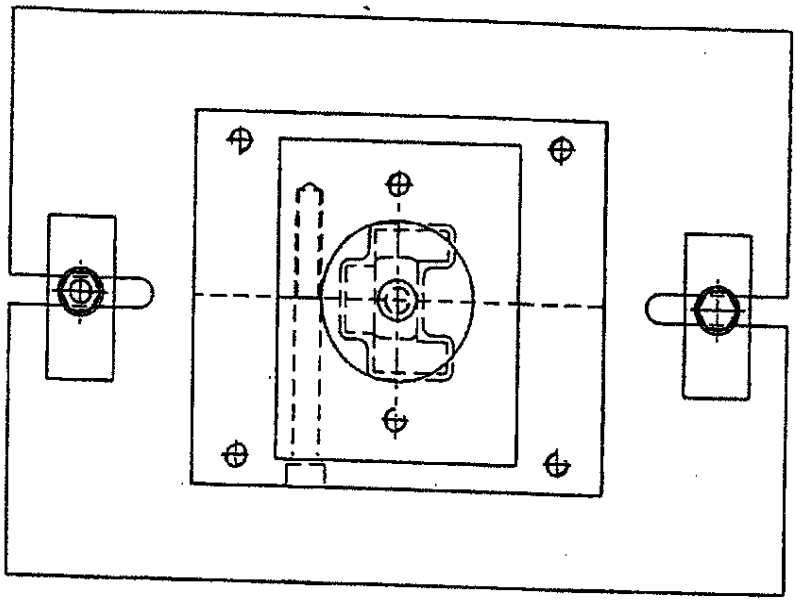
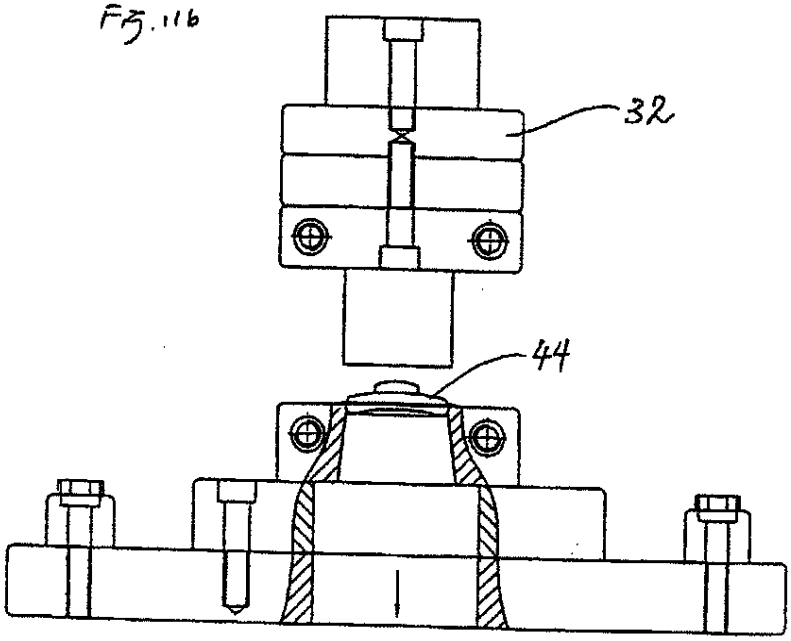


Fig. 11b



11/51

Fig. 12a

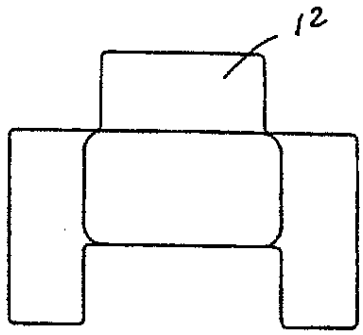


Fig. 12b

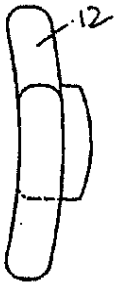


Fig. 12c

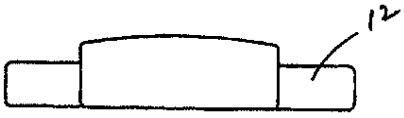


Fig. 13a

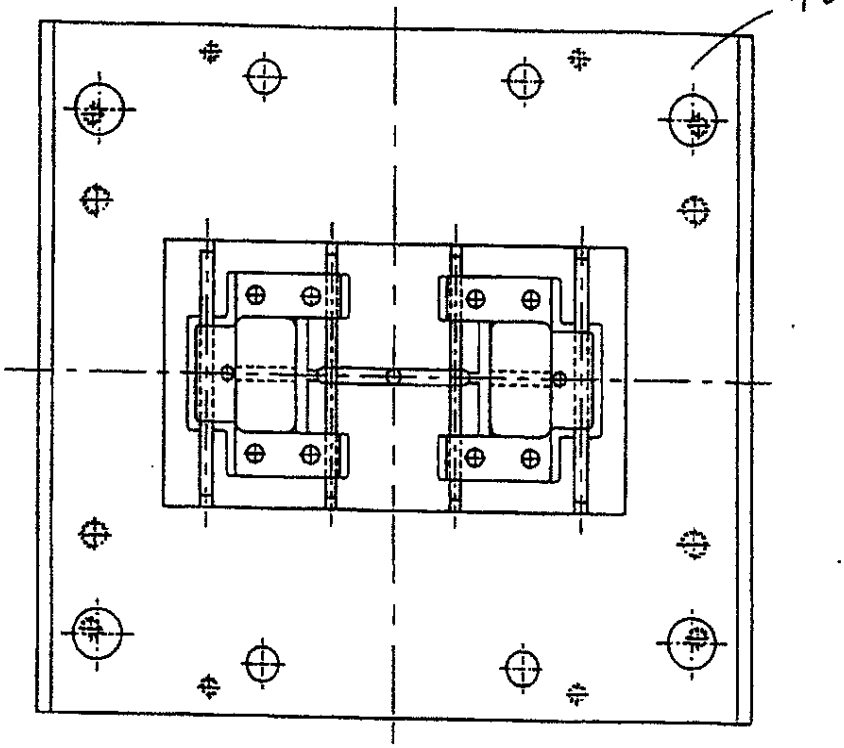


Fig. 13b

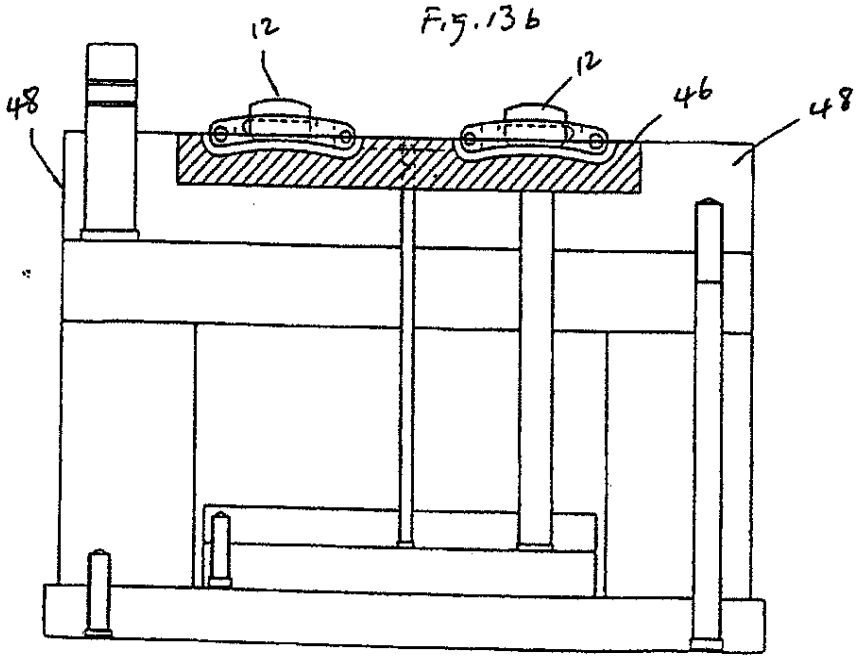


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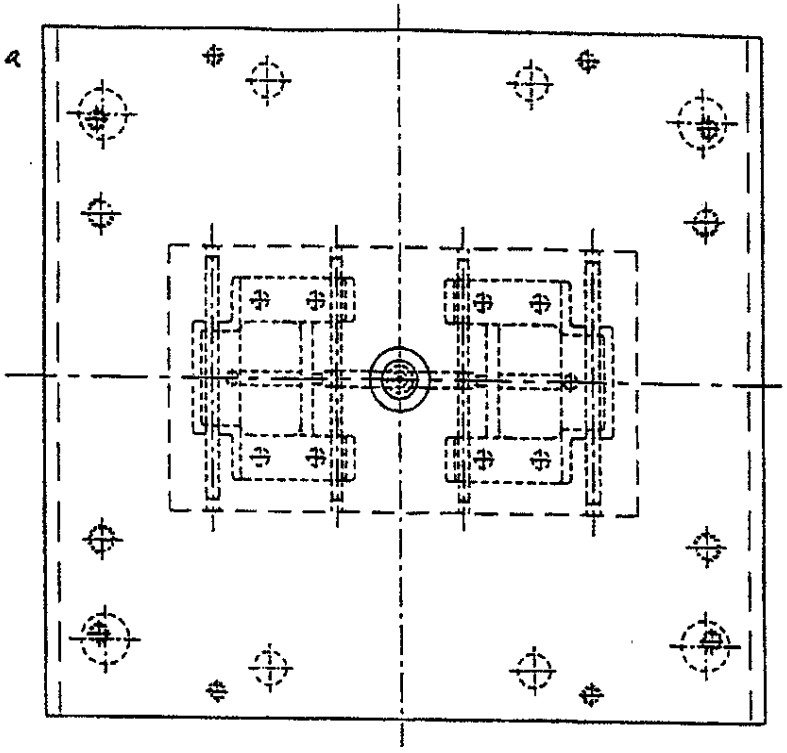
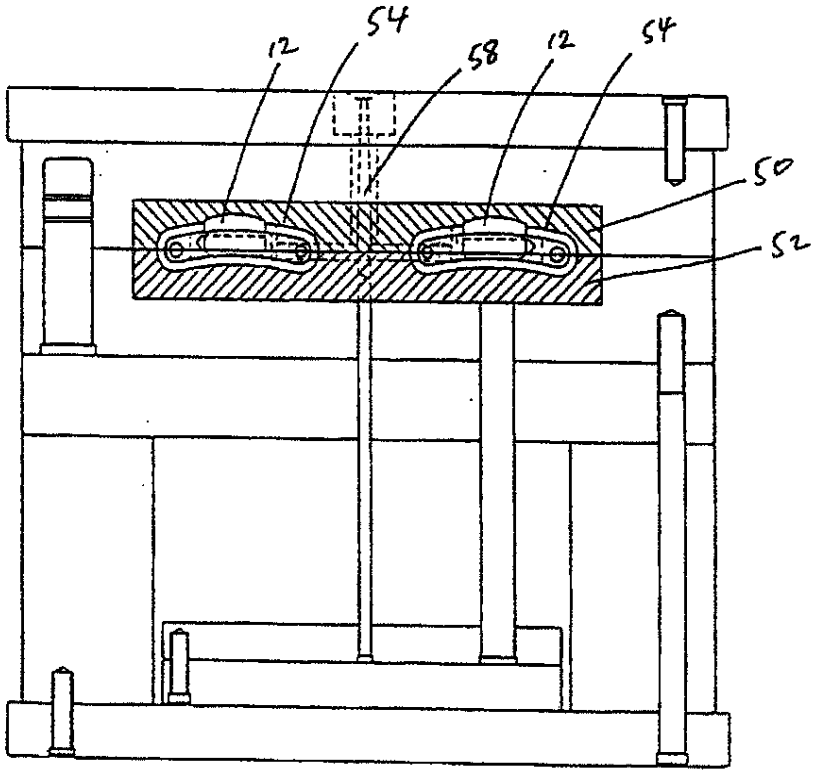


Fig. 14b



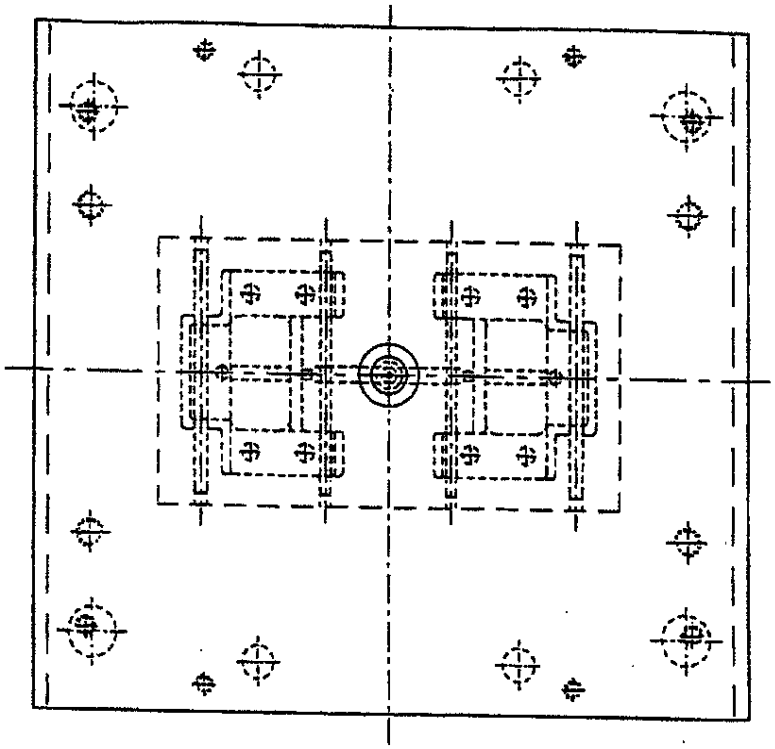


Fig. 15a

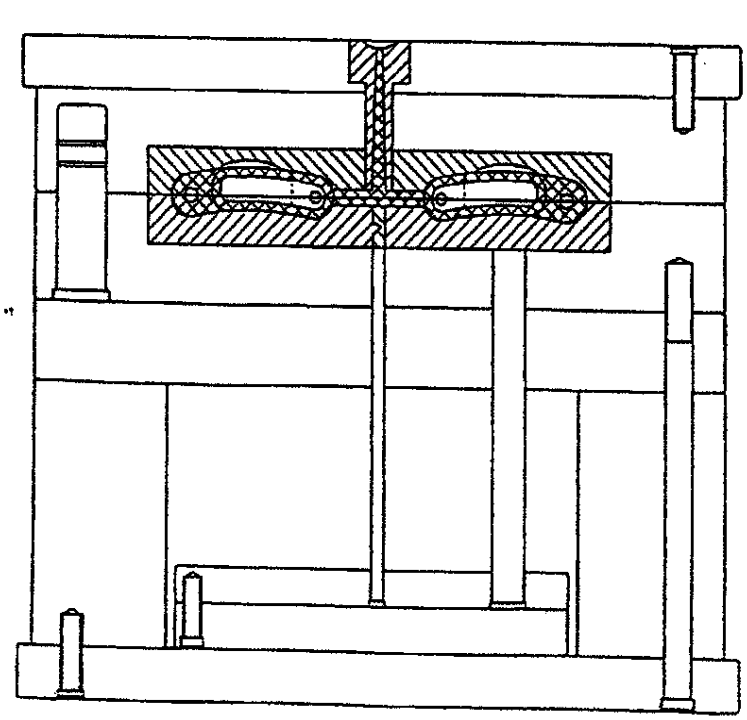


Fig. 15b

Fig. 16a

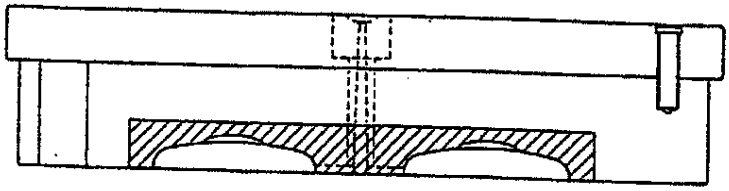


Fig. 16b

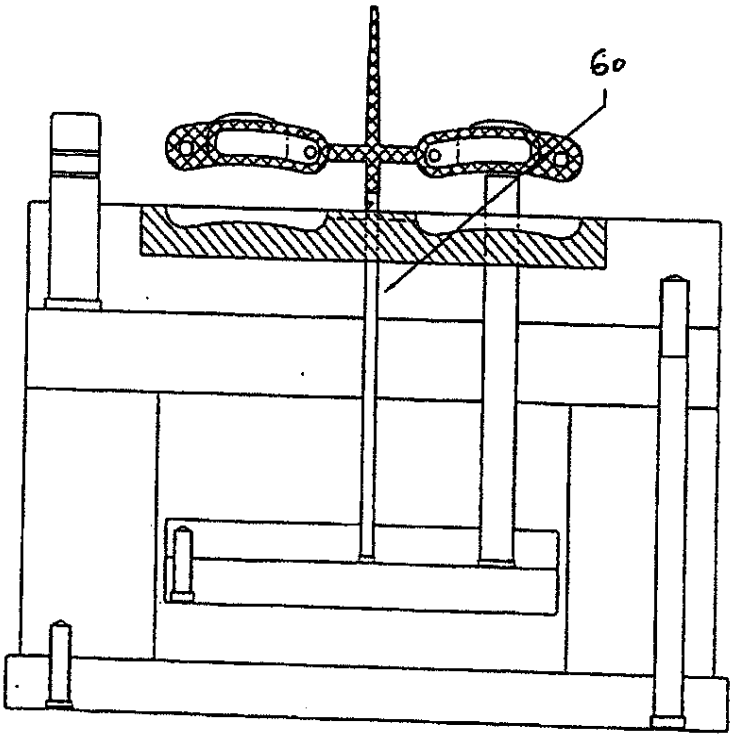


Fig. 17b

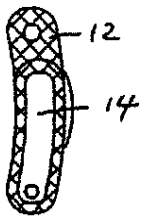


Fig. 17a

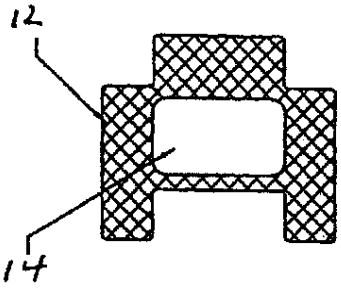


Fig. 17c



Fig. 18d



Fig. 18c

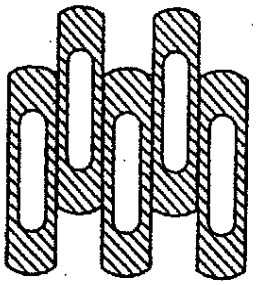
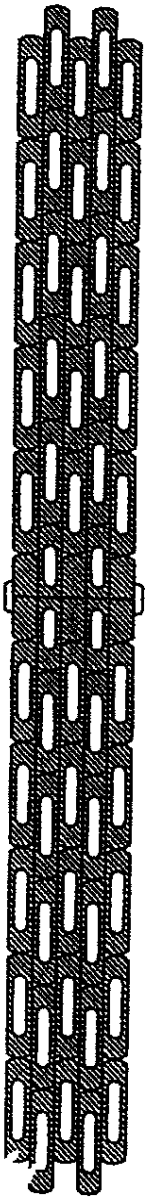


Fig. 18b



Fig. 18a



18/51

Fig. 19a

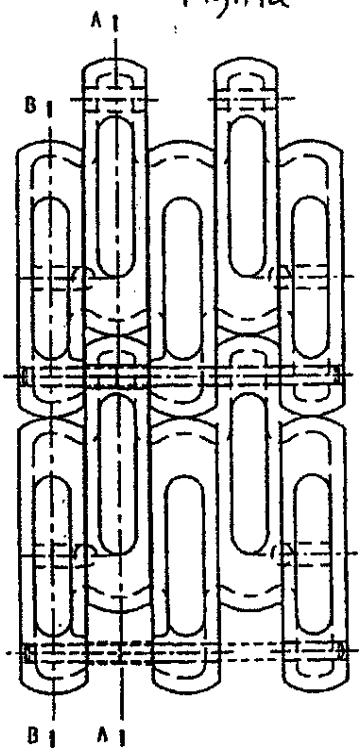


Fig. 19b

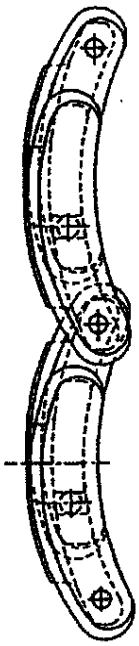






Fig. 19c

Fig. 19d

Fig. 20a

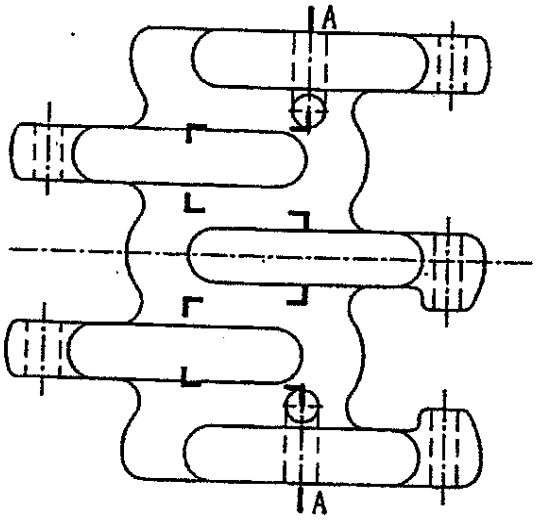
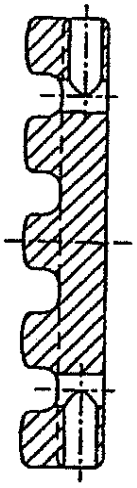


Fig. 20b



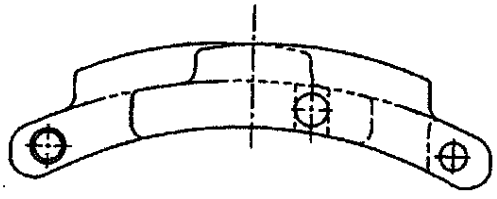


Fig. 20c

Fig. 21a

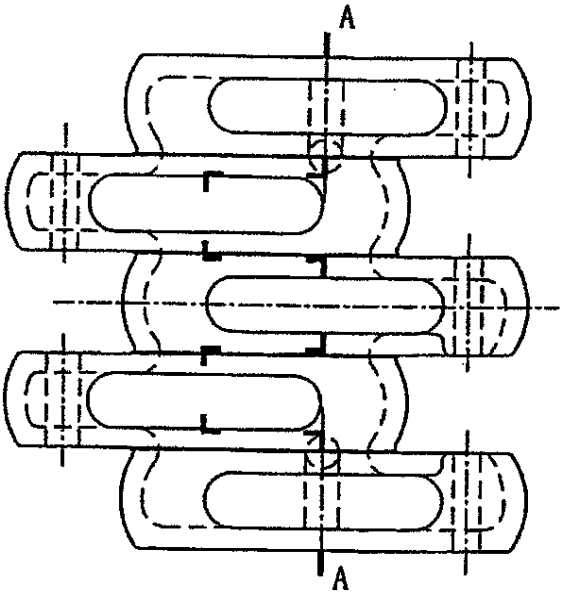
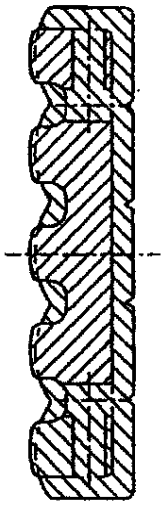


Fig. 21b



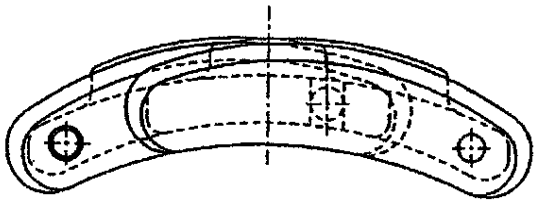


Fig. 21c

Fig. 22a

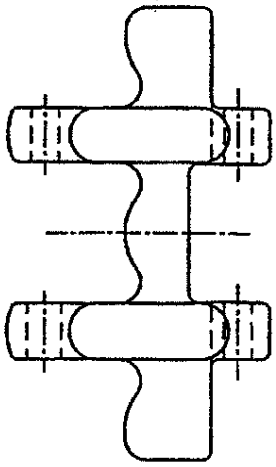


Fig. 22b

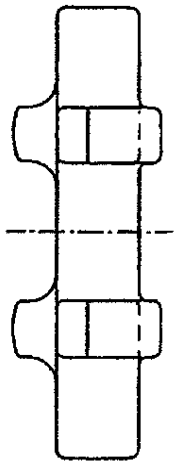


Fig. 22c

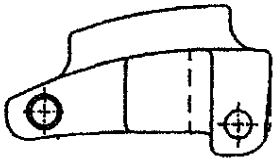


Fig. 23a

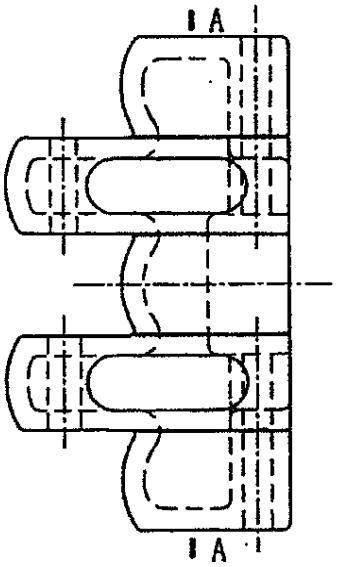
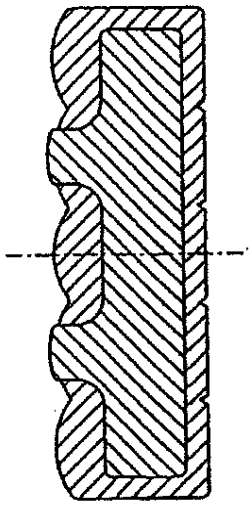


Fig. 23b



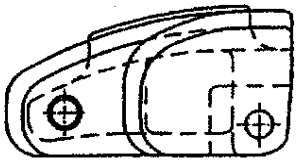


Fig. 23c

Fig. 24a



Fig. 24b



Fig.25a

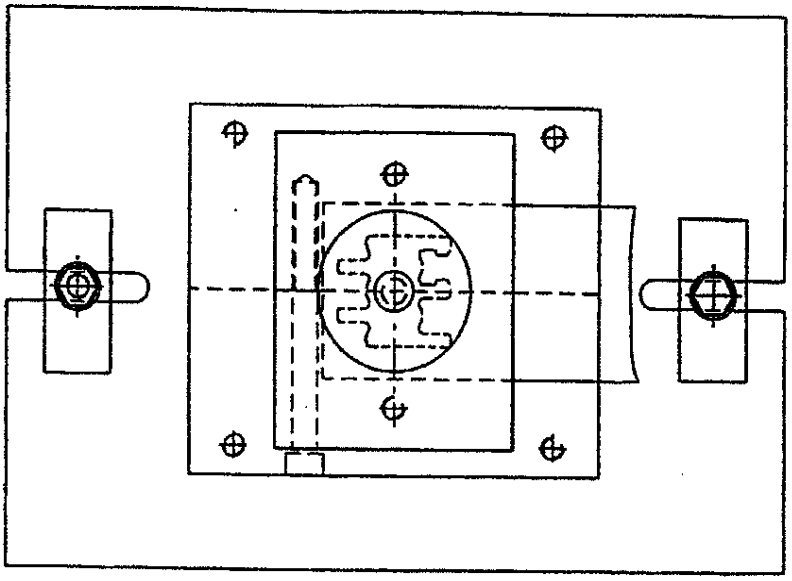


Fig.25b

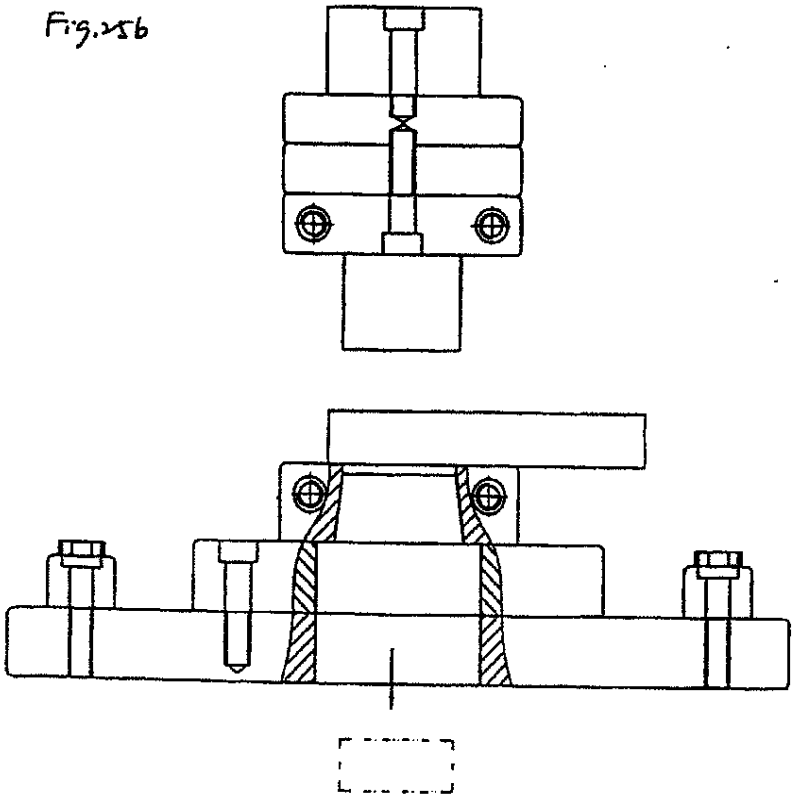


Fig. 26a

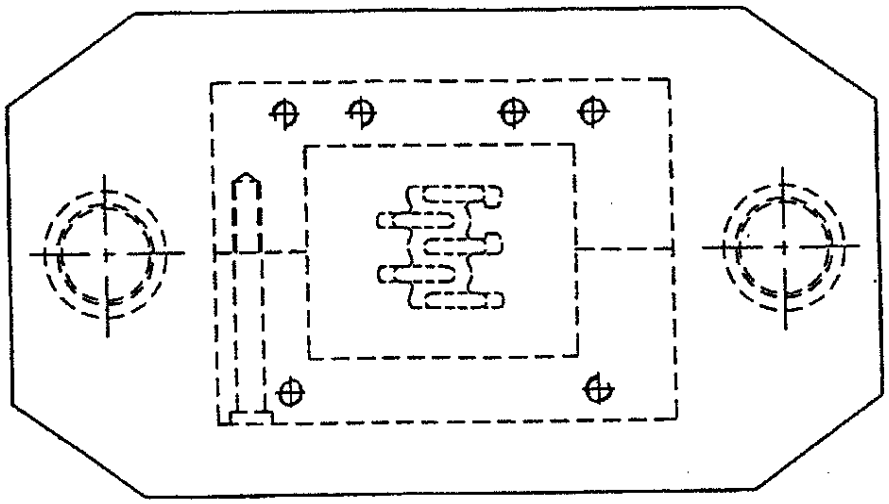


Fig. 26b

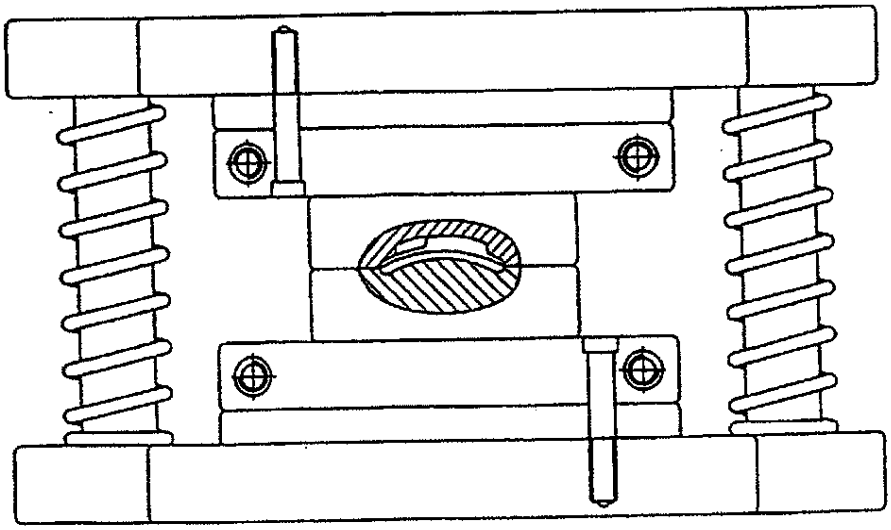


Fig. 27a

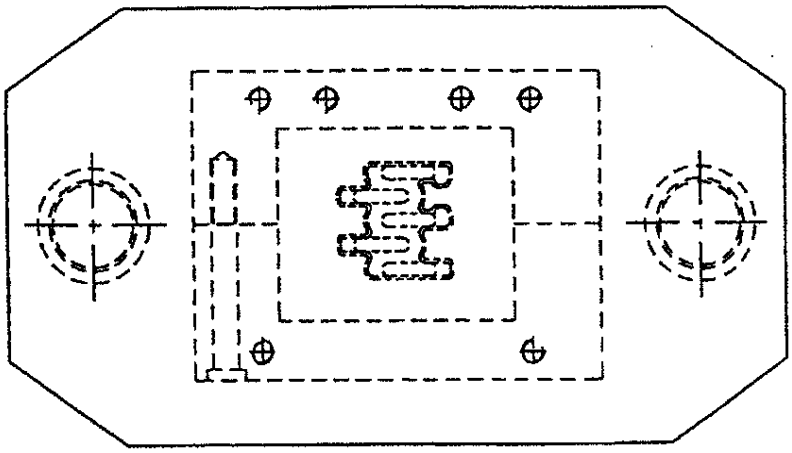


Fig. 27b

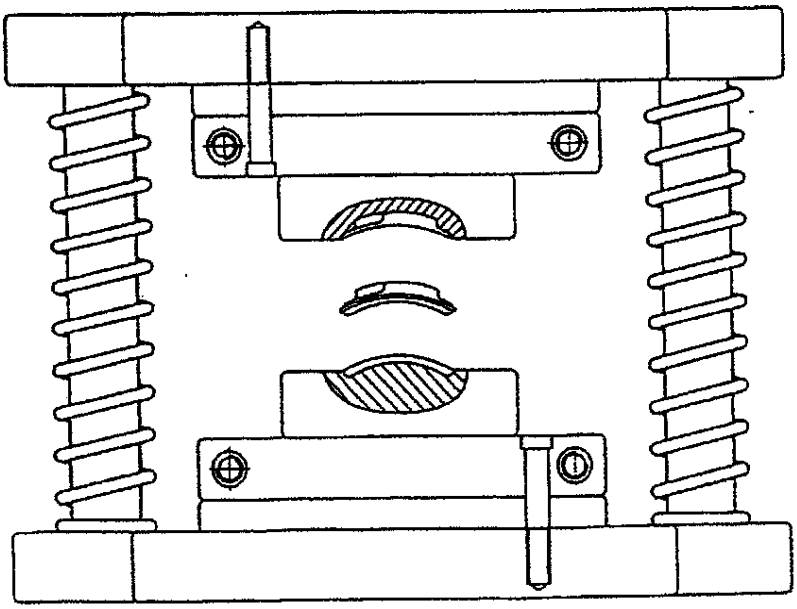


Fig. 28a

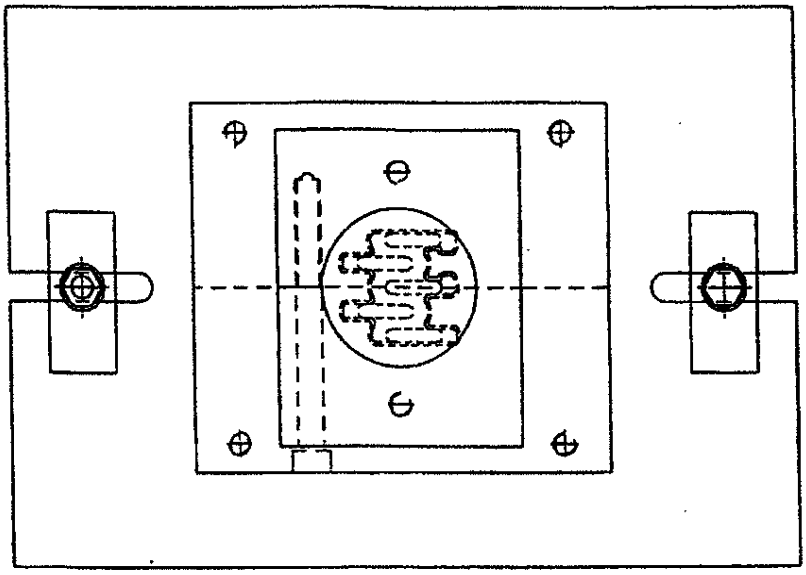
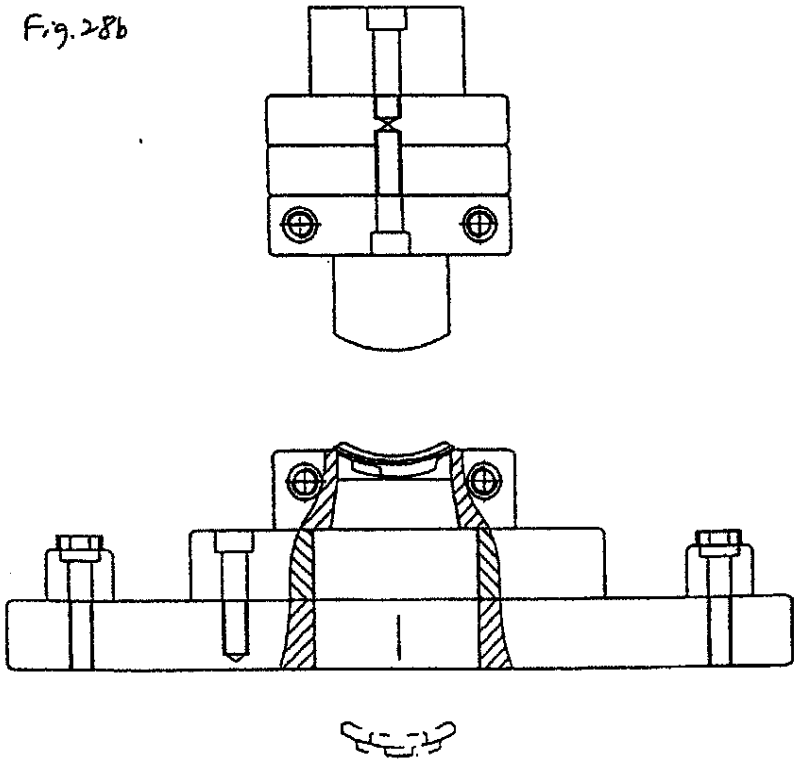


Fig. 28b



28/51

Fig. 29a

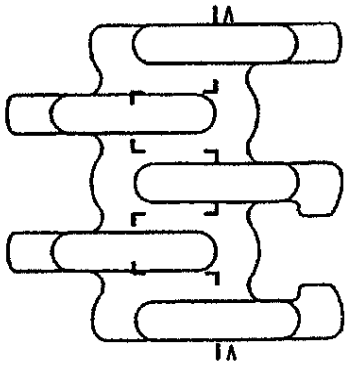


Fig. 29b



Fig. 29c



Fig. 30a

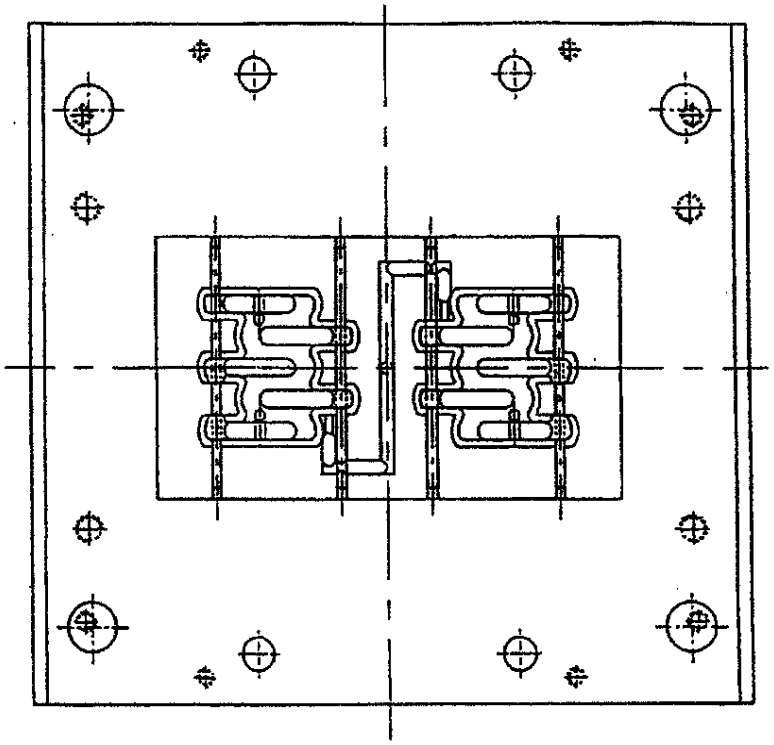
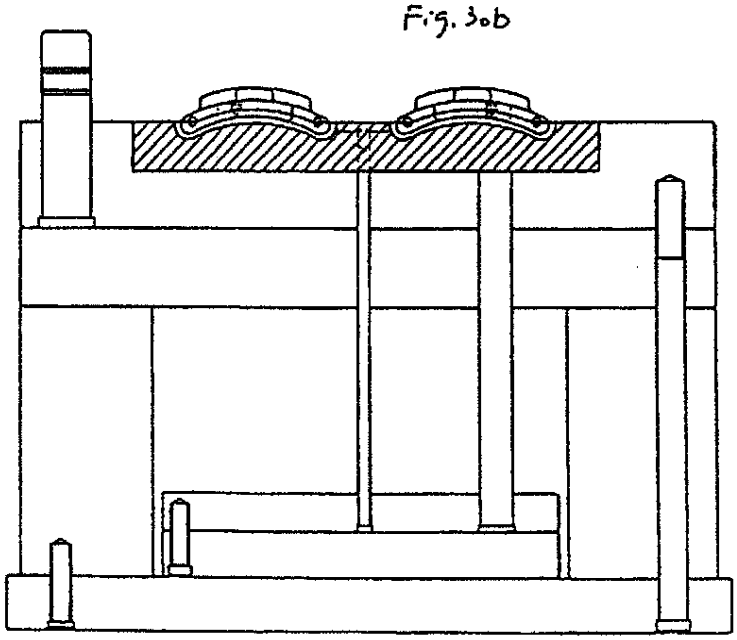


Fig. 30b



30/51

Fig. 31a

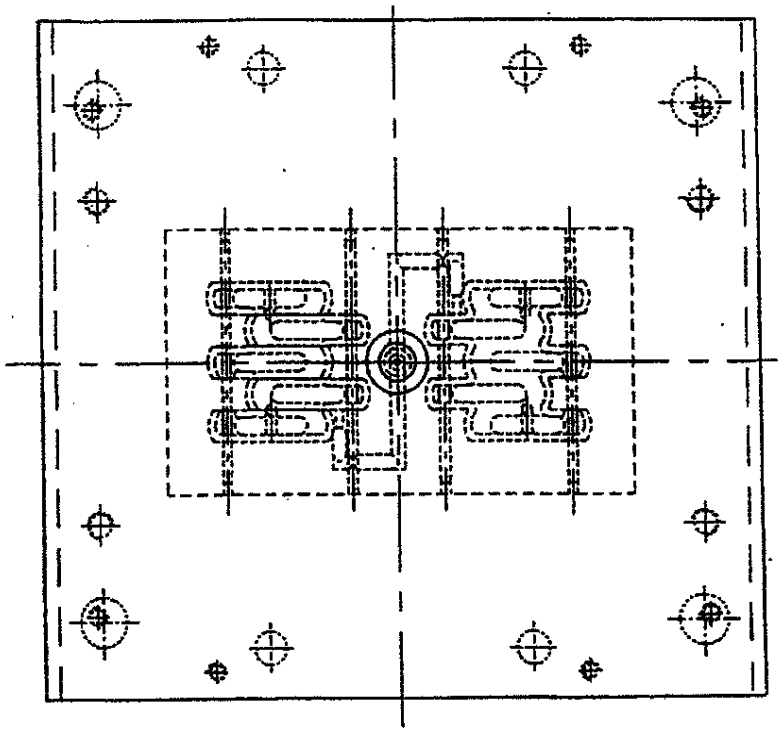


Fig. 31b

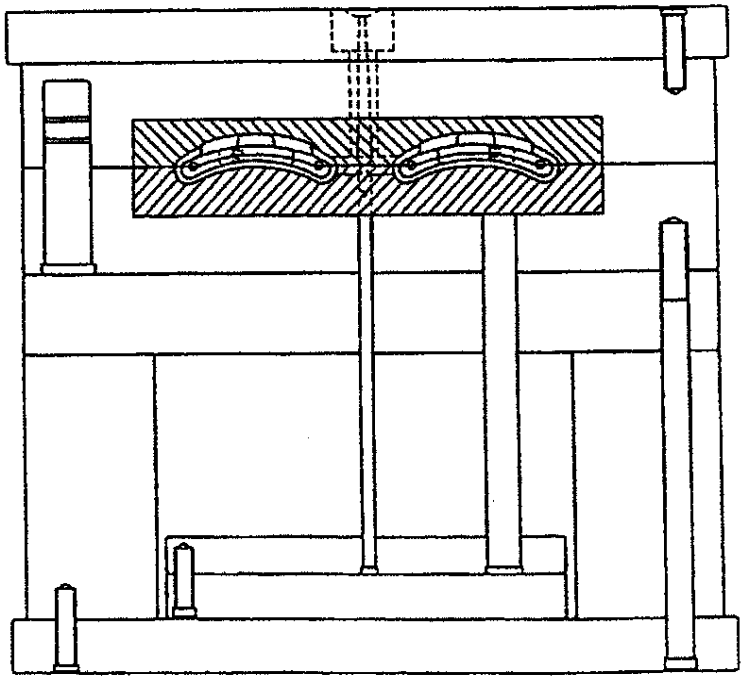


Fig. 32a

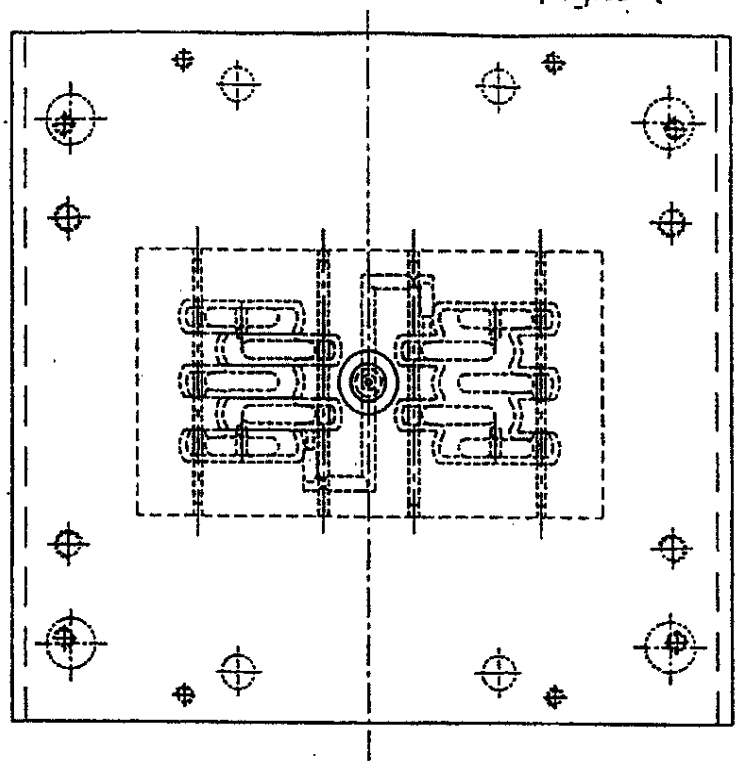
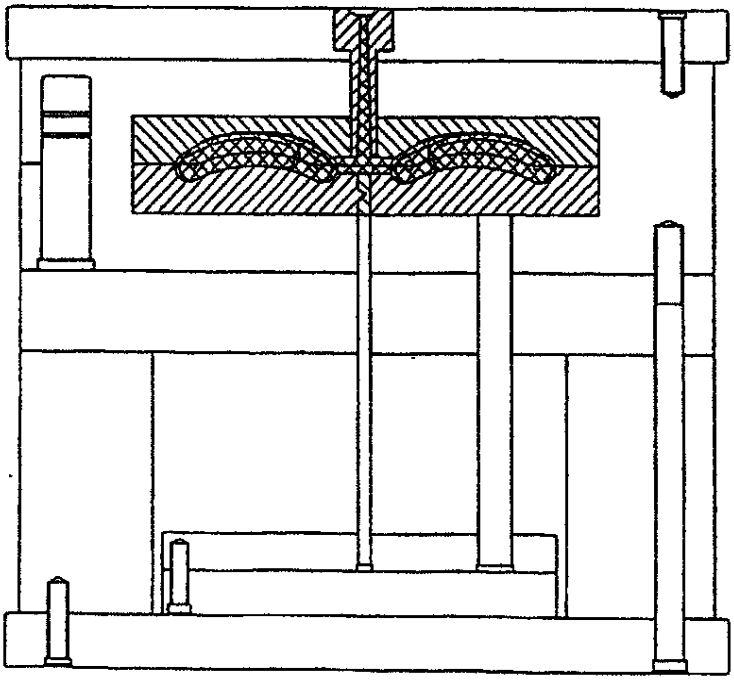


Fig. 32b



32/51

Fig. 33a

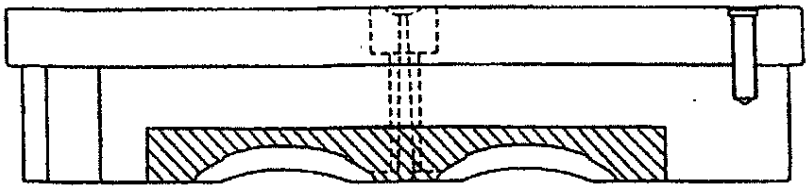


Fig. 33b

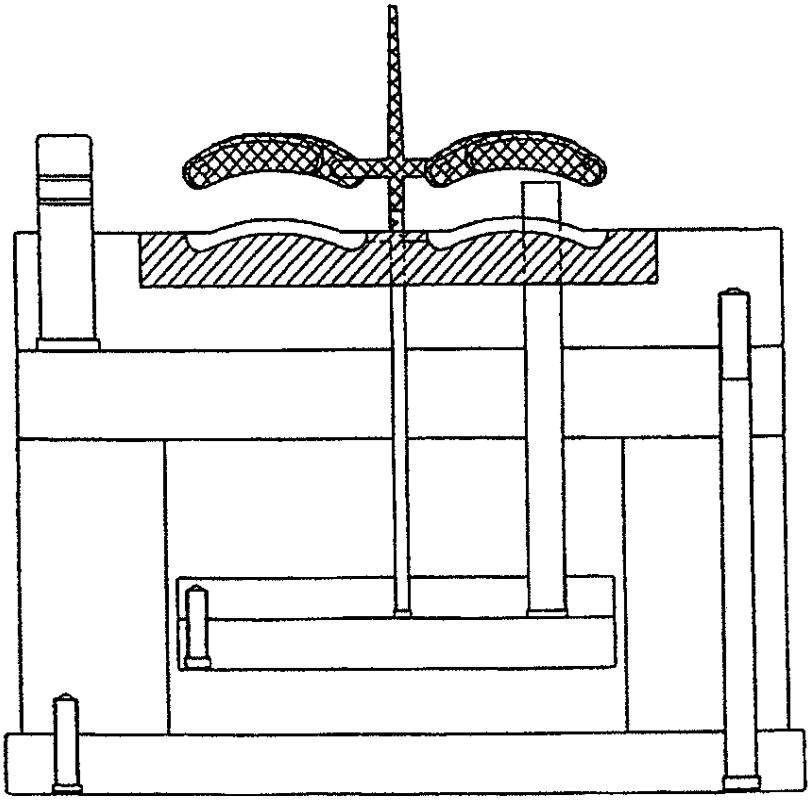


Fig. 34a

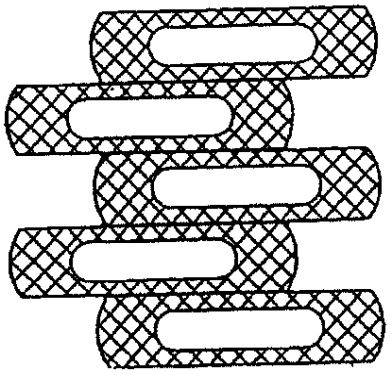
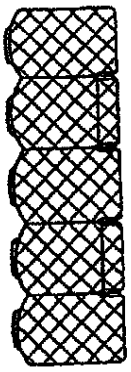


Fig. 34b



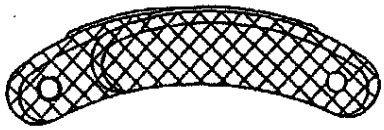


Fig. 34c

Fig. 35b

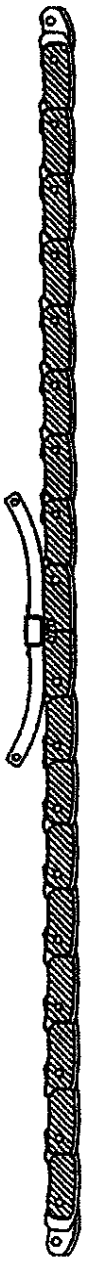


Fig. 35a

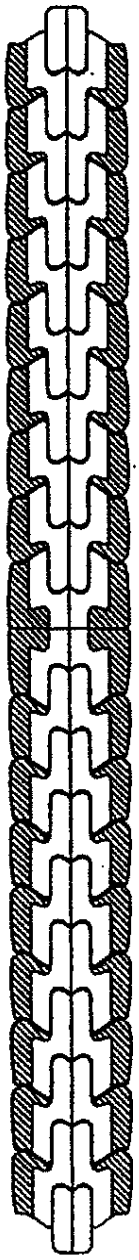


Fig. 35c

Fig. 35d

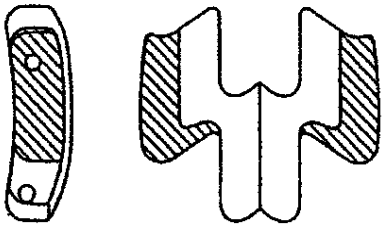


Fig. 35e



35/51

Fig. 36a

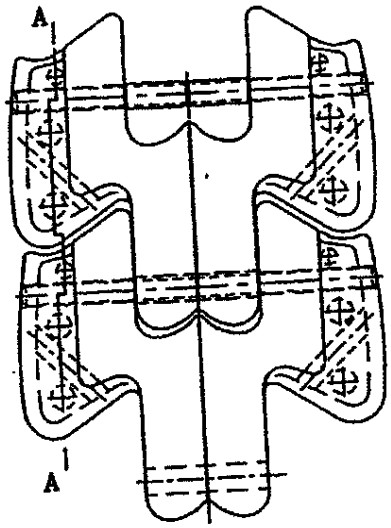
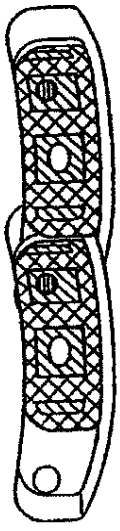


Fig. 36b



Fig. 36c



36/51

Fig. 37a

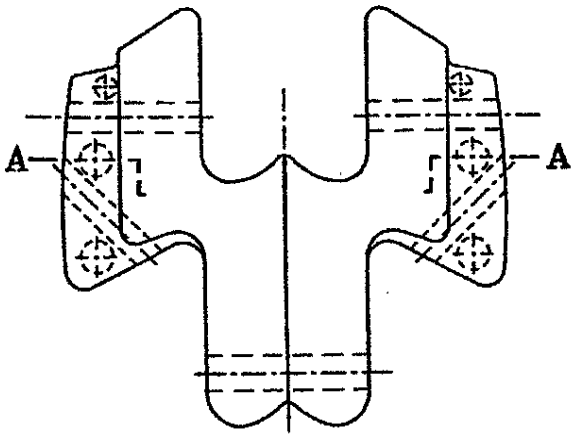
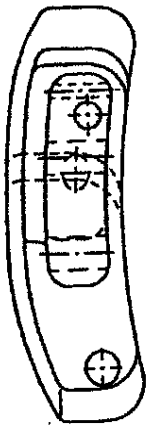


Fig. 37b



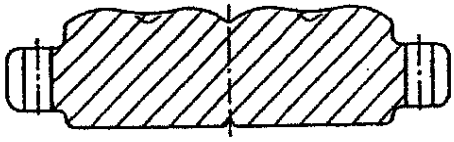


Fig. 37c

37/51

Fig.38a

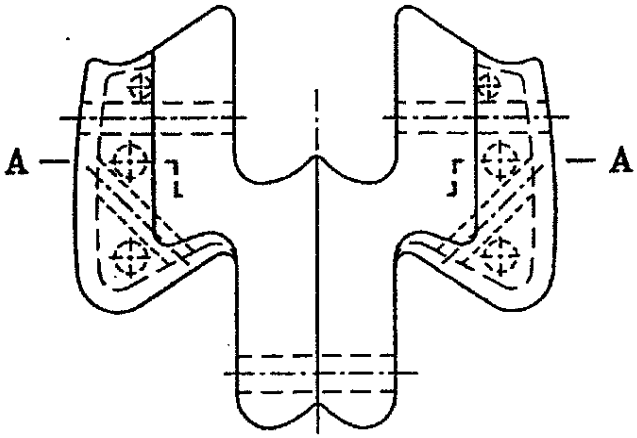
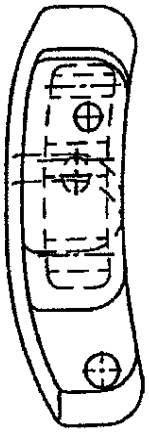


Fig.38b



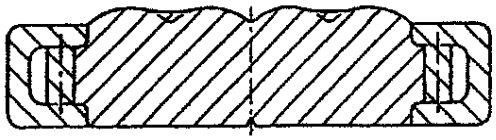


Fig.38c

38/51

Fig. 39a

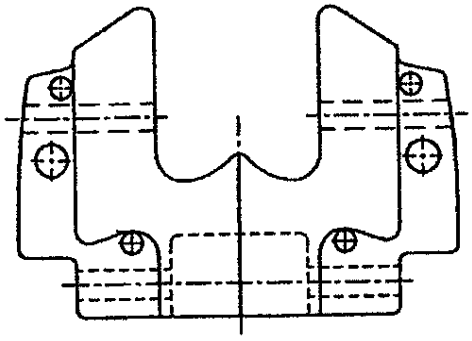


Fig. 39c

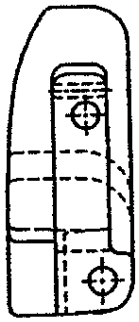


Fig. 39b

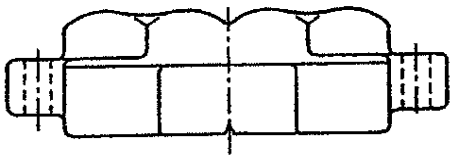


Fig. 40a

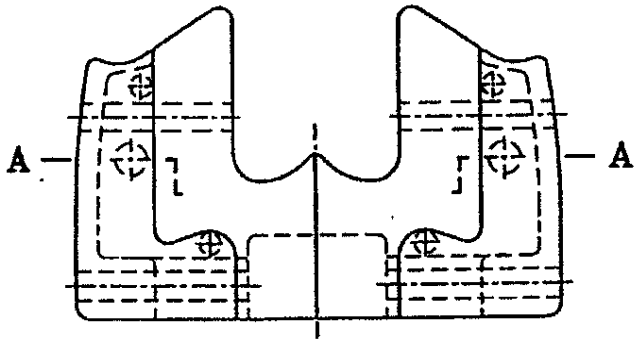


Fig. 40c

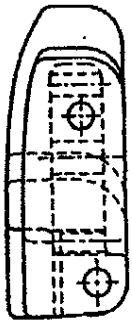


Fig. 40b

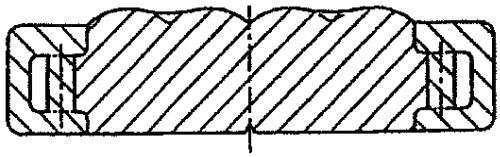


Fig. 41b

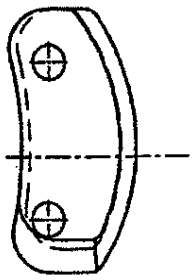


Fig. 41a

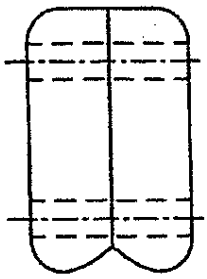
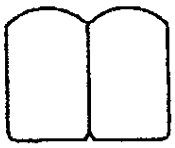


Fig. 41c



41/51

Fig. 42



Fig. 43a

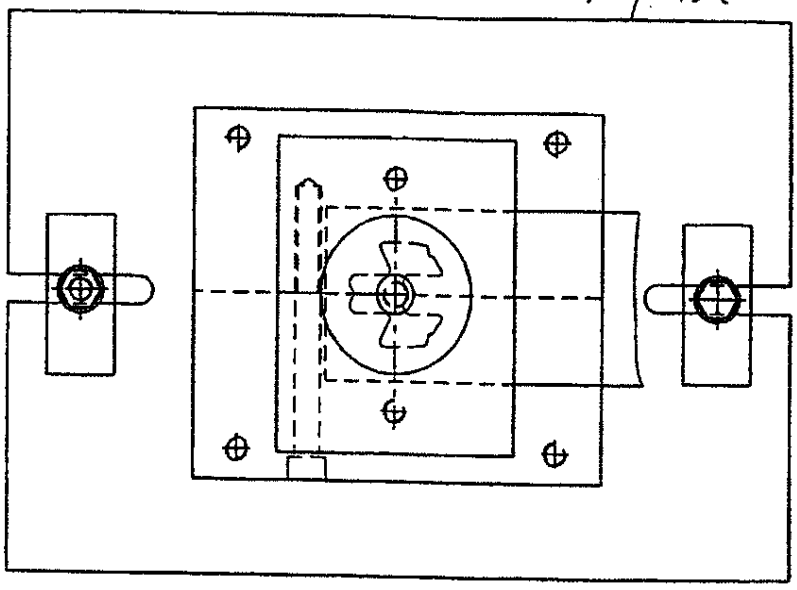


Fig. 43b

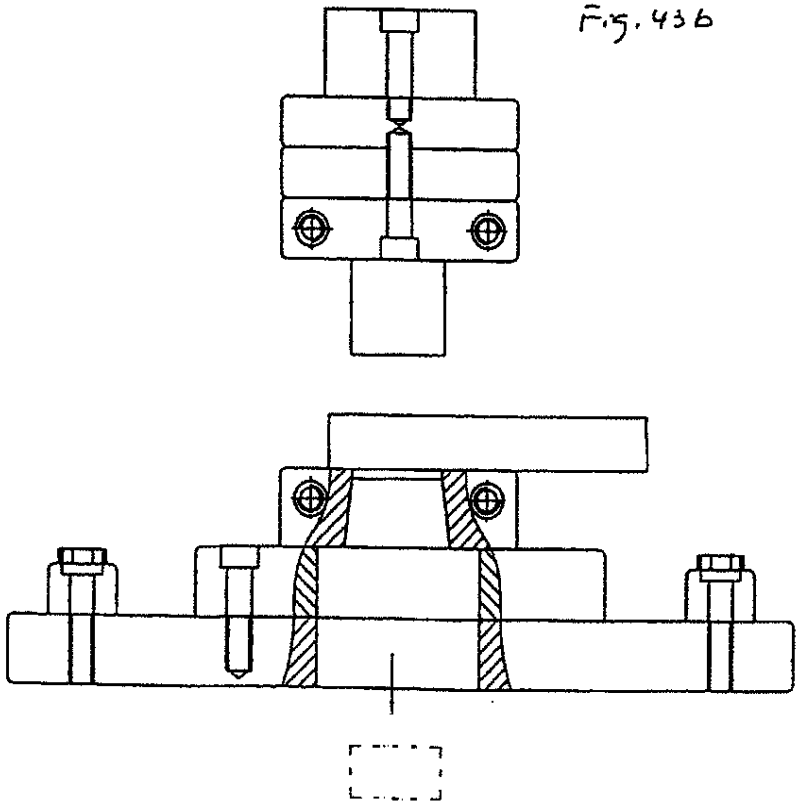


Fig. 44a

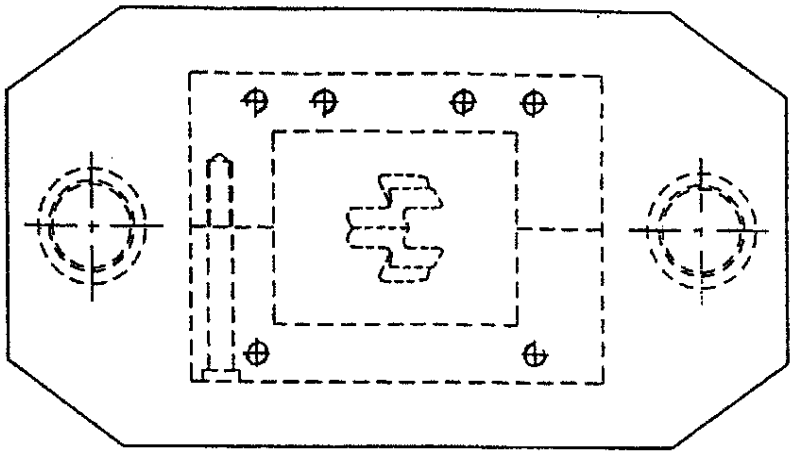


Fig. 44b

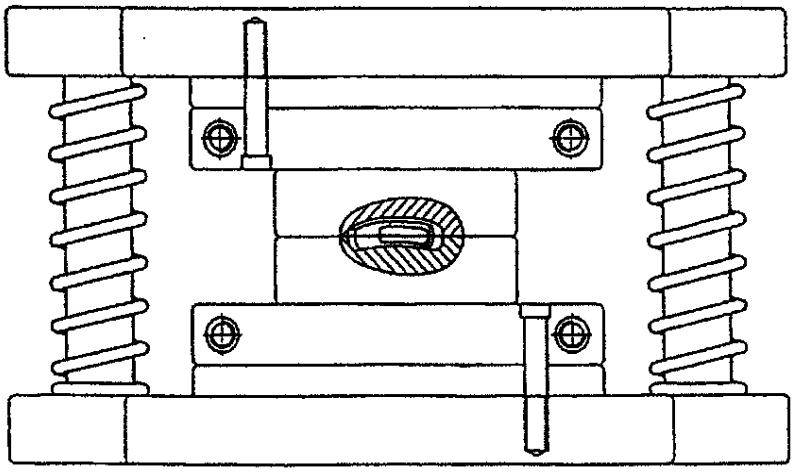


Fig. 45a

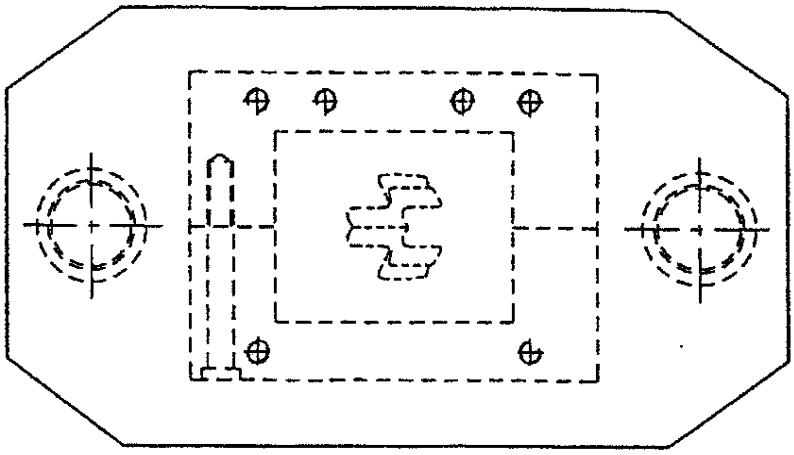


Fig. 45b

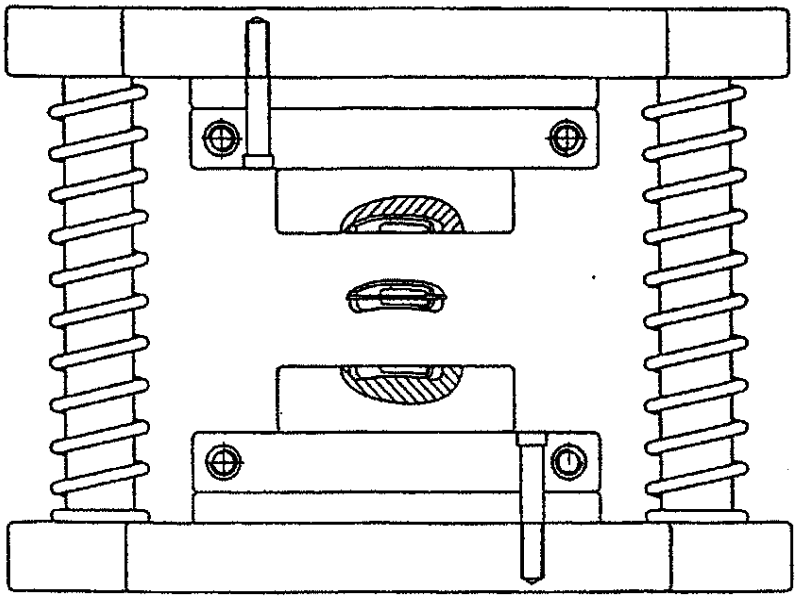


Fig. 46a

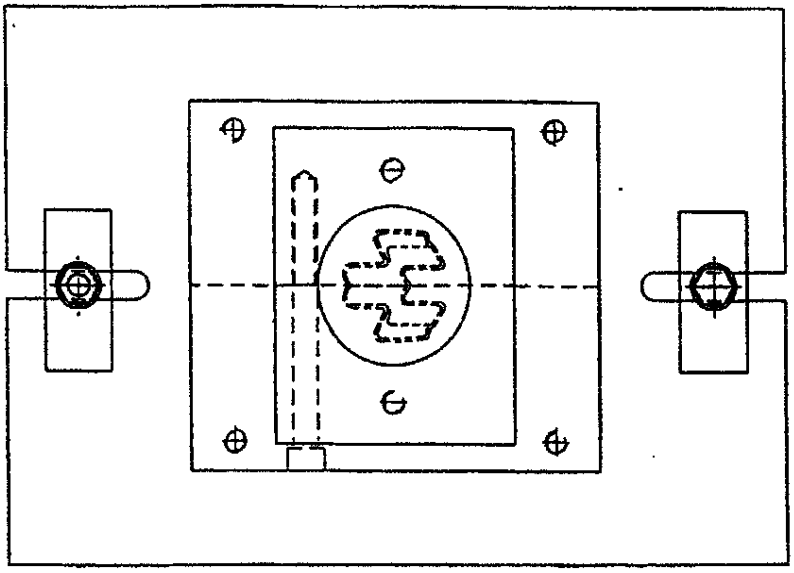


Fig. 46b

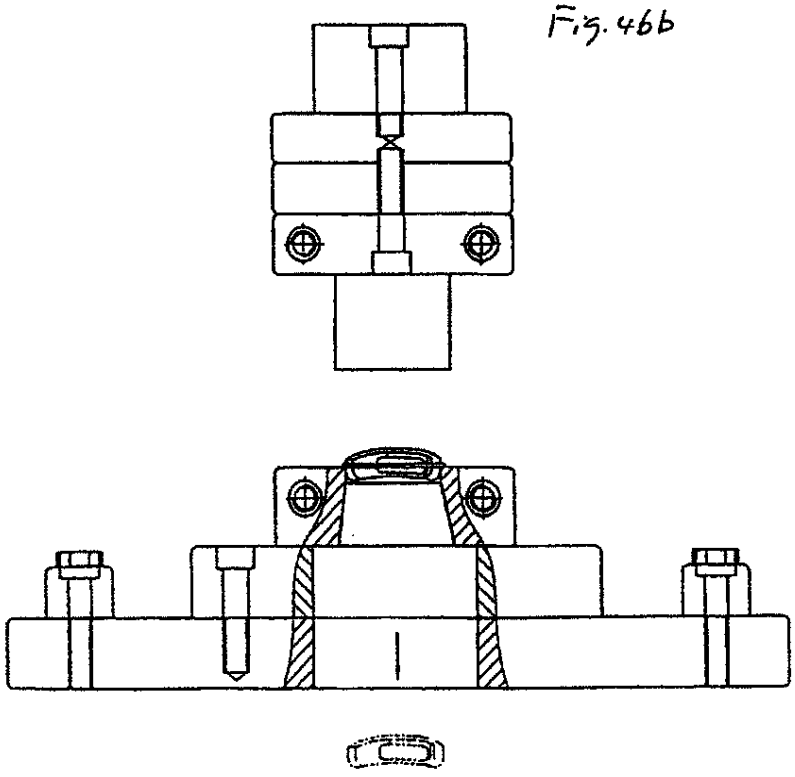


Fig. 46c

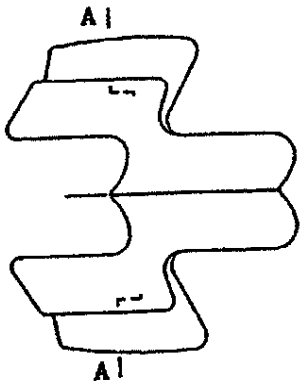


Fig. 46d

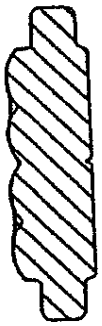




Fig. 46e

Fig. 47a

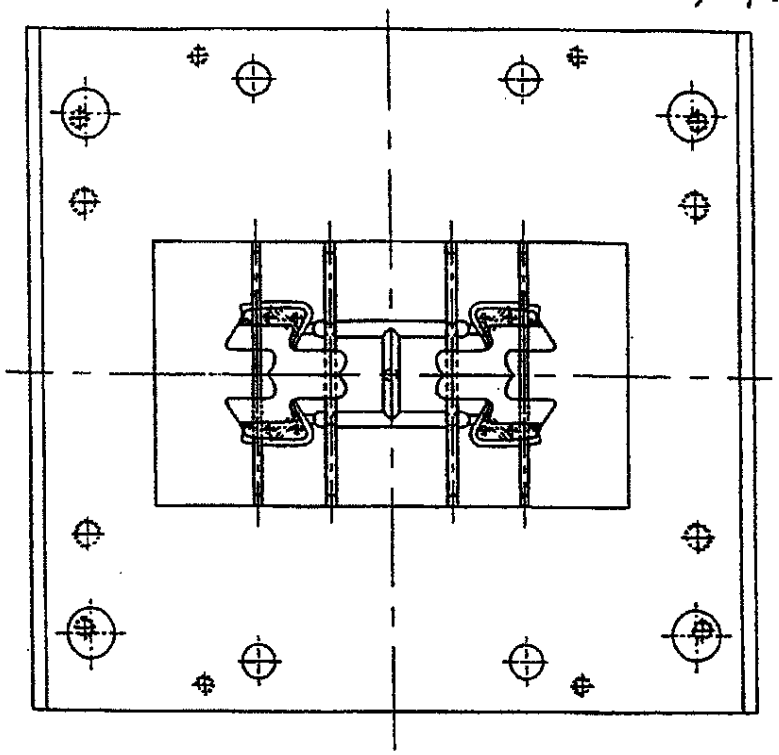
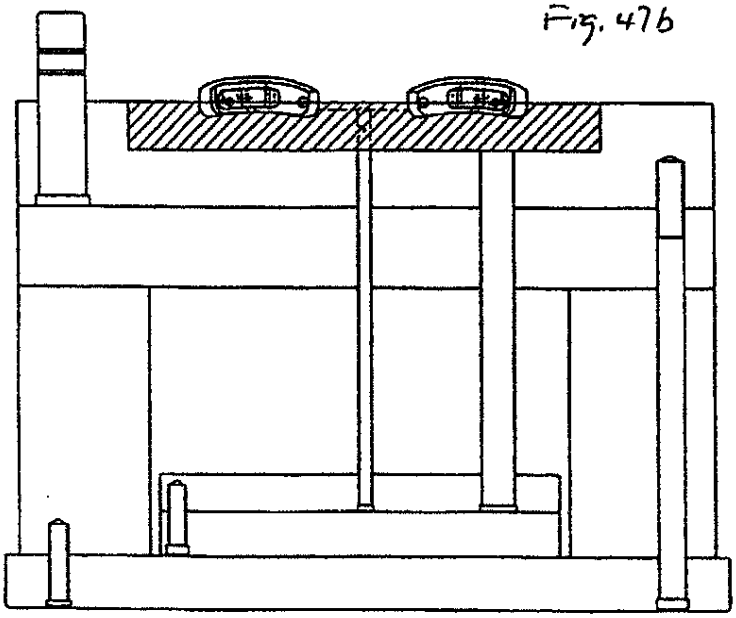


Fig. 47b



48/51

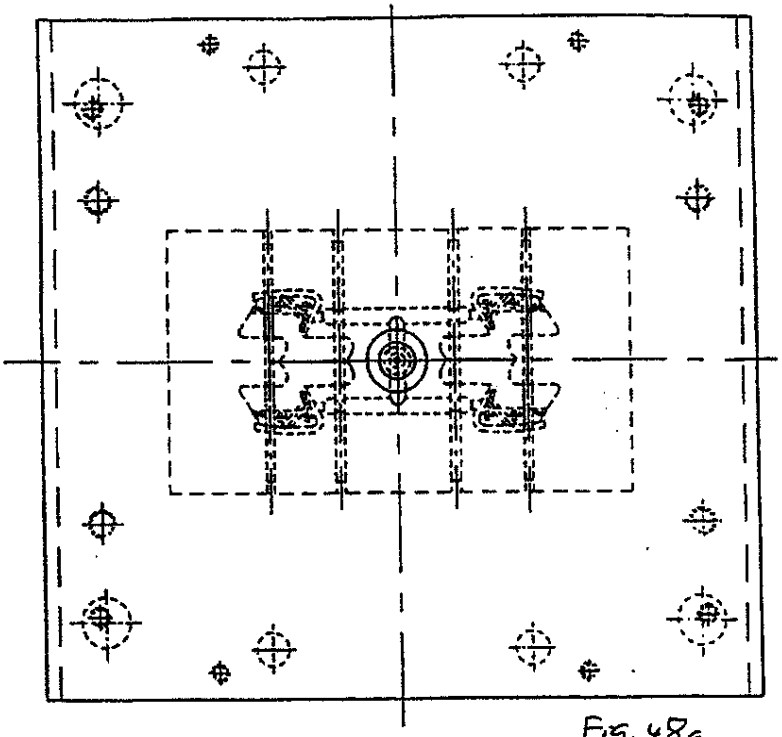
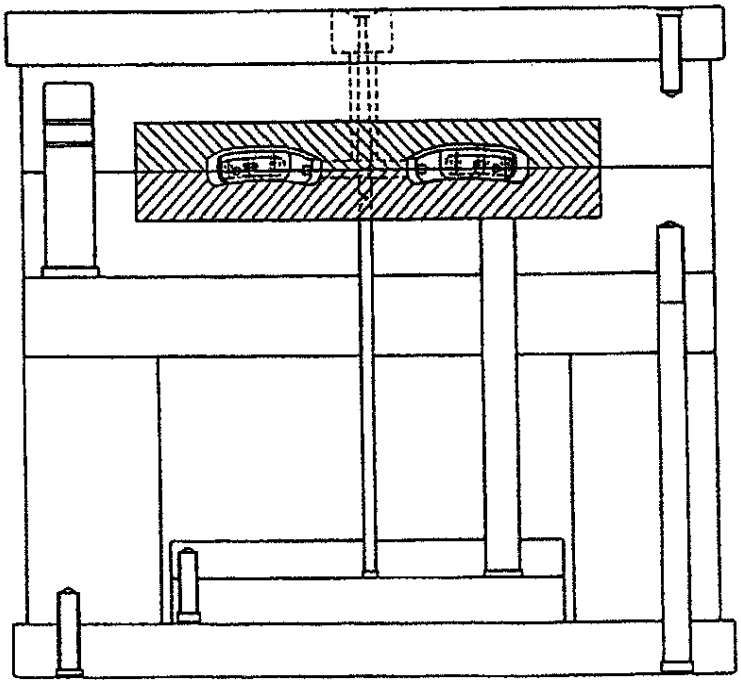


Fig. 48a

Fig. 48b



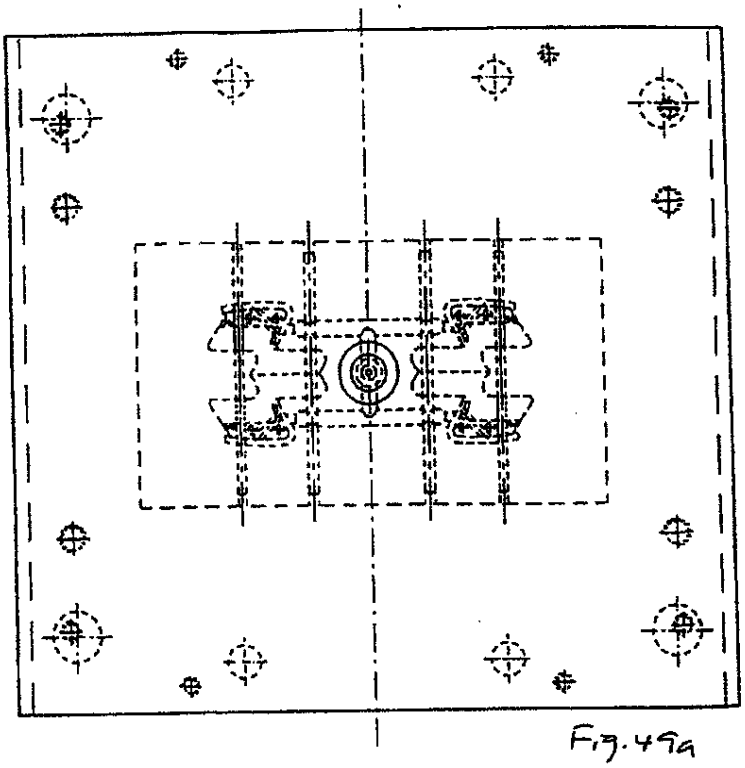


Fig. 49a

Fig. 49b

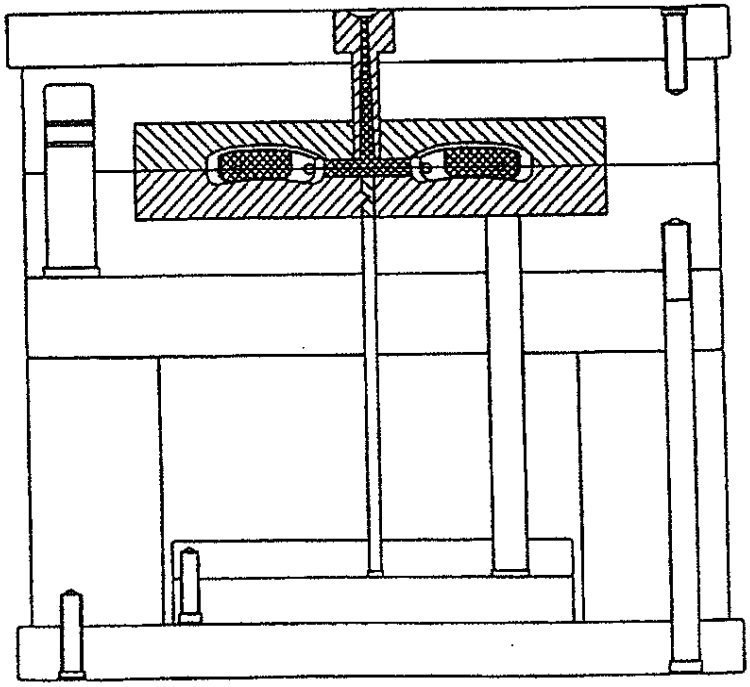


Fig. 50a

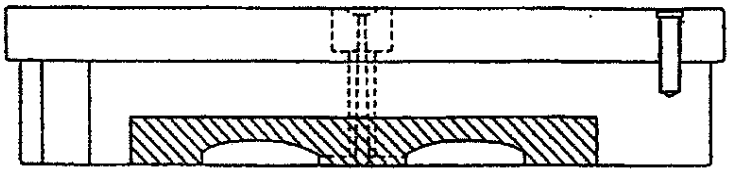
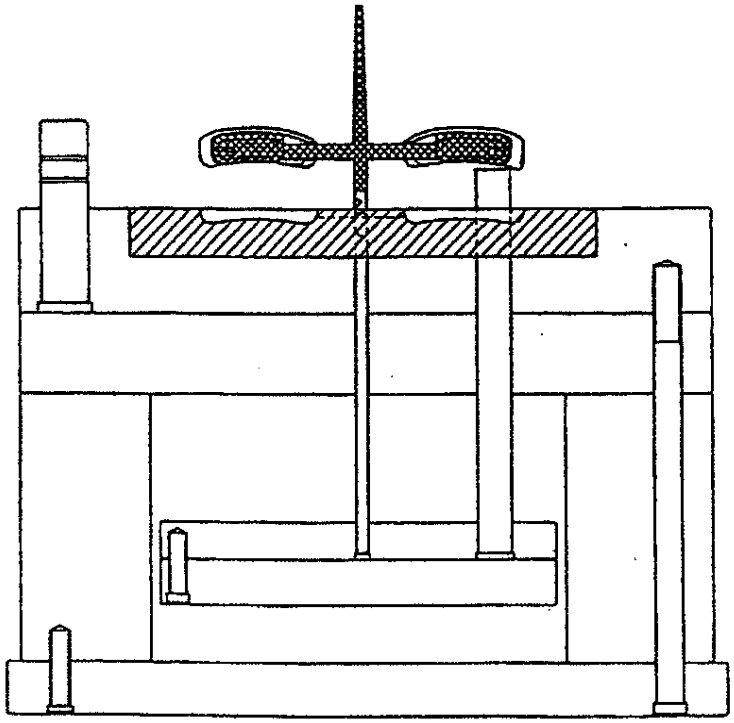


Fig. 50b



51/51

Fig. 51a

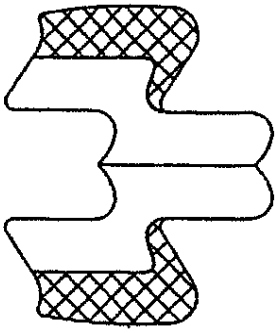


Fig. 51b

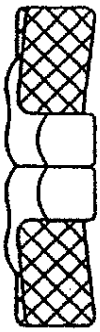


Fig. 51c



2374516

BAND FOR TIMEPIECE AND METHOD OF MANUFACTURING SAME

The present invention relates to a band for a timepiece and in particular a wristband for a watch.

There are a variety of watches equipped with different types of wristbands. The wristbands may be made predominantly of a single material selected from a variety of materials such as metal.

It is an object of the present invention to provide a band for a timepiece which is relatively light, durable and aesthetic, or at least to provide a useful alternative to the public.

It is a further object of the present invention to provide a method of manufacturing such a band.

According to a first aspect of the present invention, there is provided a band for a timepiece (e.g. watch) comprising a plurality of inter-connected links, at least one said link including a first portion made at least principally of a metallic material and a second portion made at least principally of a polymeric material, and fixedly secured

thereto and molded thereover by injection molding, wherein the polymeric material is selected from the group consisting thermoplastic polyurethane, thermoplastic elastomer, acrylonitrile butadiene styrene and polycarbonate.

According to a second aspect of the present invention, there is provided a method of manufacturing a band for a timepiece, comprising the steps of (a) positioning a link element made at least principally of a metal in a mould of a molding machine, (b) injecting a polymeric material into a cavity of said mould whereby said polymeric material envelopes at least part of said link element, wherein said polymeric material is selected from the group consisting of thermoplastic polyurethane, thermoplastic elastomer, acrylonitrile butadiene styrene and polycarbonate, (c) allowing said injected polymeric material to solidify whereby said link element and said solidified polymeric material together form a link, (d) releasing said link from said mould, and (e) connecting a plurality of said links.

A surface of the first portion may be exposed to the environment. In the event that the first portion is made of stainless steel having a metallic and/or shiny

appearance, the exposed surface of the first portion and the second portion together produce an unusual aesthetic appearance.

Suitably, the links are inter-connected by at least a pin.

Advantageously, protrusions and/or recesses may be provided at at least one end of the links allowing connection of the links with each other. Two of the links adjacent to each other may be connected at the protrusions and recesses. In particular, the links may provide a plurality of apertures at the protrusion and recesses. More particularly, the pin may connect the links at the apertures. Two of the links which are adjacent to each other may be pivotably movable relative to each other.

The link element may be made principally of stainless steel.

Suitably, the band may comprise means for adjusting the length of the band.

Advantageously, after the step of releasing the link from the mould, a surface of the metallic member may be exposed

to the environment. Similarly, after the same step, a surface of the metallic member is protected by the polymeric material. A band formed of a plurality of the links may thus provide an appearance having alternating and/or combining exposed surfaces of the metallic members and the solidified polymeric material.

The invention will now be described by way of example only, with reference to the accompanying drawings, in which:-

Fig. 1a is a top view showing a band for a timepiece according to a first embodiment of the present invention, generally formed of a plurality of first and second links;

Fig. 1b is a side view of the band shown in Fig. 1a;

Fig. 2a is a top view of two of the first links shown in Fig. 1a;

Fig. 2b is a side view of the first links shown in Fig. 2a;

Fig. 2c is an end view of the first links shown in Fig. 2a;

Fig. 3a is a top view of two of the first links shown in Fig. 1a connected with each other;

Fig. 3b is a side view of the two first links shown in Fig. 3a;

Fig. 3c is a cross-section view of the two first links taken along line B-B of Fig. 3a;

Fig. 3d is a cross-section view of the two first links taken along line A-A of Fig. 3a;

Fig. 4a is a top view of an interior portion of the first link shown in Fig. 2a;

Fig. 4b is a cross-section view of the interior portion of the first link taken along line A-A of Fig. 4a;

Fig. 4c is a side view of the interior portion of the first link shown in Fig. 4a;

Fig. 5a is an alternative top view of the first link shown in Fig. 2a incorporating the interior portion shown in Fig. 4a;

Fig. 5b is a cross-section view of the first link taken along line A-A of Fig. 5a;

Fig. 5c is a side view of the first link shown in Fig. 5a;

Fig. 6a is a top view of an interior portion of one of the second links of the band shown in Fig. 1a;

Fig. 6b is an end view of the interior portion of the second link shown in Fig. 6a;

Fig. 6c is a side view of the interior portion of the second link shown in Fig. 6a;

Fig. 7a is a top view of the second link incorporating the interior portion shown in Fig. 6a;

Fig. 7b is a cross-section view of the second link taken along line A-A of Fig. 7a;

Fig. 7c is a side view of the second link shown in Fig. 7a;

Fig. 8 is a side view of a pin of the band shown in Fig. 1a;

Figs. 9a to 11b show a series of steps for producing the interior portion of the first link shown in Figs. 4a to 4c;

Figs. 12a to 12c are different views of the interior portion of the first link produced from the steps illustrated in Figs. 9a to 11b;

Figs. 13a to 16b show a series of steps for moulding an exterior portion onto the interior portion of the first link shown in Figs. 12a to 12c;

Fig. 17a is a top view of the finished first link produced from the steps illustrated in Figs. 13a to 16b;

Fig. 17b is a side view of the finished first link shown in Fig. 17a;

Fig. 17c is an end view of the finished first link shown in Fig. 17a;

Fig. 18a is a top view showing a band for a timepiece according to a second embodiment of the present invention, generally formed of a plurality of third and fourth links;

Fig. 18b is a side view of the band shown in Fig. 18a;

Fig. 18c is a top view of one of the third links shown in Fig. 18a;

Fig. 18d is a side view of the third link shown in Fig. 18c;

Fig. 19a is a top view of two of the third links shown in Fig. 18a connected with each other,

Fig. 19b is a side view of the two third links shown in Fig. 19a,

Fig. 19c is a cross-section view of the third links taken along line B-B of Fig. 19a;

Fig. 19d is a cross-section view of the two third links taken along line A-A of Fig. 19a;

Fig. 20a is a top view of an interior portion of the third link shown in Fig. 18c;

Fig. 20b is a cross-section view of the interior portion of the third link taken along line A-A of Fig. 20a;

Fig. 20c is a side view of the interior portion of the third link shown in Fig. 20a;

Fig. 21a is an alternative top view of the third link shown in Fig. 18c incorporating the interior portion shown in Fig. 20a;

Fig. 21b is a cross-section view of the third link taken along line A-A of Fig. 21a;

Fig. 21c is a side view of the third link shown in Fig. 21a;

Fig. 22a is a top view of an interior portion of one of the fourth links of the band shown in Fig. 18a;

Fig. 22b is an end view of the interior portion of the fourth link shown in Fig. 22a;

Fig. 22c is a side view of the interior portion of the fourth link shown in Fig. 22a;

Fig. 23a is a top view of the fourth link incorporating the interior portion shown in Fig. 22a;

Fig. 23b is a cross-section view of the fourth link taken along line A-A of Fig. 23a;

Fig. 23c is a side view of the fourth link shown in Fig. 23a;

Figs. 24a and 24b are side views of two pins which may be used in the band shown in Fig. 18a;

Figs. 25a to 28b show a series of steps for producing the interior portion of the third link shown in Figs. 20a to 20c;

Figs. 29a to 29c are different views of the interior portion of the third link produced from the steps illustrated in Figs. 25a to 28b;

Figs. 30a to 33b show a series of steps for moulding an exterior portion onto the interior portion of the third link shown in Figs. 29a to 29c;

Fig. 34a is a top view of the finished third link produced from the steps illustrated in Figs. 30a to 33b;

Fig. 34b is an end view of the finished third link shown in Fig. 34a;

Fig. 34c is a side view of the finished third link shown in Fig. 34a;

Fig. 35a is a top view showing a band for a timepiece according to a third embodiment of the present invention, generally formed of a plurality of fifth, sixth and seventh links;

Fig. 35b is a side view of the band shown in Fig. 35a;

Fig. 35c is a top view of one of the fifth links shown in Fig. 35a;

Fig. 35d is a side view of the fifth link shown in Fig. 35c;

Fig. 35e is an end view of the fifth link shown in Fig. 35c;

Fig. 36a is a top view of two of the fifth links shown in Fig. 35a connected with each other,

Fig. 36b is a side view of the two fifth links shown in Fig. 36a;

Fig. 36c is a cross-section view of the two fifth links taken along line A-A of Fig. 36a;

Fig. 37a is a top view of the interior portion of the fifth link shown in Fig. 35c;

Fig. 37b is a side view of the interior portion of the fifth link shown in Fig. 37a;

Fig. 37c is a cross-section view of the interior portion of the fifth link taken along line A-A of Fig. 37a;

Fig. 38a is an alternative top view of the fifth link shown in Fig. 35c incorporating the interior portion shown in Fig. 37a;

Fig. 38b is a side view of the fifth link shown in Fig. 38a;

Fig. 38c is a cross-section view of the fifth link taken along line A-A of Fig. 38a;

Fig. 39a is a top view of an interior portion of one of the sixth links of the band shown in Fig. 35a;

Fig. 39b is an end view of the interior portion of the sixth link shown in Fig. 39a;

Fig. 39c is a side view of the interior portion of the sixth link shown in Fig. 39a;

Fig. 40a is a top view of the sixth link incorporating the interior portion shown in Fig. 39a;

Fig. 40b is a cross-section view of the sixth link taken along line A-A of Fig. 40a;

Fig. 40c is a side view of the sixth link shown in Fig. 40a;

Fig. 41a is a top view of one of the seventh links of the band shown in Fig. 35a;

Fig. 41b is a side view of the seventh link shown in Fig. 41a;

Fig. 41c is an end view of the seventh link shown in Fig. 41a;

Fig. 42 is a side view of a pin of the band shown in Fig. 35a;

Figs. 43a to 46b show a series of steps for producing the interior portion of the fifth link shown in Figs. 37a to 37c;

Figs. 46c to 46e are different views of the interior portion of the fifth link produced from the steps illustrated in Figs. 43a to 46b;

Figs. 47a to 50b show a series of steps for moulding the exterior portion onto the interior portion of the fifth link shown in Figs. 46c to 46e;

Fig. 51a is a top view of the finished fifth link produced from the steps illustrated in Figs. 47a to 50b;

Fig. 51b is an end view of the finished fifth link of Fig. 51a; and

Fig. 51c is another side view of the finished fifth link shown in Fig. 51a.

A first embodiment of a wristband for a watch and a method of manufacture thereof according to the present invention are shown in Figs. 1a to 17c, and the wristband is generally designated as 1. Referring firstly to Fig. 1a, a body 2 of the wristband 1 comprises a plurality of link members 4, 6 and a fastener 8. The fastener 8 may be used for adjusting

the length of the wristband 1, thus enabling a watch (not shown) with which the wristband 1 is engaged to be worn by a user. Two types of link members (4, 6) are used in this embodiment. The first-type of the link members 4, which is shown in Figs. 2a to 2c, constitutes the majority of the body 2 of the wristband 1. The second-type link members 6 are arranged on opposite sides of and immediately adjacent to the fastener 8.

The link members 4, 6 and the fastener 8 are connected together by connecting means, such as pins 10 as shown in Fig. 8.

Figs. 2a to 2c show, respectively, the top, side and end views of the first-type link member 4. Figs. 3a and 3b show the top and side views of two of the first-type link members 4 connected together. Figs. 3c and 3d show the cross-section views of the two first-type link members 4 taken along lines B-B and A-A of Fig. 3a respectively. The first-type link members 4 are connected by the pins 10 whereby each of these first-type link members 4 may pivotably move relative to the adjacent link member (4 and/or 6).

Referring to Figs. 1a to 3d, each link member 4 generally comprises an inner (or interior) portion 12 (or link element) and an outer (or exterior) portion 14. Fig. 4a shows a top view of the inner portion 12 of the first-type link member 4. Fig. 4b shows a cross section view of the inner portion of the link member 4 and Fig. 4c shows a side view of the inner portion of the same link member 4. The inner portion 12 is made principally of stainless steel although other suitable metallic material may also be used. Figs. 5a to 5c show the first-type link member 4 including both the inner portion 12 shown in Fig. 4a and an outer portion 14. The outer portion 14 is made of a polymeric material, e.g. thermoplastic polyurethane, thermoplastic elastomer, acrylonitrile butadiene styrene or polycarbonate.

Turning specifically to Fig. 5a, a tongue-shaped protrusion 16 is provided on one end of the link member 4 and a recess 18 sandwiched by two legs 22 is provided on the opposite end thereof whereby the protrusion 16 of the link member 4 is engageable with a recess 18 of its adjacent link member 4 arranged therebelow. Such an arrangement is shown more clearly in Figs. 3a to 3d. A channel 20 with two apertures 21a, 21b on its ends thereof is provided within the protrusion 16 and arranged from left to right thereof and

such is illustrated by the dashed lines at numeral 20. A further channel 24, also with two apertures 22a, 22b at its ends (and such is illustrated by the dashed lines at numerals 24), is provided within each of the legs 22, whereby when the protrusion 16 of the link member 4 is received within the recess 18 of its adjacent link member 4, the channel 20 of the protrusion 16 of the link member 4 and the channels 24 of the legs 22 of its adjacent link member 4 are aligned to form a continuous channel 26 through which the pin 10 may be inserted. Referring to Figs. 3a to 3d, the pin 10 serves as means for connecting two adjacent link members 4. The pin 10 is sized and shaped to fit tightly in the channel 26.

Fig. 6a shows a top view of an inner portion 28 of the second-type link member 6 used in the first embodiment. Figs. 6b and 6c are respectively end view and side view of the inner portion 28. Fig. 7a shows a top view of the second-type link member 6 incorporating the inner portion 28 and an outer portion 30. Similar to the first-type link members 4, the inner portion 28 of the second-type link member 6 is made principally of stainless steel and the outer portion 30 is made of a polymeric material.

Figs. 9a to 11b show the process of manufacturing the inner portion 12 of the first-type link member 4. The process firstly involves the use of a conventional cutting/punching machine. Figs. 9a and 9b show the top view and a side view respectively of such a punching machine 32. The punching machine 32 comprises a presser 34 and a station 36. The presser 34 includes an upper mould 38 while the station 36 includes a lower mould 40. During the cutting process, a steel plate 42 is firstly inserted between the upper and lower moulds 38, 40, after which the presser 34 is pressed down causing the upper mould 38 to stamp onto the lower mould 40 through the steel plate 42. A steel blank 44 is thereby cut out and removed from the steel plate 42. The steel blank 44 thus produced has a shape roughly corresponding to the overall shape of the inner portion 12 of the link member 4.

The steel blank 44 is then subject to a pressing step which is shown in Figs. 10a and 10b. In this step, the steel blank 44 is pressed and deformed by a conventional pressing machine 45 to a desired shape and curvature. If the shape of the resultant inner portion is relatively complicated, it may be necessary to press the steel blank 44 more than once, to ensure that the required shape is formed.

Usually, burr 47 will be formed after the pressing step. In this case, the pressed blank 44 will then be again processed by the punching machine 32 (see Figs. 11a and 11b) to cut off the burr 47. An inner portion 12 of the link member 4 is produced, as shown in dashed line in Fig. 11b. The inner portion 12 produced after the above steps will possess the required shape, dimension and surface. In Fig. 12a, the top view of the inner portion 12 of the link member 4 produced by the above steps is shown. Figs. 12b and 12c show a side view and an end view of the same inner portion 12.

After the inner portion 12 is produced, it is positioned in a mould 46 of an injection-moulding machine 48 as shown in Figs. 13a and 13b. The mould 46 comprises an upper member 50 and a lower member 52 (as shown in Fig. 14b) which together define a cavity 54 in which the inner portion 12 is housed. The mould 46 defining the cavity 54 is sized and shaped with the desired characteristics to produce the link member 4. After the inner portion 12 is properly positioned in the lower member 52 of the mould 46, the upper member 50 of the mould 46 will move downward to engage with the lower member 52, defining the cavity 54 described above. A suitable fluid polymeric material, e.g. thermoplastic

polyurethane, thermoplastic elastomer, acrylonitrile butadiene styrene or polycarbonate, is then injected into the cavity 54. A channel 58 is provided in the upper member 50 through which the polymeric material is injected into the mould cavity 54. Once the injection is completed, the inner portion 12 is at least partially enveloped in and/or moulded over with the polymeric material. The polymeric material is then allowed to cool down and solidify so that the inner portion 12 and an outer portion 14 formed of the solidified polymeric material are fixedly secured together and become one continuous piece. The inner portion 12, which has been coated with a jacket of the polymeric material, is then released by being pushed upwardly away from the mould by a push pin 60 as shown in Fig. 16b. In Figs. 13a to 16b, two inner portions 12 are moulded with the polymeric material together. After being released from the mould 46, the jacketed inner portions are subject to trimming to remove the unnecessary polymeric material and polishing to provide a finished appearance of the link member 4, a top view, a side view and an end view thereof are shown in Figs. 17a to 17c.

The second-type link members 6 are produced using the same method as illustrated above.

The finished link members 4, 6 produced according to the steps described above and the fastener 8 may then be assembled together by the pins 10. The novel wristband 1 made in accordance with the present invention provides an unusual aesthetic appearance. Surfaces of the exposed inner portion 12 (of each link member 4), which is made principally of stainless steel, provide metallic appearance. The stainless steel may be electroplated with a material having a gold or silver color. Various color additives may be added to the polymeric material before injection moulding and the outer portion 14 of the link members may thus have such color. As can be seen, a band made according to the present invention is capable of having a very wide combination of colors from the exposed surfaces of the metallic inner portion, and the polymeric jacket allows the design of many different patterns or ornament. It is to be noted that the exposed surface of the inner portion of each of link members 4, 6 includes an exposed top surface and side surfaces as shown in Figs. 17a to 17c. The shape of the inner portion 12 may be designed so that different combinations of surfaces may be exposed after the moulding step.

Second and third embodiments of a wristband for a watch and a method of manufacture thereof according to the present invention are shown in Figs. 18a to 34c and Figs. 35a to 51c respectively. In these two embodiments, construction of its link members, wristbands and method of manufacture thereof are generally similar to that of the first embodiment as explained above and illustrated in Figs. 1a to 17c and are therefore not repeated here. However, it is to be noted that the link members in each of the second and third embodiments are of different shapes and dimensions and the exposed surfaces of the inner portion of the link members are different. In the second embodiment, the wristband shown therein is formed of third and fourth link members together with a fastener and pins. In the third embodiment, the wristband shown therein is formed of fifth, sixth and seventh link members together with a fastener and pins. As a result, the overall appearance of the wristbands in these two embodiments produces a different aesthetic appearance.

Although the invention described above show three embodiments, it is envisaged that wristbands with a variety of patterns may be produced with surfaces having different combinations of metallic and polymeric regions.

Claims

1. A band for a timepiece comprising a plurality of inter-connected links, at least one said link including a first portion made at least principally of a metallic material and a second portion made at least principally of a polymeric material and fixedly secured thereto and molded thereover by injection molding, wherein said polymeric material is selected from the group consisting of thermoplastic polyurethane, thermoplastic elastomer, acrylonitrile butadiene styrene and polycarbonate.

2. A band according to Claim 1 wherein said first portion is at least partially enveloped by said second portion.

3. A band according to any preceding claim wherein said links are inter-connected by at least a pin.

4. A band according to any preceding claim wherein protrusions and/or recesses are provided at at least

one end of said links allowing connection of said links with each other.

5. A band according to Claim 4 wherein two of said adjacent links are connected at said protrusions and recesses.

6. A band according to Claim 4 wherein said links provide a plurality of apertures at said protrusions and recesses.

7. A band according to Claim 6 wherein said pin connects said links at said apertures.

8. A band according to any preceding claim wherein two said links which are adjacent to each other are pivotably movable relative to each other.

9. A band according to any preceding claim wherein said metallic material is stainless steel.

10. A band according to any preceding claim comprising means for adjusting the length of said band.

11. A method of manufacturing a band for a timepiece comprising the steps of:-

(a) positioning a link element made at least principally of a metal in a mould of a molding machine;

(b) injecting a polymeric material into a cavity of said mould whereby said polymeric material envelopes at least part of said link element, wherein said polymeric material is selected from the group consisting of thermoplastic polyurethane, thermoplastic elastomer, acrylonitrile butadiene styrene and polycarbonate;

(c) allowing said injected polymeric material to solidify whereby said link element and said solidified polymeric material together form a link;

(d) releasing said link from said mould; and

(e) connecting a plurality of said links.

12. A method according to Claim 11 wherein said link element is made at least principally of stainless steel.

13. A method according to Claim 11 or 12 wherein said plurality of links are connected by pins.

14. A method according to Claim 11 wherein after said step (d), at least part of said link element is exposed to the environment.

15. A method according to Claim 11 wherein after said step (d), at least part of said link element is protected by said polymeric material.

16. A method according to Claim 11 wherein said link element is formed by the following steps:

(f) cutting a blank from a plate or slab made at least principally of said metal; and

(g) pressing said blank.

17. A method according to Claim 16 wherein said blank is cut from said plate or slab by a punching machine.

18. A method according to Claim 16 or 17 wherein said blank is pressed by a pressing machine.

19. A method according to Claim 17 or 18 wherein, after said step (g), said pressed blank is processed at least a second time by a or said punching machine.

20. A band for a timepiece substantially as hereinbefore described and as illustrated with reference to the accompanying drawings.

21. A method of manufacturing a band for a timepiece substantially as hereinbefore described and as illustrated with reference to the accompanying drawings.

EXHIBIT C

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BY HAND

Dear Sirs,

Re : Infringement of Patent

We act for Wing Hon Metal Manufactory Limited.

Our client is a reputable manufacturer of wristwatch, wrist bands and other jewellery products and has been a supplier for various world famous watch brands for many years. Our client has spent tremendous resources on its development on designs and inventions over the years. In particular, our client is the proprietor of the UK Patent No.GB2374516, a copy of the relevant Certificate of Grant of Patent is enclosed for your reference.

It has come to our client's attention that without prior authorization from our client, you have been manufacturing, distributing, offering for sale, selling and/or otherwise in any way dealing in or with or promoting a recently launched wristwatch named as "Pasha Seatimer" which infringes our client's proprietary rights under the aforesaid patent. Our client has evidence to confirm your such activities which are still going on at the moment in terms of sales and promotional activities through various media including the internet.

Our client cannot tolerate further infringement of its right and has taken such a serious view that it has instructed us to take out legal proceedings for appropriate legal remedies to stop your act of infringement including a permanent injunction, disclosure, delivery up of offending materials, damages, costs and other related reliefs. However, our client does not wish to do so if the matter could be settled amicably.

We hope that you will give your co-operation and let us have your favourable reply as soon as possible. Unless this matter is settled amicably within 14 days, our client shall have no alternative but to take such steps as are necessary, including commencement of legal proceedings in order to protect its right and interest.

...../2

Partners
RAYMOND K. K. LO LL.B. 羅建基律師
ERIC W. Y. LAU LL.B. 劉家愚律師
Consultants
JOSEPH K. K. CHU*+ B.SC., LL.B. 朱鍔強律師
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JOSEPH CHU, LO & LAU
SOLICITORS & NOTARIES

Continued

Cartier S.A.
c/o Richemont Asia Pacific Limited

2nd June 2006

- sheet 2 -

Meanwhile, all our client's rights are expressly reserved.

Yours faithfully,

ELDM/rm
Encl.
c.c. client

EXHIBIT D

朱羅劉律師事務所
JOSEPH CHU, LO & LAU

SOLICITORS & NOTARIES, AGENTS FOR TRADE MARKS & PATENTS

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Fax: 2845 0354, 2415 7915
E-mail: jcll@ccib.com.hk

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電子郵箱：jcll@ccib.com.hk

Our Ref: EL/CIV/W1393/15621/2006 *Your Ref:* *Date* 28th June 2006

Please reply to/attention
Mr/Ms: Eric Lau/David Mok

Richemont International Limited,
15 Hill Street,
London W1J 5QT,
United Kingdom

BY FAX & AIR-MAIL
(fax no.44 (0) 20 7493 1018)

Attn : Mr. Gir Choksi

Dear Sirs,

Re : Infringement of Patent

We refer to our earlier letter dated 2nd June 2006 addressed to Cartier S.A. and sent to Richemont Asia Pacific Ltd. and your letter dated 15th June 2006 in response to our said letter.

Our client is very disappointed by what was said in your reply. One would have thought that an international corporation owning various international brand names should give its highest respect to intellectual property rights. What we have seen from your said letter are trivial excuses for the purpose of covering up an obvious infringement of patent. For your information, our client as proprietor of Patent No.GB2374516 has been granted corresponding patents in U.S., Hong Kong and the PRC notwithstanding the prior arts cited in your said letter.

In view of your un-cooperative attitude, our client shall commence legal action against Cartier S.A. and/or its associates/subsidiaries and/or licensed dealers responsible for the infringement of our client's patent unless you/your subsidiaries/licenced dealers comply with all the followings within the next 14 days :-

1. To cease immediately manufacturing, distributing, offering for sale, selling and/or otherwise in any way dealing in or with or promoting through any media including the internet your so-called "Pasha Seatimer" wristwatch ("the infringing goods");

2. To surrender and deliver up to us on behalf of our client the entire existing stock of the infringing goods and all promotional materials, catalogues and other printed materials depicting the infringing goods;

...../2

JOSEPH CHU, LO & LAU
SOLICITORS & NOTARIES

Continued

Richemont International Limited 28th June 2006

- sheet 2 -

3. To disclose to our client by way of Statutory Declaration the names and addresses of all your distributors and stores through whom/which you have been selling the infringing goods together with details of the quantities, dates of sales and prices thereof as well as all supporting documents which disclosure is to be verified upon oath or affirmation if deemed so necessary by us;

4. To pay damages to our client in a sum to be agreed; and

5. To reimburse our client all legal costs incurred in enforcement of its right under the patent.

Meanwhile, all our client's rights are expressly reserved.

Yours faithfully,

EL/DM/rm
c.c. client

EXHIBIT E

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電子郵箱：jcll@ccib.com.hk

Our Ref: EL/CIV/W1393/15621/2006 *Your Ref:* *Date* 2nd August 2006

Please reply to/attention
Mr/Ms: Eric Lau/David Mok

Richemont International Limited,
15 Hill Street,
London W1J 5 QT,
United Kingdom

BY FAX & BY AIR-MAIL
FAX NO. : 44 (0) 20 7493 1018

WITHOUT PREJUDICE

Attn : Mr. Gir Choksi

Dear Sirs,

Re : GB Patent 2374516

We refer to your letter of 30th June 2006.

As you have so far not given us any favourable reply, we are in the course of preparing our client's case for litigating this matter in Court. In an effort to resolve this matter amicably, we are instructed to inform you (as you have requested) that our client is prepared to grant you a non-exclusive licence of UK Patent No.GB2374516 as well as its Hong Kong Patent in so far as production of the Cartier watch "Pasha Seatimer" ("the Model") is concerned subject to the following major conditions :-

1. You shall pay to our client a licence fee of US$100.00 for each piece of the Model produced and/or sold worldwide;

2. You shall inform our client by notice in writing with reliable supporting documents the quantity of the Model produced and/or sold worldwide for each 6 months ending on 30th June and 31st December of each year;

3. Details of the licence arrangements have to be set out in a Licence Agreement to be signed by both parties;

4. Each party is entitled to terminate the Licence Agreement by giving to the other party not less than 6 months' notice in writing, otherwise, the Licence Agreement shall be renewed automatically on annual basis.

We are given to understand that a reasonable licence fee for a comparable patent should be equivalent to about 5% of the watch's/product's sales price. As the Model is being sold in Hong Kong for around HK$37,000.00 (without any sales tax), a sum of HK$1,850 (i.e.

...../2

JOSEPH CHU, LO & LAU
SOLICITORS & NOTARIES

Continued

Richemont International Limited

2nd August 2006

- sheet 2 -

US$237) should be a reasonable figure. However, our client is prepared to accept a nominal figure of US$100 per piece in anticipation of any possible business cooperation in the future. Undoubtedly, this proposed settlement will not bring our client much gain in monetary terms and it certainly would not give rise to a pressure on the cost of the Model. Our client sincerely look forward to further business relationship in the future.

We should be grateful if you would let us know whether the above proposal is acceptable to you and if so, we shall send you a draft Licence Agreement for your approval. As US$100 per piece is already a nominal figure compared with the Model's sale price in the market, our client does not expect any further negotiation on the licence fee. Please let us have your reply as soon as possible.

Please also note that nothing herein stated shall be treated as binding upon our client unless and until the formal Licence Agreement has been duly signed by both parties.

Yours faithfully,

JOSEPH CHU, LO & LAU
EL/dm
c.c. client

EXHIBIT F

朱羅劉律師事務所
JOSEPH CHU, LO & LAU

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電子郵箱：jcll@ccib.com.hk

Our Ref: EL/CIV/W1393/15621/2006 *Your Ref:* *Date* 2nd August 2006

Please reply to/attention
Mr/Ms: Eric Lau/David Mok

Richemont International Limited,
15 Hill Street,
London W1J 5 QT,
United Kingdom

BY FAX & BY AIR-MAIL
FAX NO. : 44 (0) 20 7493 1018

Attn : Mr. Gir Choksi

Dear Sirs,

Re : GB Patent 2374516

We refer to your letter of 30th June 2006.

The subject matter of our client's patent is certainly different from that of CH667784 which describes the construction of a bracelet from links made from overmoulding of a coating layer on a tubular metal frame (formed by rolling of sheet metal segments) intended for high volume production at very low production cost. On the other hand, our client's patent is concerned with a wristband composed of links made from overmoulding of polymeric material over solid metal portions and connected at their protrusions and recesses with pins intended to produce an unusual aesthetic appearance and at the same time to preserve the structural strength and rigidity as traditional metallic wristbands for watches. The construction, function and purpose of our client's patent is entirely different from that of CH667784 or the 21 Autoscaph bracelet (which according to your goodselves are made from overmoulding a rubber material on plastic). Otherwise, corresponding patents would not have been granted in both the U.S. and the PRC notwithstanding the prior arts cited in your said letter.

It appears that despite our client's express demands set out in our previous letters, no steps have been or will be taken to stop or refrain from any further infringement of our client's patent. Unless we receive from you forthwith confirmation that the demands set out in our previous letters will be complied with, legal action will be taken by our client without further notice.

Meanwhile, all our client's rights are expressly reserved.

Yours faithfully,

JOSEPH CHU, LO & LAU
EL/dm
c.c. client

Partners:
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EXHIBIT G

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Our Ref: EL/CIV/W1393/15621/2006 *Your Ref:* *Date* 30th August 2006

Please reply to/attention
Mr/Ms: Eric Lau/David Mok

Richemont International Limited,
15 Hill Street,
London W1J 5 QT,
United Kingdom

BY FAX & BY AIR-MAIL
FAX NO. : 44 (0) 20 7493 1018

WITHOUT PREJUDICE

Attn : Mr. Gir Choksi

Dear Sirs,

Re : GB Patent 2374516

We refer to your letter of 4th August 2006 on which we have taken client's instructions.

You have gone one step backward by trying to distinguish the nature of the material (molded over the metallic portion of the link) actually used in the infringing item from that mentioned in the above patent. No doubt, this is an infringement point. We find little merits in such "defence" since the method of manufacturing the wristband would be identical no matter whether polymeric material or synthetic rubber is employed in the manufacturing process. You would note that the method of manufacture is well protected by the above patent. After all, as you have admitted, such "defence" does not apply to corresponding patents in other jurisdictions.

Our client have carefully examined all the prior acts or products cited by you as a ground to challenge the validity of our client's patent and remain very confident about the validity of their patent. As a matter of fact, our client have already obtained a validity report from US Patent Attorneys. Enforcement proceedings will be instituted in multi-jurisdictions if circumstances require.

Although our client wishes to have an amicable settlement on the dispute, they are really disappointed with and to a certain extent insulted by the so-called offer of US$10,000 in your said letter. Such offer is nothing more than a nuisance payment. For your information, the costs and expenses incurred by our client so far in relation to this dispute well exceed such figure.

...../2

Partners
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JOSEPH CHU, LO & LAU
SOLICITORS & NOTARIES

Continued

Richemont International Limited 30th August 2006

- sheet 2 -

In case you still wish to have an amicable settlement with our client, the offer set out in our previous letter dated 2nd August 2006 is still open. As mentioned before, the licence fee of US$100 per piece is already a nominal figure. If you prefer to make an one off payment because you do not wish to disclose the actual quantity of the infringing model produced and sold by you or for whatever reasons which you do not want to mention, our client are prepared to accept a lump sum of US$1,000,000 for granting you a non-exclusive licence of their patent in respect of all pieces of Cartier "Pasha Seatimer" which have been produced/sold or will be produced/sold in the future. If you so wish, our client would consider granting you further licence in respect of other Cartier watch models/products.

We are instructed to remind you not to underestimate our client's determination to enforce their rights in connection with their patents. If we again fail to receive your favourable reply in the near future, we have instructions to cease negotiation and proceed with enforcement action.

Yours faithfully,

JOSEPH CHU, LO & LAU
EL/dm
c.c. client