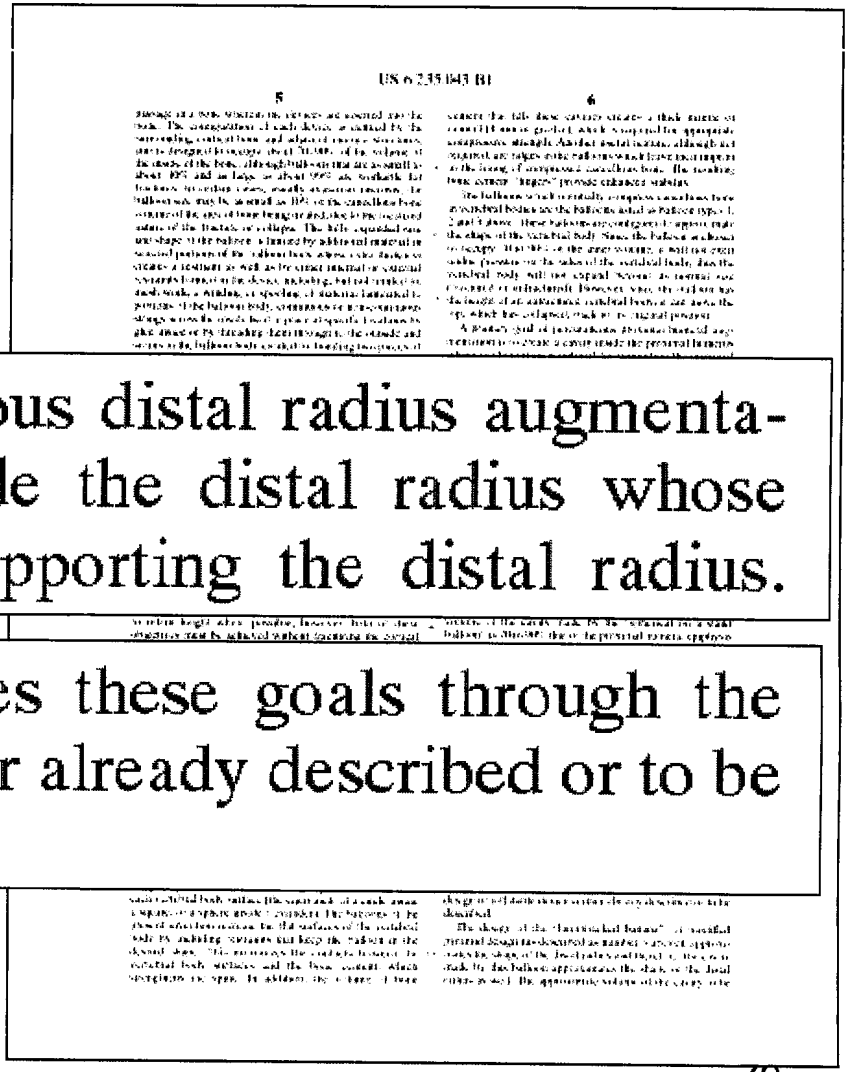
All Claims of the '043 Patent Require a Balloon

The Summary of Invention, Stated Goals and Solutions:



A primary goal of percutaneous distal radius augmentation is to create a cavity inside the distal radius whose configuration is optimal for supporting the distal radius.

The present invention satisfies these goals through the design of inflatable devices either already described or to be described.

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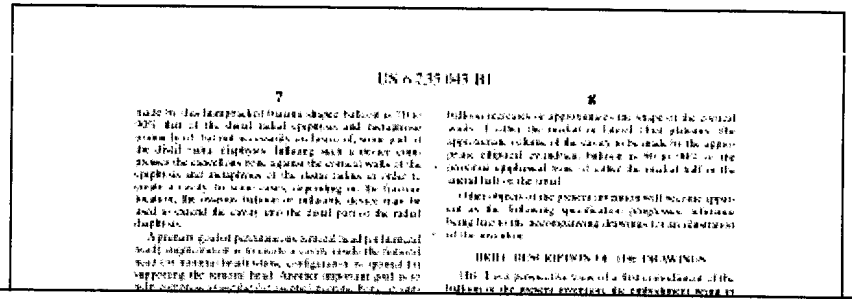
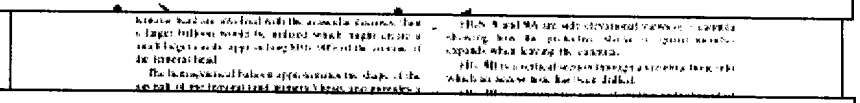
All Claims of the '043 Patent Require a Balloon

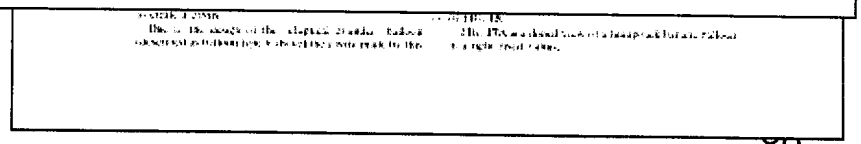
The Summary of Invention, Stated Goals and Solutions:



A primary goal of percutaneous femoral head (or humeral head) augmentation is to create a cavity inside the femoral head (or humeral head) whose configuration is optimal for supporting the femoral head. Another important goal is to



The present invention satisfied these goals through the design of inflatable devices either already described or to be described.



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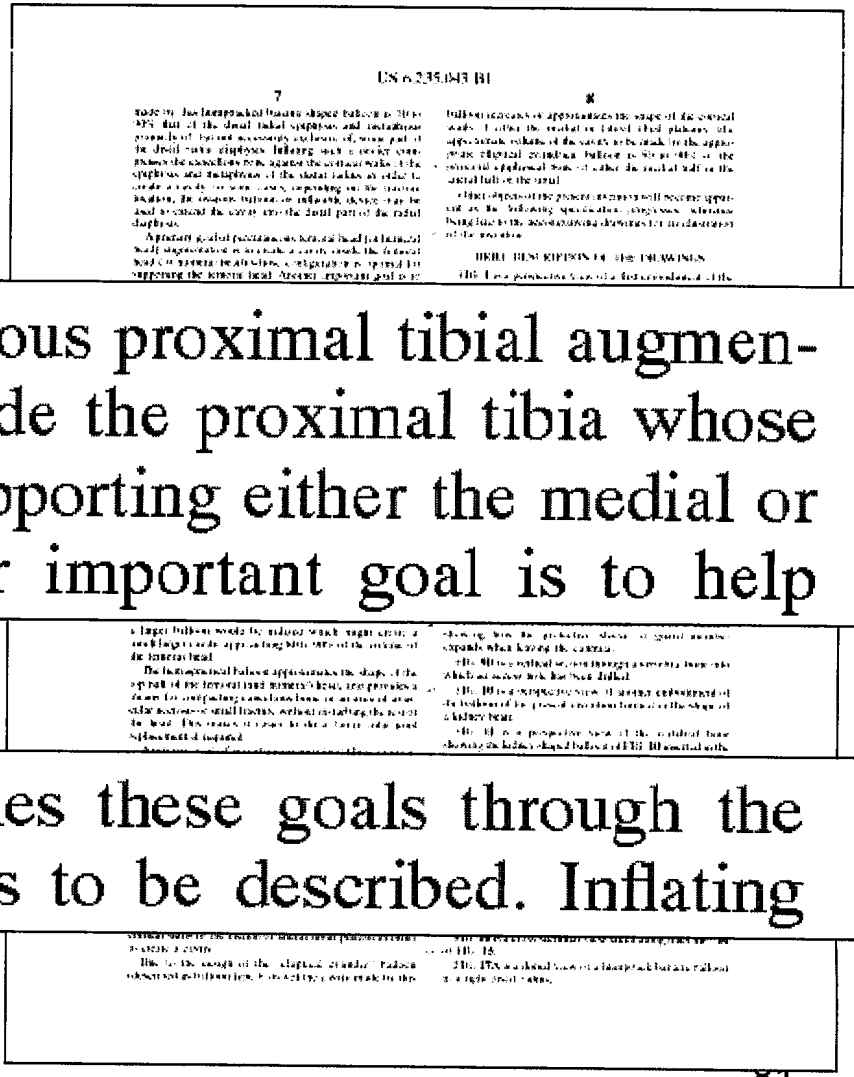
All Claims of the '043 Patent Require a Balloon

The Summary of Invention, Stated Goals and Solutions:



A primary goal of percutaneous proximal tibial augmentation is to create a cavity inside the proximal tibia whose configuration is optimal for supporting either the medial or lateral tibial plateaus. Another important goal is to help

The present invention satisfies these goals through the design of the inflatable devices to be described. Inflating

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The Figures:

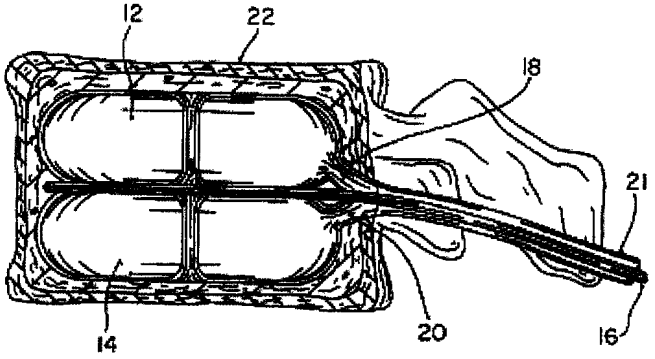

FIG. 2

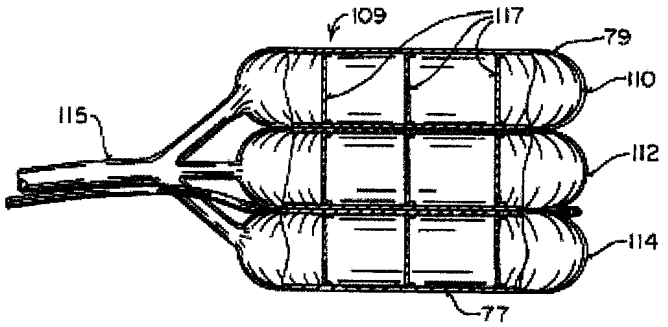

FIG. 3

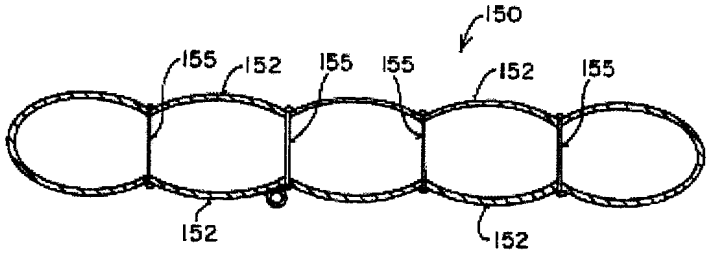

FIG. 16

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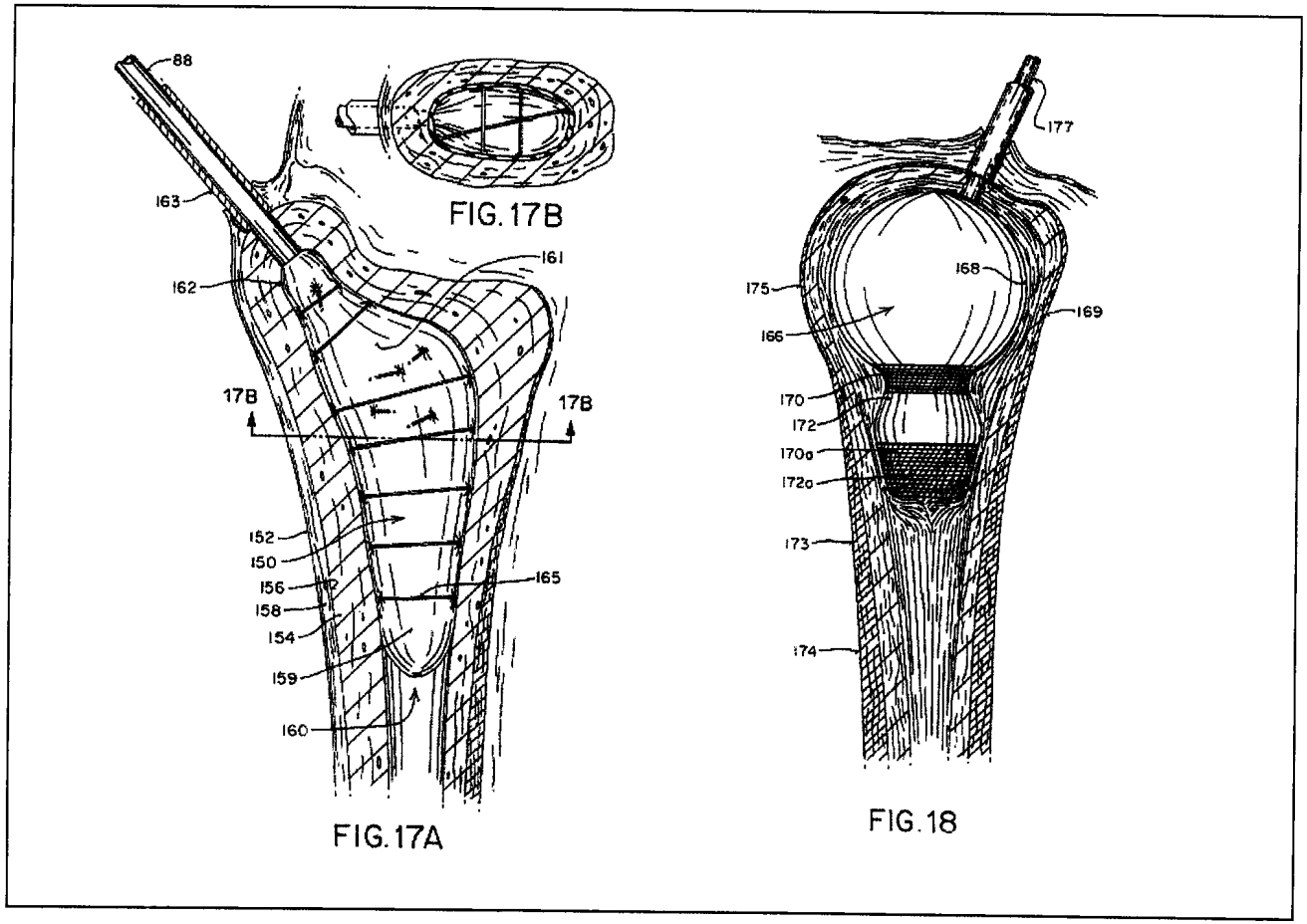
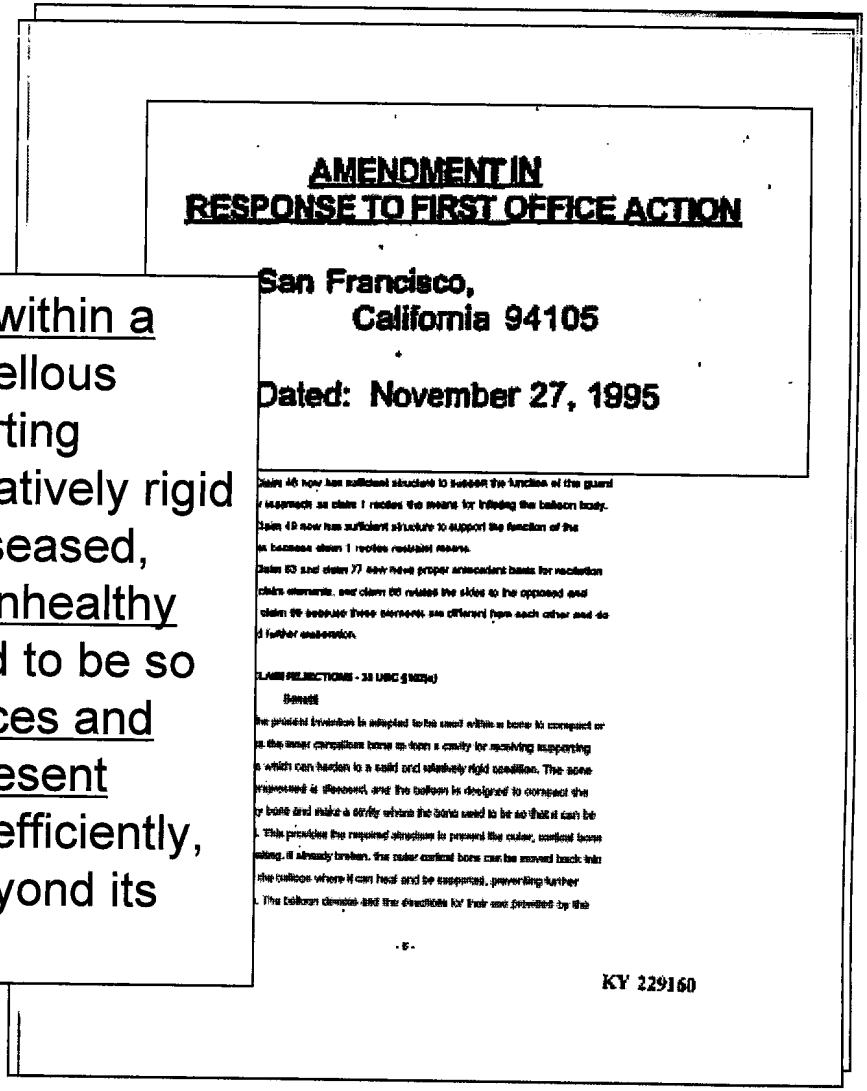
The Figures:



All Claims of the '043 Patent Require a Balloon

The Prosecution History:

The present invention is adapted to be used within a bone to compact or compress the inner cancellous bone to form a cavity for receiving the supporting materials which can harden to a solid and relatively rigid condition. The bone being compressed is diseased, and the balloon is designed to compact the unhealthy bone and make a cavity where the bone used to be so that it can be replaced. . . . The balloon devices and the directions for their use provided by the present invention allow a surgeon to accomplish this efficiently, yet without moving the outer cortical bone beyond its normal dimensions, preventing harm.



AMENDMENT IN RESPONSE TO FIRST OFFICE ACTION

San Francisco, California 94105

Dated: November 27, 1995

KY 229160

See Ex. H at KY 229160

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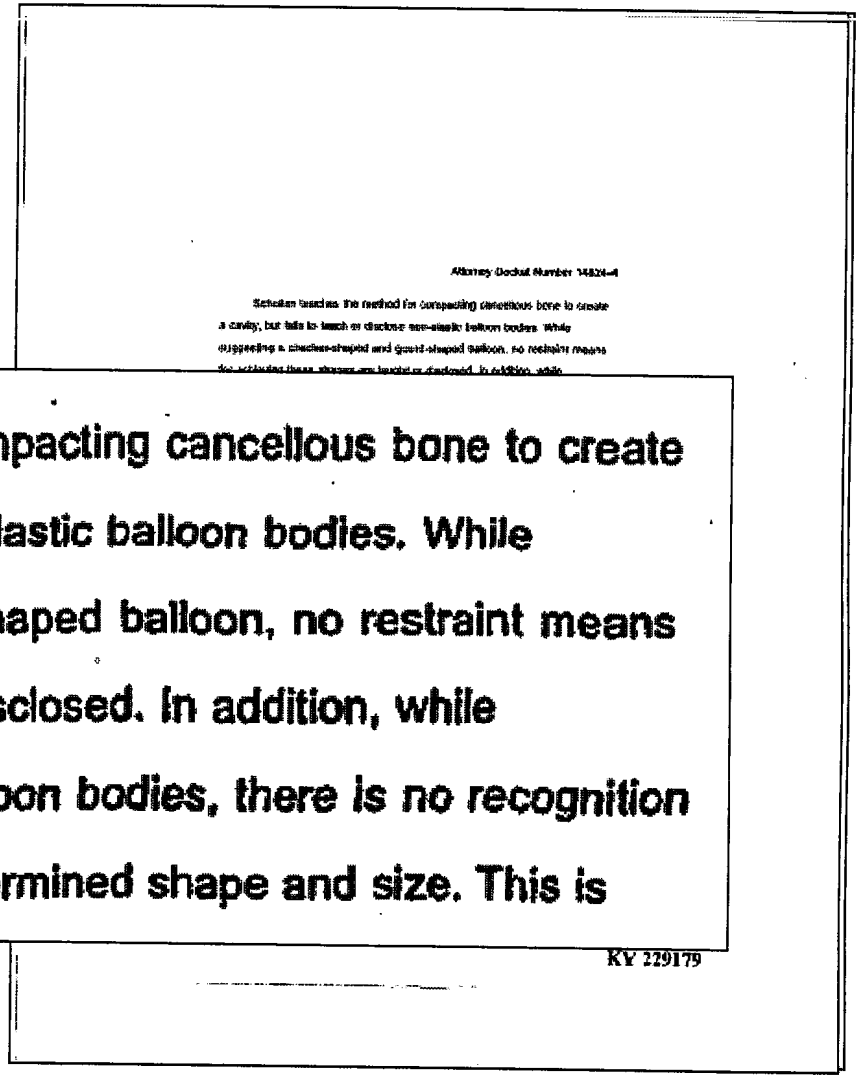
All Claims of the '043 Patent Require a Balloon

The Prosecution History:



Scholten teaches the method for compacting cancellous bone to create a cavity, but fails to teach or disclose non-elastic balloon bodies. While suggesting a checker-shaped and gourd-shaped balloon, no restraint means for achieving these shapes are taught or disclosed. In addition, while suggesting shapes and sizes for these balloon bodies, there is no recognition of the provide a configuration with a predetermined shape and size. This is

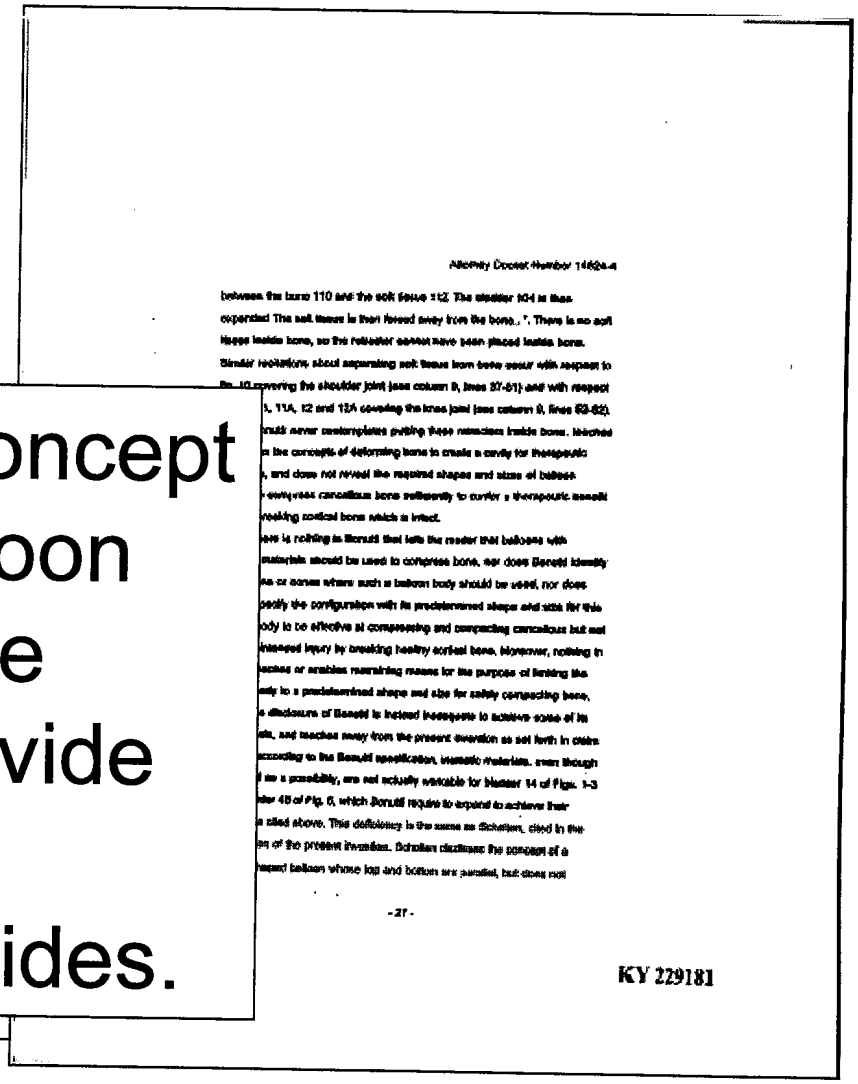
KY 229179

See Ex. H at KY 229179

All Claims of the '043 Patent Require a Balloon

The Prosecution History:

Scholten discloses the concept of a checker-shaped balloon whose top and bottom are parallel, but does not provide enabling methods for maintaining the parallel sides.



KY 229181

See Ex. H at KY 229181

All Claims of the '043 Patent Require a Balloon

Inventor Testimony of Arie Scholten:

Q. And what's your understanding of the intent of the '043 patent with respect to the invention disclosed?

A. We -- that we wished to define the balloon component of our method so that, indeed, different ways of doing things, if the choice was a balloon, different ways of doing things with balloons, and so, therefore, since we still had a commitment at that time to making the balloon an item that was properly shaped for the cavity, we were indeed intending to call the way to create those shapes proprietary.

See Ex. N, Deposition Tr. of Arie Scholten, February 15, 2005, at p. 122.

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Claim 2 of the '043 Patent
Internal Restraint Limitation

For the reasons already set forth,

"the body. . .includes an internal restraint couple to an interior of the body to constrain the expansion in cancellous bone"

means:

a structure that is connected to the interior of the inflatable body (balloon) that limits movement of the internal walls of the inflatable body.

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