

H. H. FRYETTE.
 ARTICULATED MOUNTING FOR BONES OF A BODY.
 APPLICATION FILED SEPT. 3, 1909.

979,147.

Patented Dec. 20, 1910.

2 SHEETS—SHEET 1.

Fig. 1.

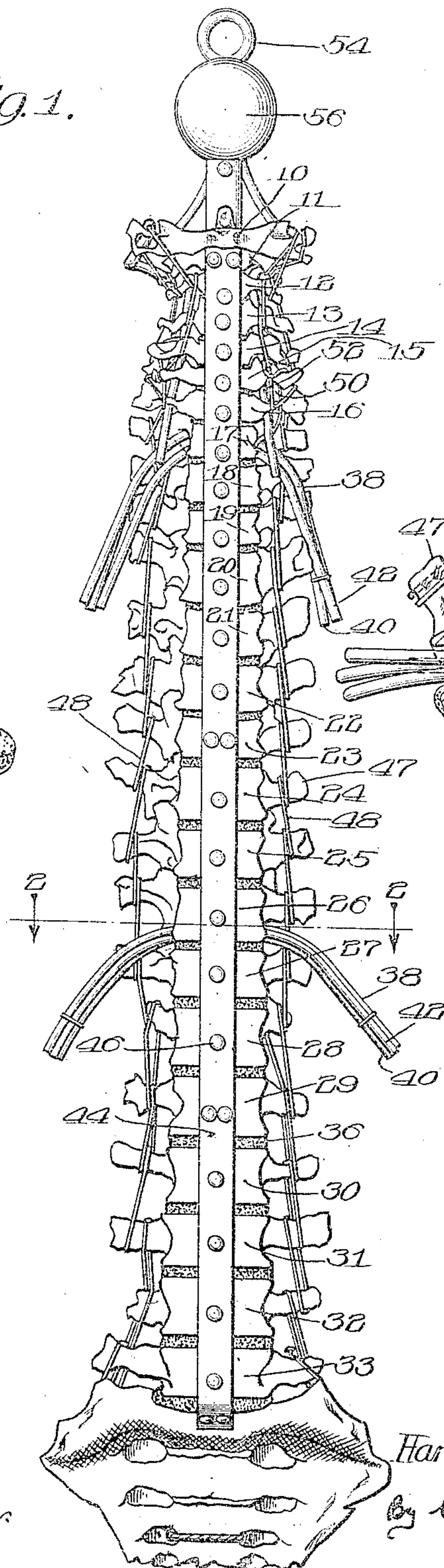


Fig. 2.

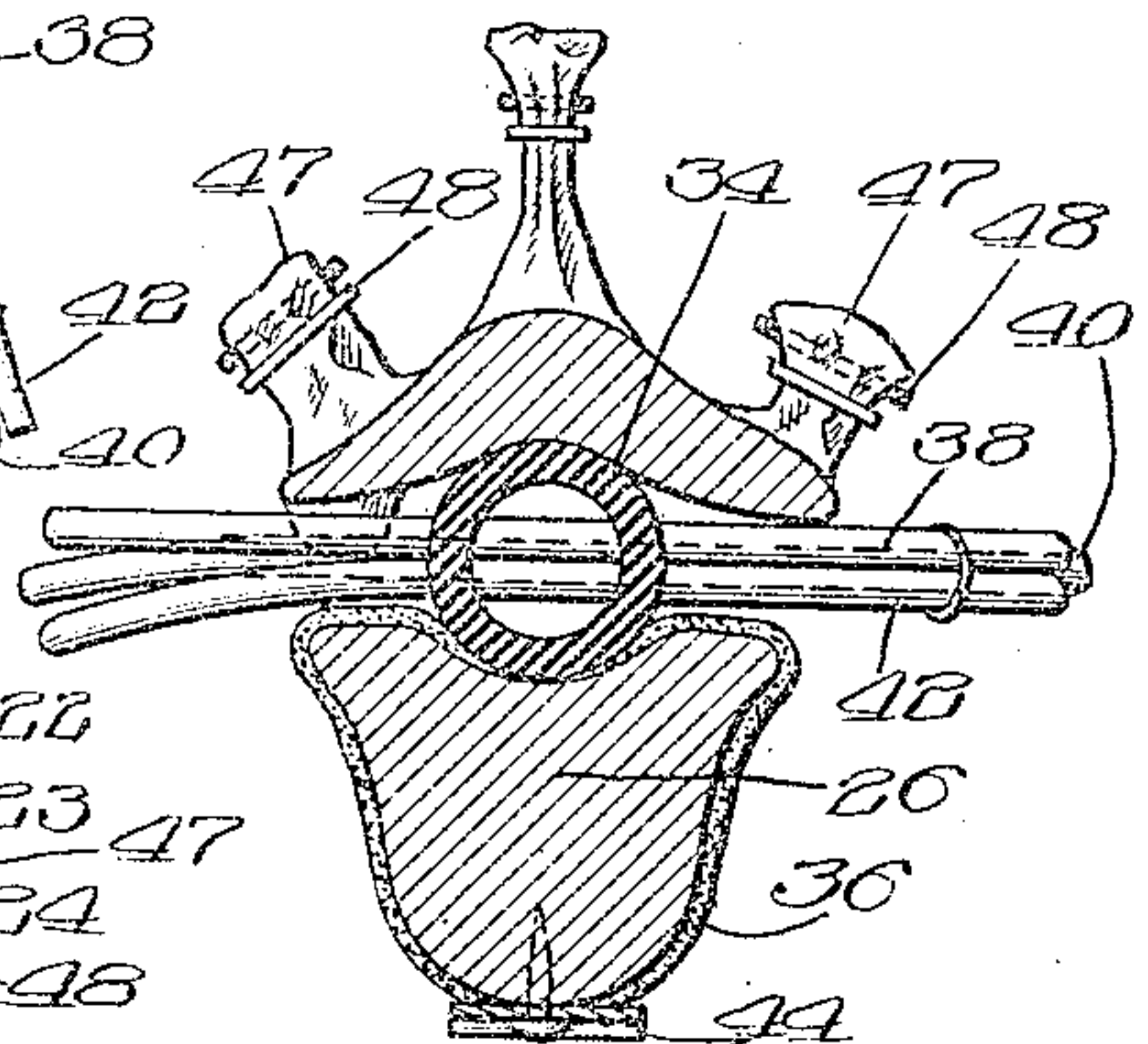
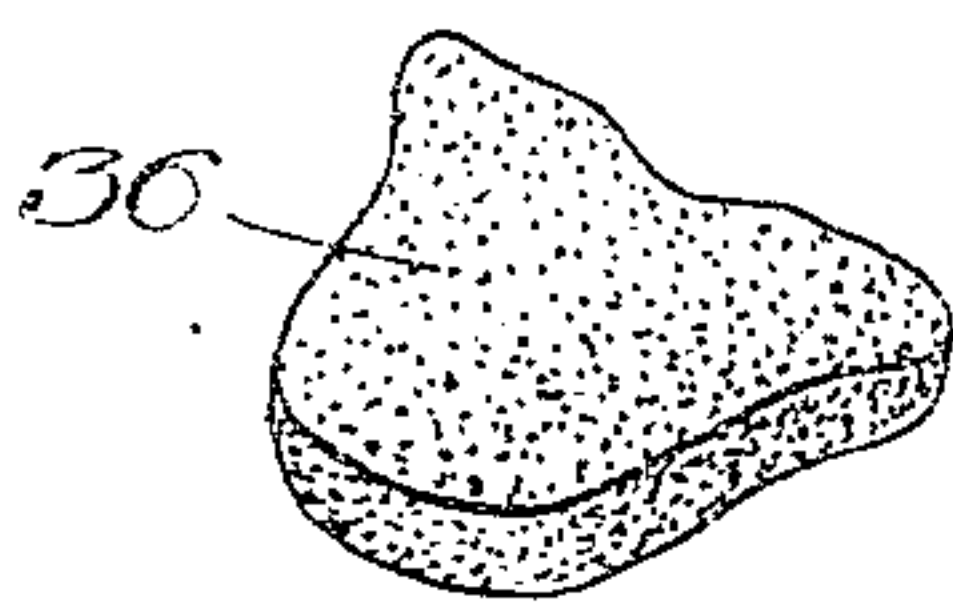


Fig. 3.



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Fig. 4.

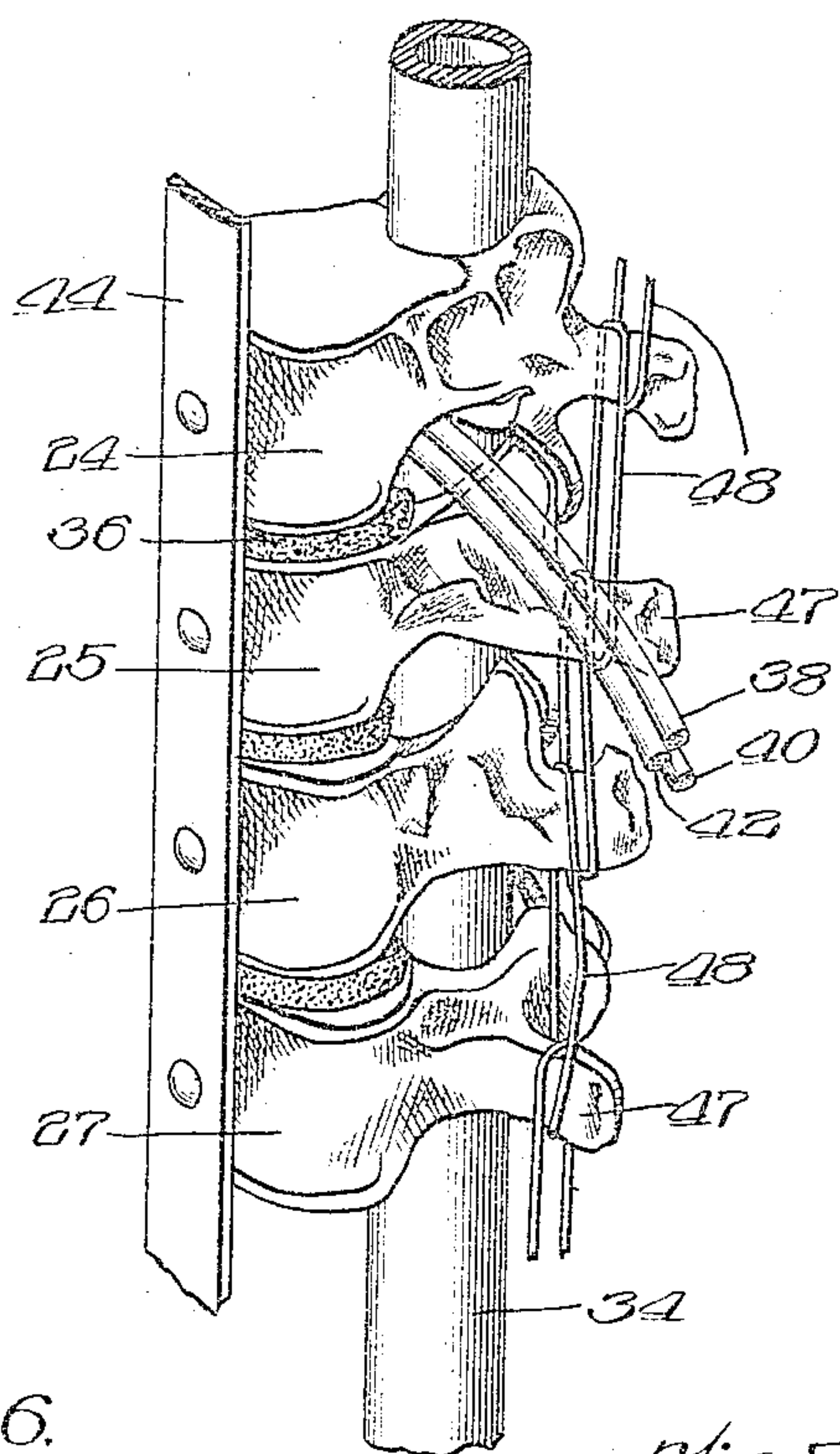


Fig. 5.

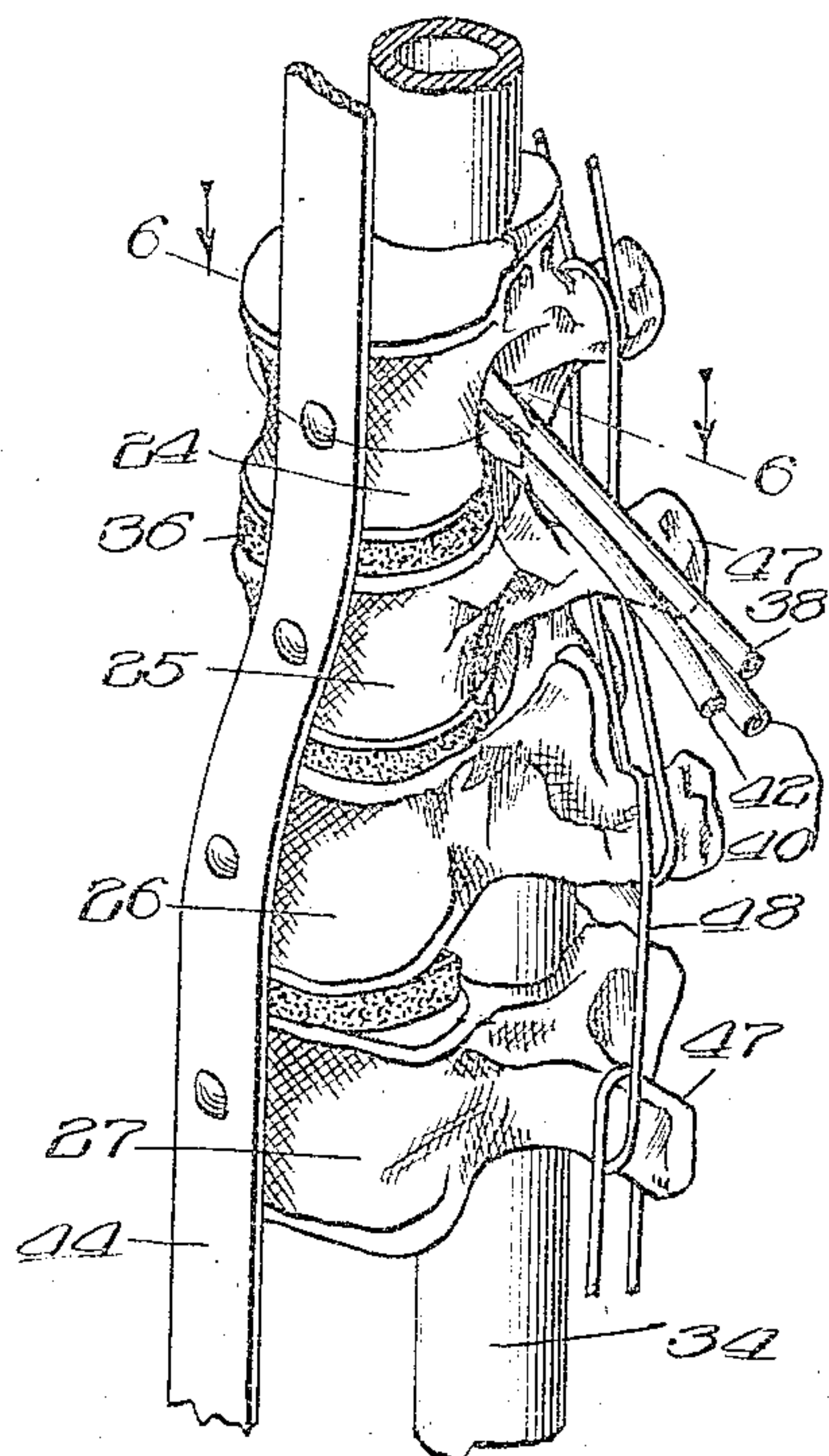


Fig. 6.

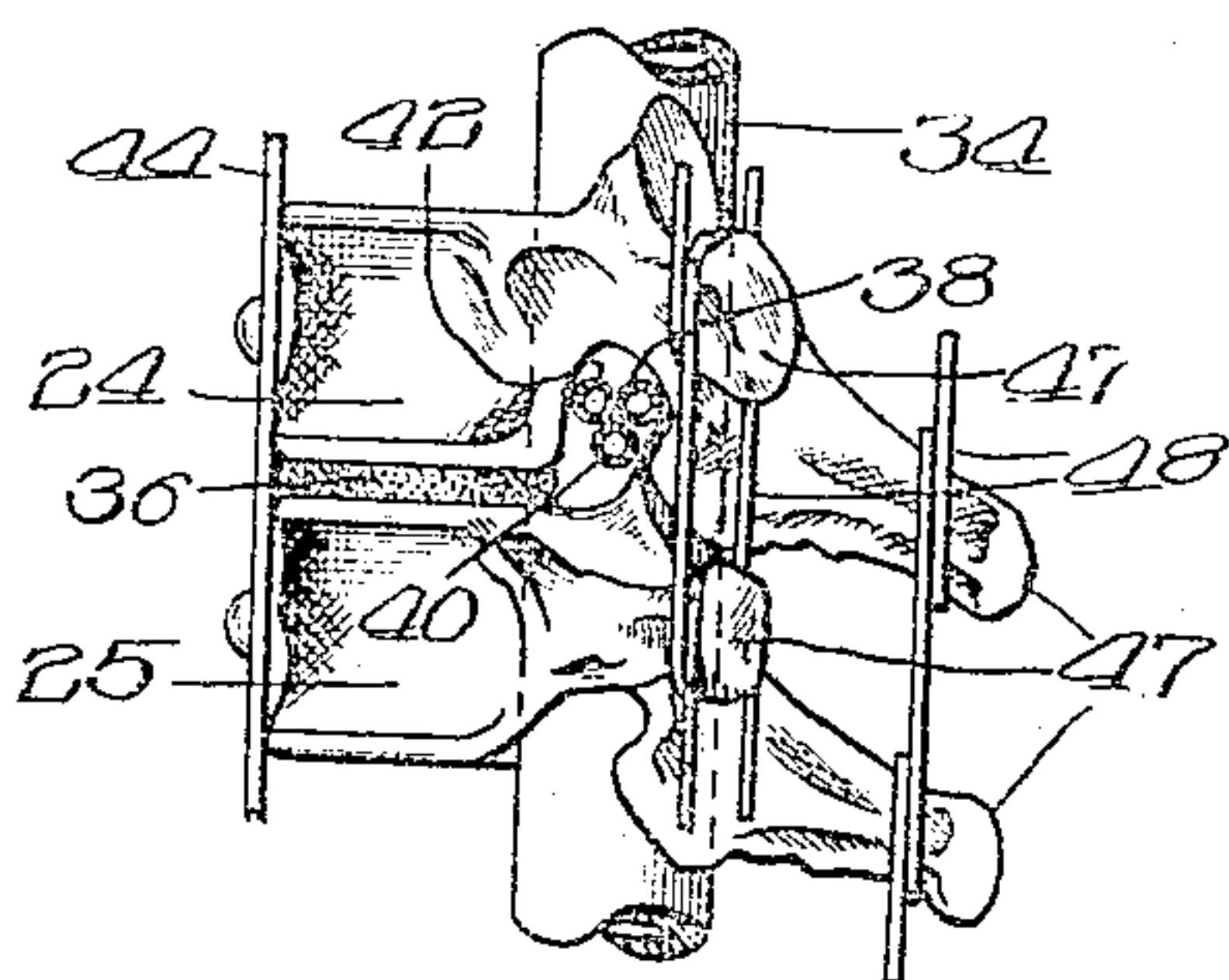


Fig. 7.

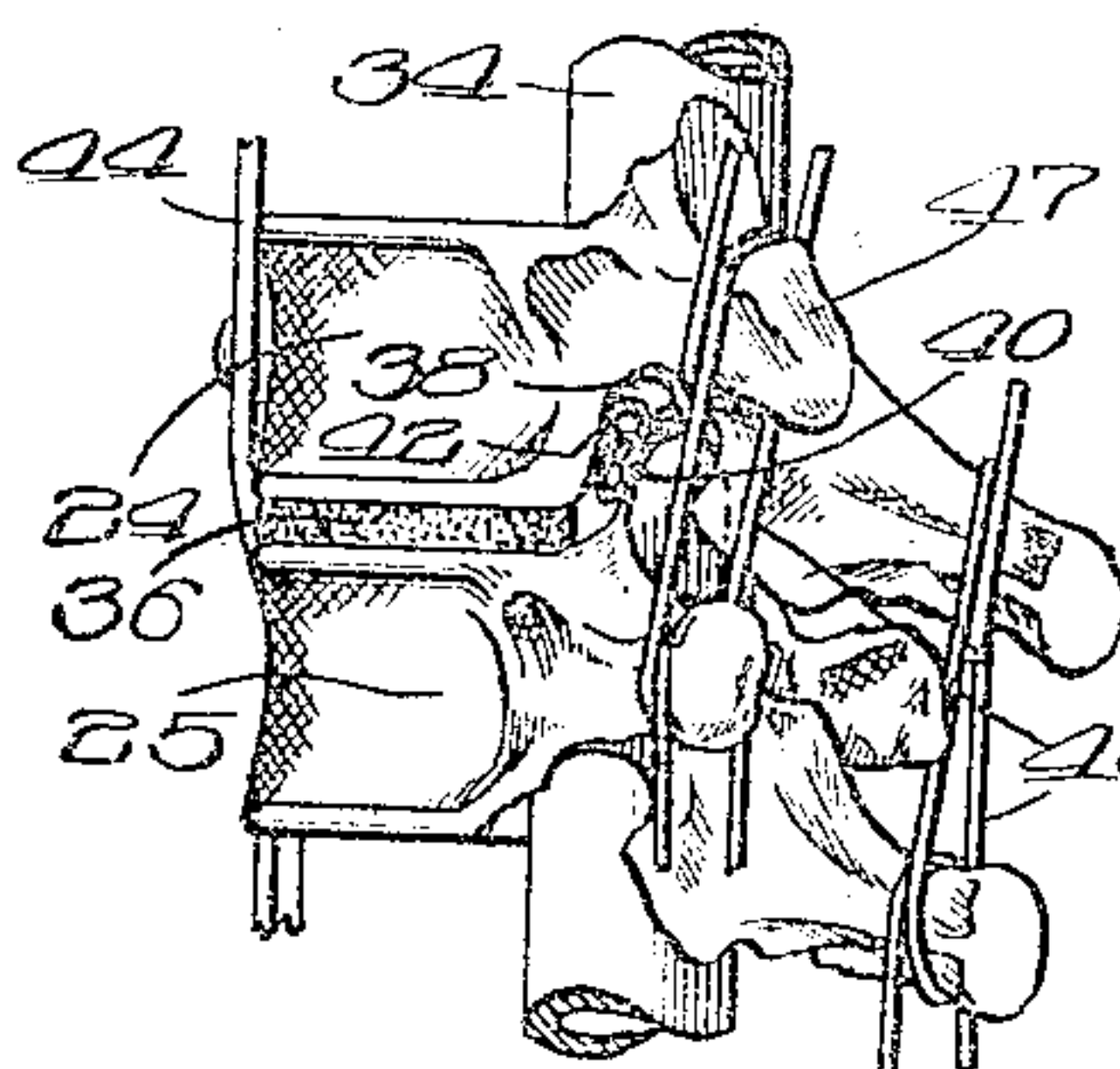
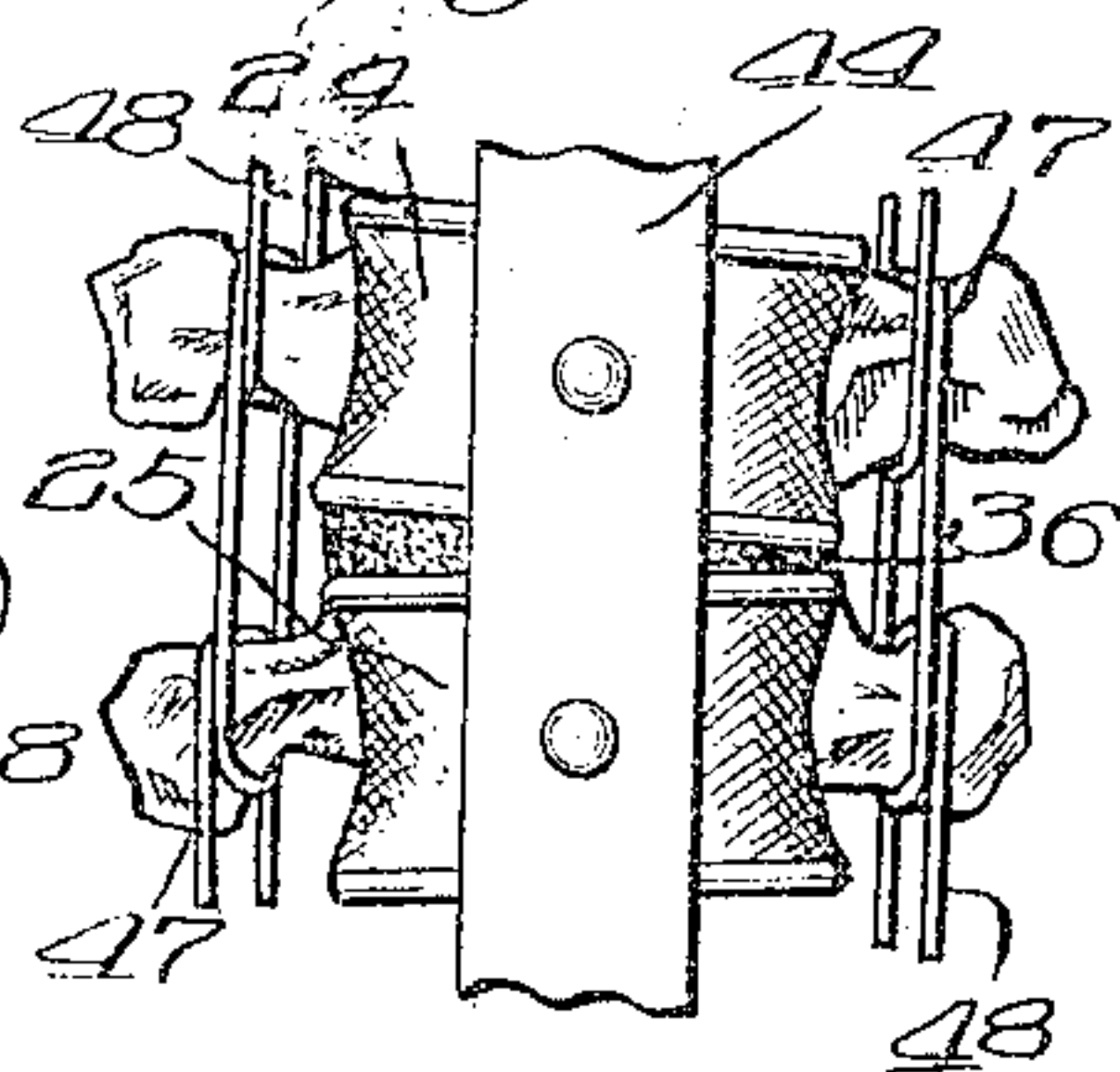


Fig. 8.



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UNITED STATES PATENT OFFICE.

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ARTICULATED MOUNTING FOR BONES OF A BODY.

979,147.

Specification of Letters Patent.

Patented Dec. 20, 1910.

Application filed September 3, 1909. Serial No. 516,018.

To all whom it may concern:

Be it known that I, HARRISON H. FRYETTE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Articulated Mountings for the Bones of a Body, of which the following is a specification.

For a long time it has been customary to mount the bones of a body, human or otherwise, in approximately their natural position, for study, and this has recently become especially necessary in connection with the practice of osteopathy, which works upon the general theory that distortion in the normal positions of bones of the body results in pressure upon the conductors of blood and nerve supply, with the resulting illness in remote parts of the body affected by those conductors, this theory being applied especially to the human spine.

The object of this invention is to provide a mounting in general for any of the bones of a body but particularly such a mounting for the bones of the human spine so that it may be readily used wherever occasion requires for illustrating the effects of distortion in the positions of the bones.

The invention consists broadly in a novel means for joining the successive bones together for the purpose described, and particularly in providing a novel cushion material to represent the intervertebral disks which in life occupy the space between successive vertebrae.

The invention also consists in other details of construction which will be more fully described and claimed.

Referring to the drawings, Figure 1 is a general view of the bones of a human spine mounted by the device of this invention, said view being taken from the position which would be in front of the person to whom this particular spine belonged. Fig. 2 is a sectional detail view on the line 2—2, Fig. 1. Fig. 3 is a detail perspective view of one of the intervertebral disks. Fig. 4 is an enlarged detail partially side view of four of the vertebrae of the spine, showing the method of mounting them. Fig. 5 shows the same parts as in Fig. 4 twisted out of their normal position showing the way that it is possible to manipulate the spinal column mounted in accordance with this invention. Fig. 6 is a side view of two adjacent verte-

brae in normal position. Fig. 7 is a corresponding view showing the effect of distortion of the spine on the blood vessels. Fig. 8 is a front view of said bones showing the effect of the same distortion on the intervertebral disk.

Again referring to the drawings, the numerals 10–16 inclusive represent the cervical vertebrae. The numerals 17–28 inclusive represent the dorsal vertebrae and the numerals 29 to 33 inclusive indicate the lumbar vertebrae. Through this spine is passed an ordinary rubber member, ordinarily a tube 34 of the proper size, the same representing the spinal cord, and between the successive vertebrae are placed intervertebral disks 36 of yielding material, preferably sponge rubber. Entering the proper spaces in and between the vertebrae and passing through the spinal cord 34 are small rubber tubes 38 representing the venal blood vessels, other tubes 40 representing the arterial blood vessels and other tubes 42 representing the efferent and afferent nerve casing. Along the extreme back of the spine is a broad rubber band 44 attached to each vertebra by any suitable means such, for instance, as a pin or rivet 46, said band 44 representing the anterior ligaments of the spine. The transverse spinose processes 47 projecting from the vertebrae are successively connected together by small elastic bands, 48 looped, said bands representing the intervertebral ligaments. Through the cervical vertebrae are parallel rubber tubes 50 and 52 representing the vertebral artery and vertebral vein. At the top or upper end of the device is provided a handle 54 and the rubber decorative ball 56 for use in displaying the device.

A spine thus mounted closely resembles its condition in the living body and yet is subject to hand manipulation by twisting, stretching or compressing to illustrate the effect on the spine of similar actions in life. While all of the devices used in securing this mounting are desirable, the use of the sponge rubber for the intervertebral disks is especially valuable as most nearly approaching the proper imitation of the actual disks and their action in life between the vertebrae of the spine.

While, as heretofore stated, the mounting is especially desirable for use in connection with the bones of the human spine, it may manifestly be used, if desired, for properly

mounting and attaching together other bones of a body human or otherwise.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A mounting for bones of a body comprising two adjacent bones, disks of cushion material between said bones, and elastic connections for the bones representing natural ligaments.

2. A mounting for bones of a body comprising two adjacent bones, disks of rubber between said bones, and elastic connections for the bones representing natural ligaments.

3. A mounting for bones of a body comprising two adjacent bones, disks of sponge rubber between said bones, and elastic connections for the bones representing natural ligaments.

4. An articulated mounting for a spinal column comprising a plurality of successive vertebrae, an imitation spinal cord of flexible material therein, flexible members representing blood vessels and nerves, intervertebral disks of cushion material between the successive vertebrae, and elastic connections

between the vertebrae representing natural ligaments.

5. An articulated mounting for a spinal column comprising a plurality of successive vertebrae, an imitation spinal cord of flexible material therein, flexible members representing blood vessels and nerves, intervertebral disks of rubber between the successive vertebrae, and elastic connections between the vertebrae representing natural ligaments.

6. An articulated mounting for a spinal column comprising a plurality of successive vertebrae, an imitation spinal cord of flexible material therein, flexible members representing blood vessels and nerves, intervertebral disks of sponge rubber between the successive vertebrae, and elastic connections between the vertebrae representing natural ligaments.

In witness whereof, I have hereunto subscribed my name in the presence of two witnesses.

HARRISON H. FRYETTE.

Witnesses:

DWIGHT B. CHEEVER,
MARGARET D. ROBB.