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E. MINUTI

2,994,888

JOINT LOCK

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Fig. 1

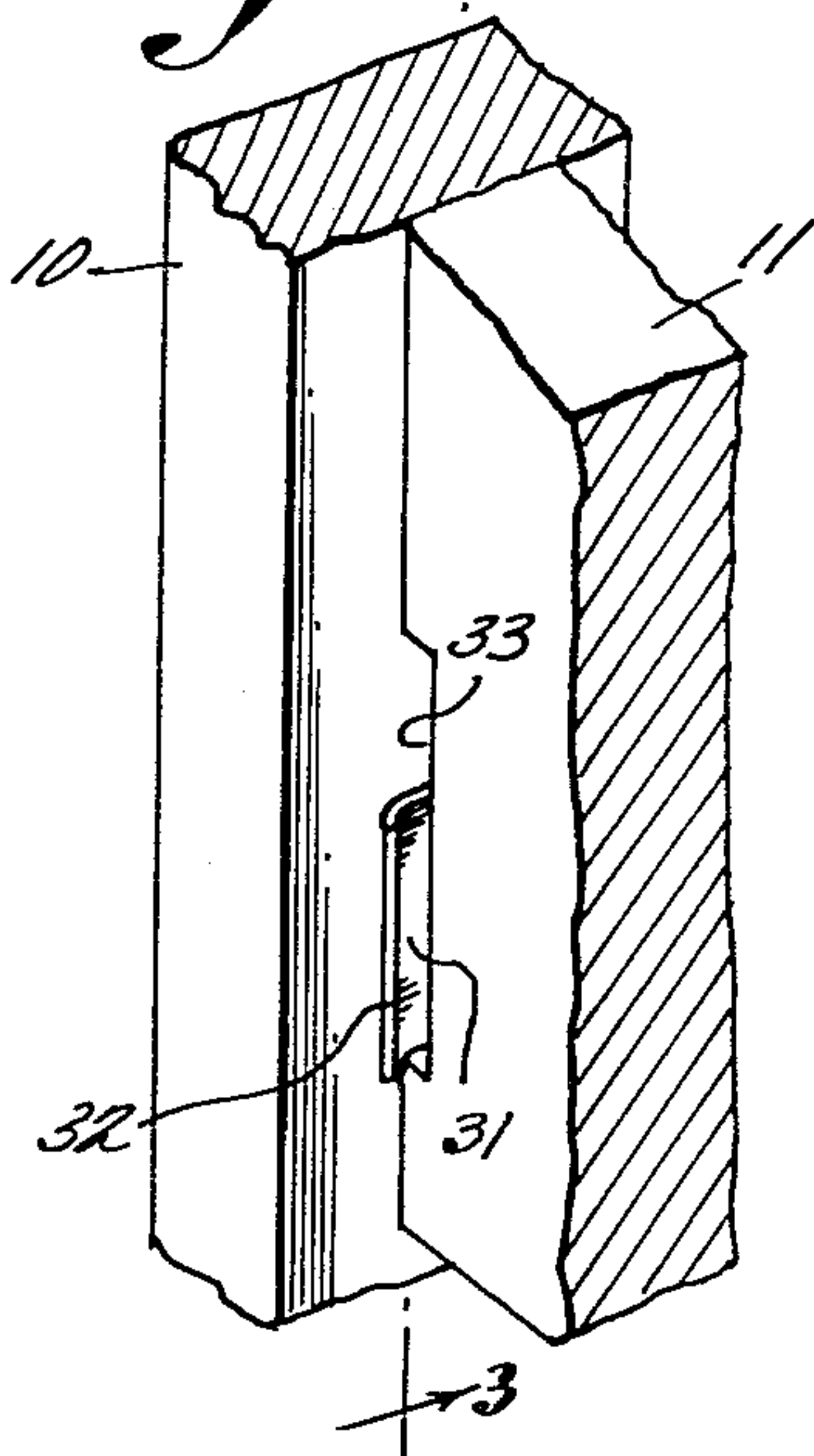


Fig. 2

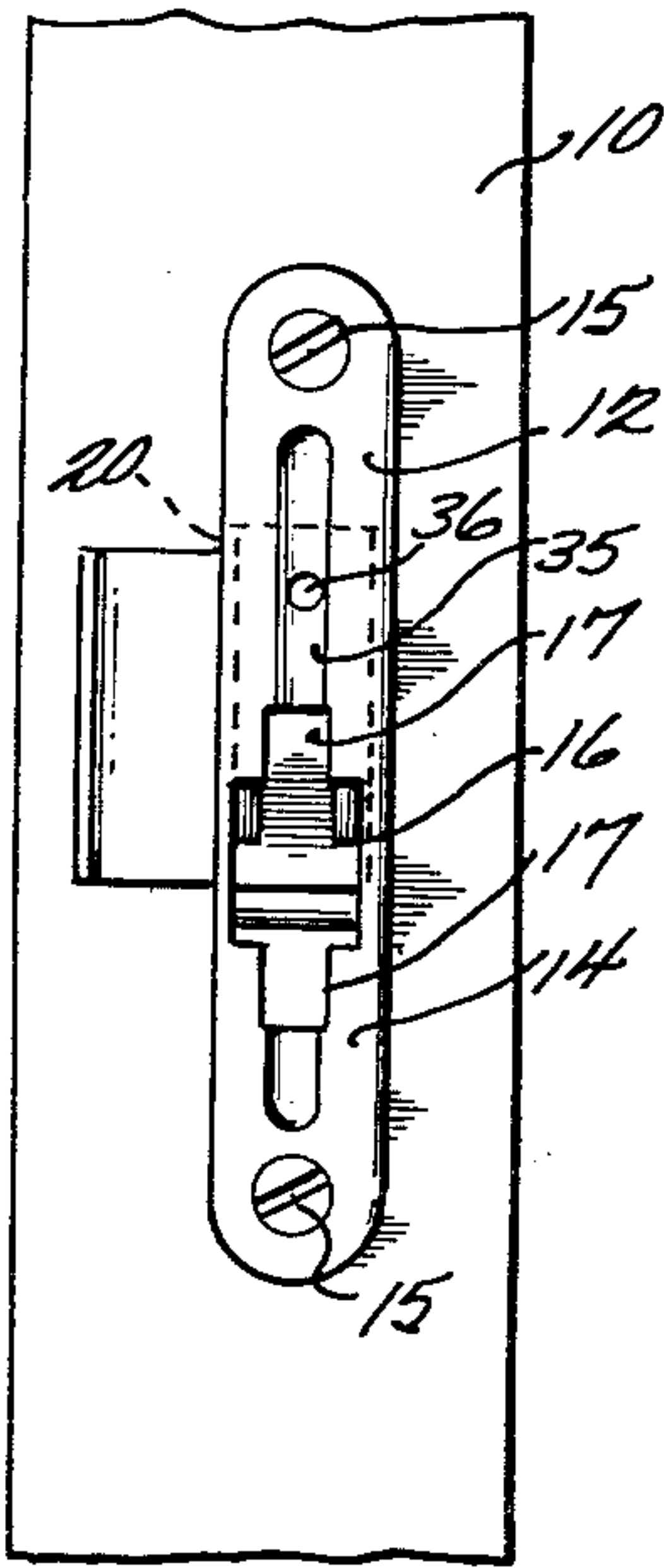


Fig. 2a

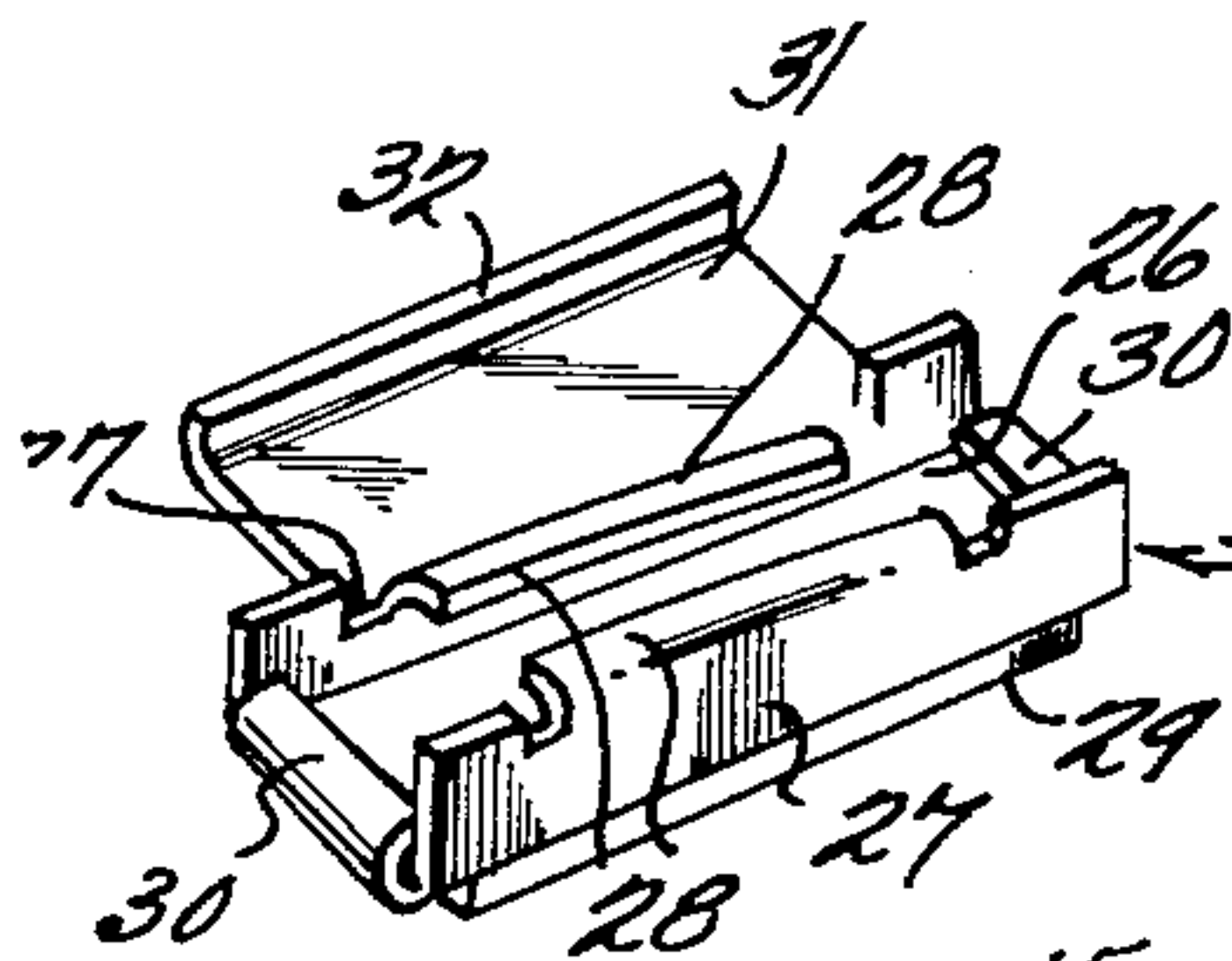
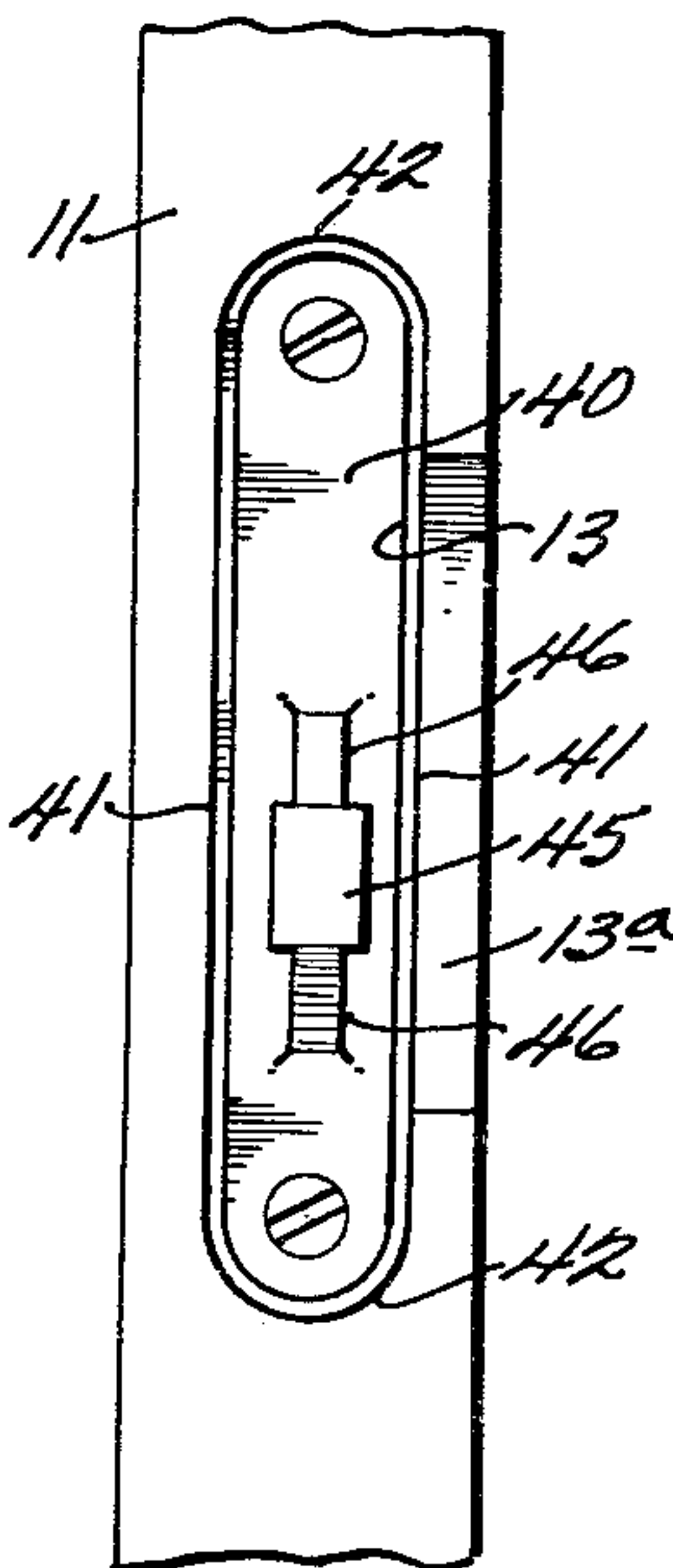


Fig. 5

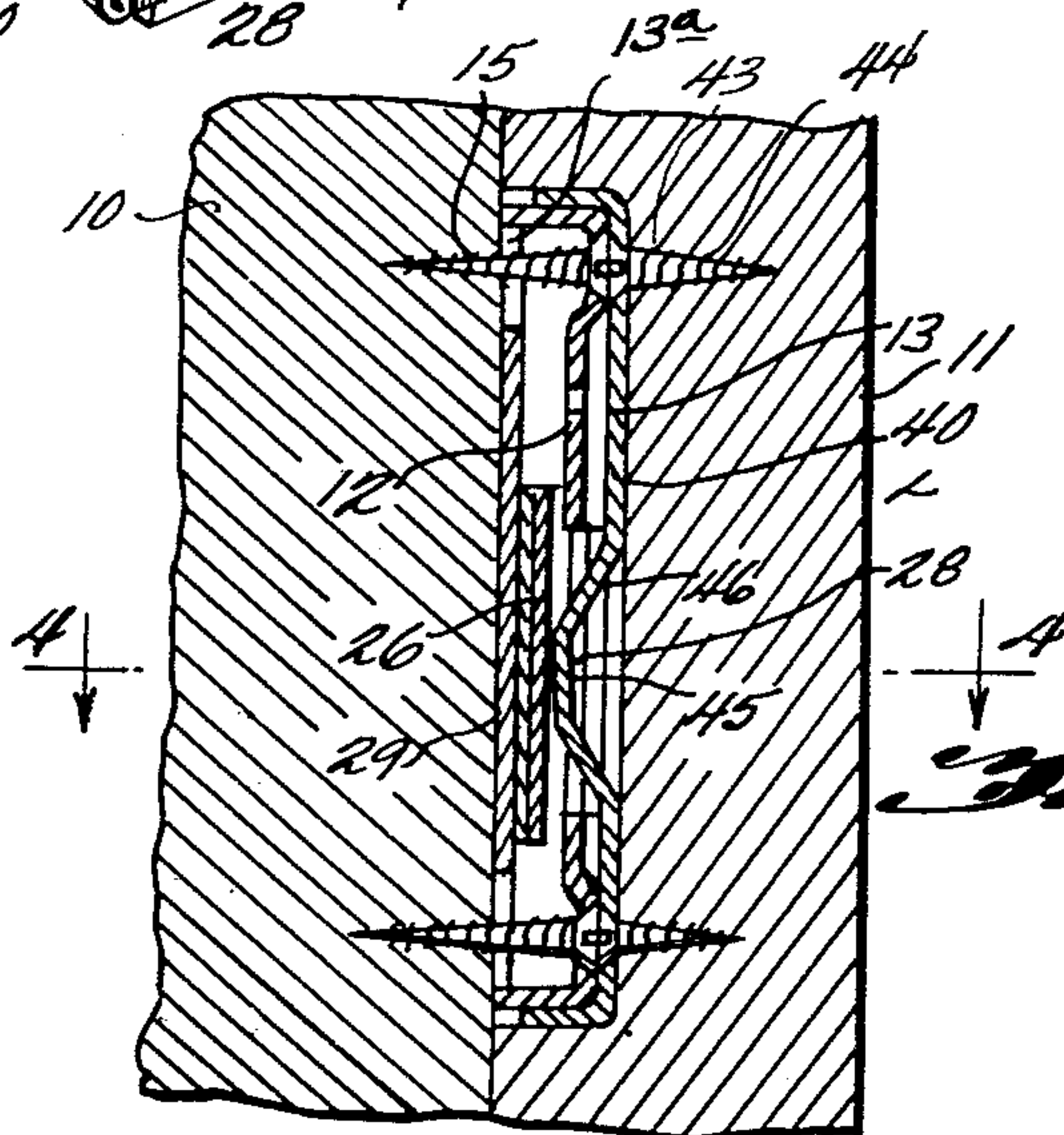
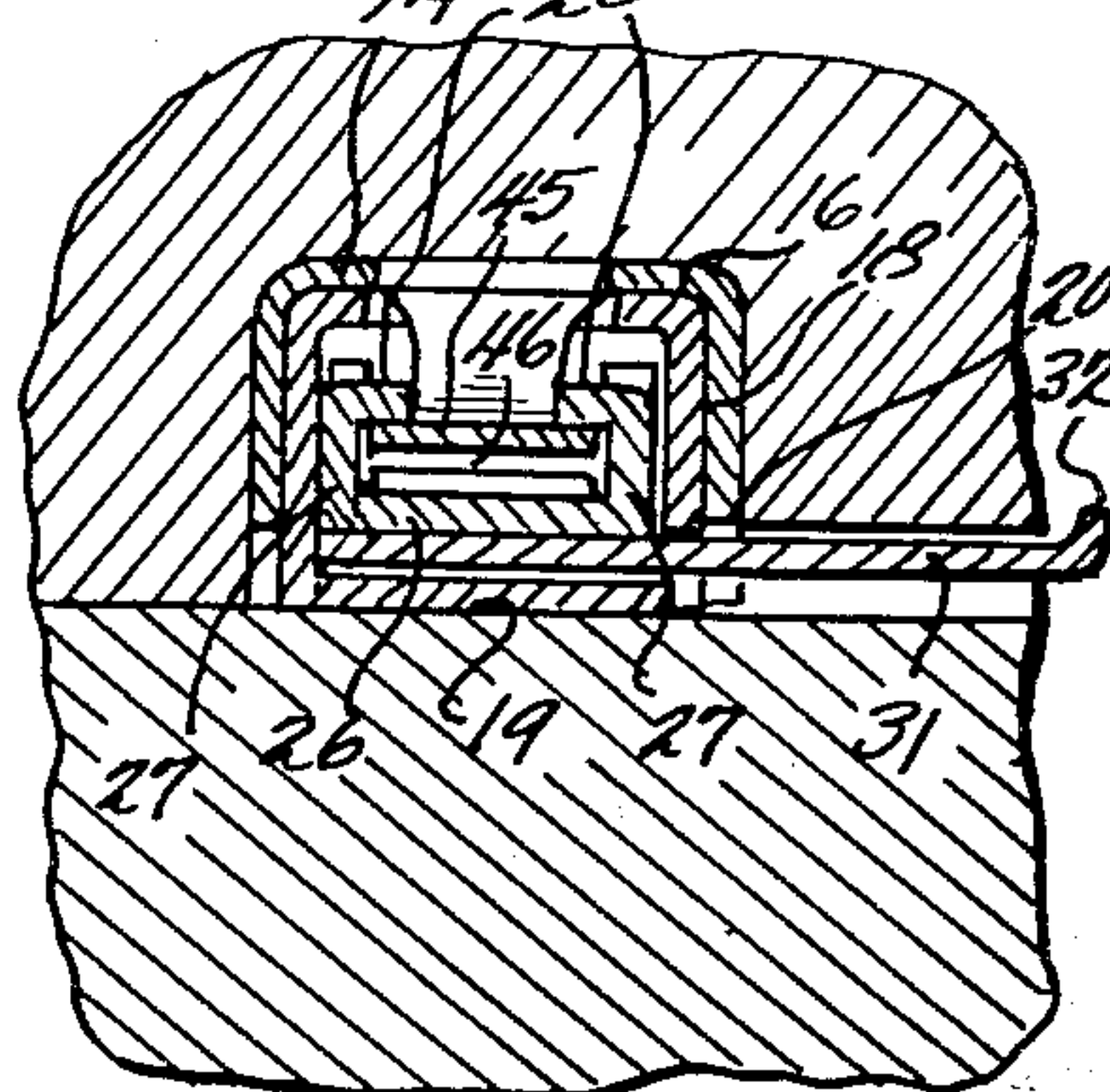


Fig. 3

Fig. 4



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JOINT LOCK

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This invention relates to a joint lock, and more particularly to a releasable joint lock for furniture or the like.

A primary object of this invention is the provision of a firm, secure, reliable joint for interengaging sections of furniture, such as beds, tables, chairs, or the like, which may be readily detached with a minimum of effort and difficulty when it is desired to disassemble the furniture for shipping or storage, or other purposes.

An additional object of the invention is the provision of such a joint which may be readily released, but which at the same time is difficult, if not impossible to disengage accidentally.

Still another object of the invention is the provision of a device of this character which may be readily applied to articles of furniture of any desired material, such as wood, metal, plastic, or any other desired material.

Still another object of the invention is the provision of such a device which is simple and inexpensive to manufacture and assemble, which requires no machined parts, and which has a minimum of movable or working parts.

Still other objects will in part be obvious and in part be pointed out as the description of the invention proceeds.

Other objects reside in the combinations of elements, arrangements of parts, and features of construction.

In the accompanying drawing wherein there is shown a preferred embodiment of this inventive concept:

FIGURE 1 is a perspective view of two articles connected in abutting relation by means of the joint lock of the instant invention, disclosing the external operating parts of the joint;

FIGURE 2 is a front elevational view of the male element of the joint lock;

FIGURE 2A is a similar view of the opposite or female element of the joint lock;

FIGURE 3 is a vertical sectional view taken substantially along the center line of the joint lock in assembled relation, or along the line 3—3 of FIGURE 1, as viewed in the direction indicated by the arrows, illustrated in an enlarged scale;

FIGURE 4 is an enlarged sectional view taken substantially along the line 4—4 of FIGURE 3, as viewed in the direction indicated by the arrows; and

FIGURE 5 is a bottom perspective view of a constructional detail disassociated from its related elements.

Similar reference characters refer to similar parts throughout the several views of the drawing.

Having reference now to the drawing, there is indicated at 10 a fragment of a piece of furniture or the like, such as the headpost of a bed, to which is adapted to be secured a second section 11, such as the side board of a bed or the like. Member 10 has secured to its inner face a male member 12 of the lock joint, which is adapted to coact with a corresponding female element 13, which is suitably secured in a recess 13a in member 11.

Referring first to the male member 12, the device comprises an elongated casing or housing having a front or top wall or plate 14, which is apertured adjacent its ends for the reception of screws 15 for securing the same to the member 10. This front plate 14 has a central aperture 16, which includes a relatively wide central portion and two elongated end portions 17 of lesser width than the central portion 16. The casing is also provided with side walls 18, which are preferably integral with the top wall 14, and a base plate 19 which may be formed integrally

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with one of the side walls, and folded over to enclose the major portion of the bottom of the device. One of the side walls 18 is cut away, as at 20, throughout a portion of its length, to provide a space between its lower extremity and the bottom plate 19, which comprises a slot, for the purpose of which will be more fully described hereinafter.

Positioned interiorly of the male member 12 is a slide, generally indicated at 25 (see FIG. 5) which comprises an elongated member which includes a top wall 26 and side walls 27. Each of the side walls 27 is cut away along the major portion of its length and folded inwardly to provide an inturned flange 28 on either sides thereof, the slide being inclined relative to the wall 26 toward one end of the slide 25, to provide a cam surface for a purpose to be more fully described hereinafter.

An operating member is adapted to be attached to the end portions of top wall 26 between the side walls 27, and takes the form of a plate 29 having reverted ends 30 which extend over the ends of wall 26, and a laterally extending portion 31 having an upturned flange 32, the portion 31 and flange 32 forming an operating handle for the slide, and being adapted to project outwardly from the member 11 through a slot or opening 33 cut in one of the side edges thereof.

Top wall 12a of male member 12 is provided with an elongated groove or channel 35, having a lubricating aperture 36 therein.

Having reference now to the female member 13, the same is comprised of an elongated bottom member 40, having side walls 41, and end walls 42 of a configuration corresponding to the projecting portion of male member 12 and dimensioned snugly to receive the member 12 therein. The bottom wall 40 is apertured, as at 43, for the reception of screws 44 for securing the female member in its associated recess, or depression 13a.

Struck from the bottom wall 40 is a plate 45, dimensioned to engage within the opening 16, and having inclined end portions 46 of lesser width than the plate 45 which are adapted to pass through the end portions 17 associated with opening 16. As best shown in FIGURE 3, plate 45 is also slightly inclined toward one end of the device, in a direction opposite to the inclination of flanges 28.

From the foregoing, the operation of the device should now be readily understandable.

When it is desired to assemble the joint lock, the male member 12 is inserted in the female member 13, with the plate 45 and its extending portions 46 seating in aperture 16 and its elongated end portions 17. At this time the slide 25 is in its retracted position, as shown in FIGURE 2. With the parts snugly fitted together, the operating member 31 is then moved downwardly in its associated slot 33, thus moving the slide, so that the flanges 28 overlies the edges of plate 45. As the slide is moved toward a locking position, the inclined surfaces of flanges 28 and plate 45 provide a camming or wedging effect firmly to secure the parts in related assembly.

When it is desired to disengage the component parts, obviously it is merely necessary to move the operating handle 31 in the opposite direction, removing the slide flanges 28 from their engagement with plate 45, whereupon the plate 45 may be drawn outwardly through the aperture 16 and the male member 12 disengaged from the female member 13.

From the foregoing it will now be seen that there is herein provided an improved joint lock, which is particularly applicable to furniture, but which may also be employed in a relatively wide variety of other usages, which accomplishes all of the objects of this invention, and others, including many advantages of great practical utility and commercial importance.

As many embodiments may be made of this inventive concept, and as many modifications may be made in the embodiments hereinbefore shown and described, it is to be understood that all matter herein is to be interpreted merely as illustrative, and not in a limiting sense.

I claim:

1. In a joint lock, in combination, an elongated female member having a bottom wall and side walls, adapted to be secured in a recess in an article to be joined, a laterally flanged plate secured to and extending upwardly from said bottom wall with its flanges spaced from said bottom wall, said plate being inclined downwardly towards said bottom wall at one end, a male member comprising an elongated housing dimensioned to fit within said female member, said housing including a top wall, side walls and a bottom plate, said housing being adapted to be secured to a second article to be joined to the first article, said top wall having an opening therein dimensioned to receive said flanged plate, and one of said side walls having a longitudinally extending slot therein, a slide member longitudinally movable in said housing, said slide member including a U-shaped plate having flanges on the legs thereof overlying the flanges on said laterally flanged plate between said laterally flanged plate and said top wall, said flanges on said slide being oppositely inclined relative to the flanges on said flanged plate whereby to effect a wedging action when said slide is moved over said flanged plate firmly to secure said flanged plate in said opening in said top plate and hence said male member in said female member, and an operating member secured to said slide member extending outwardly through said slot in said side wall of said housing.

2. In a joint lock, in combination, a female member having a bottom wall and side walls and a flat plate offset from said bottom wall and extending transversely of said side walls, side flanges on said plate therein, a male member including a housing having an aperture for the reception of said plate, a slide in said housing having returned portions engageable over said flanges for securing said male and female members together, and an operating member for said slide extending exteriorly of said housing.

3. In a joint lock, in combination, a female member having a bottom wall and side walls and a flat plate offset from said bottom wall and extending transversely of said side walls, side flanges on said plate therein, a male member including a housing having an aperture for the reception of said plate, and a slide in said housing having returned portions engageable over said flanges for securing said male and female members together, said plate and said slide being oppositely inclined to effect a wedging action when said slide engages said plate, said housing having a slot therein, and an operating member integral with said slide extending through said slot exteriorly of said housing.

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