

June 7, 1955

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2,710,239

VERTICALLY ADJUSTABLE LEG STRUCTURE

Filed June 15, 1953

2 Sheets-Sheet 1

FIG. 1.

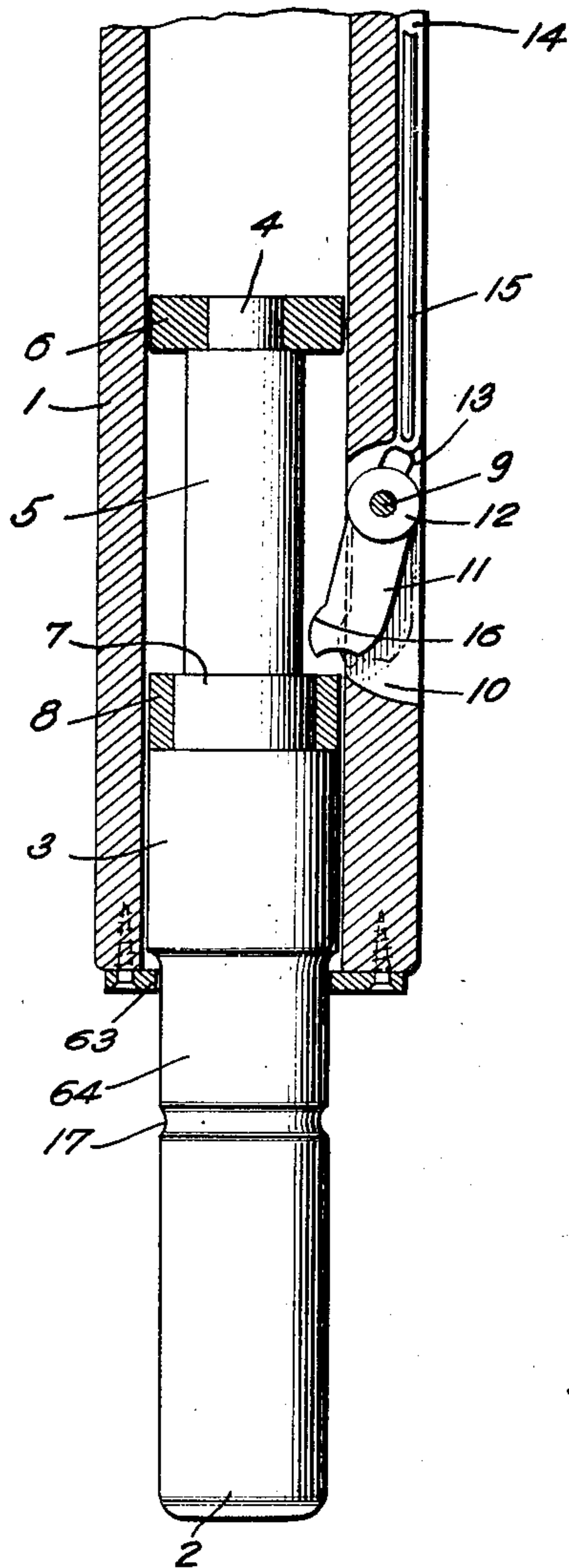


FIG. 2.

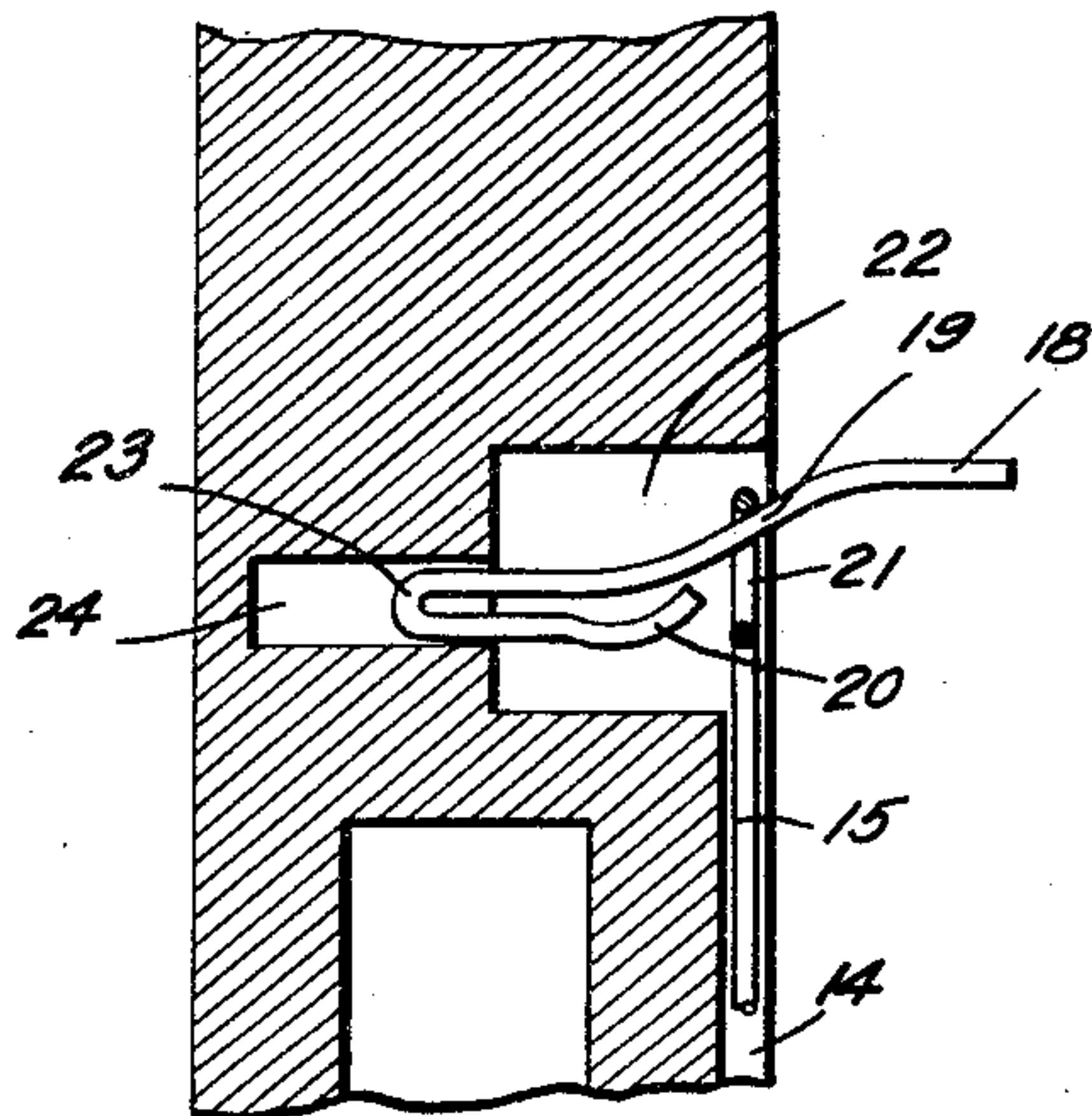


FIG. 4.

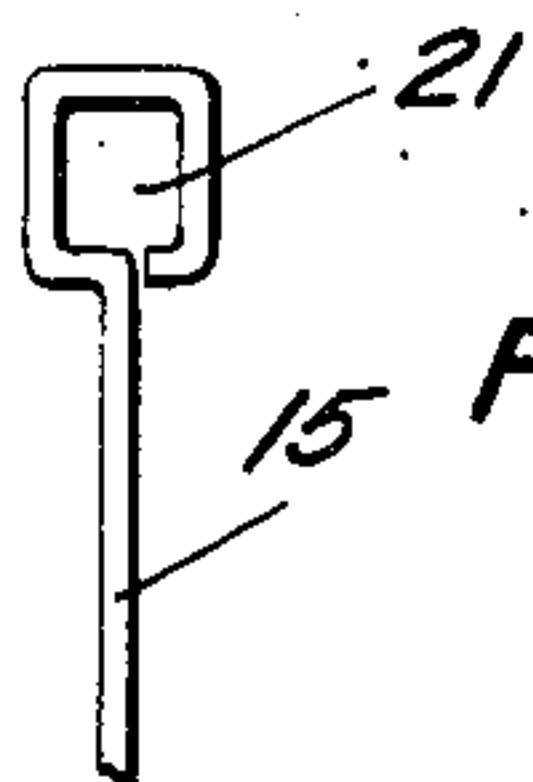
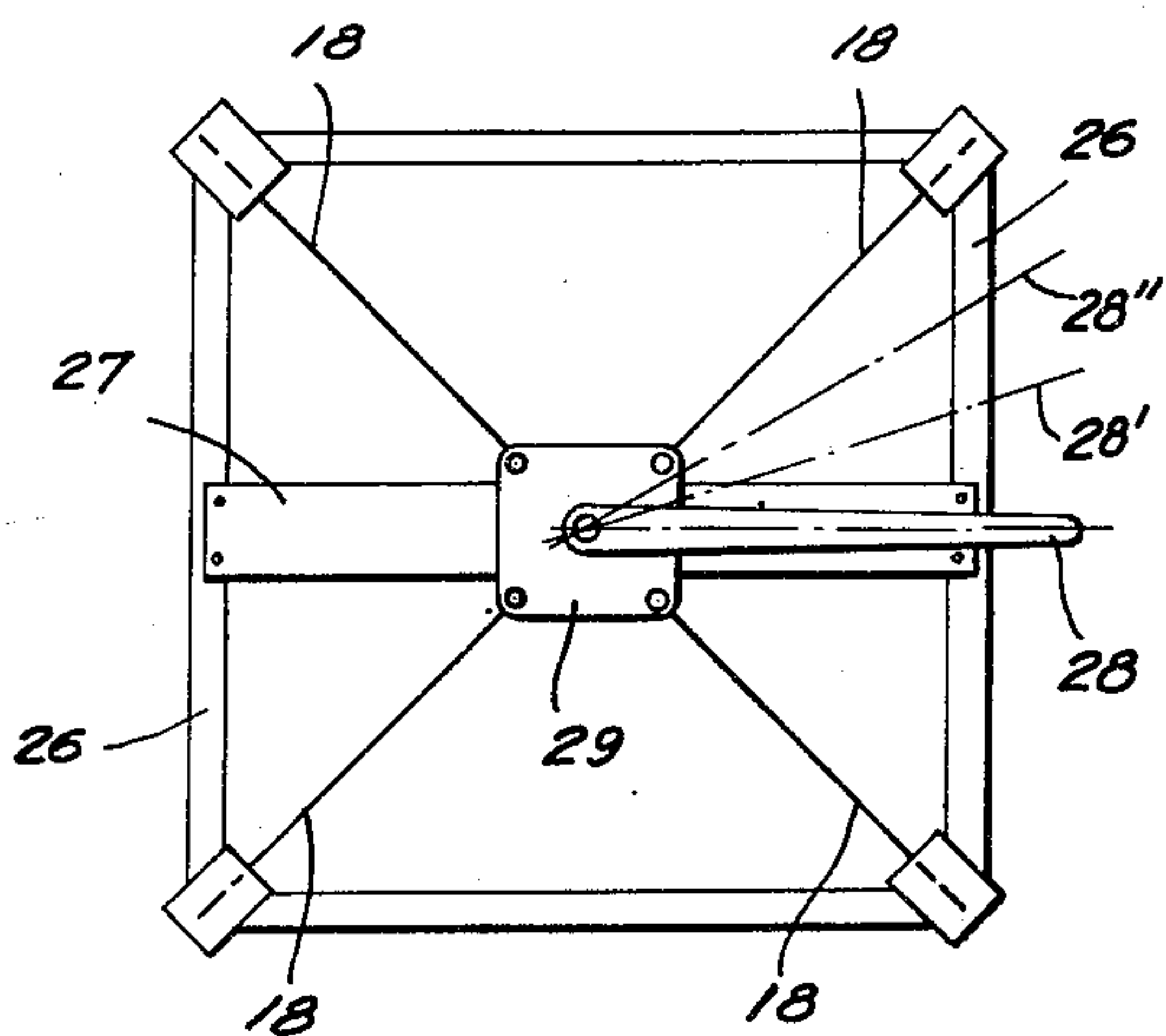


FIG. 3.

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FIG. 5.

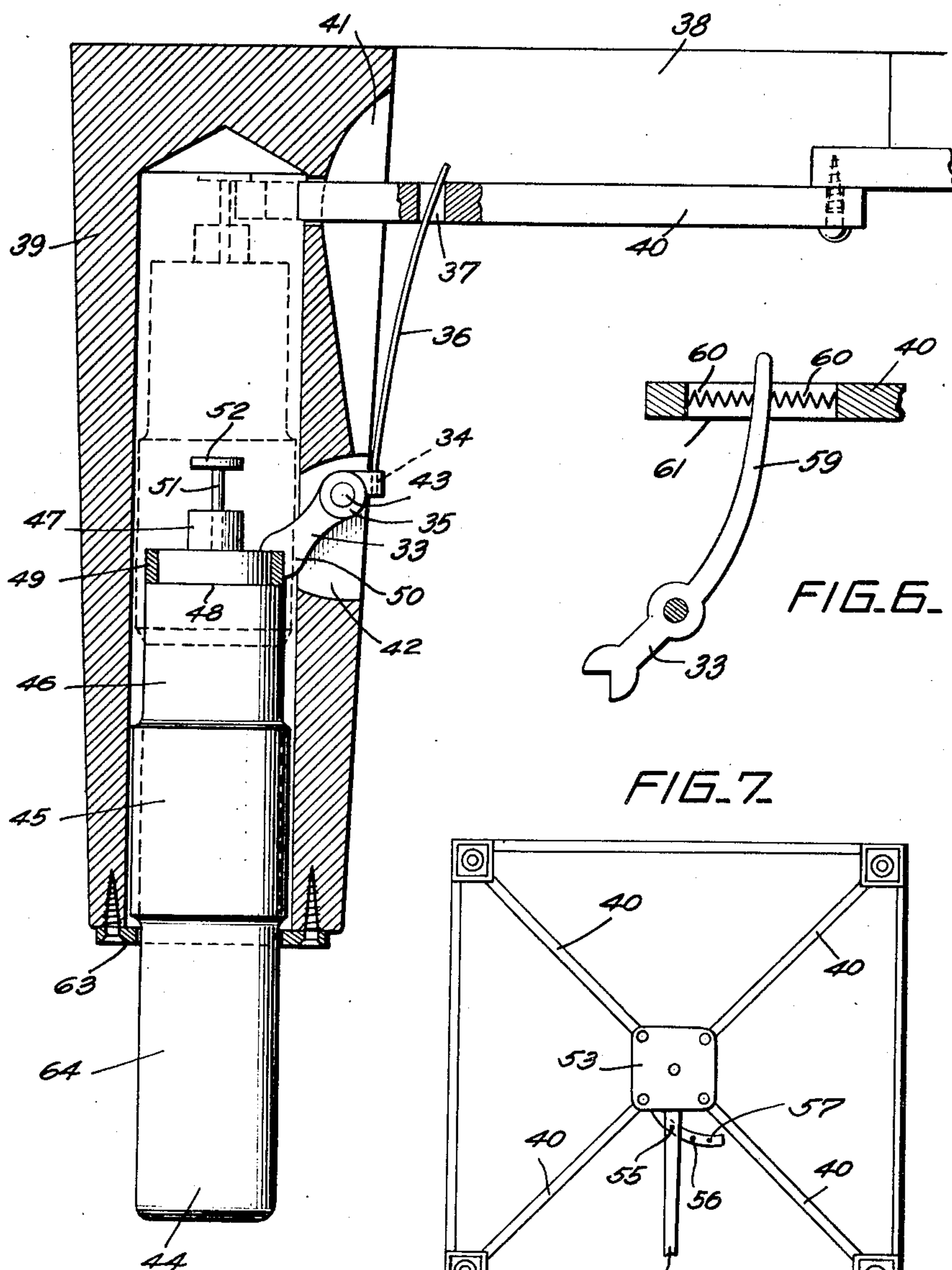


FIG. 6.

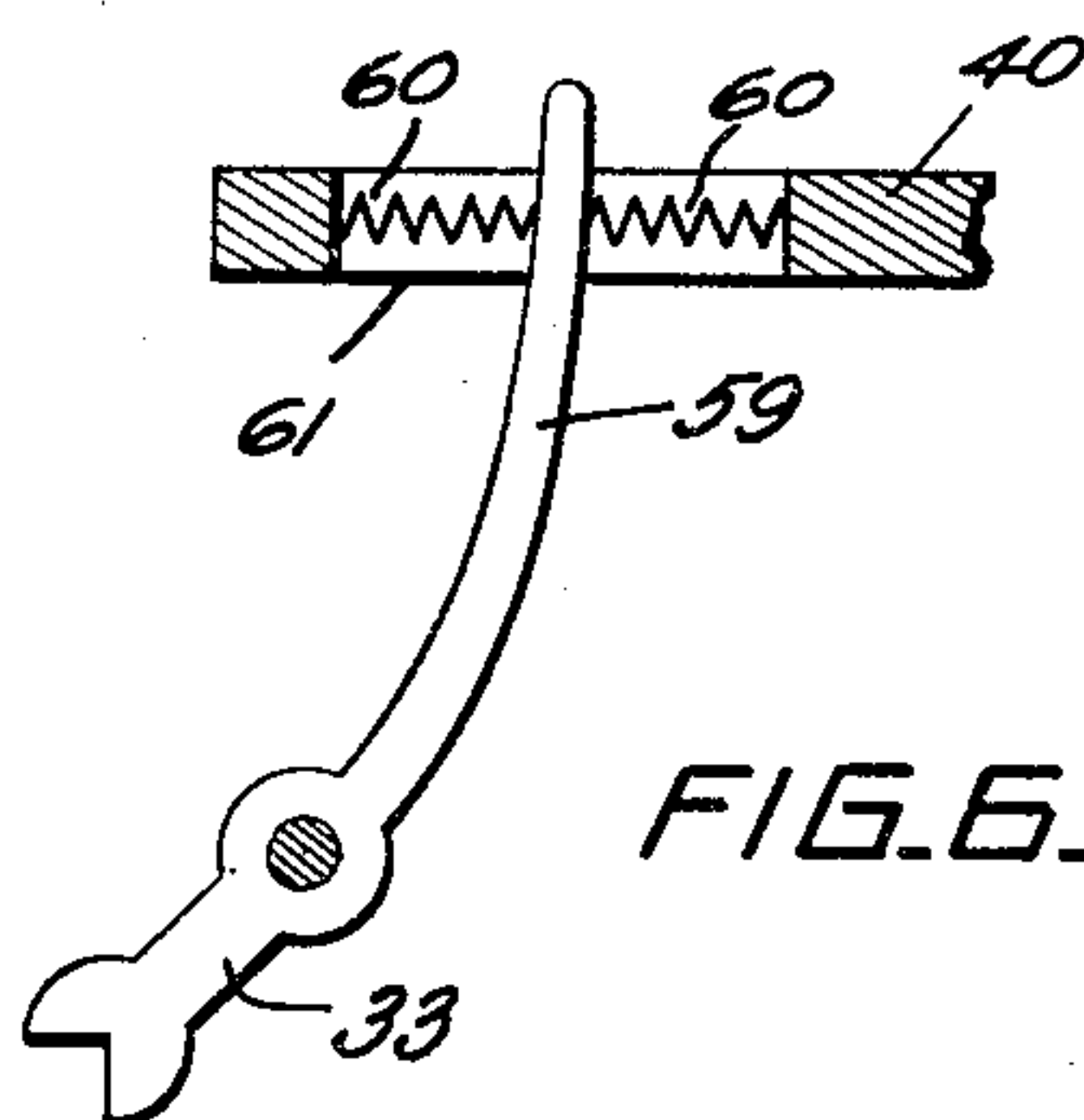
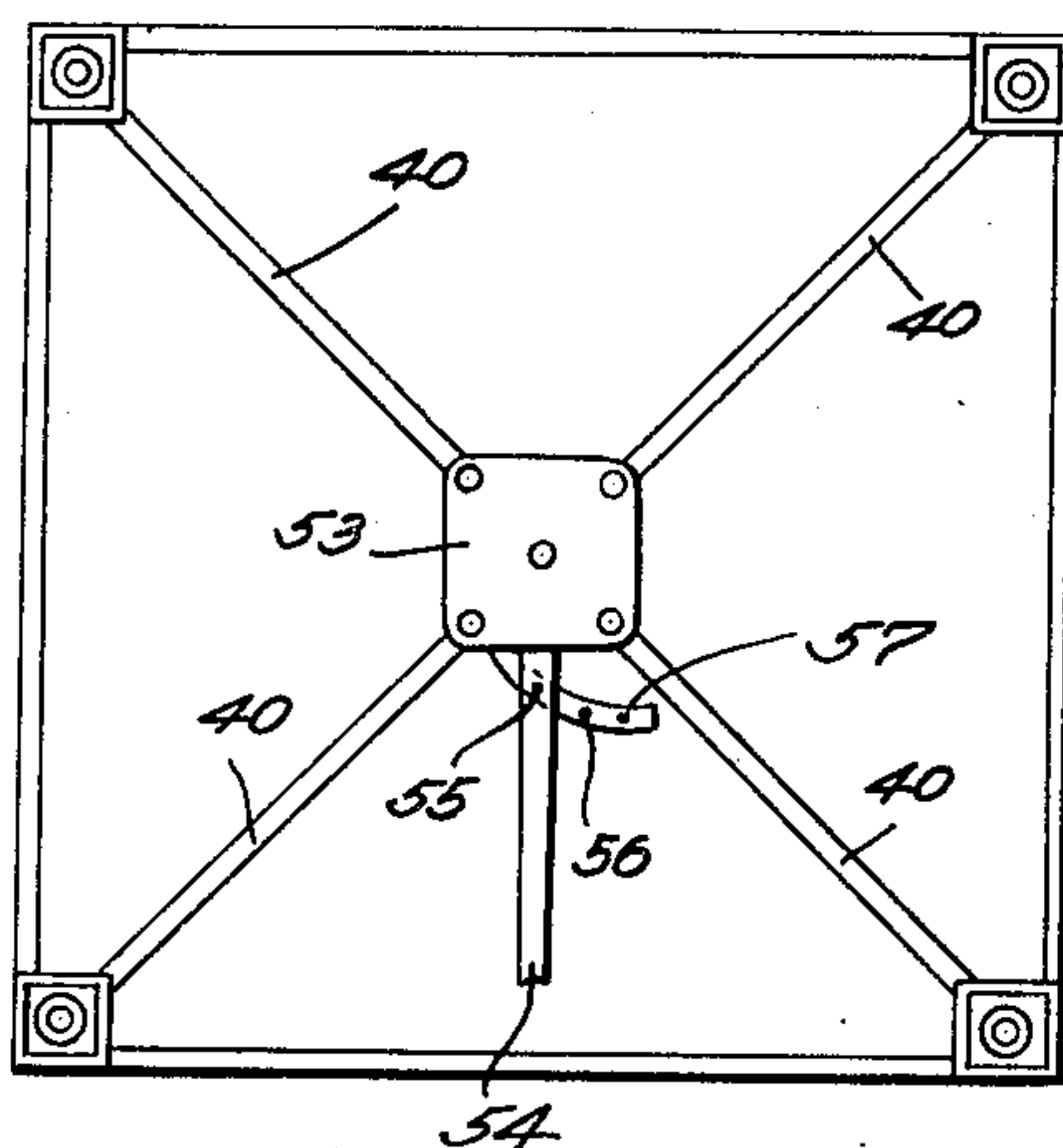


FIG. 7.



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VERTICALLY ADJUSTABLE LEG STRUCTURE

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2 Claims. (Cl. 311—39)

My invention relates to tables, chairs, and other pieces of furniture and more particularly to that type of leg supported pieces of furniture having legs adjustable in their length in order to vary the height of the piece of furniture.

It is an object of my invention to provide a piece of furniture of the type indicated above which may be operated and easily adjusted by one person and which is of a reliable and the simplest possible construction.

The said and other objects of my invention will be more fully understood from the following specification when read together with the accompanying drawing in which two embodiments are illustrated.

In the drawing

Fig. 1 shows an axial section through the lower part of a table leg,

Fig. 2 shows an axial section through the upper part of the table leg shown in Fig. 1,

Fig. 3 shows a front view of the upper part of a member used in my device, and more particularly referred to in the specification,

Fig. 4 shows a view from below of a table fitted with legs shown in Figs. 1 and 2,

Fig. 5 shows a longitudinal section through another embodiment of a table leg, with a control device employing spring-actuated intermediate links,

Fig. 6 shows another embodiment of the spring-actuated intermediate links controlling the locking members as used in my device, and

Fig. 7 shows a view from below of a table fitted with legs shown in Fig. 5.

Figs. 1 and 2 show one of a plurality of tubular legs 1 which are firmly attached to a piece of furniture supported thereby for example to a table as illustrated in Fig. 4. Each leg 1 is provided with an extension 2 which telescopes therefrom and is guided therein by its cylindrical middle portion 3. This portion continues upwards into a portion 5 of smaller cross section thus leaving a shoulder 7 which may be reinforced by a metallic ring 8.

Each tubular leg 1 is provided with an aperture 10 and the apertures on the different legs 1 face each other. A locking member 11 is mounted in each of said apertures 10 for an unobstructed pendulous movement therein and in such manner that the locking member 11 in its free hanging vertical position shown in dotted lines in Fig. 1 avoids any contact with the leg extension 2. This locking member 11 when swung inwardly into the tubular leg 1 cooperates with said shoulder 7, 8 and secures the extension 2 against upward axial movement in the tubular leg 1. The locking member 11 is operated that is swung inwardly into the tubular leg 1 against and released from cooperation with the extension 2, respectively, by any suitable means acting simultaneously on the locking members 11 arranged in all legs 1 attached to the piece of furniture. In the shown embodiment these means comprise a push rod 15 slidably mounted in a groove 14 in each leg 1 above the locking member 11. Said push rod 15 operates with its lower end against a lug or other pro-

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jection 13 integral with the locking member 11 and is provided at its upper end with a loop or the like 21 (Figs. 2 and 3) by which said rod 15 is raised from and lowered towards said lug 13. To this effect the said loop 21 of each push rod 15 is actuated by one end of a switch rod 18 passing therethrough, the other end of which is jointed to a disc 29 which is rotatably mounted on a bridge 27 attached to the underside of the table top 26. Said disc 29 is actuated by a lever 28 which may be turned from the position shown in full lines, which effects a locking position of the locking member 17, into the positions schematically indicated by the lines 28' and 28'' shown in Fig. 4.

Each switch rod 18 has near its outer end a curved portion 19 which cooperates with said loop 21 and effects a raising or lowering of the push rod 15 when the switch rod 18 is displaced to the left or to the right, respectively, by actuating the lever 28. The outer end of each switch rod 18 is bent back as shown in Fig. 2 to enforce the same and is slidably resting in a conforming hole 24 in the leg 1.

The lower portion 64 of the leg extension 2 is provided with a groove 17 which is engaged by the face 16 of the locking member 11 when the extension 2 is telescoped into the leg 1. Thus the extension 2 is held within the tubular leg 1. When the locking member 11 is in inoperative position the extension 2 is prevented from completely dropping out of the tubular leg 1 by a stop ring 63 which is attached to the base of the leg 1 and which cooperates with a shoulder upon the extension 2 as shown in Fig. 1.

The embodiment shown in Figs. 5 and 7 differs from the embodiment described before substantially therein that the push rod 15 is substituted by a spring leaf or the like 36 which is attached with one end to the lug 34 of the swingable locking member 33 and which with its other end is actuated by the switch rod 40.

The tubular lug 39, which is one of a plurality firmly attached to a piece of furniture for example to a table illustrated in Fig. 7, houses the extension 44 telescoping therefrom. The cylindrical middle portion 45 of said leg extension 44 serves to guide the same within the tubular leg 1. This middle portion 45 continues upward into a portion 46 of smaller cross section and the upper end 48 thereof is reinforced by a metallic ring 49 which cooperates with the locking member 33. On top of the leg extension 44 is a stop member which with its head 52 limits the upward movement of the leg extension 44 within the tubular leg 39 and which with a stem 51 cooperates with the switch rod 40 to hold the leg extension 44 in raised position as shown in dotted lines in Fig. 5.

The several switch rods 40 are operated in the same manner as the switch rods in the first described embodiment by a rotatable disc 53 and a lever 54 attached thereto. Each switch rod 40 actuates one of the spring leaves 37 which are attached with one end to one locking member 33 as indicated above and which with their other end freely penetrate an opening 37 in one switch rod 40. The spring leaf 36 may, however, be substituted by a pair of springs 60 mounted in an aperture 61 of the switch rod 40, said springs 60 acting upon a lever 59 integral with the locking member 33.

Although two embodiments of my invention and certain modifications thereof have been shown and described by way of illustration, it will be well understood that it may be constructed in various other embodiments which come within the scope of the appended claims.

What I claim as my invention is:

1. In a piece of furniture having a plurality of tubular legs and an extension telescoping from each leg, the improvement comprising in combination an aperture in the wall of each leg, said apertures facing each other, a lock-

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ing member mounted within each aperture for unobstructed pendulous movement therein, said locking member avoiding in free hanging vertical position any contact with said leg extension, at least one propping face on each leg extension to cooperate with said locking member when the same is swung inwardly into the tubular leg, and means simultaneously actuating said pendulous locking members to block the same and to release the same, respectively, so that the leg extension may be arrested and displaced, respectively, within the respective tubular leg relative thereto.

2. A piece of furniture according to claim 1 wherein the said means to actuate the locking members comprise a locking and releasing rod slidably mounted upon each leg parallel to the longitudinal axis thereof, said rod when moved downwards contacting the locking member above

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and laterally to its fulcrum to effect in such position a swing motion of the locking member towards said propping faces, and releasing said locking member when the rod is lifted.

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