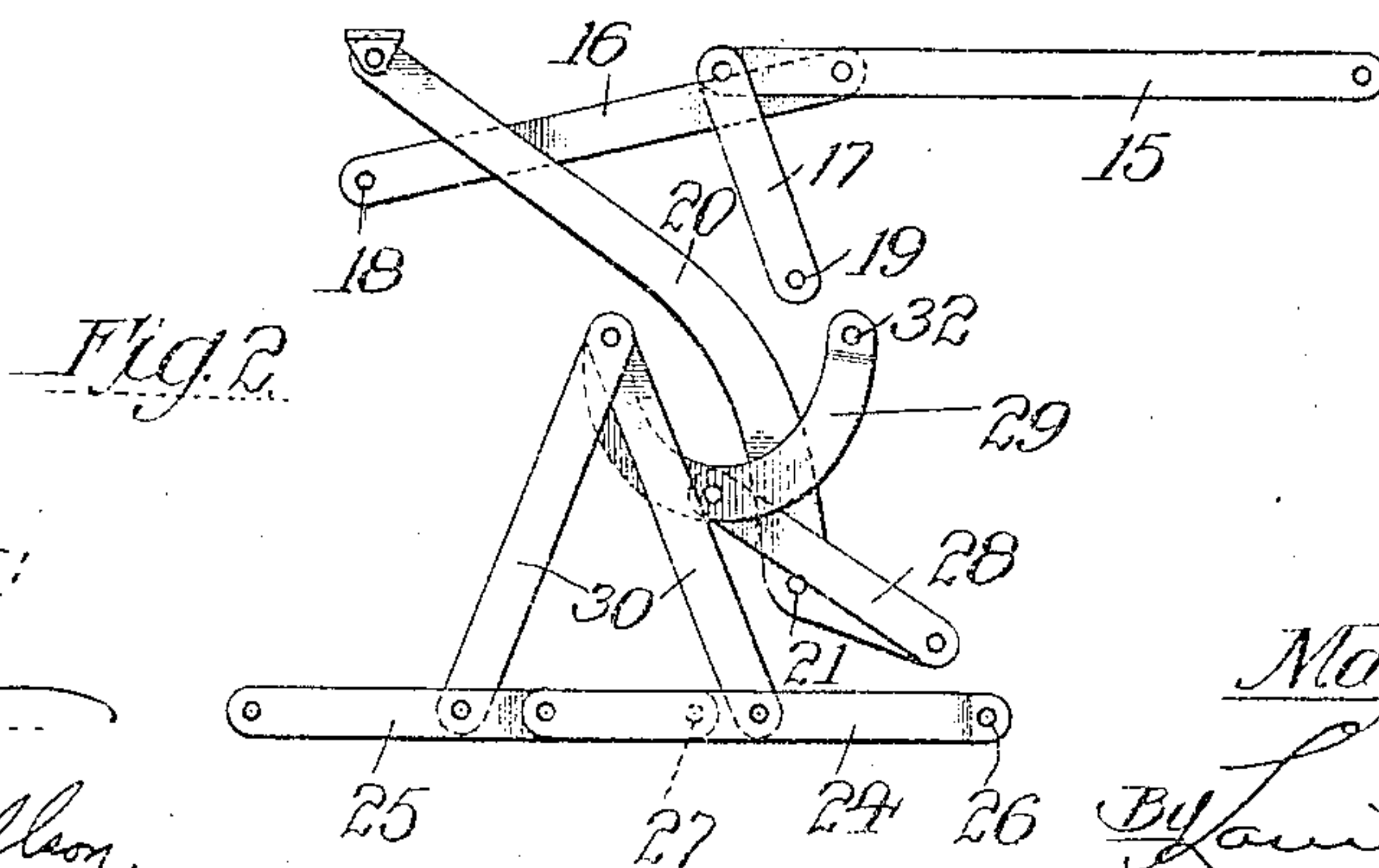
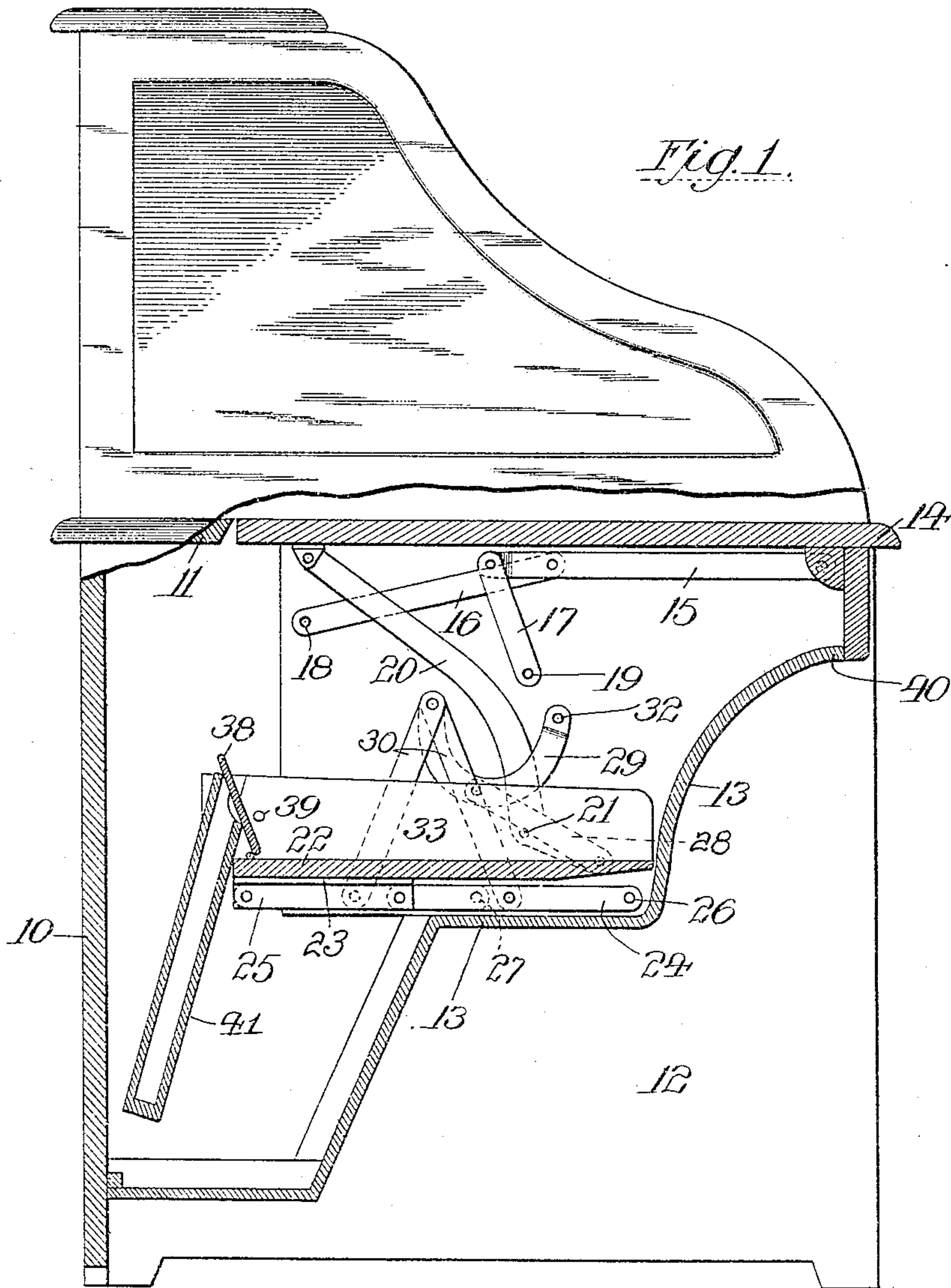


No. 778,661.

PATENTED DEC. 27, 1904.

M. J. HAFGAR.
TYPE WRITER CABINET.
APPLICATION FILED MAY 13, 1904.

2 SHEETS—SHEET 1.



Witnesses:

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2 SHEETS—SHEET 2.

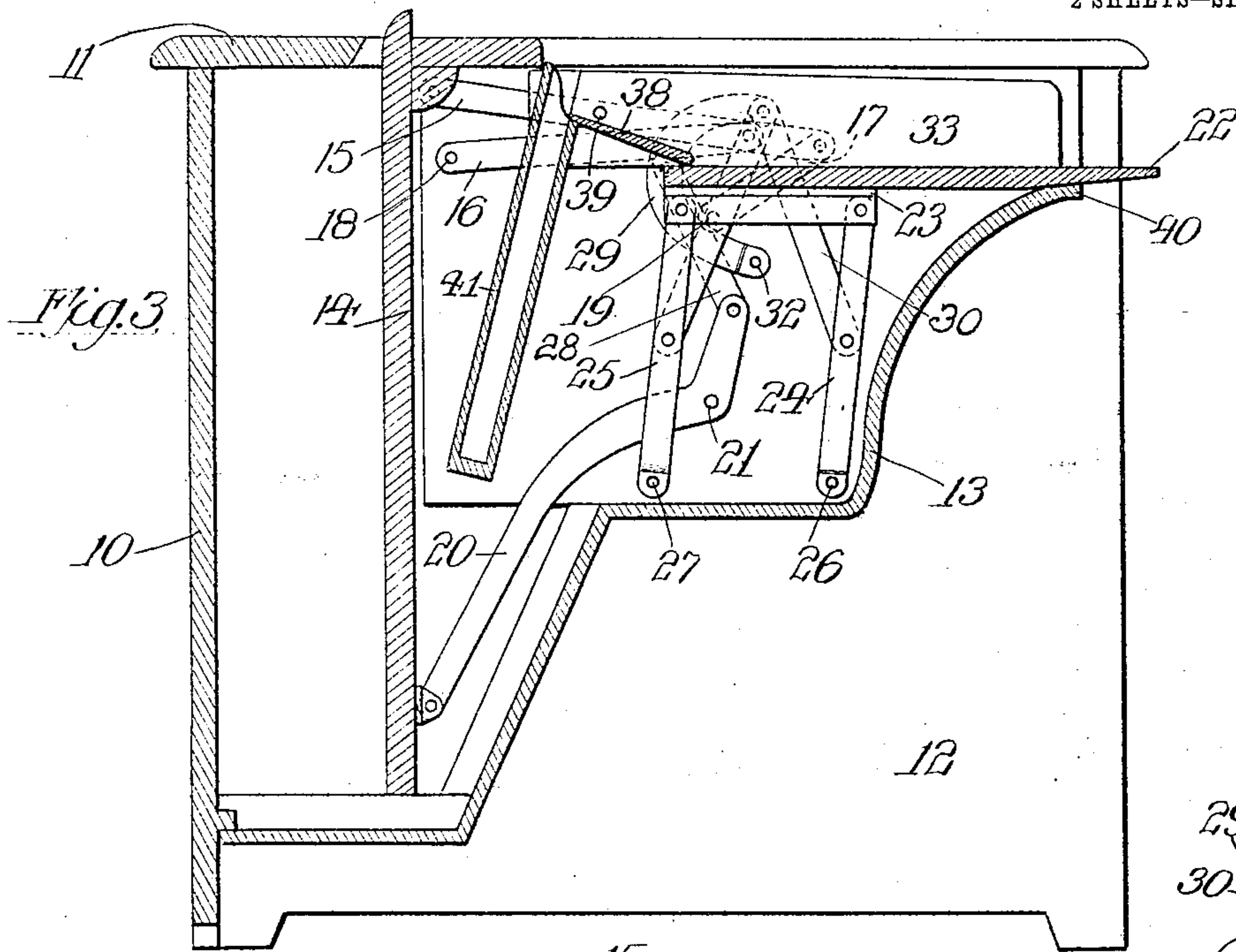


Fig. 8.
30
37

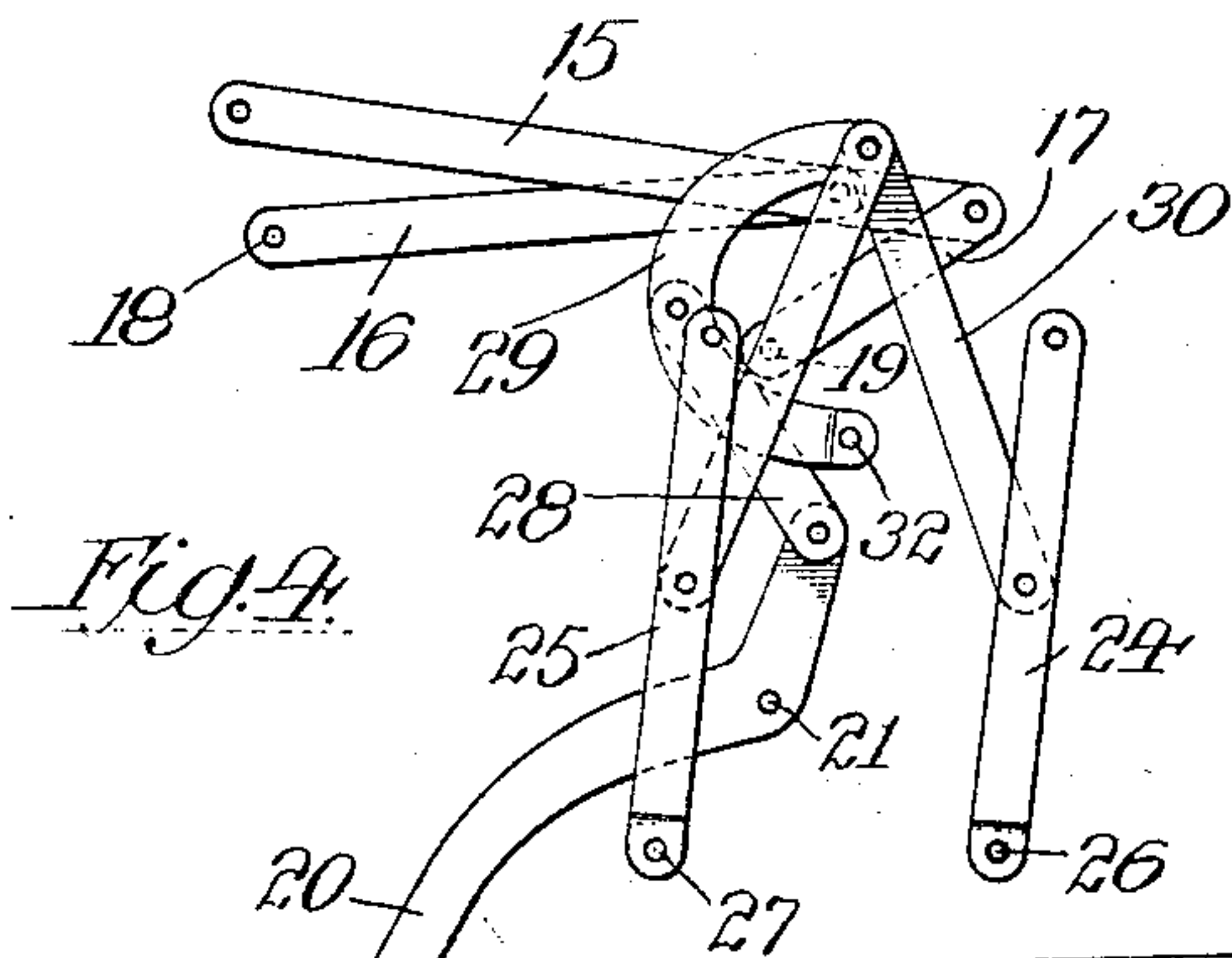


Fig. 4.

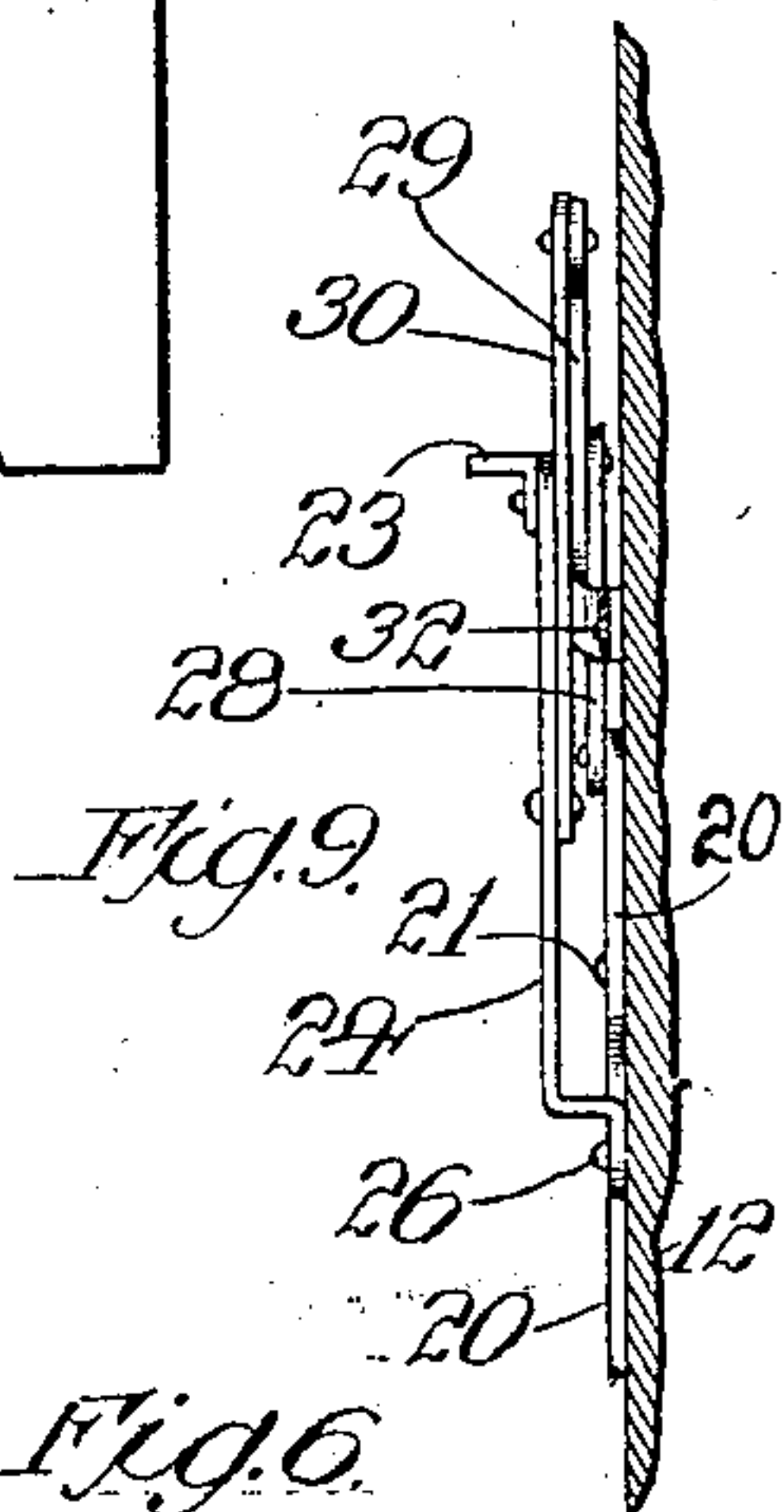


Fig. 9.

Fig. 5.

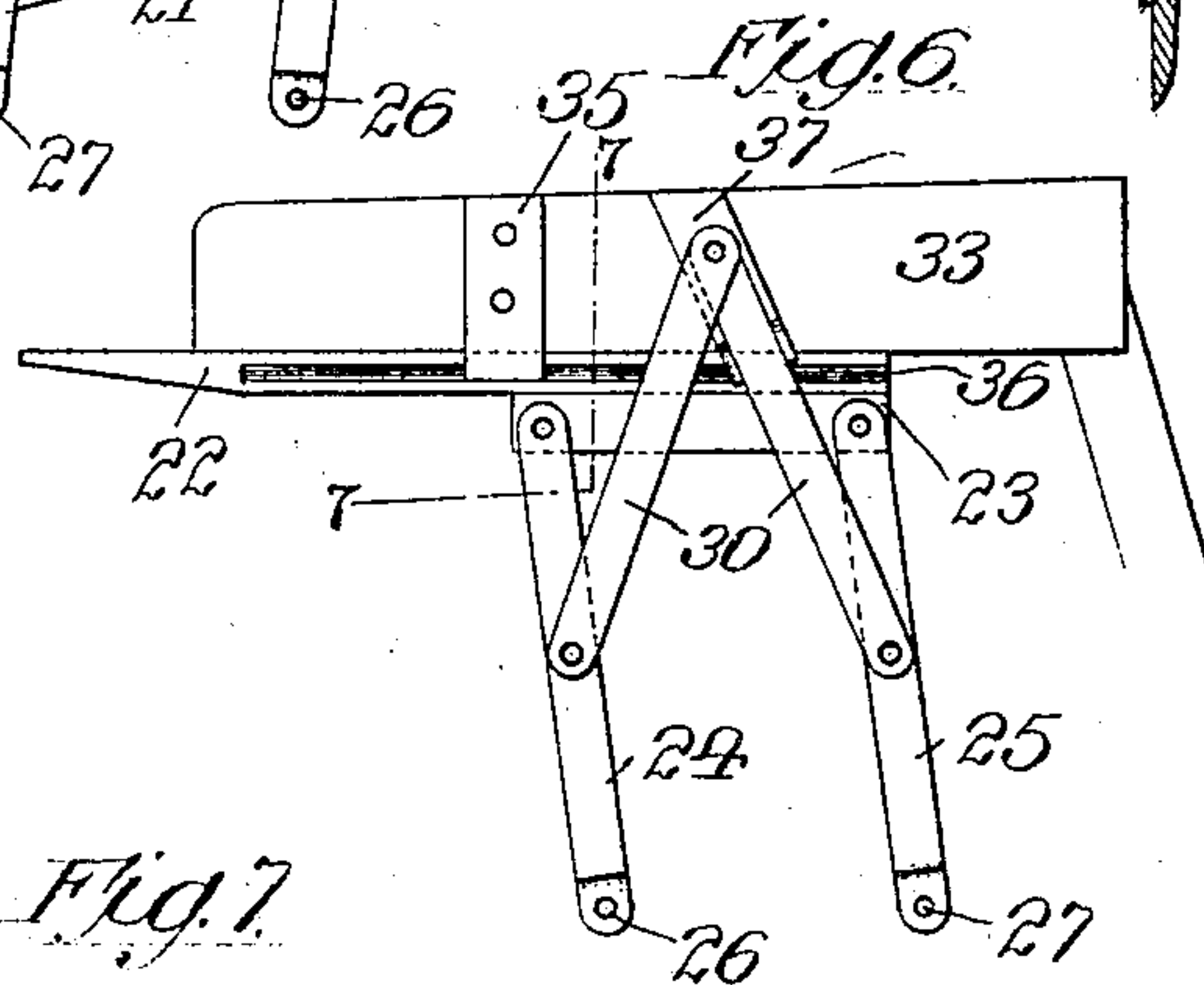
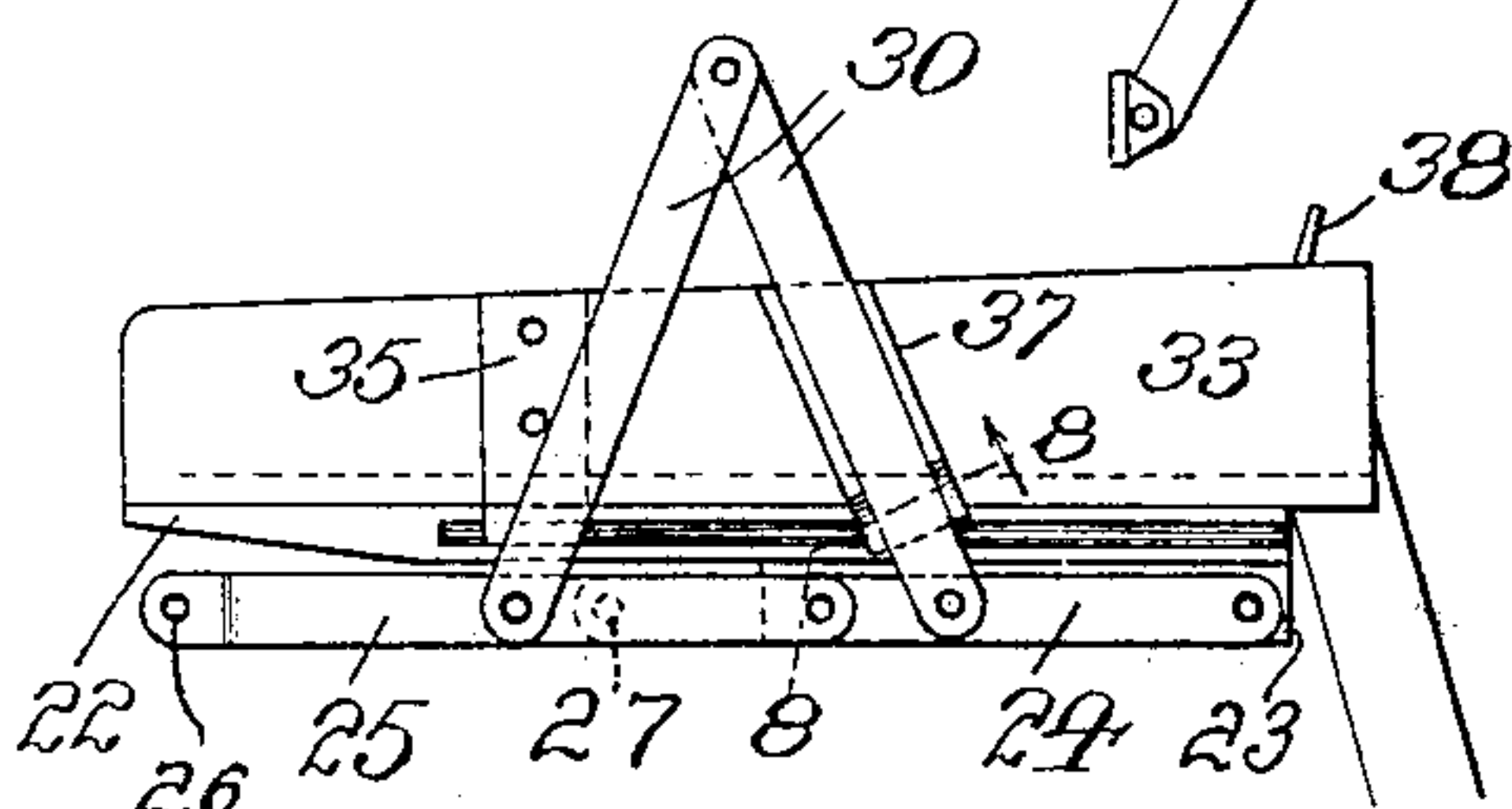
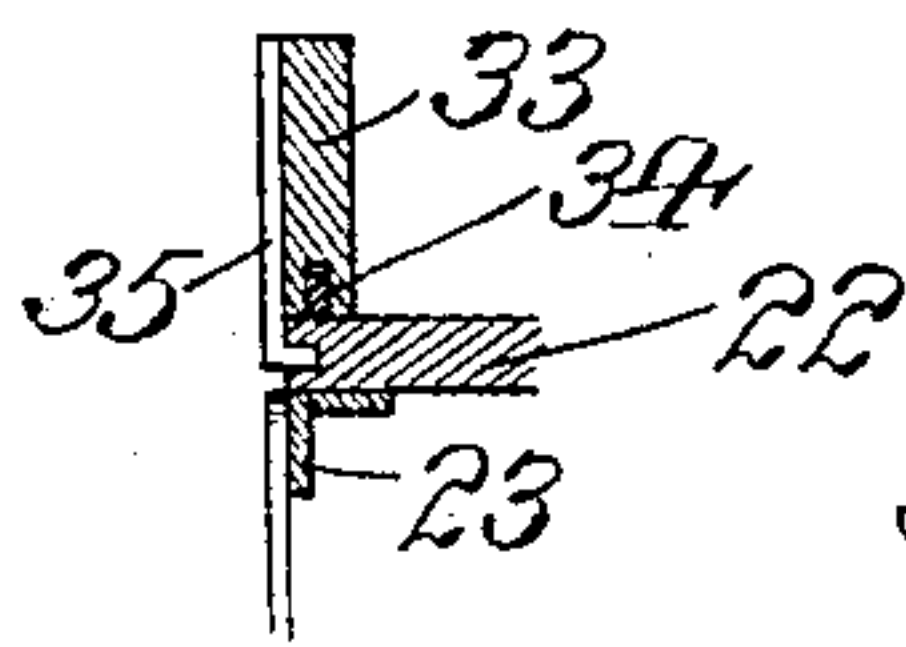


Fig. 6.

Fig. 7.



Witnesses.

Subscribed and sworn to before me this 1st day of May 1904.
Chas. B. Gillen

Inventor:
Magnus J. Hafgar.
By *Louis A. Gieser*
Atty.

UNITED STATES PATENT OFFICE.

MAGNUS J. HAFGAR, OF CHICAGO, ILLINOIS.

TYPE-WRITER CABINET.

SPECIFICATION forming part of Letters Patent No. 778,661, dated December 27, 1904.

Application filed May 13, 1904. Serial No. 207,749.

To all whom it may concern:

Be it known that I, MAGNUS J. HAFGAR, a citizen of the United States, and a resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Type-Writer Cabinets, of which the following is a specification and which are illustrated in the accompanying drawings, forming a part thereof.

The invention relates to that class of cabinets for type-writers in which a shelf is supplied for the type-writer other than the top, which is useful as a desk, and an inclosure style of well is provided for receiving either the shelf carrying the type-writer or the desk-top, the top and the shelf being so connected by a system of links and levers that the lowering of the top into the well raises the shelf into a position such that the type-writer is conveniently disposed for use, and the raising of the desk-top lowers the type-writer shelf into the well. In this latter position of the parts the cabinet resembles an ordinary desk.

More specifically, my invention relates to that class of cabinets in which the type-writer shelf is always in a horizontal position.

The object of my invention is to supply a system of links and levers connecting the shelf and the desk-top so designed that they are short enough to be entirely contained within the well, thus doing away with the need of separate housings for protruding parts in order to secure the desired qualification of dust-proof.

The invention consists in the structure illustrated and hereinafter described.

In the drawings, Figure 1 is a vertical cross-section of the cabinet constructed according to my invention. It illustrates the parts in the position in which the type-writer is inclosed in the well and the top is raised. Fig. 2 illustrates the system of links and levers on which the shelf and the top are hung, separated from other parts. They are here shown in the same position as in Fig. 1. Fig. 3 is similar to Fig. 1, but shows the type-writer shelf in the raised position and the top lowered into the well. Fig. 4 again shows the system of links and levers separated from

other parts, but disposed corresponding to the position of the parts illustrated in Fig. 3. Figs. 5 and 6 are detail views showing the mounting of the shelf. Fig. 7 is a detail section on the line 7 7 of Fig. 6. Fig. 8 is a detail section on the line 8 8 of Fig. 5, and Fig. 9 is a detail elevation showing the arrangement of the links and levers.

As the invention is applicable to any of the ordinary forms of type-writer cabinets, I have not deemed it necessary to show more than sectional views of the cabinet, which disclose the form and arrangement of novel parts, and it will be understood that there is shown only the supporting means for one end of the shelf and top, that at the other end being a mere duplication.

The rear wall of the cabinet is shown at 10, the top at 11, the well being the space inclosed by these parts, the end board 12 and its duplicate, (not shown,) and the inclined front 13, this being composed of several sections so arranged as to provide room underneath the cabinet for the knees and feet of the operator. That portion of the top forming the movable cover of the well is designated 14. Its front edge is hung upon the compound link composed of the parts 15, 16, and 17, pivoted on the end board at 18 and 19. The rear edge of the cover is supported by the bell-crank 20, pivoted on the end board at 21.

The type-writer shelf is designated 22. An angle-plate 23 has one leg fastened to its under face, so that the other leg projects downward. The type-writer shelf is supported by the two parallel links 24 and 25, Figs. 3, 4, and 6, each of which has one end pivoted to the angle-plate 23 and the opposite end pivoted in the end board at 26 and 27, respectively. These links 24 and 25 are offset somewhat adjacent to their pivot ends 26 and 27, Fig. 9, so that for the greater portion of their length they move in a plane far enough from the end board that they clear the bell-crank 20 and connecting parts. As before stated, the type-writer shelf is raised and lowered by the movement of the desk-top. This motion is communicated from the top to the shelf through the bell-crank 20, the parallel links

24 and 25, and a set of connecting-links consisting of the parts 28, 29, and 30. The link 28 joins the short arm of the bell-crank 20 and the center of the curved radius-arm 29, which is pivoted at one end, 32, in the end board and at the other end in the point of the V-shaped member 30. The branches of the V-shaped member are pivoted at their ends in the parallel links 24 and 25, respectively, about midway of their length.

The shelf 22 is provided with ends, as 33, and a duplicate at the opposite end, (not shown,) slidably mounted upon the shelf by means of the tongue and groove 34 and an L-shaped strap 35, fixed to the end rail and fitting in the groove 36 in the edge of the shelf. A second strap 37, fixed to the end rail 33, has sliding engagement with one of the branches of the V-shaped member 30, Fig. 8. In the lower position of the shelf (shown in Fig. 5) the forward edges of the end rail 33 and of the shelf 22 are flush, and during the first part of the movement as the shelf is being raised there is very little relative motion of these two parts; but as the shelf approaches the raised position it moves forward on a much longer radius than the end rail, and its forward edge therefore advances beyond the end rail, as shown in Fig. 6. A back piece is provided for the shelf, it being shown as fastened to the end rail 33 and formed into a pocket 41 for the reception of type-writer accessories. A leaf 38, hinged to the shelf 22, is provided to close the space between the shelf and the back piece or pocket in the raised position. A pin 39, projecting from the end piece, prevents the leaf from turning forward over the shelf as the shelf advances.

To open the cabinet, the front edge of the cover 14 is raised, and the swinging of the links 15, 16, and 17 throws the rear edge down. In this inclined position the weight of the cover exerts a downward pressure on the relatively long arm of the bell-crank 20. The cover now slides naturally down into the position of Fig. 3, whereby the short arm of the bell-crank is swung upward and backward, raising and advancing, by means of the link 28, the curved radius-arm 29, and with it the parallel links carrying the type-writer shelf. As the shelf approaches its raised position its forward edge, the under side of which is slightly inclined for this purpose, rides over the upper edge 40 of the front piece 13, thus forming a firm support for the shelf against downward pressure. To close the cabinet, a little backward pressure on the shelf will swing the parallel links backward, thus lowering the curved radius-arm, moving the short arm of the bell-crank downward, and raising the cover to a position in which the front edge may be easily grasped by the hand to be drawn upward and forward to the closed position.

I claim as my invention—

1. In combination, a cabinet having a well, parallel links pivoted to the side of the well and swinging through substantially ninety degrees, a shelf carried by the links, a hanger connected with the links, a radius-arm pivoted to the side of the well and to the hanger, an oscillatable cover for the well, a lever pivoted to the side of the well and connected with the cover, and connection between the lever and radius-arm.

2. In combination, a cabinet having a well, parallel links pivoted to the side of the well and swinging from a horizontal position upward and forward past the vertical, a shelf carried by the links, a hanger connected with the links, a radius-arm pivoted to the side of the well and to the hanger, an oscillatable cover for the well, a lever pivoted to the side of the well and connected with the cover, and a link connecting the lever with the radius-arm.

3. In combination, a cabinet having a well, a cover for the well, a lever pivoted to the side of the well and the rear of the cover, a pair of links pivoted to the side of the well and having their upper ends crossed, a link attached to the upper end of each of such pair of links and to the forward end of the cover, an oscillatable shelf, parallel links swinging through substantially ninety degrees carrying the shelf and pivoted to the side of the well, a hanger connected with the links, a radius-arm pivoted to the side of the well and to the hanger, and a link connecting the radius-arm with the lever.

4. In combination, a cabinet having a well, an oscillatable cover for the well, a lever secured to the side of the well and to the cover, a shelf, a pair of parallel links carrying the shelf and secured to the side of the well, and a V-shaped hanger one leg of which is attached to each of the parallel links, and connection between the lever and the hanger.

5. In combination, a cabinet having a well, an oscillatable cover for the well, a lever secured to the side of the well and to the cover, a shelf, a pair of parallel links carrying the shelf and secured to the side of the well, a V-shaped hanger one leg of which is attached to each of the parallel links, connection between the lever and the hanger, an end rail for the shelf slidably mounted on the shelf and on the hanger whereby the advance of the end rail is restricted to less than that of the shelf.

6. In combination, a cabinet having a well, an oscillatable cover for the well, and an inclined front to the well, links to guide the front of the cover, a lever pivoted to the end of the well and supporting the back of the cover, a shelf within the well, parallel links supporting the shelf and swinging from a horizontal to a vertical position, a hanger attached to the links, a radius-arm pivoted to the side of the

well and supporting the hanger, and a link connecting the lever with the radius-arm, the levers, links, hanger and radius-arm all being entirely behind and above the inclined wall.

5 7. In a type-writer cabinet, in combination, an oscillatable shelf, an end rail in slidable engagement with the shelf, and a pocket for stationery supplies attached to the rear end of the end rail.

10 8. In combination, a cabinet having a well, an oscillatable cover for the well, an oscillatable shelf within the well, an end rail in sliding engagement with the shelf, a pocket for stationery supplies secured to the rear end of
15 the end rail and meeting the front of the cover when the latter is thrown back.

9. In combination, a cabinet having a well, an oscillatable cover for the well, an oscillatable shelf within the well, an end rail in sliding
20 engagement with the shelf, a pocket for

stationery supplies secured to the rear end of the end rail and meeting the front of the cover when the latter is thrown back, and a leaf pivoted to the rear end of the shelf and closing the space between the shelf and the pocket 25 when the shelf is elevated.

10. In combination, a cabinet having a well, an oscillatable cover for the well, mechanism supporting the cover from the side wall of the well, a shelf, a pair of parallel links carrying 30 the shelf and secured to the side of the well, a V-shaped hanger one leg of which is attached to each of the parallel links, and connection between the hanger and the cover-supporting mechanism.

MAGNUS J. HAFGAR.

Witnesses:

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LOUIS K. GILLSON.