

Sept. 29, 1953

E. NINEBERG

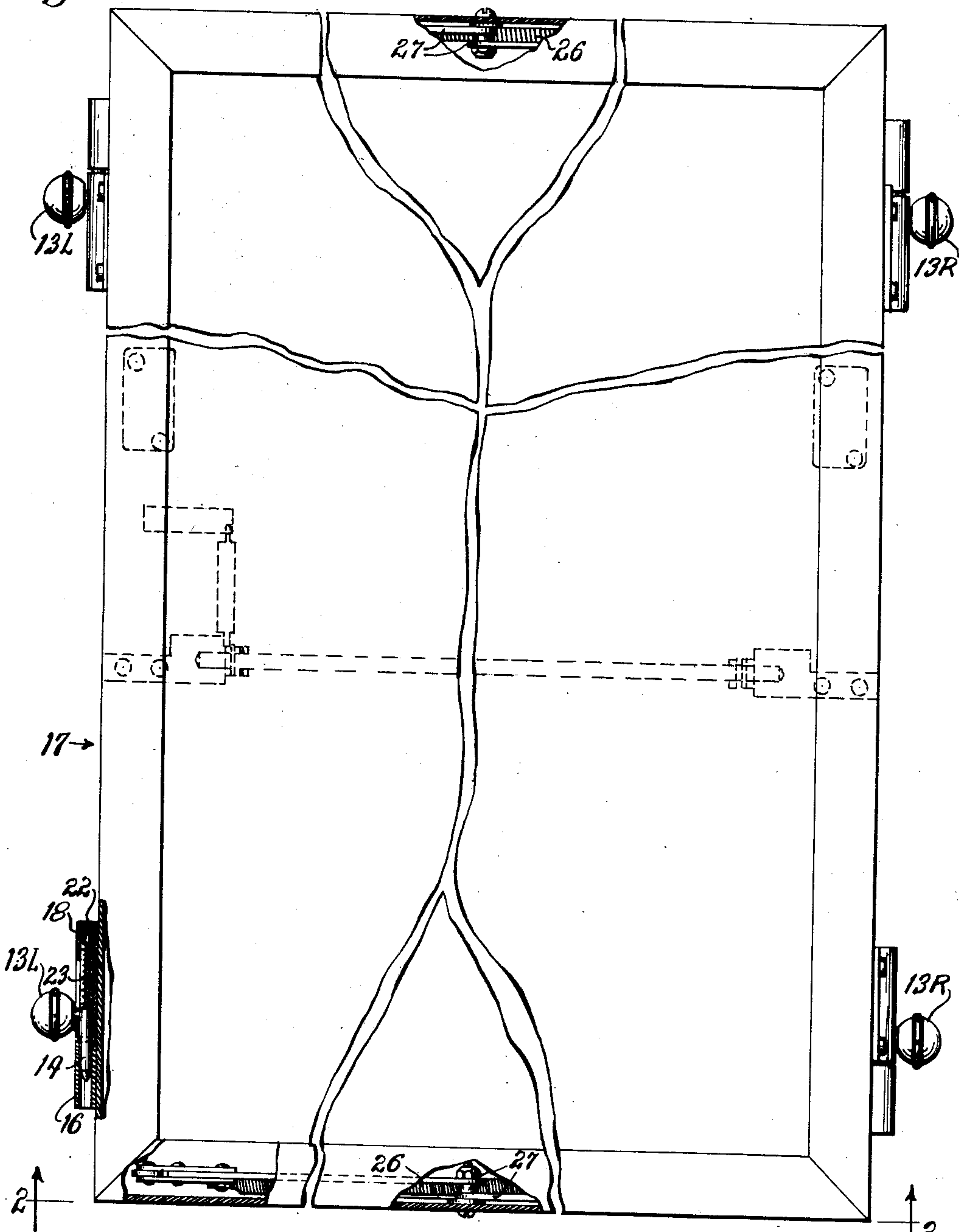
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COPYHOLDER WITH TWO-WAY COVER

Filed June 9, 1950

3 Sheets-Sheet 1

*Fig. 1*



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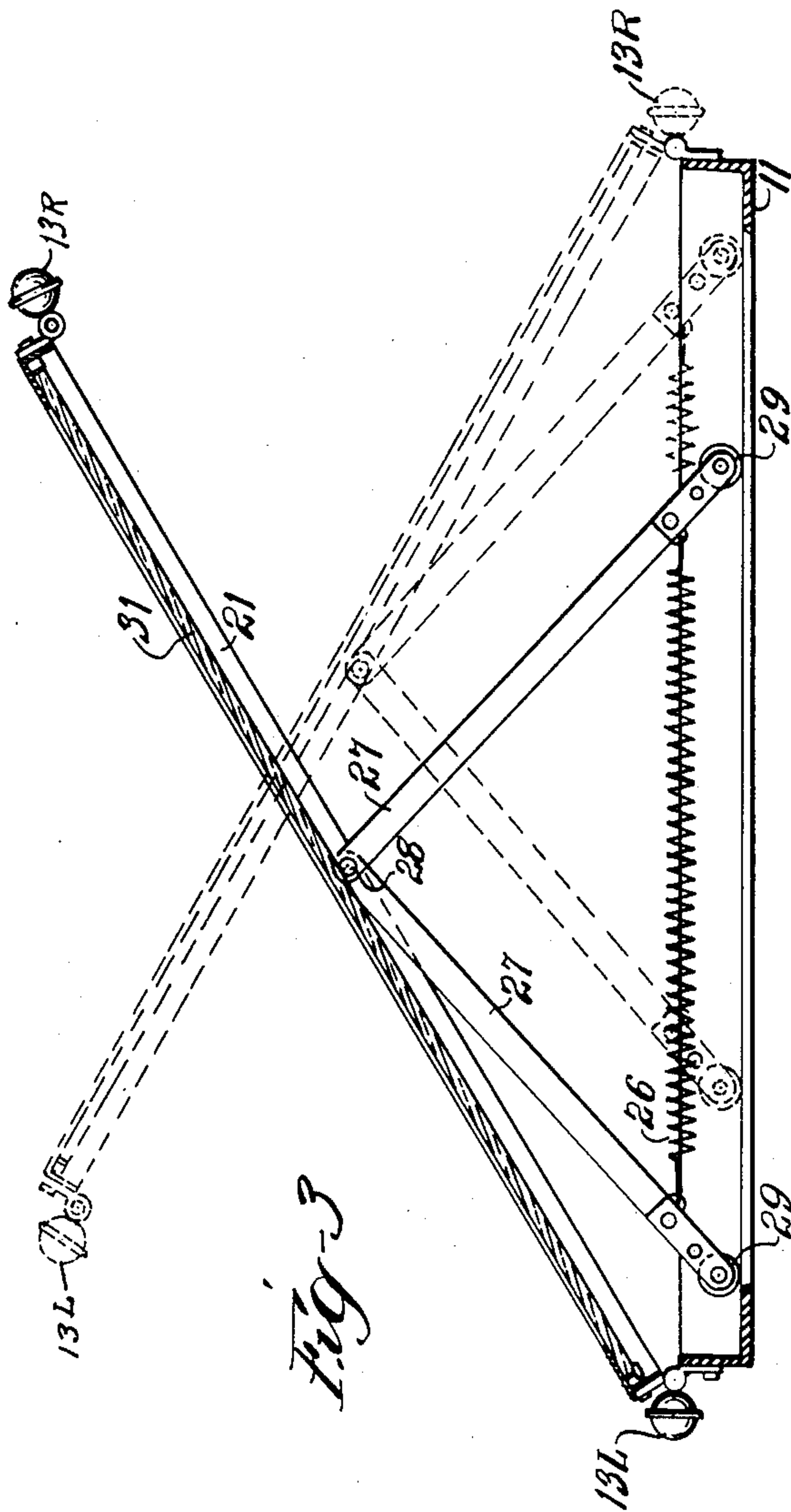
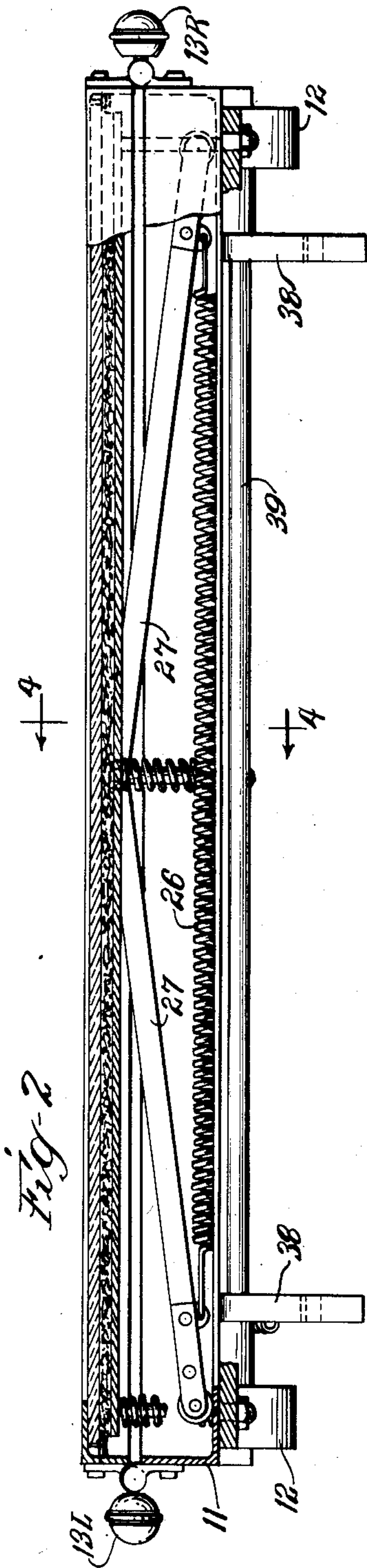
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COPYHOLDER WITH TWO-WAY COVER

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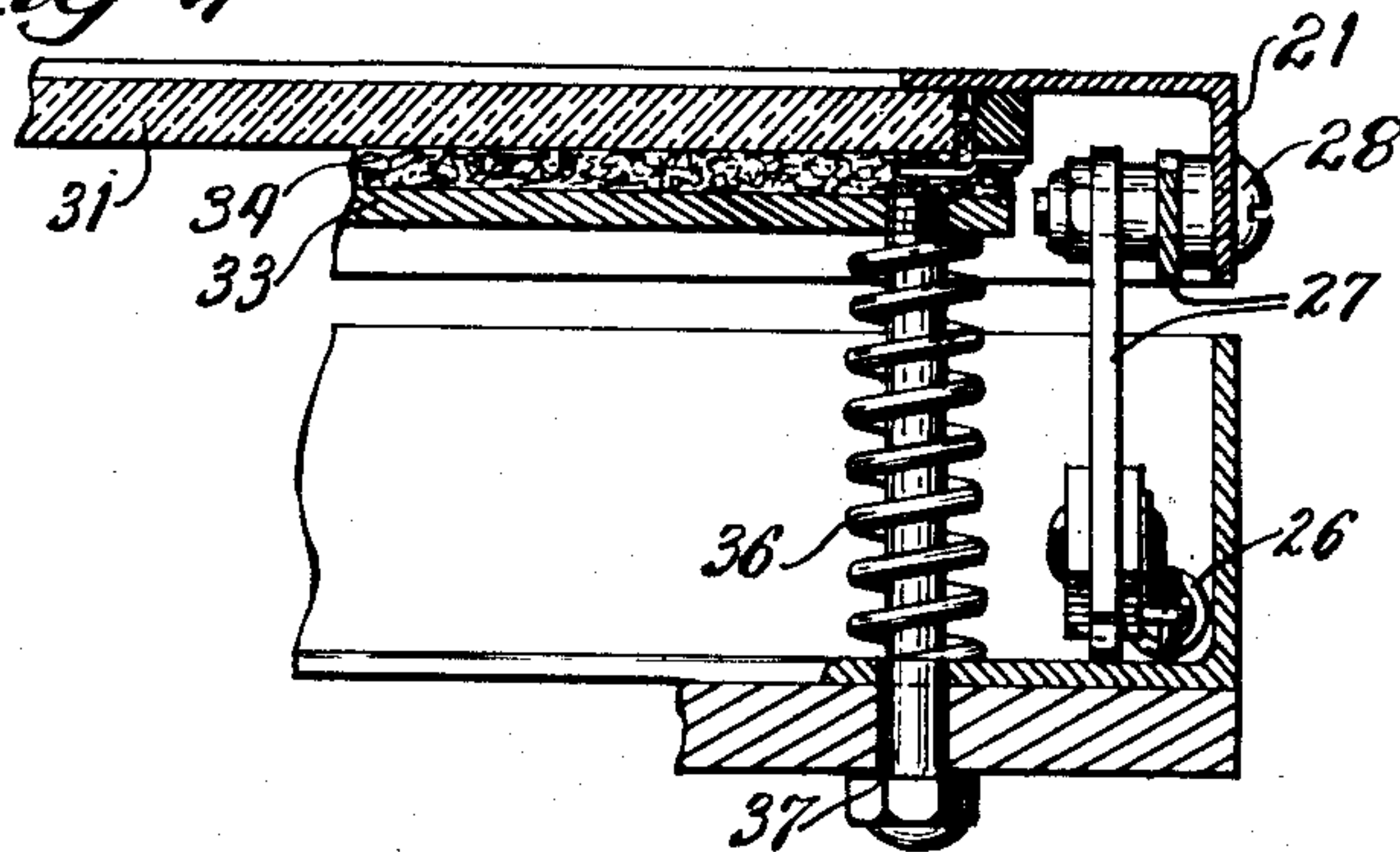
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COPYHOLDER WITH TWO-WAY COVER

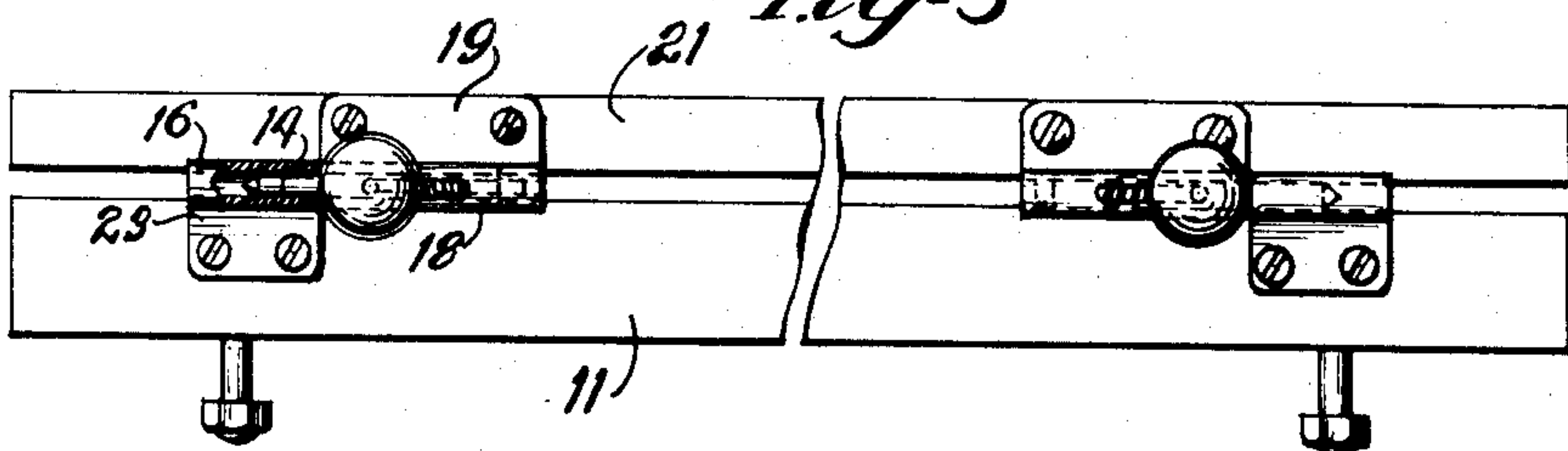
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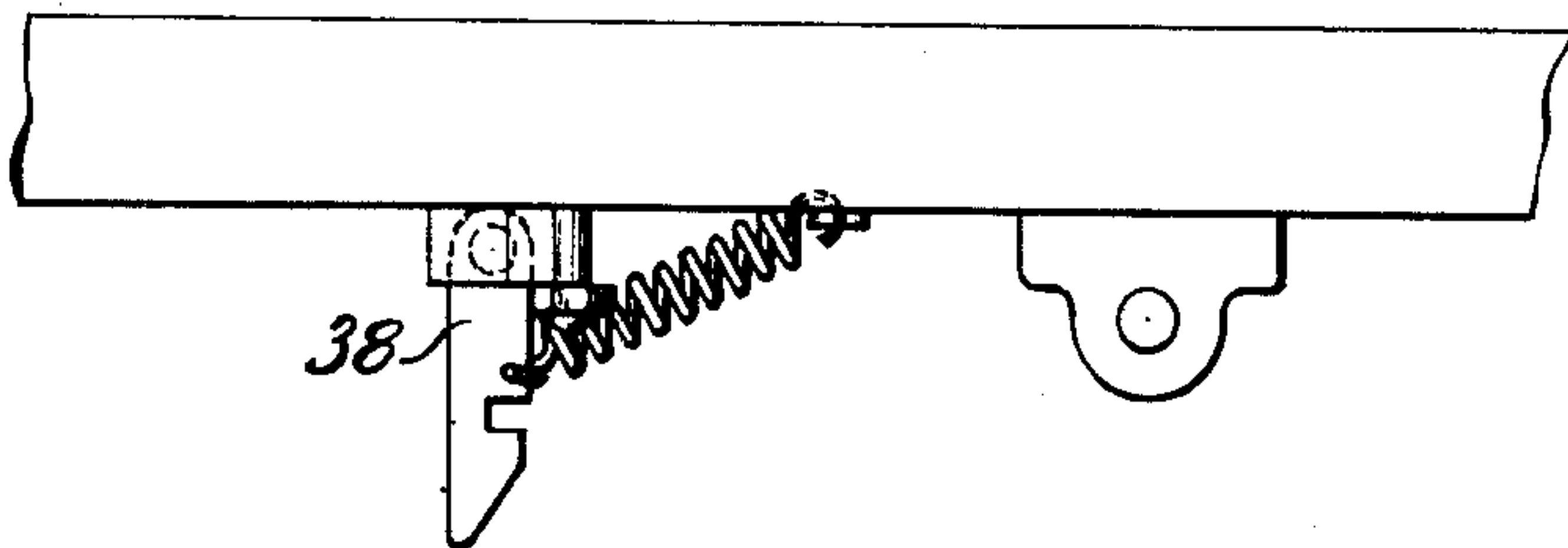
*Fig-4*



*Fig-5*



*Fig-6*



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## UNITED STATES PATENT OFFICE

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## COPYHOLDER WITH TWO-WAY COVER

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5 Claims. (Cl. 88—24)

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In the use of cameras for photo-engraving and other photo-process operations such as are commonly employed for producing printing plates, it is common to use a copy-holder including a glass cover against which the copy is firmly pressed and flattened by a resilient back. When the copy is put into such a copy-holder, the copy-holder is customarily in a horizontal position. Heretofore it has been hinged on one side so that the operator must be on the other side to open it and insert the copy or remove other copy. That side must then be securely latched so that when the copy-holder is swung to a vertical position the cover will not swing open. This is particularly important in view of the fact that the weight of the cover necessitates providing some counterbalancing means such as a spring. When gravity ceases to hold the cover down as the copy-holder is tipped to the vertical position, this spring would throw the cover open if it were not securely latched.

According to the present invention, the copy-holder cover is mounted by very simple means in such a manner that it may be opened from either side and yet is securely latched on that side when it is closed. Each counterbalancing spring serves to counterbalance the cover no matter which side is opened. The simplicity is accomplished in part by using the latch pins as hinge pins and by mounting a counterbalancing spring between two support arms, one of which functions primarily for counterbalancing the cover with one direction of opening while the other functions for counterbalancing the cover with the other direction of opening.

Additional objects and advantages of the invention will be apparent from the following description and from the drawings.

*Designation of figures*

Fig. 1 is a fragmentary face view of the copy-holder, chosen for illustration of this invention, certain parts thereof being broken away for illustration of details.

Fig. 2 is a view taken approximately on the line 2—2 of Fig. 1, showing particularly the counterbalancing mechanism and showing other portions in section.

Fig. 3 is a view similar to Fig. 2 but on a smaller scale and showing in full lines the cover opened in one direction and in broken lines showing the cover opening in the other direction.

Fig. 4 is a fragmentary, sectional view taken approximately on the line 4—4 of Fig. 2, and

Fig. 5 is a side view showing particularly the face view of the combined latches and hinges.

Fig. 6 is a side view showing a latch.

*General description*

Although the law requires a full and exact description of at least one form of the invention, such as that which follows, it is, of course, the purpose of a patent to cover each new inventive concept therein no matter how it may later be disguised by variations in form or additions of

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further improvements; and the appended claims are intended to accomplish this purpose by particularly pointing out the parts, improvements or combinations in which the inventive concepts are found.

In the illustrated form of the copy-holder, the copy-holder base 11 may be a shallow box-like construction. This box may be supported by bearing lugs 12, which may be pivotally mounted from any suitable support, such as a carriage on the camera frame. To open the copy-holder, the operator swings it to a horizontal position. He may then operate either the two knobs 13-R, if he is on the right side of the camera, or the two knobs 13-L, if he is on the left side of the camera. In either event, he slides these two knobs toward one another to shift the pins 14 associated therewith until they clear the cylinders 16, into which they normally extend. Still grasping the same knobs, the operator then may easily raise that side of the cover 17, which is counterbalanced as described below. The cover 17 hinges about the pins 14 on the opposite side of the cover.

*Details of latch-hinges*

As seen best in Figs. 1 and 5, a barrel 18 is carried by a plate 19, which is secured to the cover frame 21. Pin 14 snugly slides within one end of the barrel 18. It is maintained in axial alignment with the barrel by guide rod 22 which slides in snug engagement with the other end of the barrel. Guide pin 22 may be a separate member rigidly secured to pin 14 or it may be a reduced end of pin 14. A spring 23 bears on the rear shoulder of pin 14 to urge the pin outwardly. The knob 13-L or 13-R is carried by the pin 14. Cylinder 16, into which the protruding portion of pin 14 extends, is carried by a plate 23 which is secured to the base 11.

It is apparent that when the cover is closed this spring 23 will press pin 14 into cylinder 16. This is equally true of all four of the hinge-latches. When the two latches on one side of the cover are manually actuated to draw the pins 14 from the associated cylinders 16, the pins 14 on the other side of the cover serve as hinge-pins for swinging the cover up from the side which has been released.

*Counterbalancing*

For best counterbalancing action, a counterbalancing unit is preferably provided at each end of the copy-holder. Thus, as seen in Fig. 1, there is at each end of the copy-holder an assembly which includes a counterbalancing spring 26 and counterbalancing links 27. The structure and operation of each counterbalancing assembly is best seen in Figs. 2 and 3, with occasional reference to Fig. 4.

The links 27 are both pivoted to the frame 21 of the cover, preferably at the center of its end. As seen in Fig. 4, the pivotal mounting may comprise a simple screw 28 with spacing washers and a locknut such as an elastic stop-nut.

Links 27 are provided at their ends with rollers



29 which roll on base 11. Spring 26 is stretched between the free end portions of links 27, which carry the rollers 29. As is quite apparent from Fig. 3, the spring 26 will tend to draw the links 27 together at their bottoms, thus raising the cover frame 21 to an open position. If the right-hand latches are released by knobs 13-R, the counterbalancing links 27 and spring 26 will help raise the cover to the position shown in full lines in Fig. 3. If the right-hand latch-hinges are left engaged when the cover is closed and the left hinges released by knobs 13-L, the counterbalancing means will help raise the cover to the position shown in broken lines in Fig. 3. In either event, upon closing the cover again, this restretches spring 26 as it flattens down the links 27, restoring the parts to the position shown in Fig. 2.

Springs 26 preferably have just about enough strength to counterbalance the weight of the frame 21 and the glass plate 31. Ideally, they have slightly less strength than is required to start the cover upwardly after the pressure under it is released, but enough strength to hold it in the upward position once it reaches that position. It will be observed that, although the tension of the spring 26 reduces as the cover opens, the mechanical advantage of the linkage system 27 increases. Furthermore, the shifting of the center of gravity of the cover as it is raised tends to reduce its apparent weight. Accordingly, it is not at all difficult to choose springs which will hold the cover up when it is raised or let it remain lowered when it is lowered.

It should be understood that, according to the usual practice, the copy will be supported by a resilient back 33, which may include a cover 34 of cushion-like nature and may be supported by a plurality of springs 36. Bolts 37 may limit the movement of resilient back 33 after the cover is raised. However, when the cover is pressed down and latched, resilient back 33 is pressed down enough to unseat bolts 37. Hence the springs 36 press the copy firmly against glass 31.

#### Position latches

Latches are commonly provided for holding copy-holders in vertical position or horizontal position, or both. Preferably such latches are provided, but of a form easily operated from either side of the copyholder. For example, two latches 38 may be rigidly carried on shaft 39 so that releasing the nearest latch will release the further latch.

From the foregoing it is seen that a copyholder of very simple construction is provided which may be opened from either side and which in either event is counterbalanced by a mechanism which holds it in raised position or lets it remain in lowered position.

I claim:

1. A copy-holder including a base, a transparent cover, a pressure pad carried by the base for pressing copy against the inside of the cover, combined hinges and latches positioned on opposite sides of the copy-holder and each including a member rigidly secured to the cover, a member rigidly secured to the base, and a handle-operated pin serving normally as a hinge pin between the two members and shiftable therein, in ordinary operation while restrained from removal, to release the member secured to the cover from the member secured to the base, whereby either side of the cover may be released to swing the cover to an open position for access to the pad with hinge action on the opposite side, and

counterbalancing means acting between the base and the cover for assisting in raising the cover from either side.

2. A copy-holder including a base, a transparent cover, a pressure pad carried by the base for pressing copy against the inside of the cover, and combined hinges and latches positioned on opposite sides of the copy-holder and each including a member rigidly secured to the cover, a member rigidly secured to the base, and a handle-operated pin serving normally as a hinge pin between the two members and shiftable therein, in ordinary operation while restrained from removal, to release the member secured to the cover from the member secured to the base, whereby either side of the cover may be released to swing the cover to an open position for access to the pad with hinge action on the opposite side.

3. A copy-holder including a base, a cover, releasable hinges on opposite sides of the cover whereby either side may be released and the cover raised by hinge action about the other side, and counterbalancing means for assisting in raising the cover from either side, comprising a pair of arms extending generally in opposite directions, each from a pivotal point, and spring means stretched between the arms for drawing the free ends of the arms toward one another, each of said arms extending between the cover and the base, to one of which it is pivoted and to the other of which it is urged by the spring.

4. A copy-holder including a base, means for pivotally mounting the base, a transparent cover, a pressure pad carried by the base for pressing copy against the inside of the cover, combined hinges and latches positioned on opposite sides of the copy-holder and each including a member rigidly secured to the cover, a member rigidly secured to the base, and a handle-operated pin serving normally as a hinge pin between the two members and shiftable therein, in ordinary operation while restrained from removal, to release the member secured to the cover from the member secured to the base, whereby either side of the cover may be released to swing the cover to an open position for access to the pad with hinge action on the opposite side, and position latch means for securing the copy-holder in a given position including a shaft and a latch lever fast on the shaft near each side of the copy-holder.

5. A copy-holder including a base, a cover, releasable hinges on opposite sides of the cover adapted for ready independent release of the opposite sides whereby either side may be released and the cover raised by hinge action about the other side, and counterbalancing means for assisting in raising the cover from either side away from copy in the holder, comprising a pair of arms extending generally in opposite directions, each from a pivotal point, and spring means stretched between the arms for drawing the free ends of the arms toward one another, each of said arms extending between the cover and the base, to one of which it is pivoted and to the other of which it is urged by the spring.

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