

No. 846,756.

PATENTED MAR. 12, 1907.

E. M. NEWELL.

MATCH SAFE.

APPLICATION FILED APR. 23, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

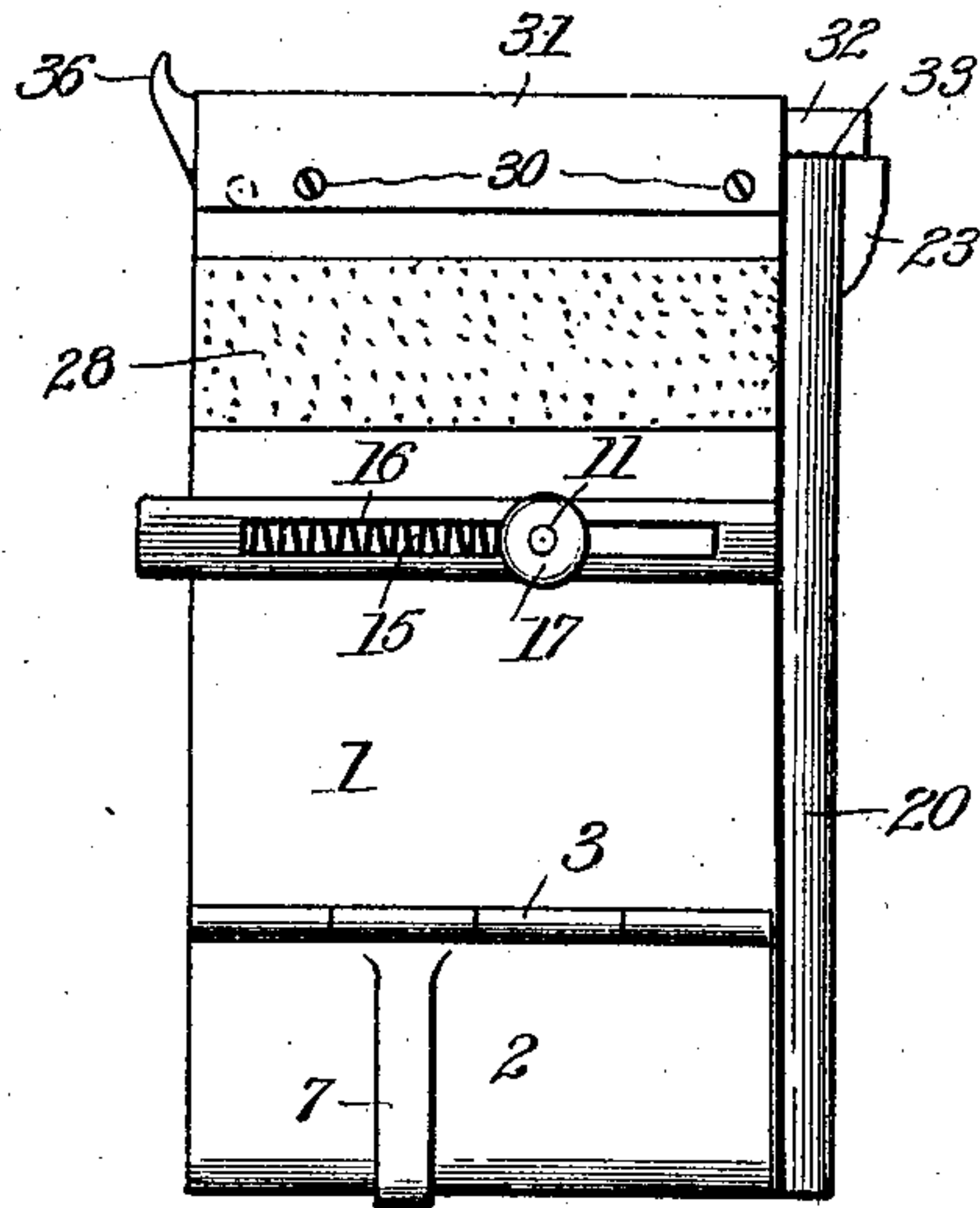


Fig. 2.

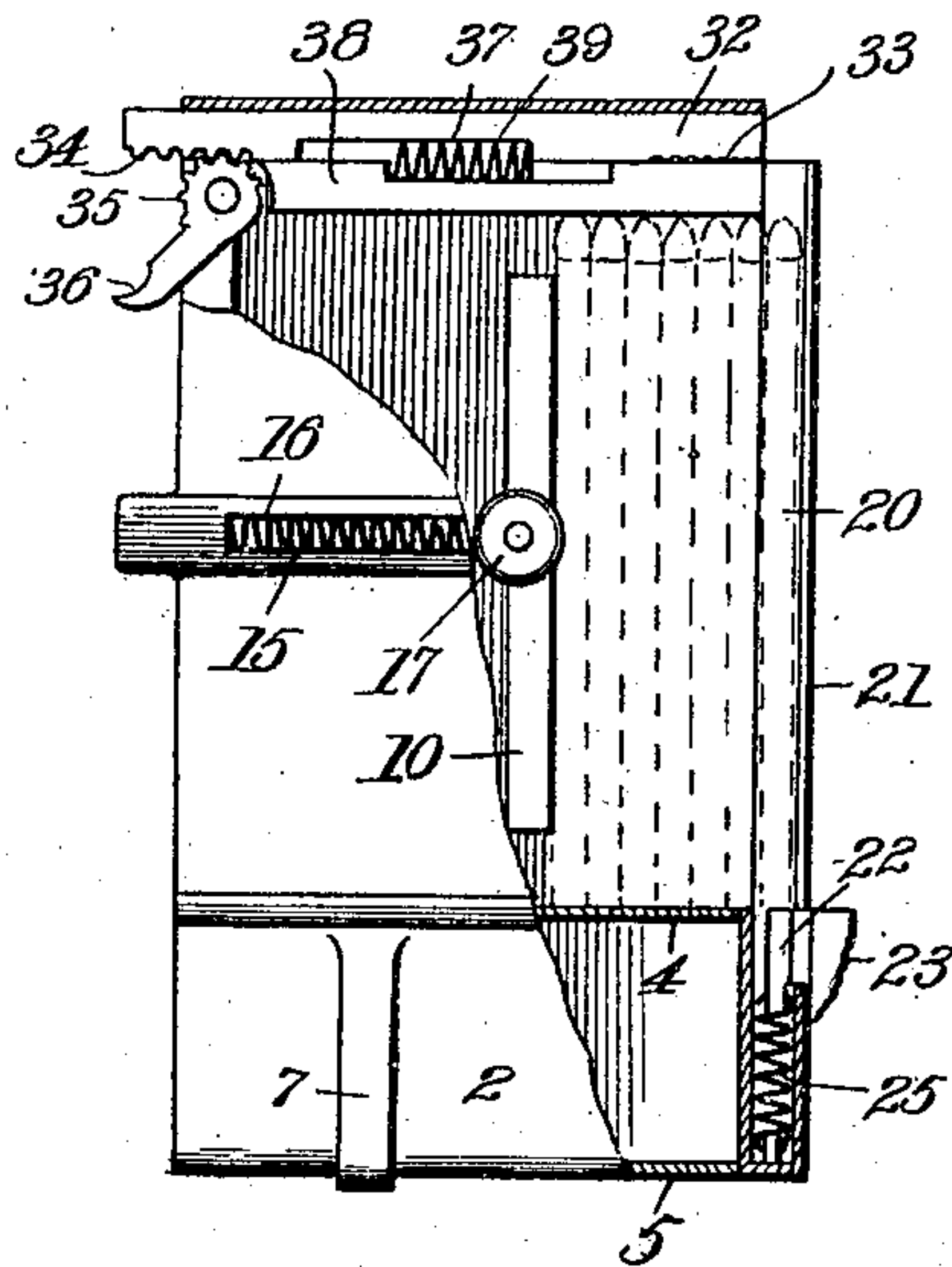


Fig. 3.

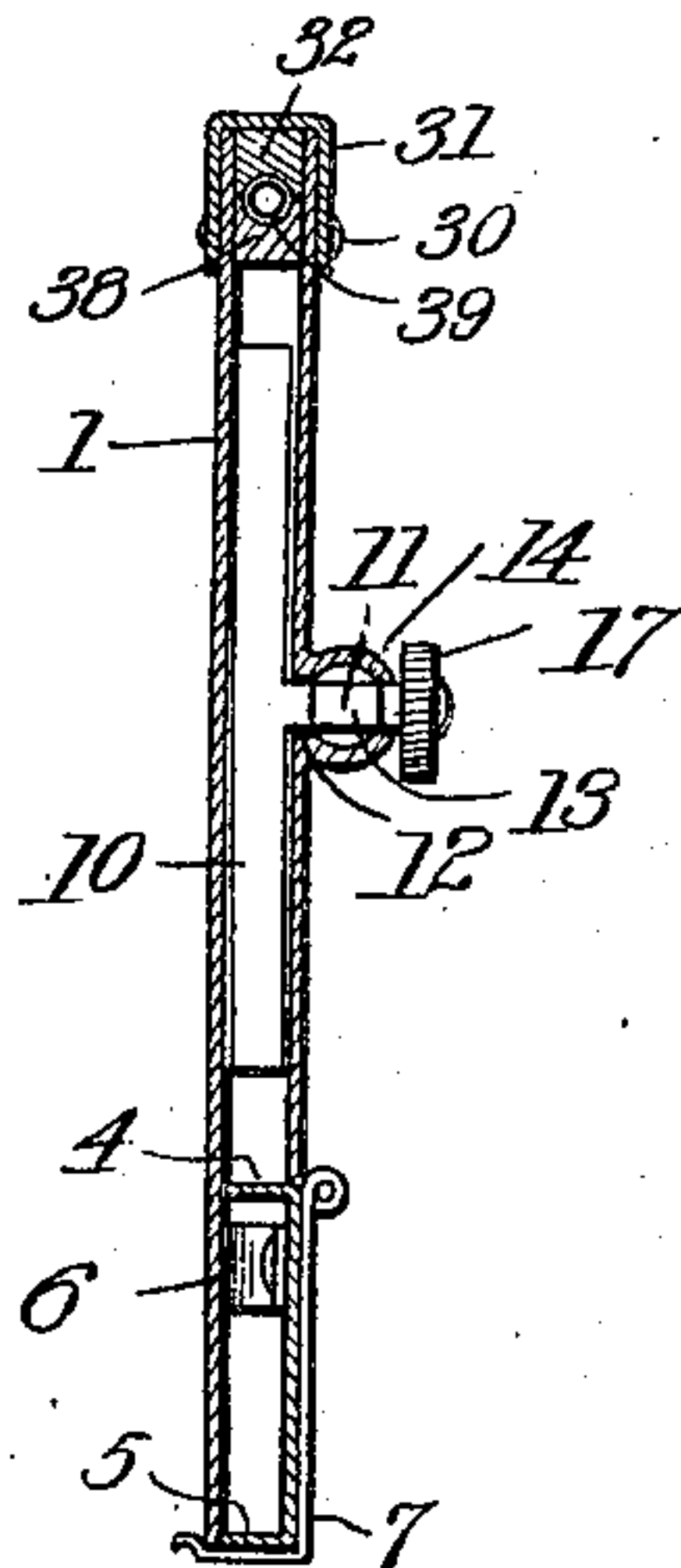
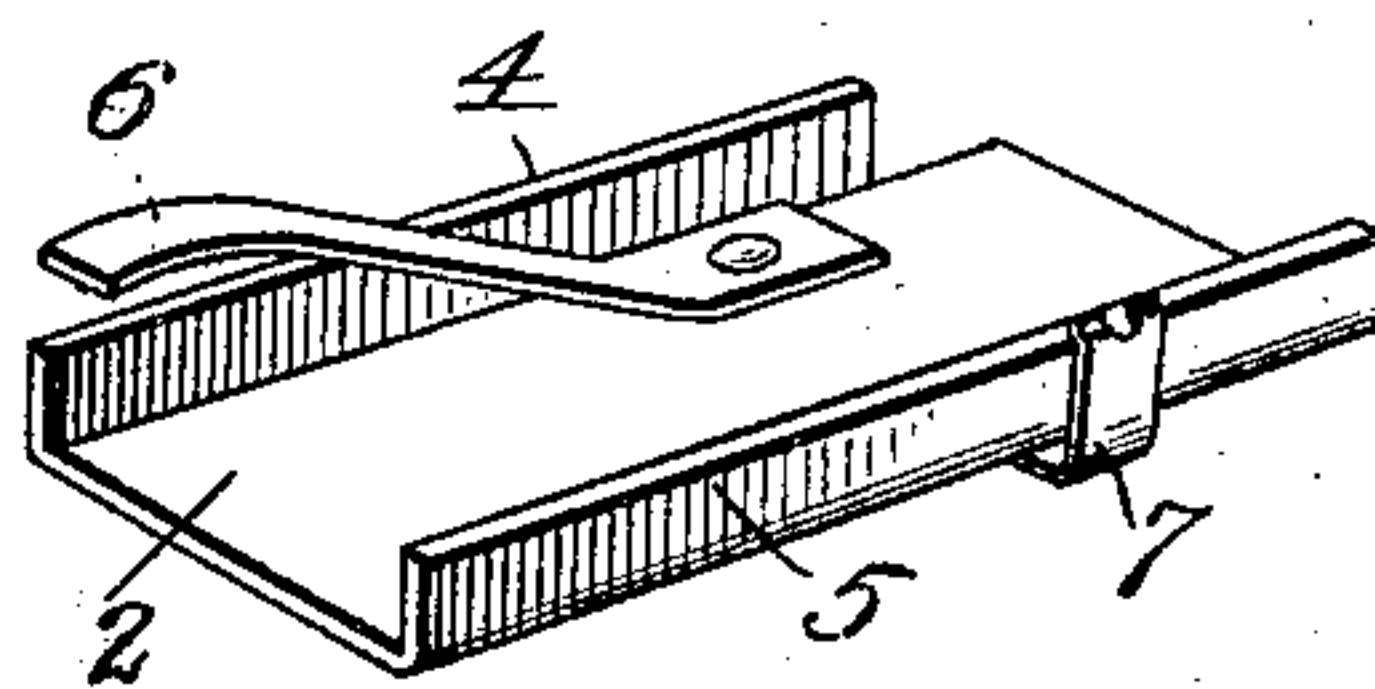


Fig. 4.



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2 SHEETS—SHEET 2.

Fig. 5.

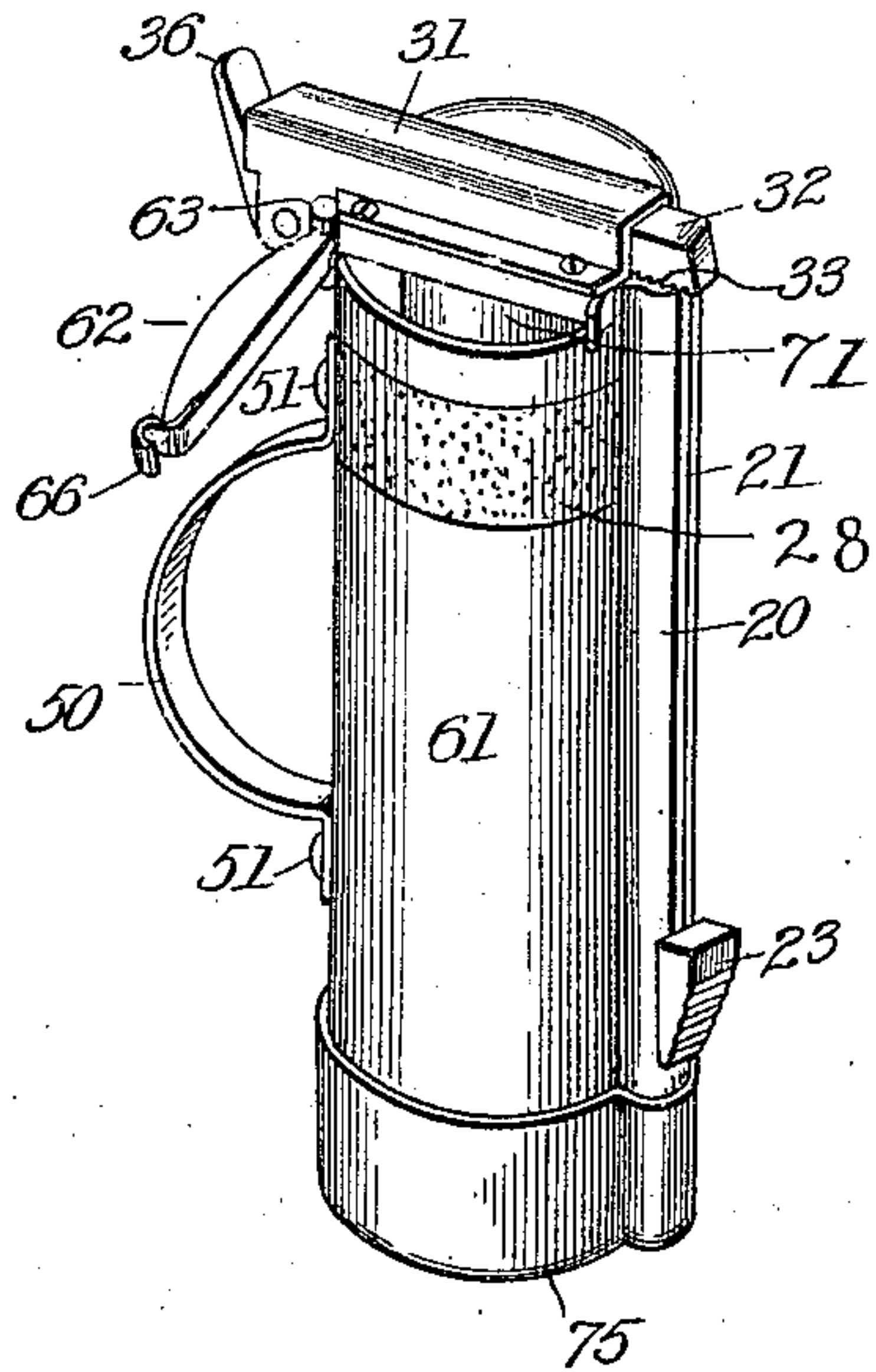


Fig. 8.

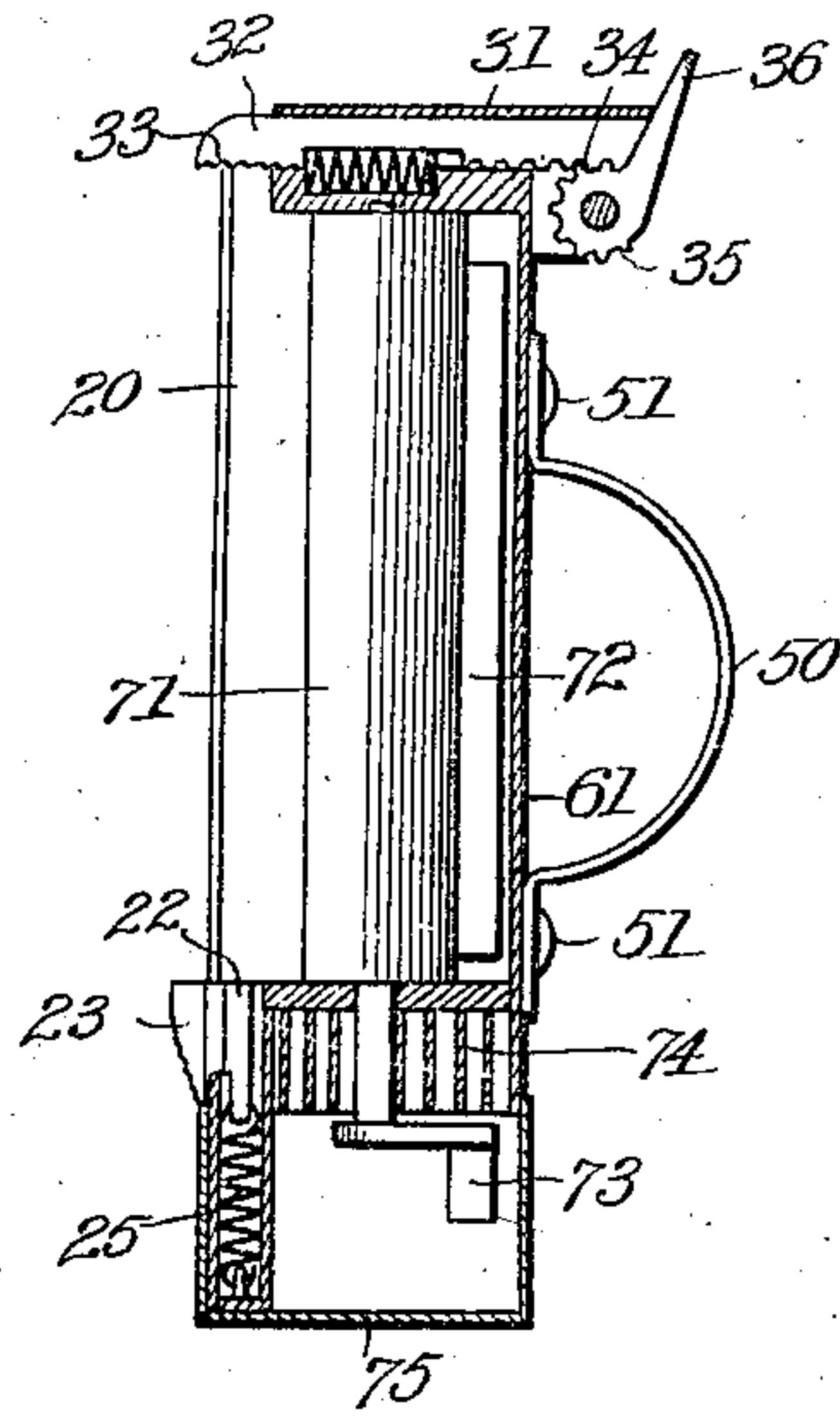


Fig. 6.

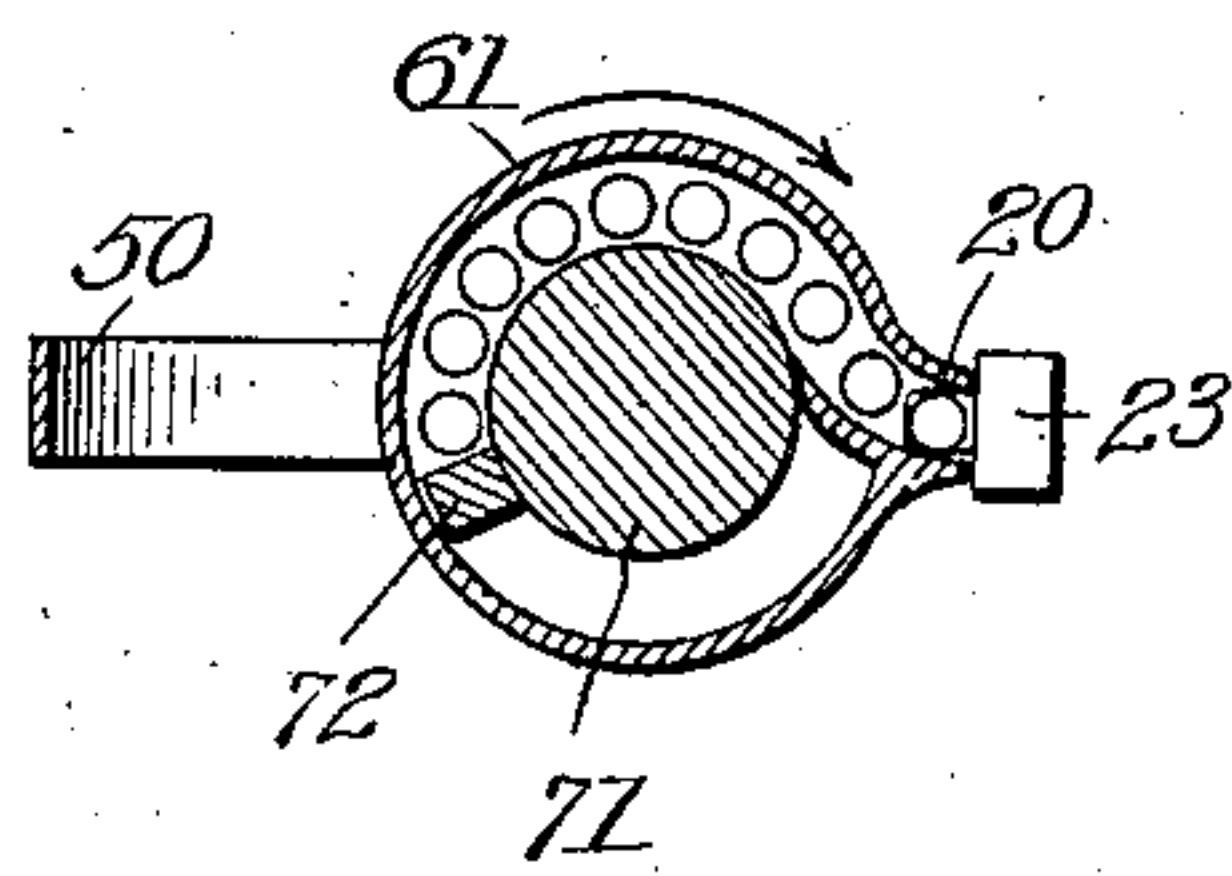
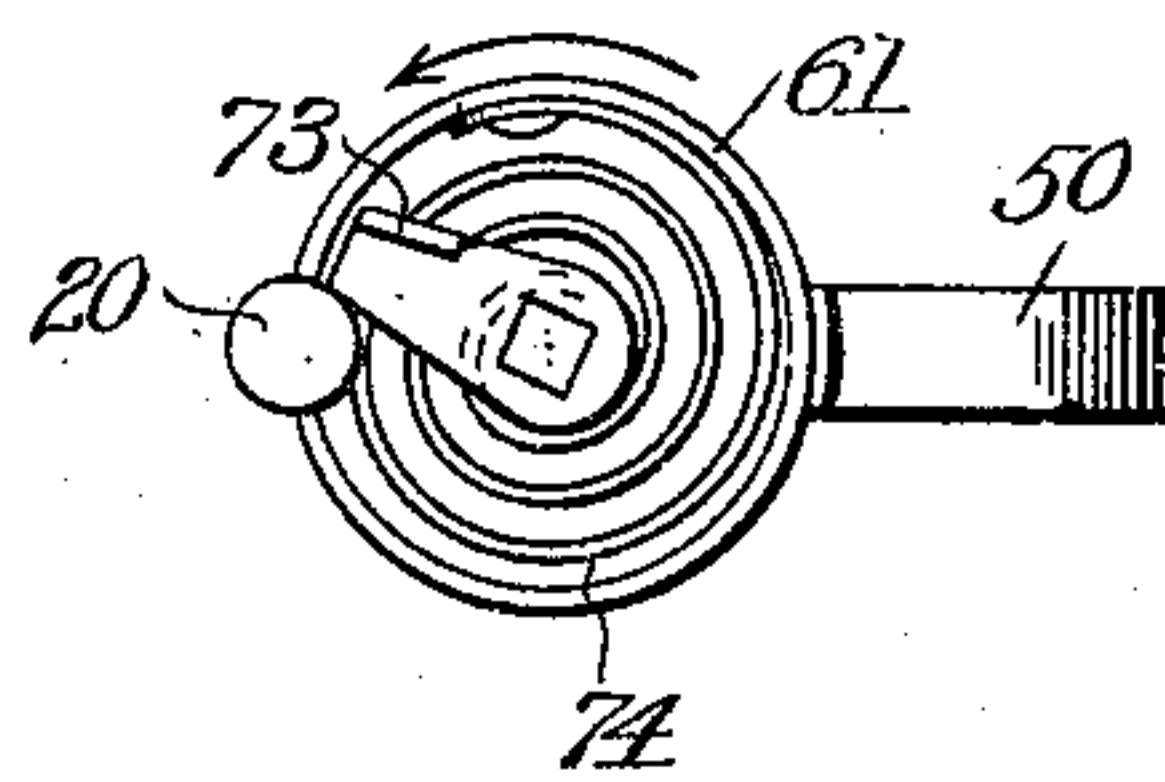


Fig. 7.



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UNITED STATES PATENT OFFICE.

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MATCH-SAFE.

No. 846,756.

Specification of Letters Patent.

Patented March 12, 1907.

Application filed April 23, 1906. Serial No. 313,233.

To all whom it may concern:

Be it known that I, EDWARD M. NEWELL, a citizen of the United States, and a resident of St. Vincent, Kittson county, State of Minnesota, have invented certain new and useful Improvements in Match-Safes; and my preferred manner of carrying out the invention is set forth in the following full, clear, and exact description, terminating with a claim particularly specifying the novelty.

This invention relates to match-safes; and the object of the same is to produce a magazine-safe having improved means for loading, for automatic feed, for manual delivery one by one, and for ignition.

The following specification describes my improved match-safe in two forms, as shown in the drawings, wherein—

Figure 1 is a plan view of one form of this match-safe complete. Fig. 2 is a similar view with parts broken away to show the interior construction, the igniter being retracted. Fig. 3 is a central vertical section. Fig. 4 is a detail of the door and its latch and spring. Fig. 5 is a perspective view of another form or type of this invention with the door swung partly open. Fig. 6 is a central horizontal section. Fig. 7 is a bottom plan view with the lower cap removed. Fig. 8 is a central vertical section through the device shown in Fig. 5.

This improved match-safe may be constructed in a variety of forms, but I have deemed it necessary to show only two—one flat and one cylindrical. In the former the matches, which are stored, lie side by side in a flat sheet, while in the latter they are curved around in a spiral, though in both cases they are automatically fed to a delivery-tube, from which they can be projected by hand in practically the same way in the two devices and can be ignited in either by devices which are also practically duplicates of each other. I will therefore first describe the flat type of my invention complete and then describe such minor differences in detail as are found in the cylindrical type.

The numeral 1 designates a casing of the proper size and shape, having an inlet-door 2 hinged at 3 across its lower end. As shown in Fig. 1, this door has a flange 4 at its upper end and a flange 5 at its lower end, between which it is dished, and in this dished portion is secured a spring 6, whose tip bears

against the back of the casing when the door is closed, and thus tends to throw it open when unlatched.

7 designates the latch, which may be of any type, but is here shown on another spring on the exterior of the door which hooks around the lower flange 5 and over the back of the casing. When the latch is unhooked, the spring 6 throws the door open sufficiently to be grasped by the operator and fully opened, and when fully opened the flange 4 is drawn out of the casing, so that the matches can be inserted, while the act of again closing the door causes this flange 4 to push the matches up into place.

Within the casing stands an upright follower 10, from which rises a pin 11, passing through a slot 12 in front of the casing to a plug 13, which travels in a transverse tubular guide 14, which contains a spring 15. This guide is itself slotted, as at 16, and the pin projects through the slot and carries a button 17, by means of which the follower can be retracted against the force of the spring when the device is loaded. Thereafter the spring will press the matches toward the delivery-tube, and this mechanism thus constitutes an automatic feed.

The numeral 20 designates the delivery-tube, which lies along one edge of the casing and communicates with its interior. This tube is preferably slotted, as at 21, and within it travels a plug 22, whose shank projects through the slot and carries a button 23, by means of which one match at a time can be delivered longitudinally out of the upper end of the tube. Within the lower end of the latter beneath the plug may be located a coiled spring 25 for retracting the plug 22 after its use.

The construction thus far described makes up a complete match-safe without the igniter, and the casing may be roughened, as at 28, for manually scratching each match thereon as it is removed. However, I have made provision for an igniter which can be formed with the device or secured temporarily thereto for removal, if preferred.

To the upper end of the casing by screws 30 is attached a guide 31, within which moves the igniter-bar 32, having a serrated face (or emery-stone) 33, where it projects over the upper end of the delivery-tube, and having a toothed face 34 at its other end, which is en-

gaged by cogs 35 upon a cam or wheel properly journaled within the casing at that point, and having a thumb-lever 36. Registering recesses 37 are formed in the adjacent faces of the bar 32 and the cross-bar 38, which constitutes the top of the casing, and within these registering recesses is located an expansive spring 39, which throws the igniter-bar 32 normally forward, so that its serrated end extends over the mouth of the delivery-tube. Thus the matches in the magazine are fed to the right, one at a time is pushed into the delivery-tube. From the latter this one may be delivered manually, and if the igniter be used it has the effect of preventing such delivery until the thumb-lever 36 is depressed. This act draws the serrated face 33 across the head of the match, which is then manually projected in lighted condition, and by releasing the thumb-lever 36 the spring 39 throws the end of the bar 32 against the side of the match and automatically clamps it or chokes it within the outer end of the tube, thereby permitting the operator to use the device as a holder for the burning match and a magazine for those not yet ignited.

In the other or cylindrical type of my invention many of the same parts are employed. The ejector or manual-delivery device and the igniter (if used) are almost exactly of the same construction. A handle 50 is here shown attached by screws 51, so that it may be removed, if preferred. The door 62 is here of segment shape, hinged at 63 at one of its angles and having a catch 66 at its other angle. It is by preference located at the upper instead of the lower end of the casing, and the inlet occupies a position at one side of the igniter, which extends diametrically across that end of the device. Within the center of the tubular casing 61 is journaled a core 71, carrying a follower 72, adapted to carry matches around within the casing to the outlet-tube. To the lower end of this core is attached a handle 73, taking the place of the plug in the other construction, and a coiled spring 74 at this point gives the core an impulse in a direction opposite to that in which it is turned by the handle for the purpose of loading the magazine. Finally, any suitable cap or closure 75 may cover the spring-handle and close this end of the device. The operation is practically the same. The casing is loaded at its upper end, and the door is then closed and latched. The spring presses the contained matches around within the casing, pushing one at a time into the delivery-tube, and from the latter they are

manually delivered with or without the use of the igniter, as above explained.

By preference all parts of this device are of metal, and it will not be necessary to elaborate the details of construction further than as above set forth.

What is claimed as new is—

1. In a match-safe, the combination with a casing having a delivery-tube, a follower within the casing spring-pressed toward said tube, and a manual ejector in the latter; of an igniter movable at right angles to the length of the delivery-tube, a spring holding it normally across the outlet end of said tube, teeth on the igniter-bar, and a toothed wheel engaging them and having a thumb-lever.

2. In a match-safe, the combination with the casing having a delivery-tube, and means for ejecting the matches therefrom; of a door hinged across the casing and having an inwardly-projecting flange adjacent its hinge adapted to extend across the magazine when the door is closed.

3. In a match-safe, the combination with the casing having a delivery-tube, and means for ejecting the matches therefrom; of a door hinged across the casing, and having inwardly-projecting flanges across its upper and lower edges, a spring secured within the door between said flanges, and a latch for the door.

4. In a match-safe the combination with the body forming the casing cut away at one side; of a door filling said cut-away space and hinged to that side, the door having a transverse flange adjacent its hinge adapted to extend across the casing when the door is closed.

5. In a match-safe the combination with the body forming the casing cut away at one side; of a door filling said cut-away space and hinged to that side, the door having a transverse flange adjacent its hinge adapted to extend across the casing when the door is closed, and another transverse flange at its outer edge and being dished between these flanges, an expansive spring located within the dished portion, and means for holding the door closed against the tension of this spring.

In testimony whereof I have hereunto subscribed my signature this the 5th day of April, A. D. 1906.

EDWARD M. NEWELL.

Witnesses:

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WILLIAM G. DEACON.