No. 857,226. PATENTED JUNE 18, 1907.

T. BOOTH.

SCRAPER.

APPLICATION FILED OCT. 15, 1906.

2 SHEETS—SHEET 1.

FIG. 1.

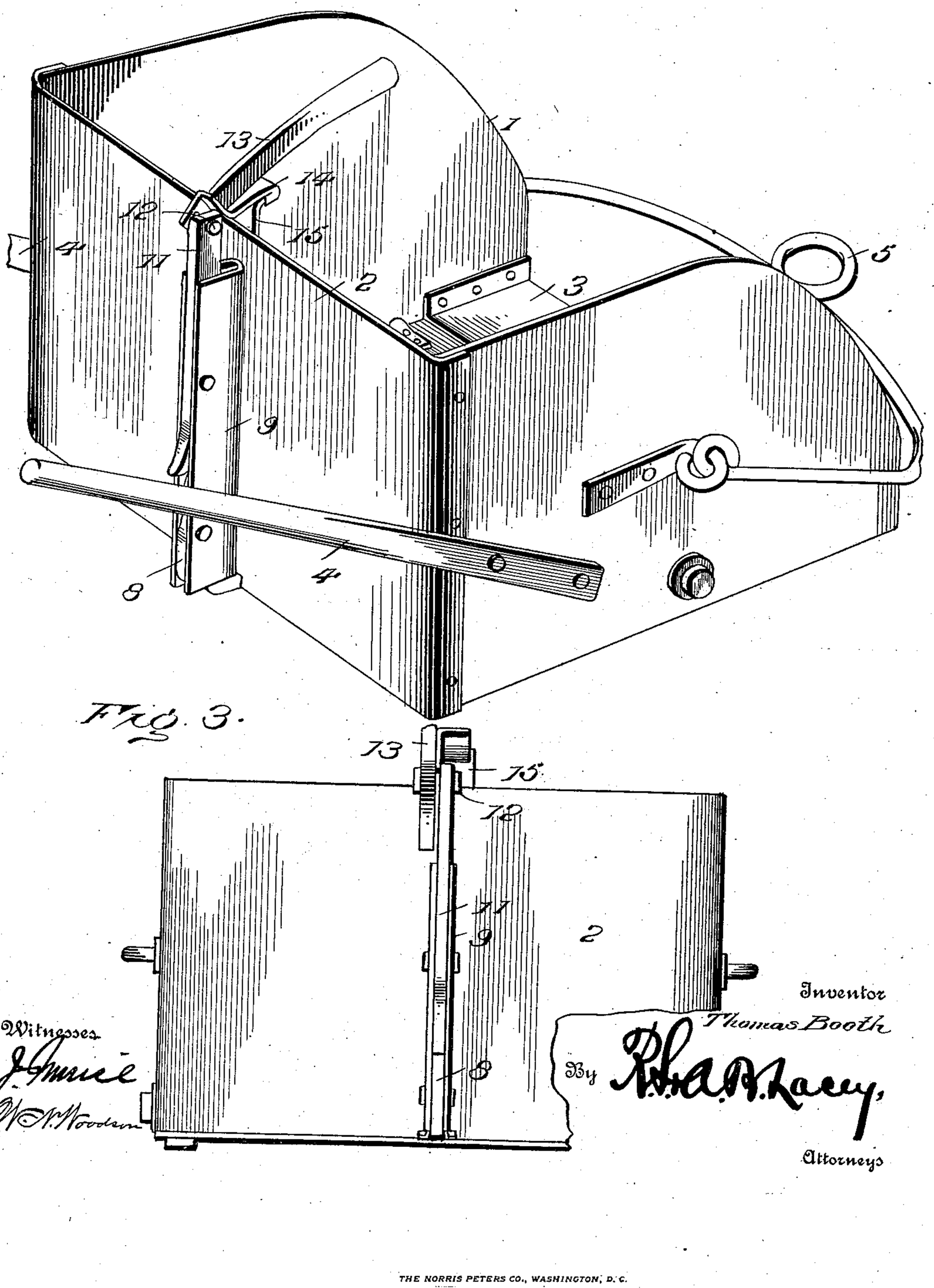

FIG. 3.

Witnesses.
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2 SHEETS—SHEET 2.

Fig. 2.

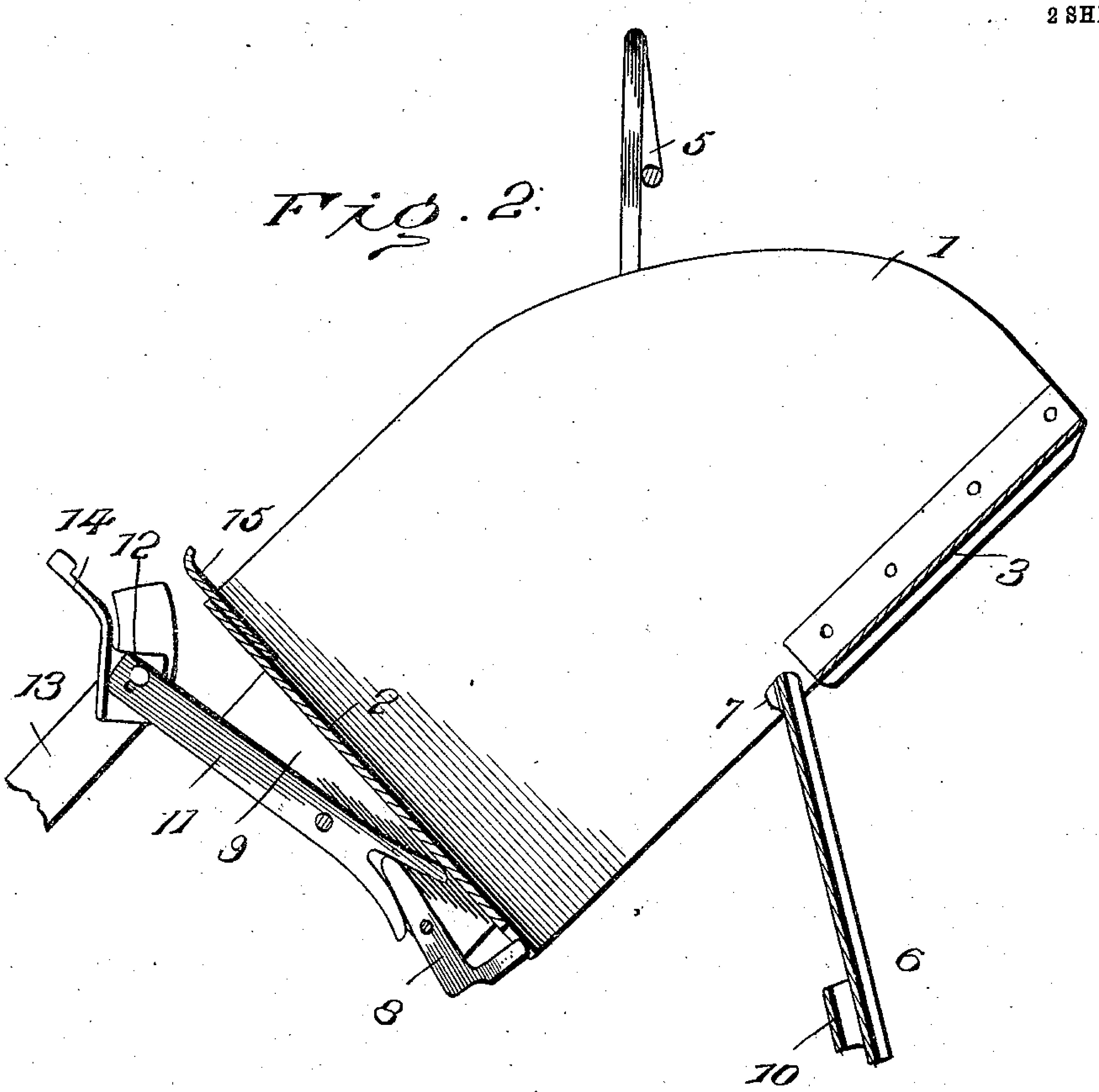


Fig. 4.

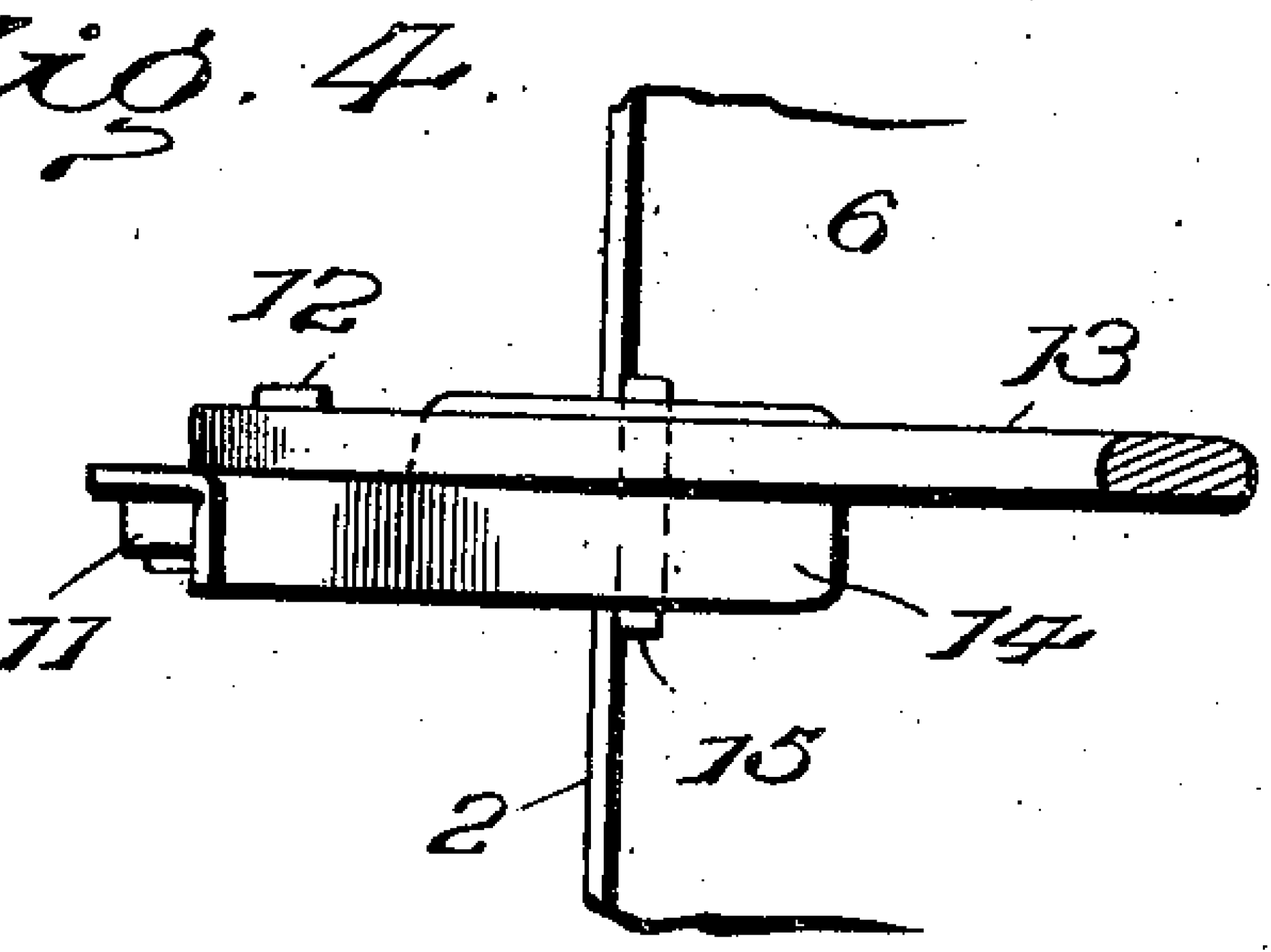


Fig. 5

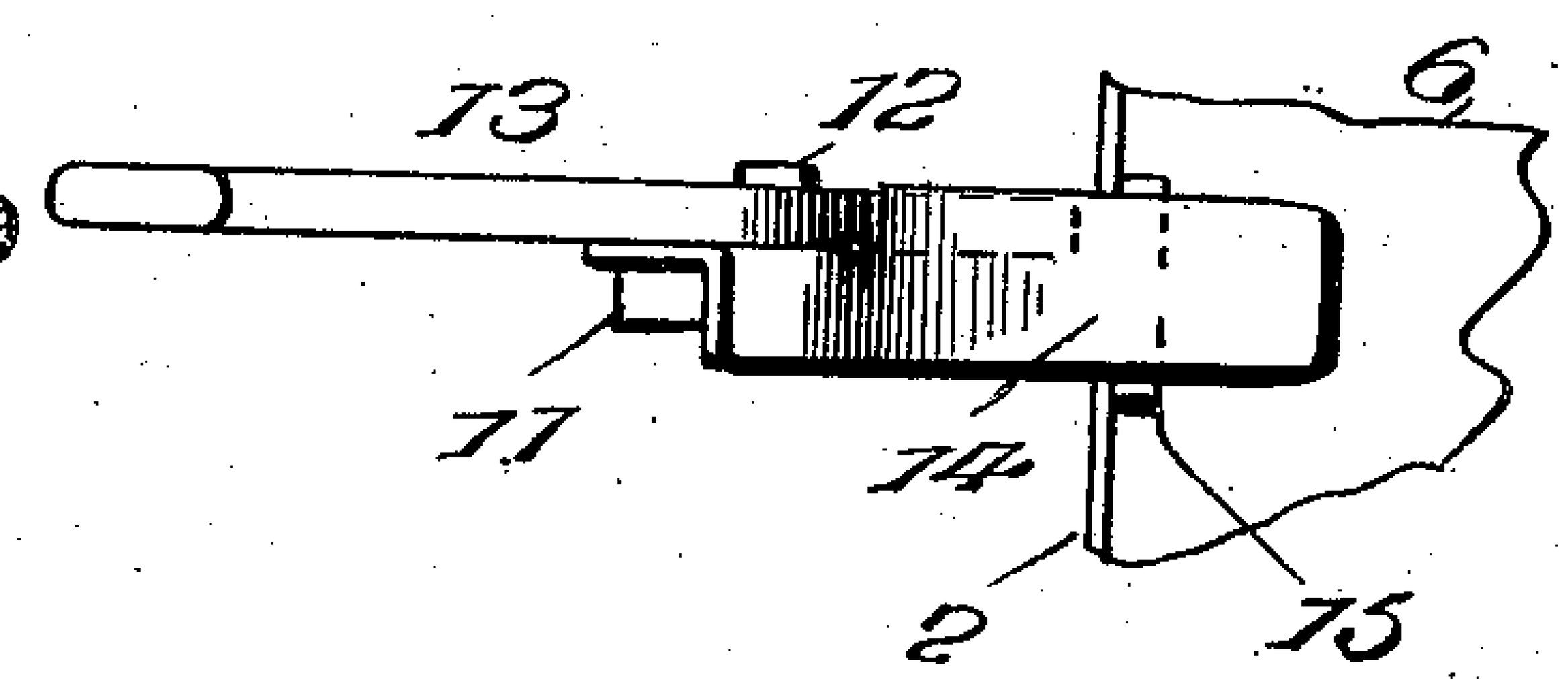
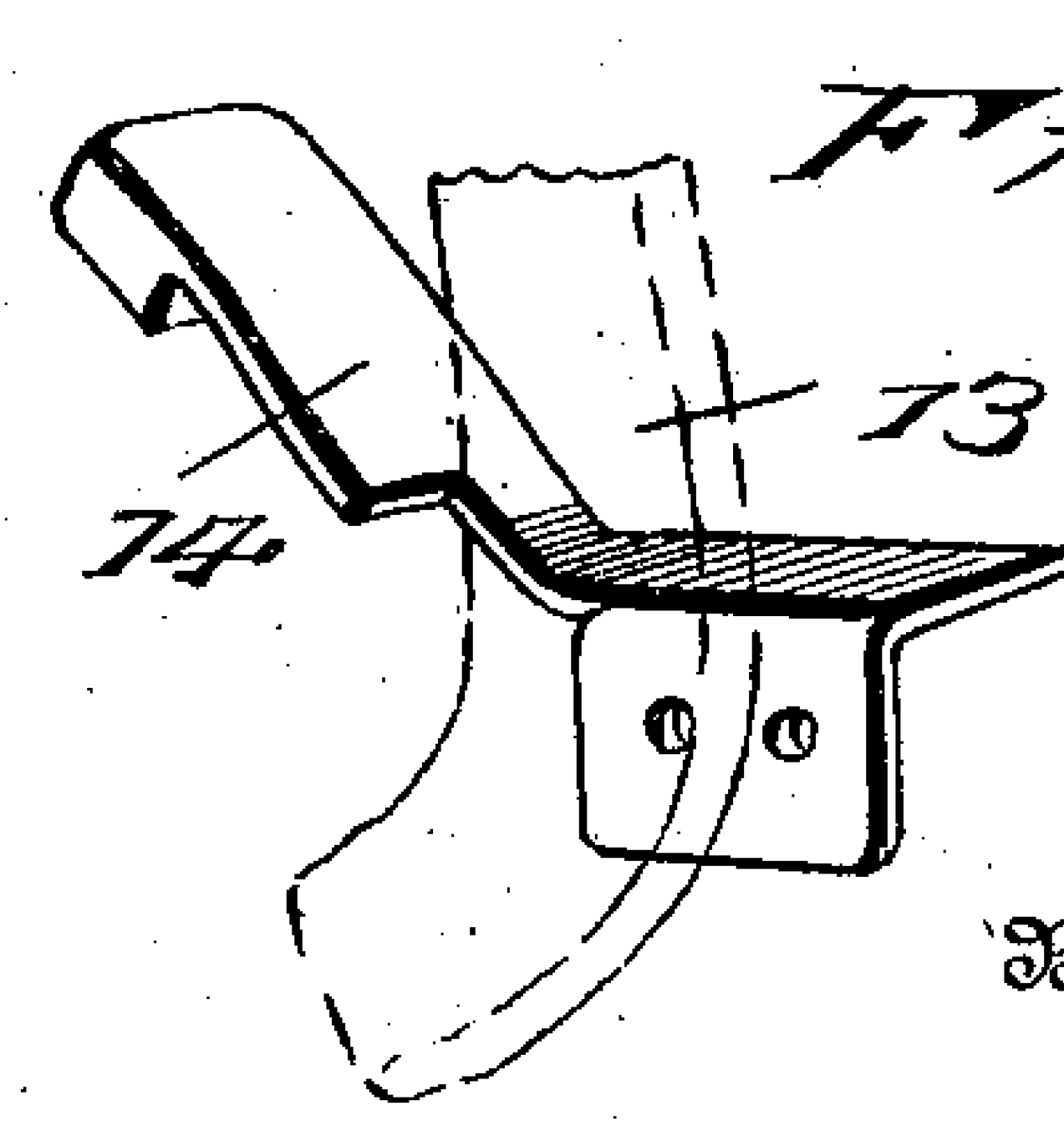


Fig. 6



Witnesses

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SCRAPER.

No. 857,226. Specification of Letters Patent. Patented June 18, 1907.

Application filed October 15, 1906. Serial No. 339,004.

To all whom it may concern:

Be it known that I, THOMAS BOOTH, a citizen of the United States, residing at Boise, in the county of Ada and State of Idaho, have invented certain new and useful Improvements in Scrapers, of which the following is a specification.

This invention relates to that type of scrapers or shovels, commonly employed for excavating purposes, and designed to be drawn over the ground and thereby filled with dirt which is to be removed to a suitable point of deposit therefor.

The scraper embodying the present invention is especially constructed for use in making deep excavations, and it is contemplated to use the same in connection with a suitable derrick or hoisting means, whereby when the scraper or shovel is filled with dirt after having been drawn over the surface of the earth, it may be hoisted out of the excavation in which it is being worked, and when elevated may be dumped to discharge the contents thereof.

The invention resides in the novel construction of the scraper as shown, *per se*, as well as in the novel means employed for facilitating the dumping of the receptacle.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a perspective view of a scraper or shovel embodying the invention. Fig. 2 is a vertical sectional view showing the scraper elevated, and the parts arranged in the positions assumed thereby when being dumped. Fig. 3 is a rear elevation. Fig. 4 is a top plan view, the body of the scraper partially broken away, showing the arrangement of the trip lever and catch previous to dumping of the scraper. Fig. 5 is a view similar to Fig. 4 showing the initial movement of the trip lever as the lower end thereof is brought into contact with the catch to disengage the latter. Fig. 6 is a detail broken perspective view of the catch and trip lever.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Referring to the drawings, and describing specifically the parts included in the present invention, the numeral 1 designates the body of the scraper, which is of the same form, generally speaking, that is most commonly in use, said body comprising the customary sides, the back 2, and the bottom 3.

The scraper has the usual rearwardly extending handles 4 by which the same may be guided over the ground, and a suitable draft yoke 5 is pivotally connected with the sides of the scraper so that it may be readily attached to the draft means by which the scraper is advanced, and said draft yoke also being adapted to be connected with the derrick or hoisting means whereby the scraper or shovel is elevated after it has been filled, and preliminary to discharging or dumping the contents thereof.

The bottom of the scraper includes a pivoted bottom section 6, provided with lateral pintles 7 at its front portion which are journaled in bearings provided in the opposite sides of the scraper, the rear end portion of the bottom section 6 being normally held in closed position, or in horizontal alinement with the bottom 3 by means of a dog 8 pivoted to bracket 9, applied to the rear side of the back 2 of the scraper between the handles 4. The dog 8 is pivoted between its ends and engages at its lower extremity with a keeper 10 applied to the outer or free end of the bottom section 6. For operating the dog 8 to disengage the same from the bottom section 6, an operating lever 11 is employed and is pivoted between its ends to the bracket 9, the lower end portion of said lever 11 being bifurcated to receive the upper end of the dog 8 which fits between the bifurcate portions. The upper end of the operating lever 11 is connected by a pivot 12 with a trip lever 13, the upper end of which may be secured to a trip rope, though said trip lever may be directly grasped by the end and thus manipulated, if desired. The pivot 12 not only connects the lever 11 with the lever 13, but said pivot also connects a catch 14 with the said levers. The outer end of the catch 14 is formed with a suitable nose to engage an arm 15 projecting upwardly from the upper portion of the back 2 of the scraper. The lever 13 is pivoted between its ends and its lower end portion extends forwardly so as to engage beneath the catch 14, when the lever 13 is pulled upon to thereby raise the catch out of engagement with the arm 15 simultaneously with disengagement of the

dog 8 from the keeper 10, at which time the bottom section 6 will drop or open downwardly.

Describing the operation of the invention, it will be apparent that after the scraper or shovel has been drawn over the ground and filled with dirt or other material, the yoke 5, may be detached from the draft means and connected with the elevating rod of a derrick or other hoisting mechanism, whereby the scraper with its load may be raised out of the excavation in which it is working. After the scraper has been carried to the point where it is desired to dump the same the operating rod connected with the trip lever 13 may be pulled upon and this will cause the lower end of the lever 13 to strike the under side of the catch 14, disengaging said catch from the arm 15, the continued pull on the lever 13 forcing the upper end of the operating lever 11 rearwardly. As the upper end of the lever 11 moves rearwardly its lower bifurcated end will move forwardly and actuate the dog 8 to disengage the latter from the keeper 10, whereupon the bottom section 6 will be raised and the load of dirt or material in the scraper dumped.

Having thus described the invention, what is claimed as new is:

1. In a scraper or shovel of the class described, the combination of a body provided with a movable bottom, draft means for the scraper, a dog for normally holding the movable bottom in closed position, an operating lever having operative connection at one end with the dog aforesaid, a catch for holding said operating lever in a certain position, and means for simultaneously tripping the catch and actuating the operating lever to disengage the dog from the movable bottom.

2. In a scraper or shovel of the class described, the combination of a body provided with a movable bottom, draft means for the scraper, a dog for normally holding the movable bottom in closed position, an operating lever having operative connection at one end with the dog aforesaid, a catch for holding said operating lever in a certain position, and a trip lever having pivotal connection with the operating lever and the catch aforesaid to simultaneously actuate these parts, whereby to disengage the dog from the movable bottom.

3. A scraper or shovel comprising a movable bottom for dumping purposes, a dog normally coöperating with the movable bottom to hold the same closed, a catch operatively connected with the dog aforesaid to hold the latter in engagement with the movable bottom, and means for simultaneously actuating the catch and the dog to disengage the latter from the movable bottom.

4. A scraper or shovel comprising a movable bottom, a dog pivoted to the back of the scraper and normally coöperating with the movable bottom to hold the same closed, an operating lever pivoted to the scraper and having one end arranged to actuate the dog, a catch pivotally connected with the other end of the operating lever, and engaging the body of the scraper to hold the said operating lever in a predetermined position, and means for disengaging said catch for the purpose specified.

5. A scraper or shovel comprising a movable bottom, a dog pivoted to the back of the scraper and normally coöperating with the movable bottom to hold the same closed, an operating lever pivoted to the scraper and having one end arranged to actuate the dog, a catch pivotally connected with the other end of the operating lever, and engaging the body of the scraper to hold the said operating lever in a predetermined position, and a trip lever arranged to disengage the catch aforesaid from the top of the scraper and operably connected with the operating lever to actuate the same.

6. A scraper comprising a movable bottom pivotally connected at one end thereof, a dog pivoted to the body of the scraper and coöperating with the free end of the movable bottom to hold the latter closed, an operating lever pivoted to the scraper between its ends having one end loosely connected with the dog, a catch pivotally connected with the opposite end of the operating lever and coöperating with the body of the scraper to hold said lever in a predetermined position, and a trip lever pivoted to the operating lever and arranged for actuation thereof, said trip lever having an end portion arranged to engage the catch to disengage the latter, for the purpose specified.

7. A scraper comprising a movable bottom pivotally connected at one end thereof, a dog pivoted to the body of the scraper and coöperating with the free end of the movable bottom to hold the latter closed, an operating lever pivoted to the scraper between its ends, having one end loosely connected with the dog, a catch pivotally connected with the opposite end of the operating lever and coöperating with the body of the scraper to hold said lever in a predetermined position, a trip lever pivoted to the operating lever and arranged for actuation thereof, said trip lever having an end portion arranged to engage the catch to disengage the latter, for the purpose specified, the pivotal connection between the catch and the operating lever comprising the connecting means between said operating lever and trip lever.

In testimony whereof I affix my signature in presence of two witnesses.

THOMAS BOOTH. [L. S.]

Witnesses:
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F. J. GARVER.