

No. 765,231.

PATENTED JULY 19, 1904.

W. ELLIS.
ROAD SCRAPER.

APPLICATION FILED JAN. 22, 1904.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1.

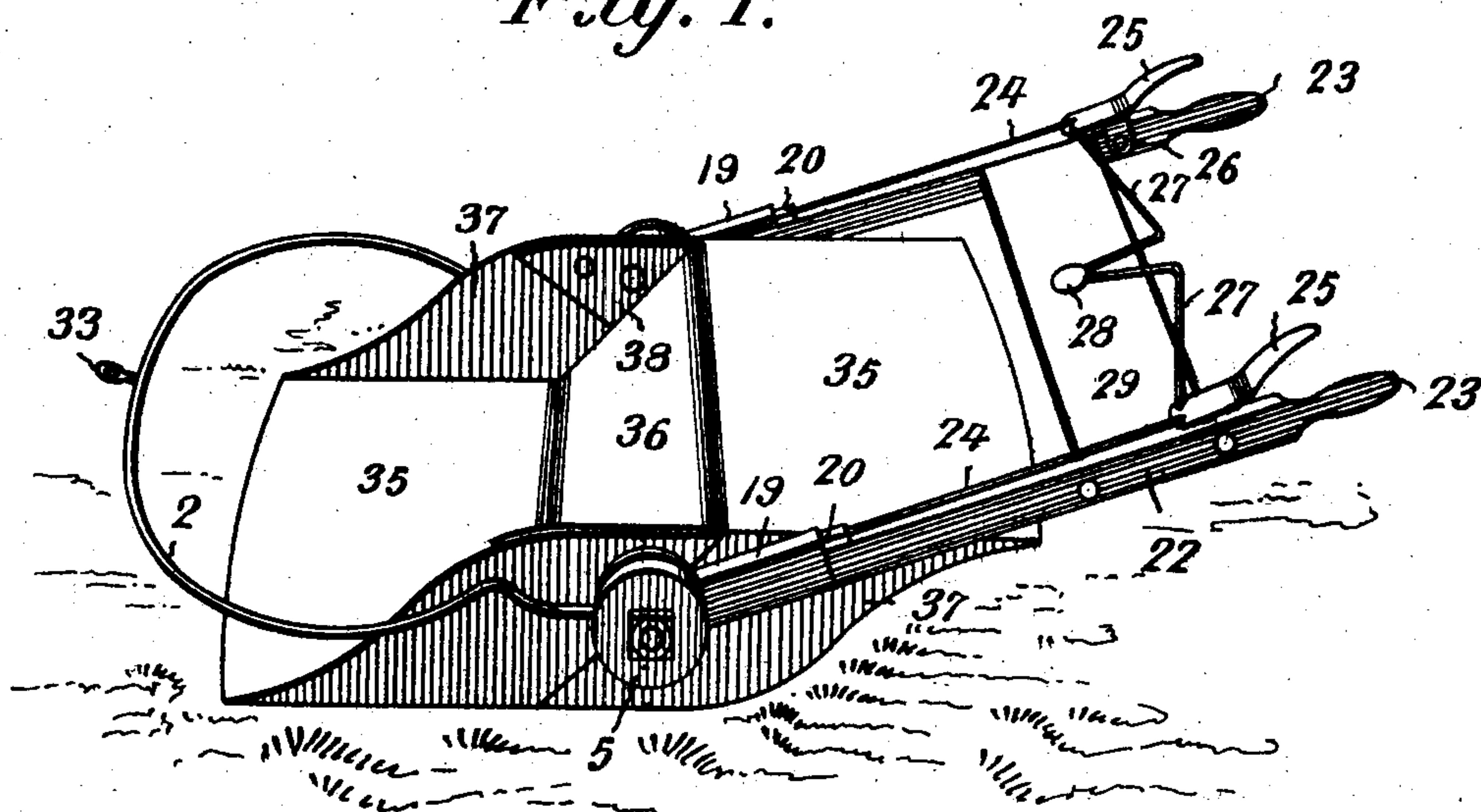


Fig. 2.

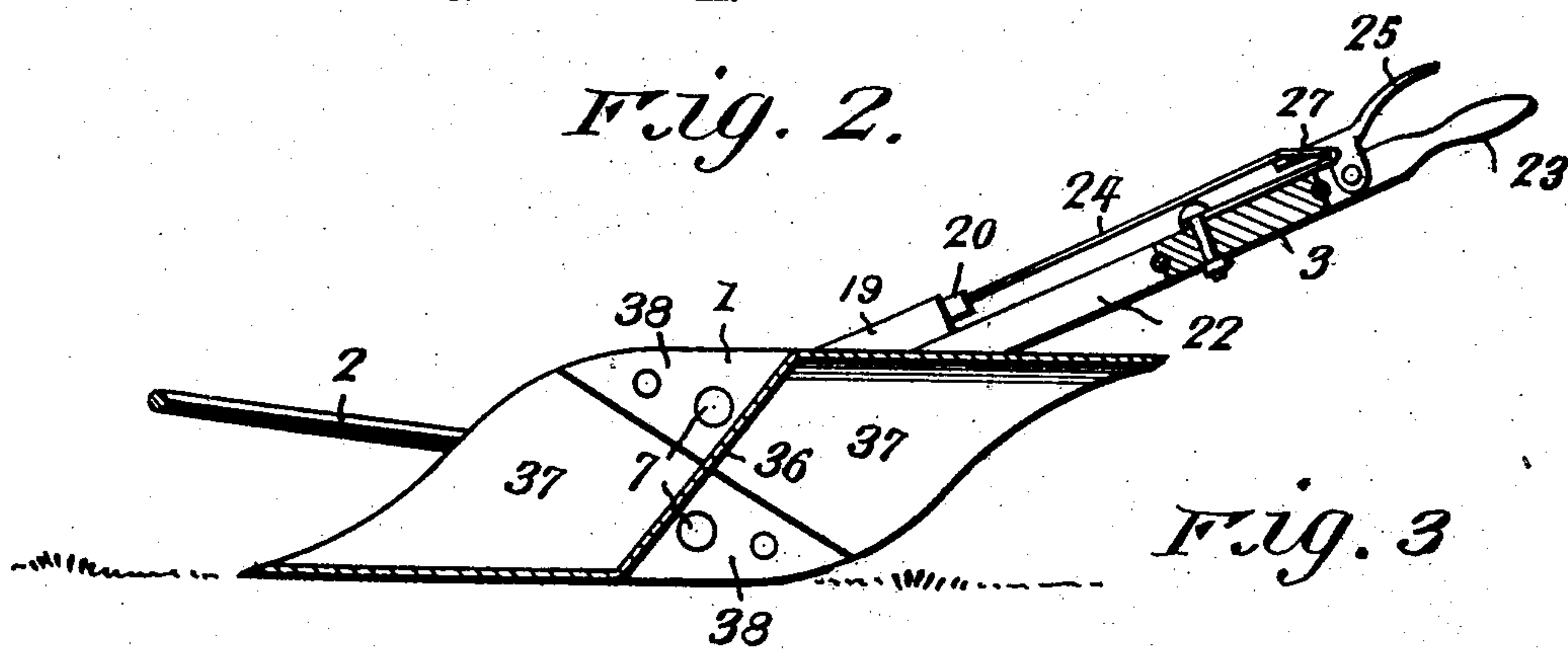


Fig. 3.

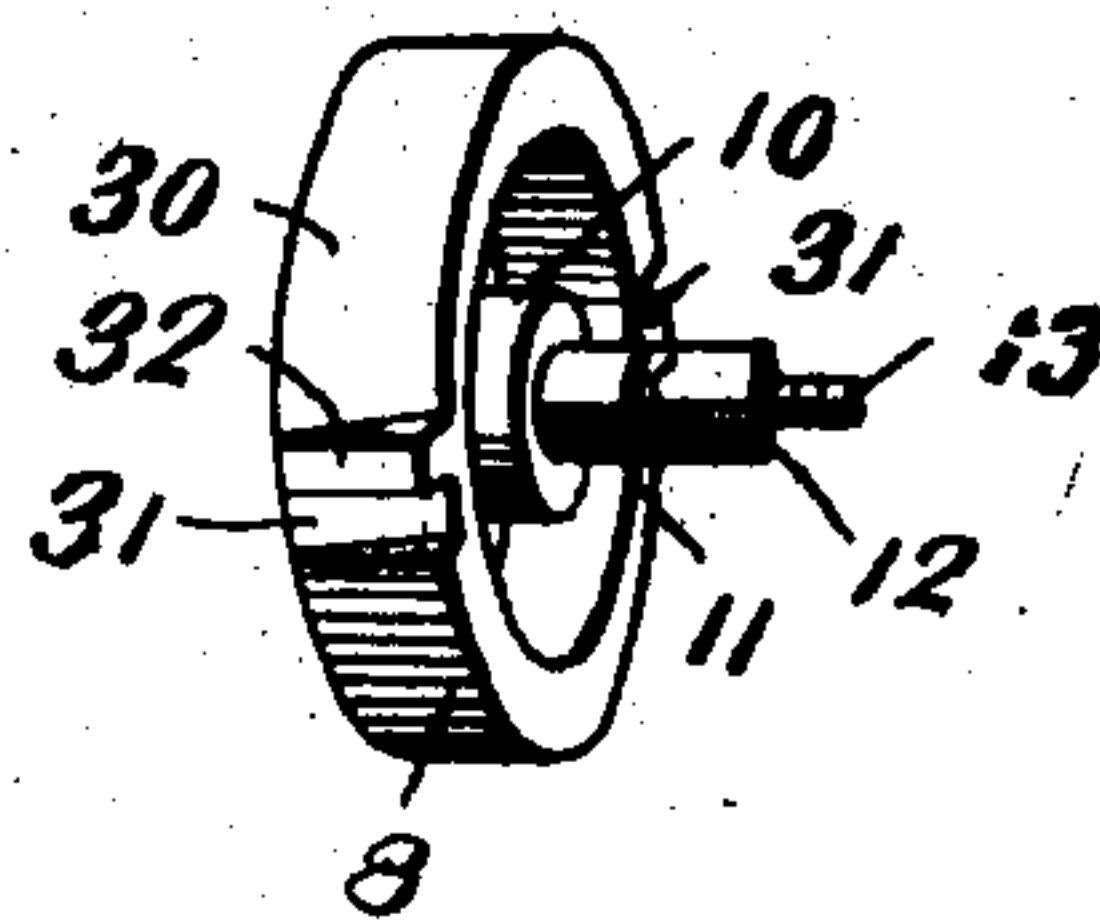
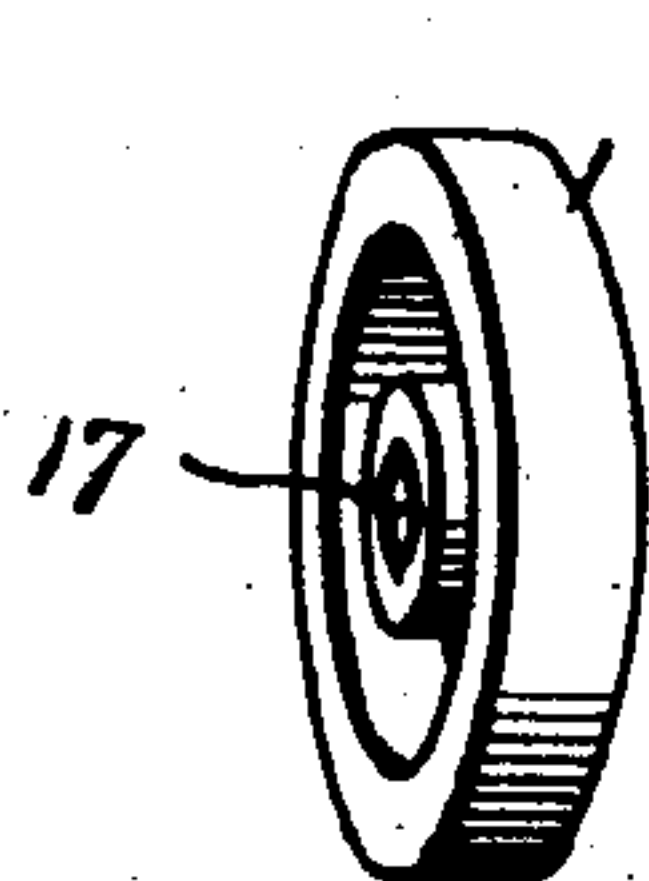


Fig. 4.



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Witnesses

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2 SHEETS—SHEET 2.

Fig. 7.

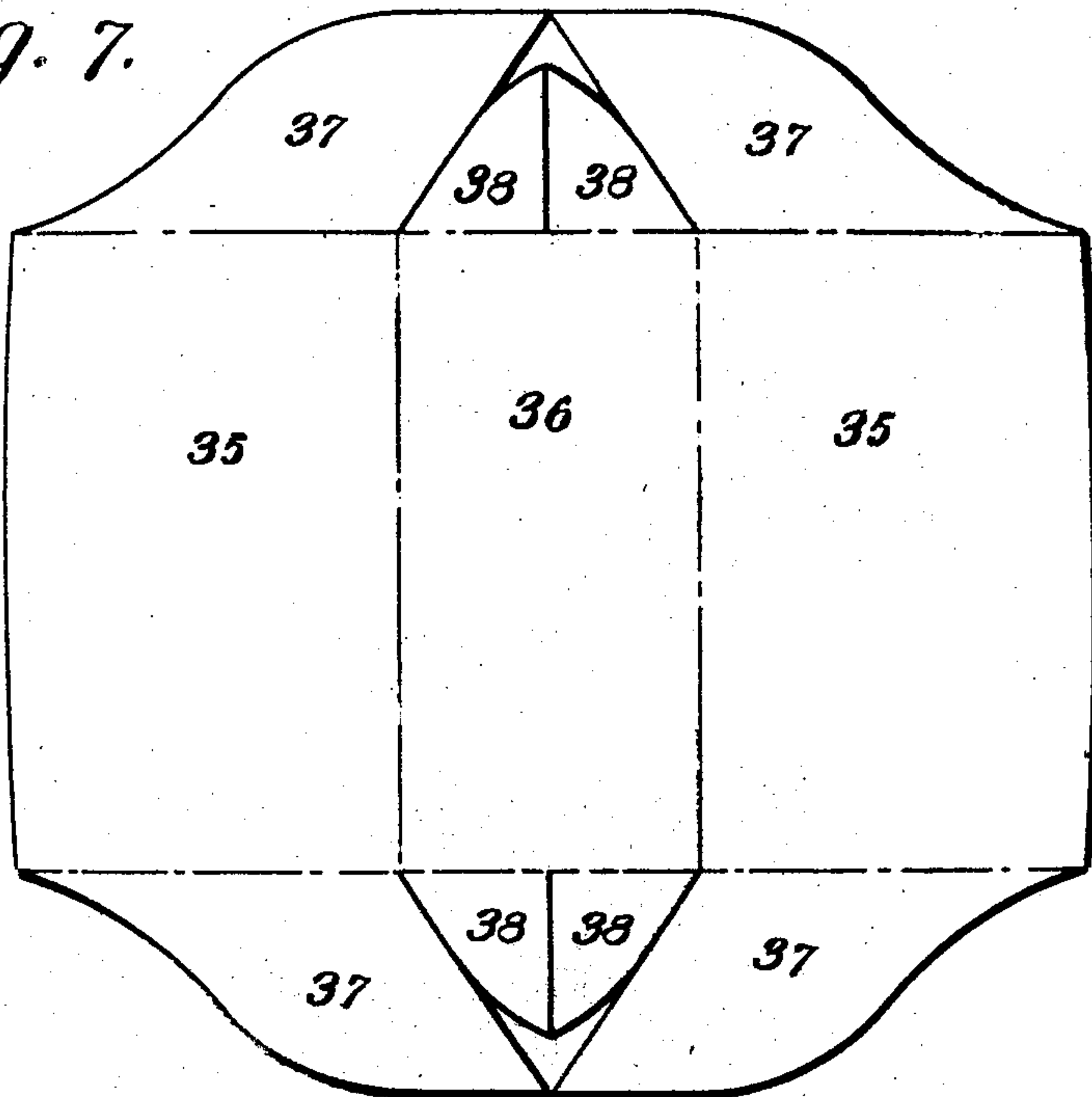


Fig. 5.

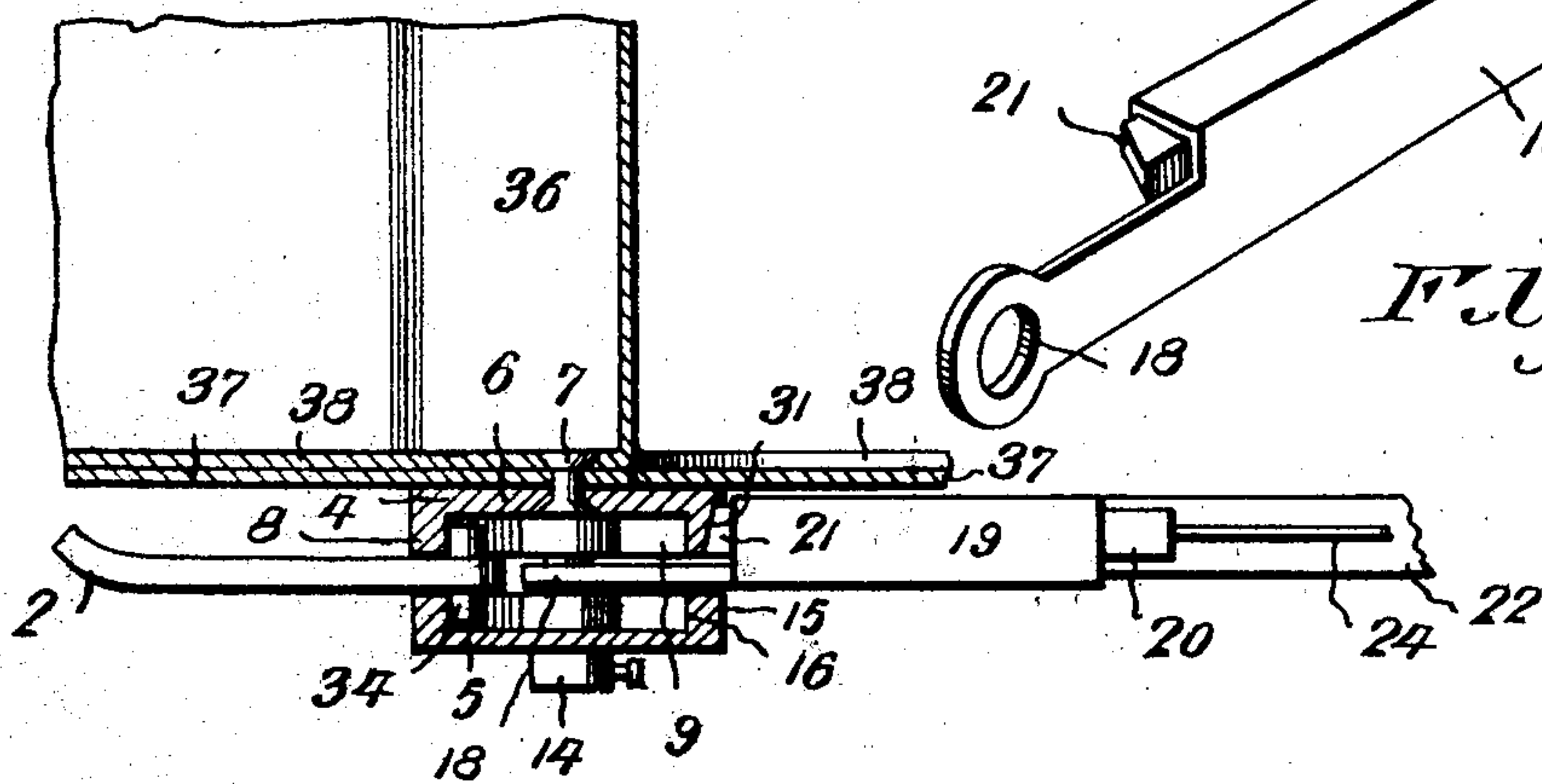
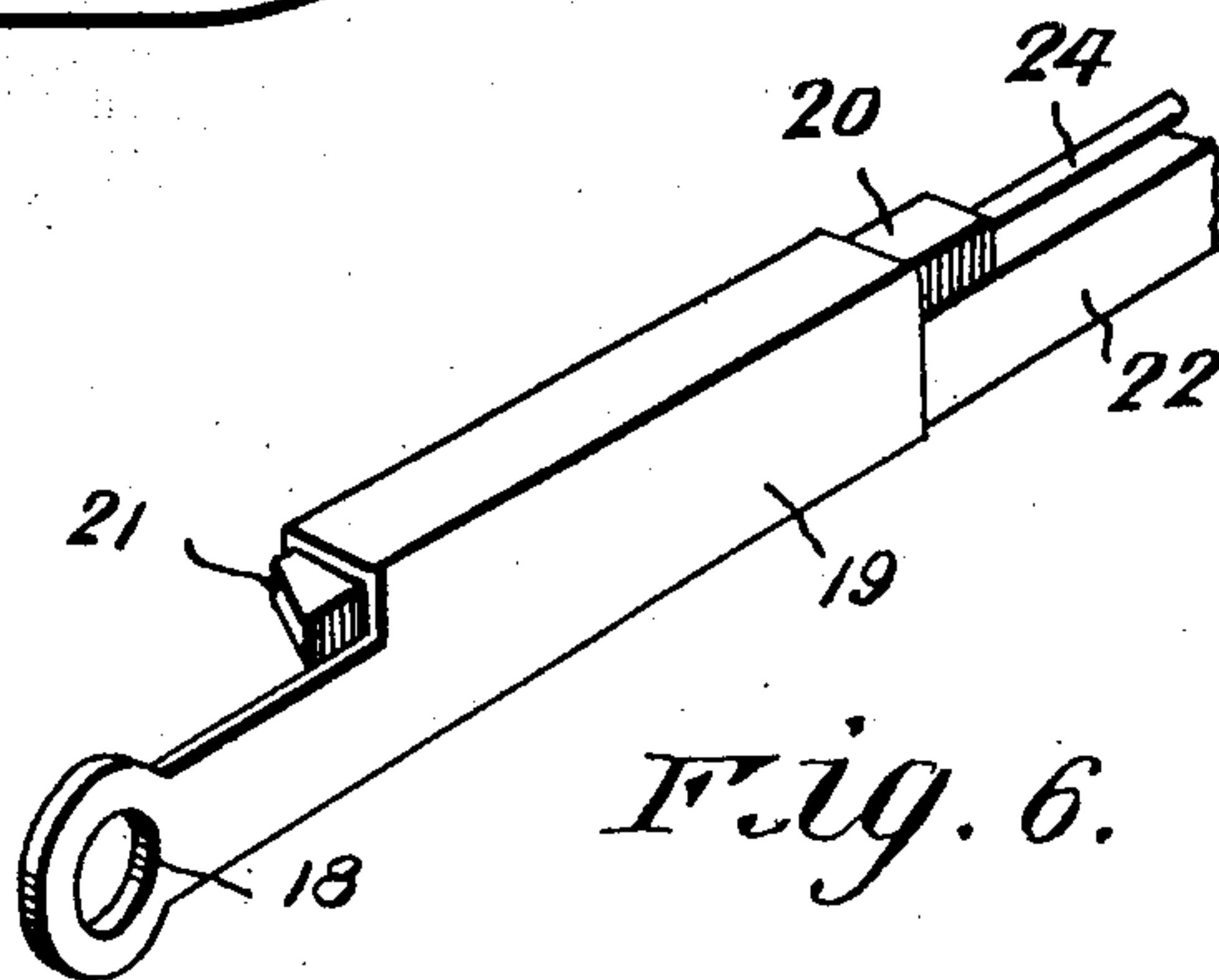


Fig. 6.



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UNITED STATES PATENT OFFICE.

WILLIAM ELLIS, OF BLOCKTON, IOWA, ASSIGNOR OF ONE-HALF TO J. P. MINOR, OF BLOCKTON, IOWA.

ROAD-SCRAPER.

SPECIFICATION forming part of Letters Patent No. 765,231, dated July 19, 1904.

Application filed January 22, 1904. Serial No. 190,104. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM ELLIS, a citizen of the United States, residing at Blockton, in the county of Taylor and State of Iowa, have invented a certain new and useful Road-Scraper, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to road-scrapers, and is in the nature of an improvement upon my prior patents, No. 273,830, dated March 13, 1883, and No. 301,051, dated June 24, 1884.

One of the objects of the present invention is to provide novel means for connecting the draft-bail with the body of the scraper so that the point of application of draft will be forward of the pivotal connection between the scoop and the operating-frame by which the scoop is carried, thus giving better control over the draft-animal in the general handling of the scraper.

Another object of the invention is to provide better means for locking or latching the scoop with respect to the frame, whereby the accumulation of dirt and other foreign matter which has sometimes been found to interfere with the locking operation is entirely overcome.

A further object of the invention is to provide a special construction of scoop which enables the scoop to be made of lighter material, while at the same time increasing the strength and durability thereof and reducing the cost of manufacture to a minimum.

With the above and other objects in view, the nature of which will more fully appear as the description proceeds, the invention consists in the novel construction, combination, and arrangement of parts, as hereinafter fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is a perspective view of an improved road-scraper embodying the present invention. Fig. 2 is a vertical longitudinal section through the same. Fig. 3 is a detail perspective view of one of the disk members. Fig. 4 is a similar view of the complementary disk member. Fig. 5 is a detail horizontal section showing the relation between the disk members, the draft-bail,

and the latch mechanism. Fig. 6 is a detail perspective view of one of the latches and its casing and one of the eyes connected therewith. Fig. 7 is a plan view of the sheet-metal blank from which the scoop is formed.

Like reference-numerals designate corresponding parts in all the figures of the drawings.

Referring to the drawings, 1 designates the scoop or body of the scraper proper, while 2 designates the draft-bail, and 3 the frame by means of which the scraper or scoop is controlled. The scoop in its general outline resembles those illustrated and described in my prior patents hereinabove referred to, being of the double and reversible form, so that in the act of dumping the scraper describes one-half of a complete revolution, or, in other words, turns end for end. At each side of the scoop is arranged a divided or two-part disk, comprising the inner and outer disk members 4 and 5, respectively. The inner disk consists of a body portion 6, which is bolted, riveted, or otherwise secured, as shown at 7, directly to the outer face of the scoop and provided with an annular flange 8, thus forming a circular cavity 9, the purpose of which will appear. The disk also comprises a central boss 10, the outer surface of which is substantially in the same plane with the outer edge of the flange 8, and extending outward from the boss 10 is a journal 11, the outer end of which is preferably squared, as shown at 12, and also threaded, as shown at 13, to receive a nut 14, which is arranged outside of the outer disk member 5, the said disk member 5 being substantially identical in construction with the disk member 4, as far as hereinabove described, or, in other words, comprising an annular and inwardly-projecting flange 15, which forms a circular cavity 16. The disk member 5 is also provided with a central boss or hub portion 17, having a squared opening to fit the squared portion 12 of the journal 11 of the inner disk member. The shoulder between the round and squared portions 11 and 12 of the journal is so located that the opposing edges of the flanges 8 and 15 are spaced at a suitable distance apart to receive between

them the eye 18, extending inward from the metal casing 19, in which is arranged a slidable latch 20, provided at its extremity with a beveled end, as shown at 21. The casing 19 is mounted upon one of a pair of side bars 22, which extend rearwardly and are provided at their rear ends with handles or grips 23, which are grasped by the operator as he walks behind the scraper. The rear ends of the latches are connected, by means of latch-rods 24, with individual latch-levers 25, having lateral arms 26, which are pivotally connected to the side bars 22, as shown in Figs. 1 and 2, the latch-levers being influenced by means of one or more retracting-springs 27, which operate to hold the latches in engagement with the disk members at opposite sides of the scoop. The spring 27, however, yields to allow the latch-levers 25 to be rocked by the operator for the purpose of disengaging the latches from the side disks and permitting the scoop to turn for the purpose of dumping its load. The spring 27 is preferably made in one piece, with its opposite ends connected to the latch-levers and fastened at an intermediate point, as at 28, to a cross-bar 29, connecting the side bars 22, as shown in Figs. 1 and 2. The inner member of each pair of disks, or, in other words, that member which is secured directly to the side of the scoop, is provided with a beveled face 30 and also with a beveled notch 31 to receive the beveled extremity of the latch, the notch 31 being divided from the beveled face 30 by means of a wedge-shaped lip or projection 32. By thus beveling the face of the disk and the floor or base of the notch dirt and other foreign substances are prevented from accumulating on and about the disk, the latch serving to scrape such dirt and foreign substances therefrom and keep the parts clean and in working condition, so as to insure the locking of the scoop after it has been turned over. Notches 31 are provided at diametrically opposite points, so as to lock the scoop in each half-revolution of the same, the lips at both sides of the scraper acting automatically.

The latch-bail 2 extends around the bottom portion of the scoop and is provided with a centrally-attached clevis 33, to which the draft-animal is hitched. The rear extremities of the draft-bail 2 are provided with cross-heads or cross-pins 34, which project from opposite sides of the bail extremity and are preferably round or cylindrical, so as to ride with the least friction against the inner surfaces of the flanges 8 and 15 of the inner and outer members of each pair of disks, as clearly shown in Fig. 5. In this way the point of application of draft is located well forward of the pivotal connection between the scoop and its frame, thus giving better control in the manipulation of the scoop than has been found heretofore possible where the draft-

bail was connected directly to the journals upon which the scoop was mounted to turn.

The scoop 1 is formed in one piece from a sheet-metal blank, which is illustrated in detail in Fig. 7, where it is shown to comprise the two bottom portions 35, the connecting portion 36, which forms the back of each scoop portion, the large oblique flaps 37, and the smaller triangular flaps or tongues 38, there being four of such flaps 37 and four smaller flaps or tongues 38. The several portions of the blank above described are bent on the dotted lines shown in Fig. 7, the large flaps 37 at one side forming the entire side of the scoop, while the smaller flaps or tongues 38 are bent into planes parallel to the flaps 37 and riveted or otherwise firmly and closely secured thereto, as clearly shown in Fig. 1. The construction described permits the scoop to be constructed in one piece of sheet metal and admits of a very light scoop, while the overlapping flaps and tongues which form the sides of the scoop serve to materially brace and stiffen the sides and also form ogee-shaped cutting edges, which materially increase the utility of the scoop when operating in deep soil.

The improved scraper hereinabove described is drawn by a draft-animal in the usual manner, the operator walking behind the machine. When the scoop becomes filled and has reached the dumping-point, the operator presses upon the latch-levers 25, thereby unlocking the scoop with relation to the frame.

The forward edge of the scoop engages the ground, and the scoop is thereby partially rotated and automatically dumped, the scoop turning through a half-revolution until the latches 20 snap automatically into engagement with the notches in the side disks. The remaining half or portion of the double scoop is thus presented for further scraping purposes.

I do not desire to be limited to the details of construction hereinabove set forth, and accordingly reserve the right to change, modify, or vary the construction within the scope of the appended claims.

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

1. In a road-scraper, a scoop, a frame in which the scoop is rotatably mounted, disks secured to opposite sides of the scoop and provided with journals upon which the scoop is adapted to rotate, and a draft device connected to the disks in advance of the scoop-journals, substantially as described.

2. In a road-scraper, the combination with a frame, of a scoop journaled at opposite sides therein, and a draft device connected with the rotatable scoop in advance of the scoop-frame journals so as not to interfere with the rotation of the scoop, substantially as described.

3. In a road-scraper, the combination with

the machine-frame, of a rotatable scoop, disks at opposite sides of the scoop provided with journals to which the frame is connected, annular flanges on said disks, and a draft-bail 5 having means for engaging said flanges at points in advance of the scoop-journals, substantially as described.

4. In a road-scraper, the combination with a frame, embodying side bars, of a reversible 10 scoop rotatably mounted between the side bars, disks at opposite sides of the scoop having journals which connect with the frame, the disks being provided with beveled notches and bevel-ended latches adapted to ride upon 15 the faces of said disks and to interlock with said notches.

5. In a road-scraper, the combination with a frame embodying side bars, of a double reversible scoop rotatably mounted within the 20 side bars, disks secured to opposite sides of the scoop and provided with beveled periph-

eries and inclined notches in said peripheries, and bevel-ended latches adapted to ride against the peripheries of the disks and to automatically engage the notches, substantially as de- 25 scribed.

6. In a road-scraper, a double reversible scoop constructed from a sheet-metal blank comprising two bottom portions, and an intermediate connecting portion which forms the 30 back of each scoop and two sets of side flaps which are bent substantially at right angles to the bottom portions and arranged to overlap, the overlapping flaps being firmly united, substantially in the manner and for the pur- 35 pose set forth.

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

WILLIAM ELLIS.

Witnesses:

DAVID KING,
LUTHER COLE.