

No. 864,536.

J. HEBERLING.
DUMPING WAGON.
APPLICATION FILED OCT. 4, 1906.

PATENTED AUG. 27, 1907.

3 SHEETS—SHEET 1.

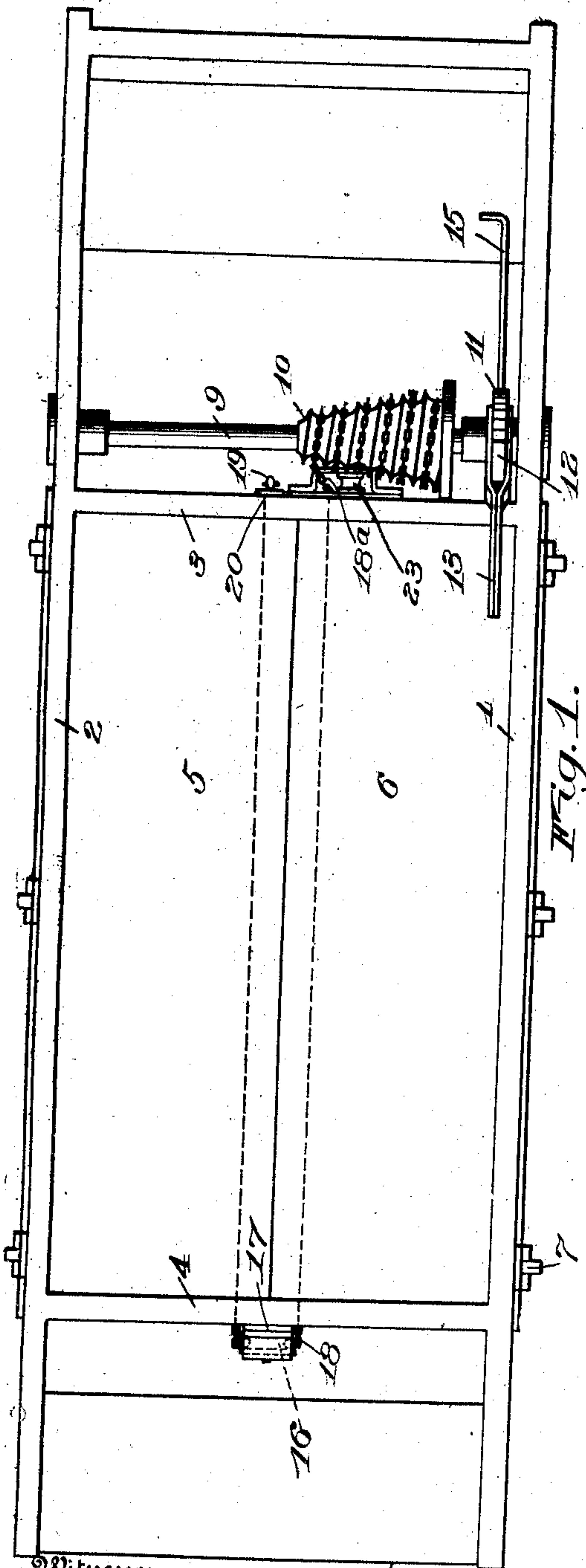


Fig. 2.

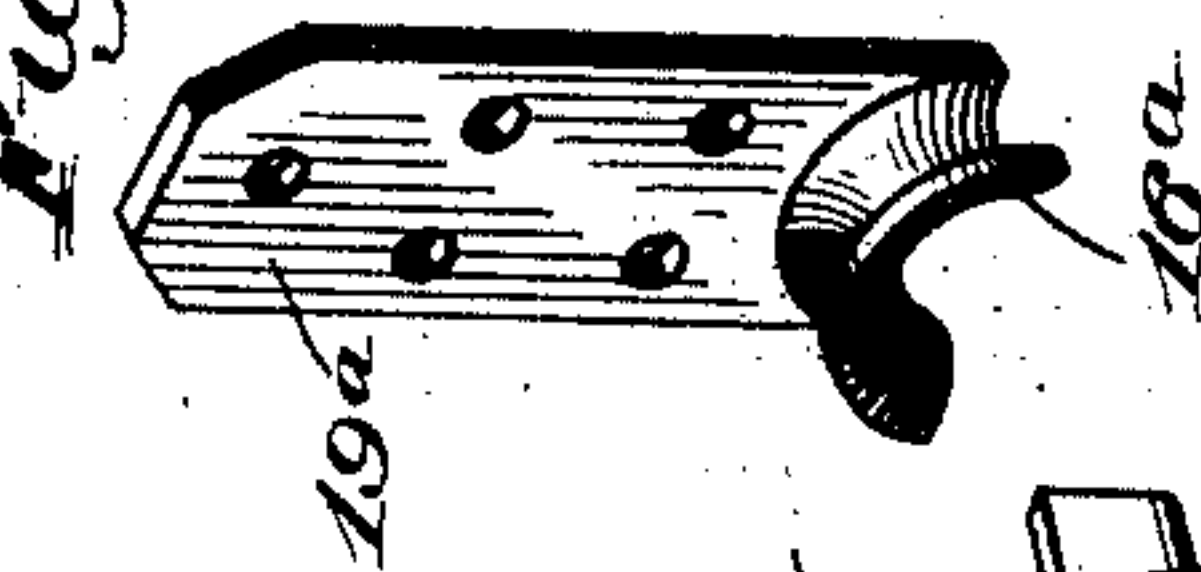
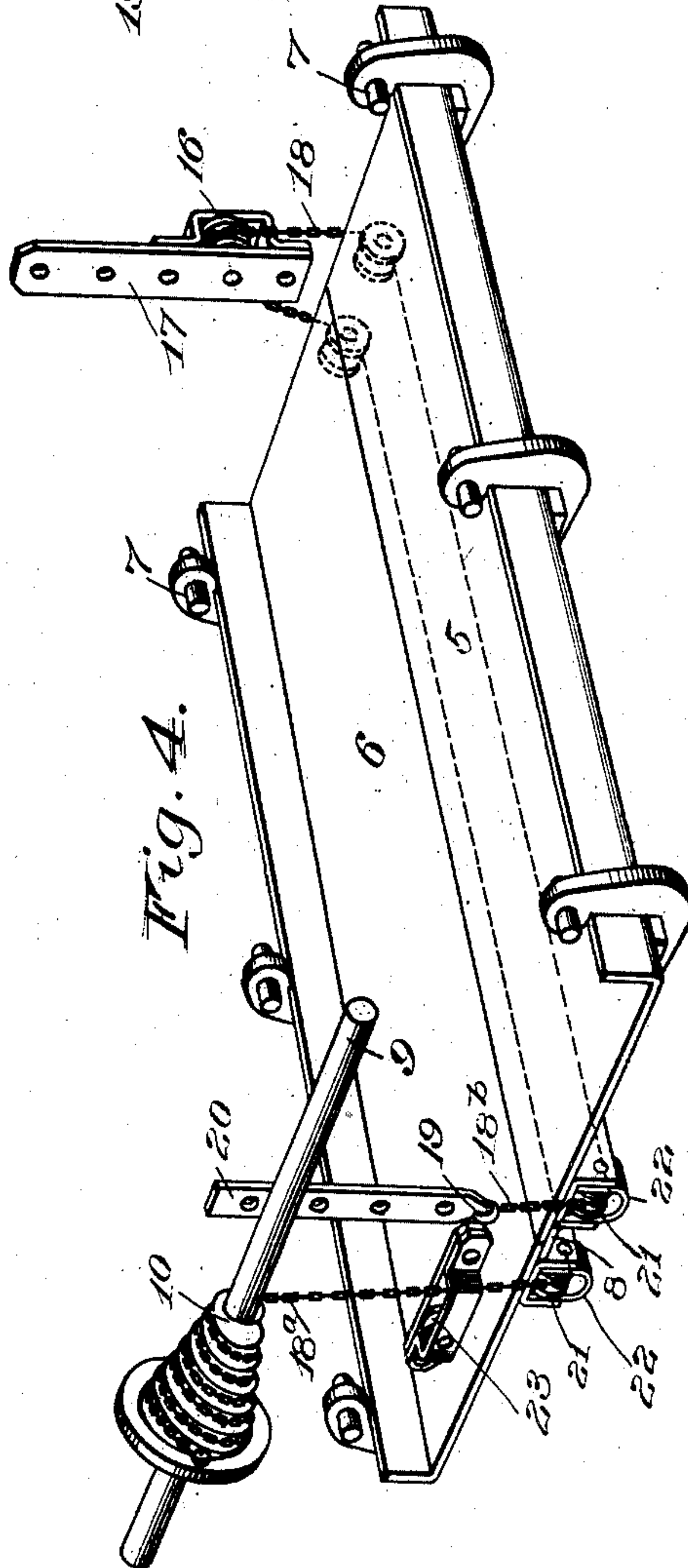


Fig. 4.



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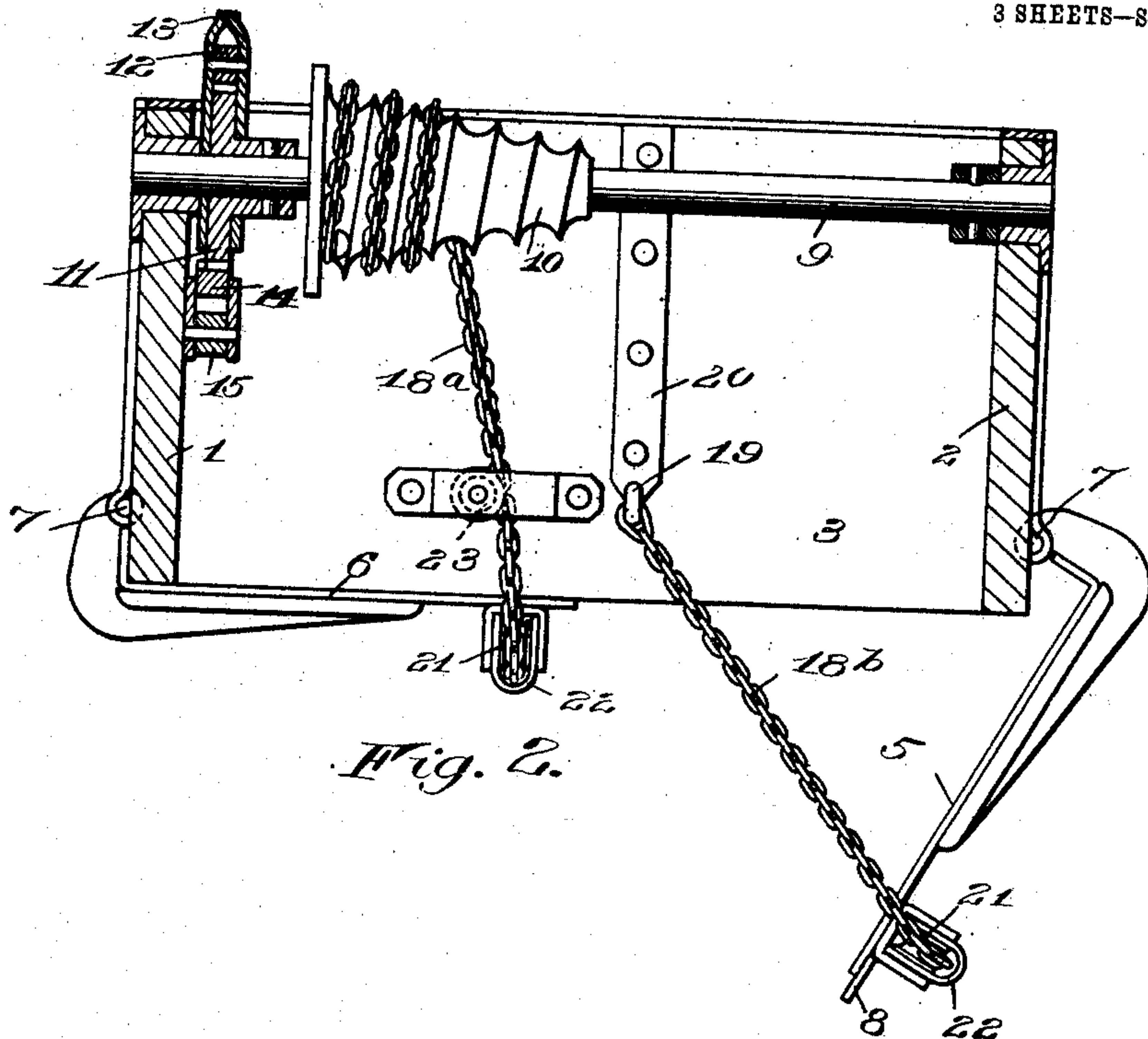
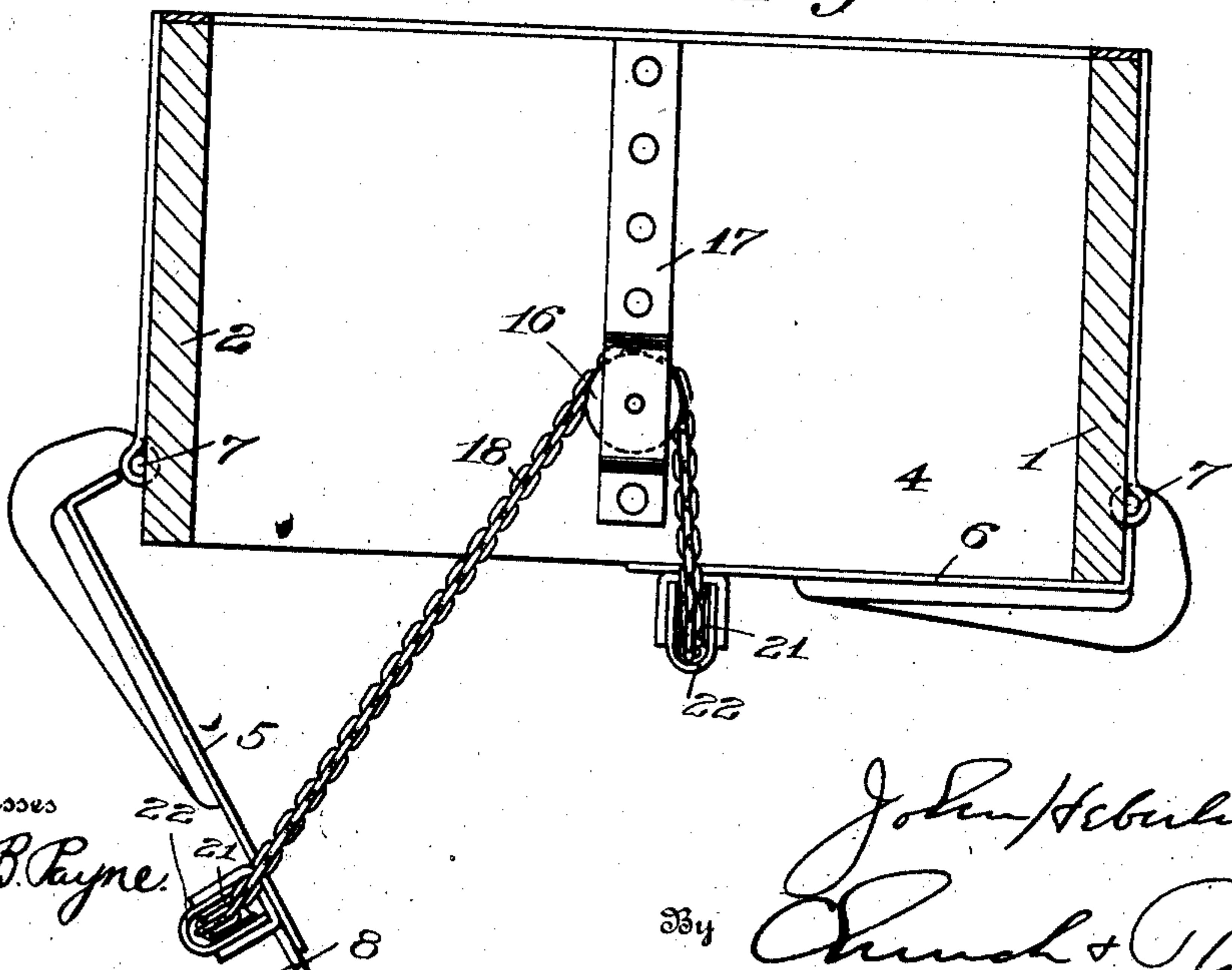


Fig. 2.

Fig. 3.



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3 SHEETS—SHEET 3.

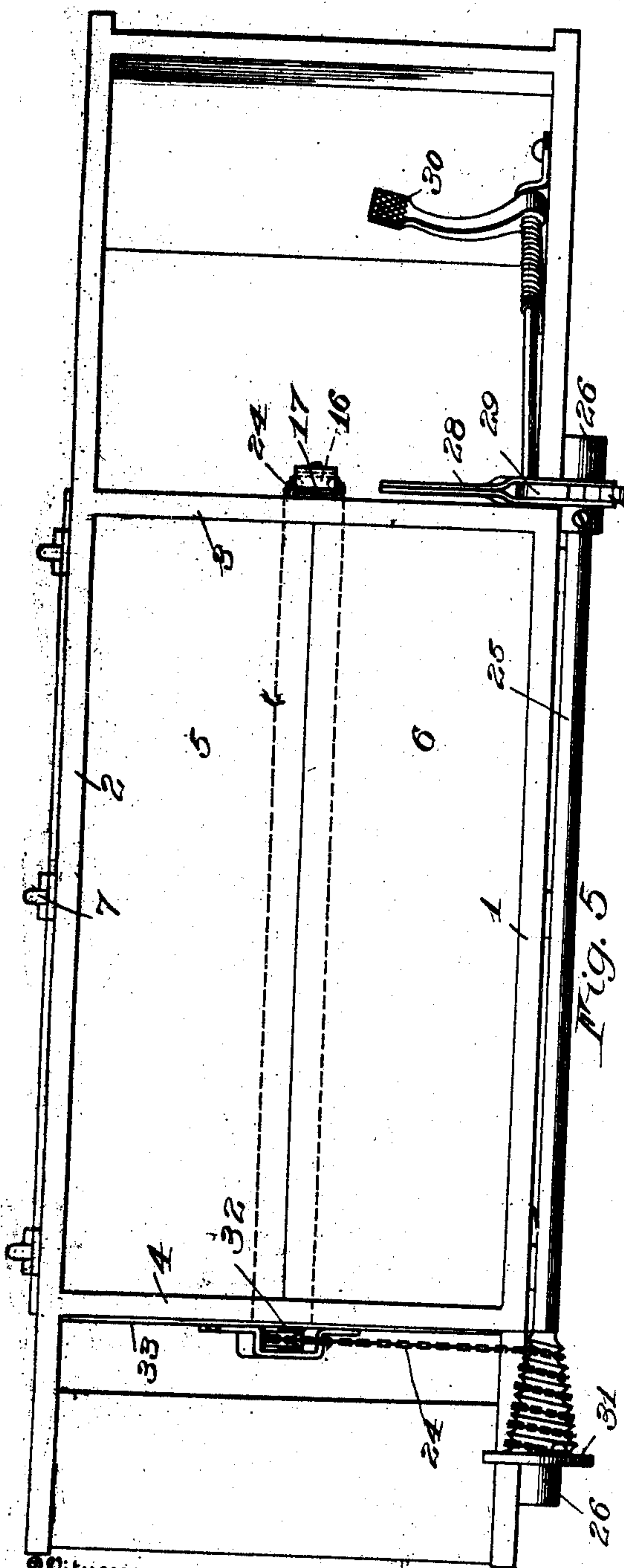


Fig. 5

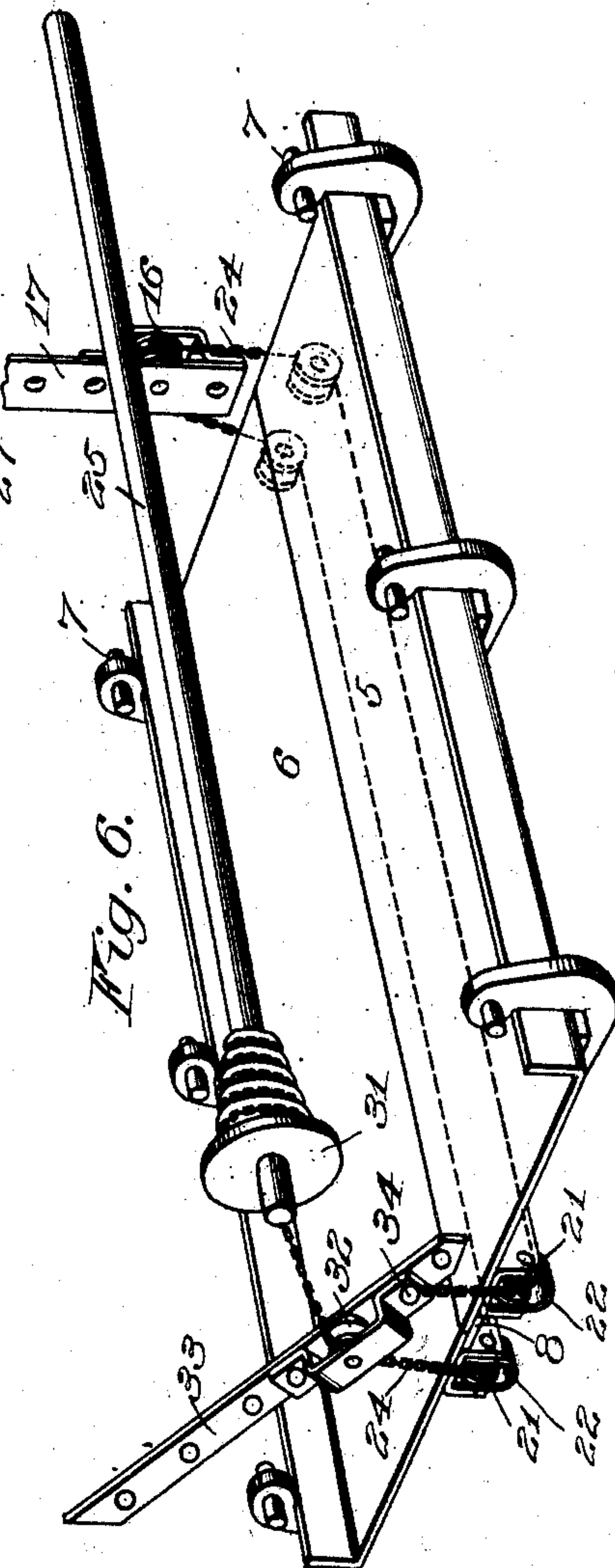


Fig. 6

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UNITED STATES PATENT OFFICE.

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DUMPING-WAGON.

No. 864,536.

Specification of Letters Patent.

Patented Aug. 27, 1907.

Application filed October 4, 1906. Serial No. 337,402.

To all whom it may concern:

Be it known that I, JOHN HEBERLING, of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in

5 Dumping-Wagons; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of the specification, and to the reference-numerals marked thereon.

10 My present invention has for its object to provide an improved means of operating the movable sections or doors of dumping wagons, whereby one of them may be closed in advance of the other, which is so arranged that when the doors are in the normal closed position

15 the corners or ends of their adjacent or meeting edges may be held tightly in engagement with the bottom of the box.

My invention has for its further object to provide a single connection between the wagon box and bottom

20 sections or doors and winding mechanism which will enable the doors to be drawn and held tightly in closed position, without regard to the lengthening of said connection by its elongation caused either by its stretching or wear, or by the wear of the parts with which it co-

25 operates.

To these and other ends the invention consists in certain improvements and combinations of parts all as will be hereinafter more fully described, the novel features being pointed out in the claims at the end of the spec-

30 fication.

In the drawings: Figure 1 is a top plan view of a wagon box illustrating the devices constructed in accordance with my invention. Fig. 2 is a front elevation thereof partly in section. Fig. 3 is a similar view of the

35 rear end of the wagon box. Fig. 4 is a perspective view showing the bottom sections or doors, the winding drum and the means of attaching the connection for operating the doors. Fig. 5 is a top plan view similar to Fig. 1 showing a modified arrangement of the winding mechanism. Fig. 6 is a perspective view of said modification similar to Fig. 4. Fig. 7 is a detail view.

Similar reference numerals in the several figures indicate similar parts.

In illustrating my invention, I have shown it applied

45 to a wagon box of the usual construction comprising side pieces 1 and 2 and forward and rear end pieces 3 and 4 respectively. Arranged beneath the box are two longitudinally extending bottom sections or doors 5 and 6 pivoted to the sides of the box, as indicated at 7, their

50 inner edges meeting at the center of the box, the joint formed between them being closed by a projecting lip in the form of a batten 8, shown in the present instance as attached to the lower side of the door 5. The winding shaft 9 is journaled at its ends in bearings on the

55 sides 1 and 2 of the box and is provided with the winding drum 10 and also with the ratchet wheel 11 with

which coöperates a pawl 12 mounted on an operating handle 13 by means of which the shaft may be rotated. The latter is locked by a pawl 14, shown in Fig. 2, arranged below the ratchet wheel which may be released

60 by a pivoted lever 15, shown in Fig. 1, adapted to be moved by pressure of the operator's foot.

On the rear end 4 of the wagon box is arranged a projection in the form of a pulley or sheave 16 mounted on a strap 17 which may be bolted or otherwise secured

65 rigidly to the box above the lower edge thereof. The flexible connection 18 which I employ for operating the doors may be either a cable or chain, although I prefer to employ the latter. This is looped over the projection 16, the two ends of the loop thus formed be-

70 ing carried forwardly beneath the two doors 5 and 6, the extremities 18^a of one of the said ends being attached to the winding drum 10 and the other extremity 18^b being anchored stationary relatively to said drum by attaching it to a hook 19 formed on a strap 20 se-

75 cured to the front end board 3. Means are provided on each of the doors for holding the connection or chain in position near their inner edges, and to reduce the friction of the connection on the doors as the end portions thereof are moved longitudinally beneath them,

80 I provide each of the doors at their forward and rear ends with pulleys or sheaves 21 beneath which are retaining loops 22 preventing the disengagement of the connection.

It will be understood that the door operating con-

85 nection 18 is made of sufficient length to permit both doors to be open to their fullest extent. This length is determined by applying the connection to the doors when in an open position, the extremity 18^a being attached to one end of the drum 10 which is preferably

90 made conical in shape and provided with a helical groove. The larger end of the drum upon which the first few turns of the connection is wound to take it up and bring the doors quickly into a closed position is lo-

95 cated at one side of the center of the box and to guide the chain or the connection, when the doors are in an open position, a projection in the form of a roller 23 is arranged upon the front end of the box beneath the

smaller end of the winding drum, as shown in Figs. 2 and 4.

It will be noticed that the connection passes directly

100 from the winding drum longitudinally beneath one of the doors to the rear end thereof, thence over the projection or sheave 16 and returns beneath the other door to its place of rigid attachment or anchorage. The

105 batten or covering strip 8 is located on the last mentioned door, or the one which is operated by the end of the loop of the connection having its extremity anchored, as this is the door which must be brought into the closed position after the other one. The successive

110 closing of the doors, upon winding the connection, is caused by the friction imposed upon that portion of

the connection, or end of the loop which must be drawn over the projection or sheave 16, therefore, a greater force must be exerted to draw the connection around the projection to close the door, operated by 5 this portion of the connection, than is required to wind up the other portion, or that part extending between said projection and the winding drum. As the doors are approximately equal in weight, the one (6) operated by the more freely movable end 18^a of the con- 10 nection will be brought into the closed position, as shown in Figs. 2 and 3, in advance of the other and maintained in this position until the second door (5) is closed, as shown in Figs. 1 and 4.

The modification of my invention, illustrated in Figs. 15 5 and 6, embodies in addition to the chain or connection, heretofore described but designated in these figures as 24, a winding shaft 25 extending longitudinally of the box and supported exteriorly thereof in bearings 26 and provided at its forward end with a ratchet wheel 20 27 with which coöperates an operating lever 28 and pawl 29, said ratchet being held in operative position by locking devices, which may be released by the operation of a treadle 30. On this shaft the winding drum 31 is located at its rear end and the chain or connection 25 attached thereto is extended over a projection or roller 32 which may be mounted upon a strap 33 extending diagonally of the wagon box, to which the stationary end of the chain may also be connected as indicated at 34.

30 In Fig. 7 I have shown a detail view of a modification of one of the parts which may be used in place of the sheave 16. In this view the projection at the end of

the box over which the chain or connection passes, is made in the form of a curved flange 16^a on a strap 19^a its surface being grooved, as shown, to receive and 35 guide the connection as it is drawn thereover.

By employing a continuous connection which passes from the winding drum at one end of the wagon box beneath one of the doors, thence over a projection lo- 40 cated at the opposite end of the box and beneath the other door, I am enabled to close one of them in advance of the other and to bring both the front and rear corners of the doors tightly into engagement with the box, irrespective of any looseness of the parts which 45 may be occasioned by wear or stretching of the chain or wear of the sheaves, or projections, over which it passes.

In the claims:

1. The combination with a box, two doors thereon and winding mechanism, of a projection at one end of the box, 50 a flexible connection attached at one of its ends to the box and at its other end to the winding mechanism, the intermediate portion of said connection extending longitudinally beneath both doors and passing over the projection.
2. The combination with a box, two doors thereon, a winding mechanism arranged at one end of the box and a 55 projection at the other end thereof, of a flexible connection passing over the projection and its two ends extending longitudinally beneath the two doors, the extremity of one of said ends being attached to the winding mechanism 60 and the extremity of the other end being held stationary relatively to said mechanism.

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