(No Model.)

C. H. McROBERTS.

DUMPING WAGON.

No. 485,294. Patented Nov. 1, 1892.

Fig. 1.

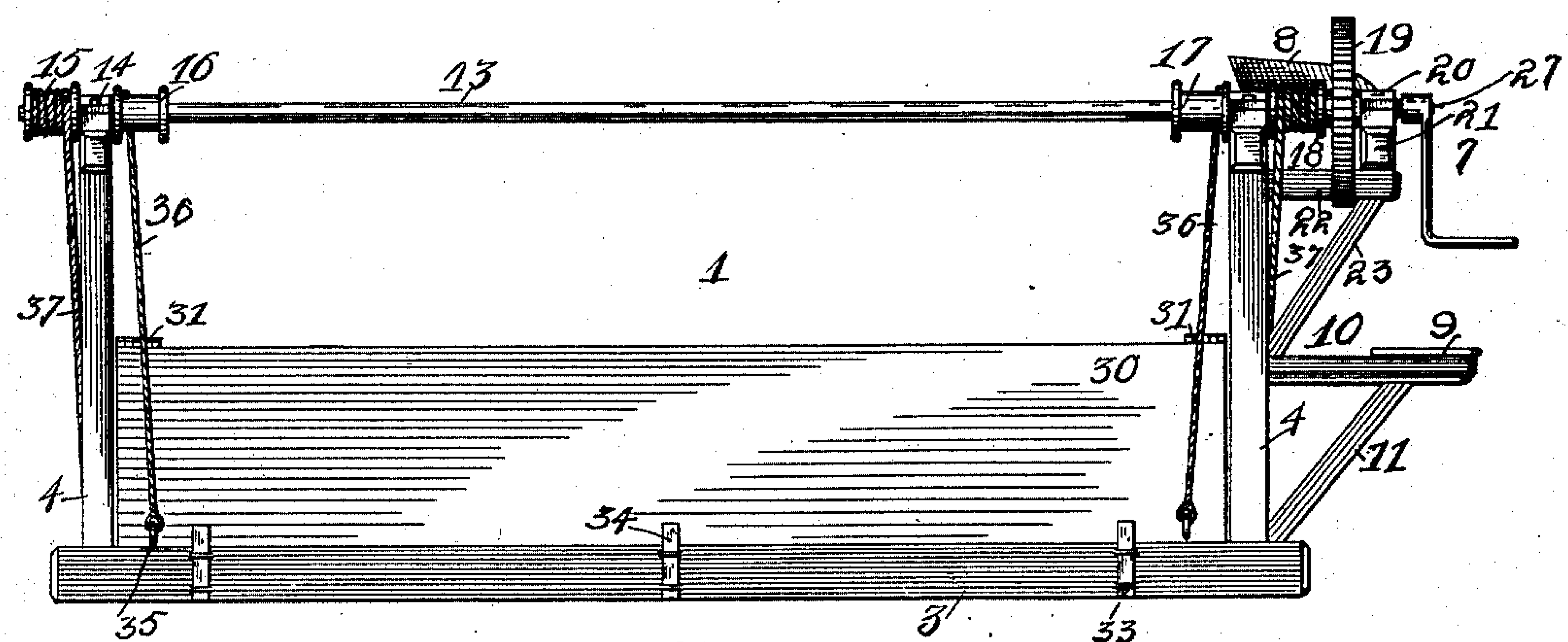


Fig. 2.

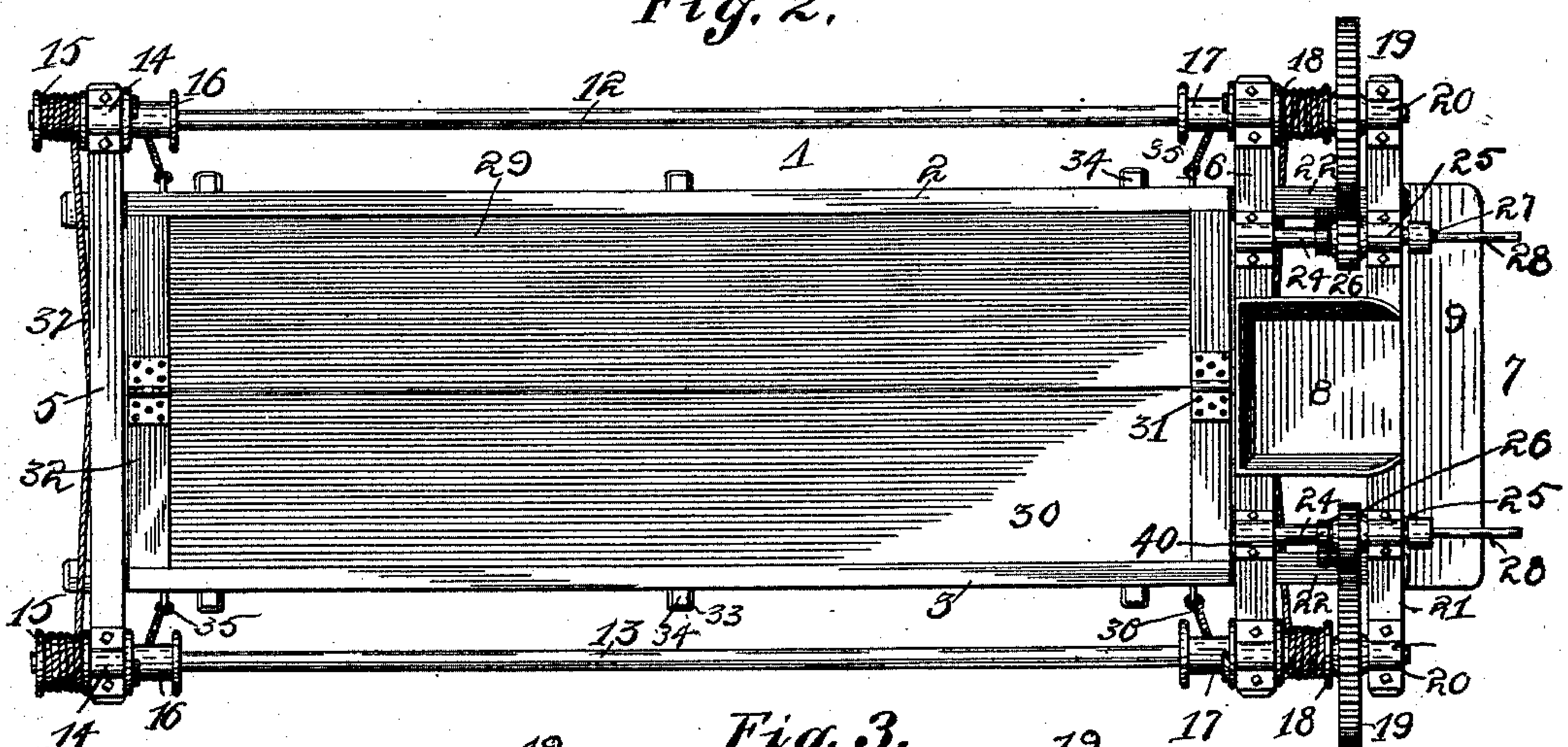
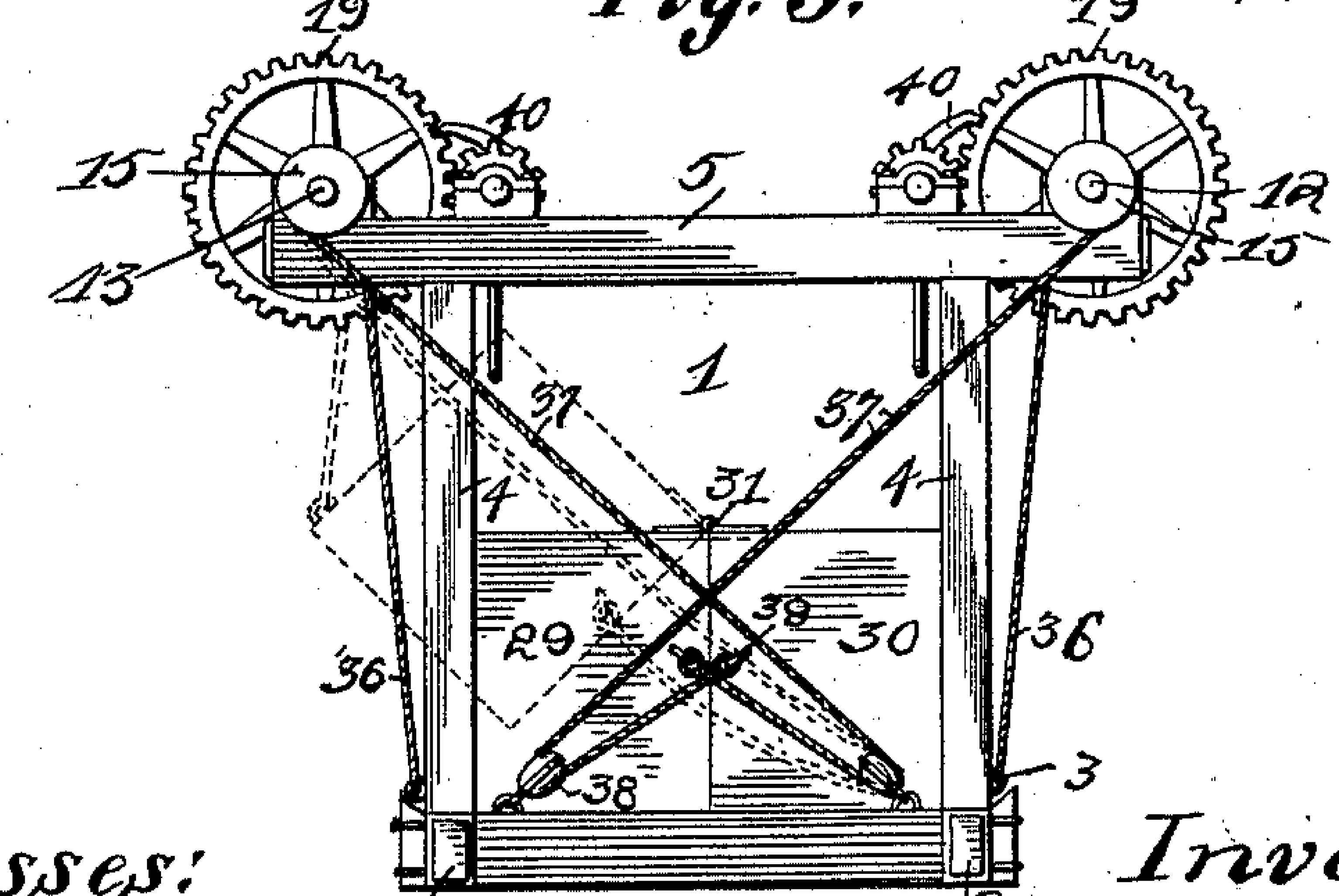


Fig. 3.



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CHARLES H. McROBERTS, OF ST. LOUIS, MISSOURI.

DUMPING-WAGON.

SPECIFICATION forming part of Letters Patent No. 485,294, dated November 1, 1892.

Application filed June 13, 1892. Serial No. 436,548. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. MCROBERTS, of the city of St. Louis and State of Missouri, have invented certain new and useful Improvements in Dumping-Receptacles, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in dumping-receptacles especially applicable to wagons and cars; and it consists in the novel arrangement and combination of parts, as will be more fully hereinafter described.

The object of my invention is to construct a dumping-receptacle especially adapted for wagon-beds and freight-cars, in which any desirable material—such as coal, wood, stone, bricks, sand, earth, iron, or any product of the mineral or vegetable kingdoms which is capable of being hauled by such means—may be transferred.

My dumping-receptacle consists, essentially, of two sections, and the fact that they may be used independently of or simultaneously with each other characterizes one of the chief features of the invention.

The mechanism is simple in construction and easy of manipulation, and at the same time it is durably constructed, and with these advantages involved my invention commends itself for careful consideration.

In the drawings, Figure 1 is a side elevation of my complete invention. Fig. 2 is a top view of same, and Fig. 3 is an end view.

Referring to the drawings, 1 indicates a wagon-body frame constructed especially for the application of my invention. It consists, essentially, of two timbers running lengthwise on each side of the frame and secured together by a number of cross-pieces, practically leaving this frame open, so that the contents of the dumping-receptacle may be discharged through said frame without the removal of any part of it. The side pieces 2 and 3 support upright posts 4 upon each corner-piece. At each end these upright posts 4 are connected by cross-pieces 5 and 6 in the manner illustrated in Fig. 2.

The front end 7 of the wagon is provided with a seat 8 and a foot-rest 9. The seat 8 is properly secured to the cross-piece 6 and a foot-board 9 to the upright piece 4 by means of a supporting-piece 10, running at right angles with said post 4 and strengthened by means of pieces 11, running from base side timbers 2 and 3 to the supporting-pieces 10, across which the foot-board is secured. Both ends of cross-pieces 5 and 6 are provided with boxes or bearings adapted to receive and secure two horizontal shafts 12 and 13. The boxes are provided with suitable caps—such as 14—which hold said shaft in their bearings. The ends of said shaft project a certain distance beyond said bearings on both ends of the wagon. On the rear end of the wagon the projection of the shaft beyond the cross-piece 5 is provided with spools 15. Immediately within the cross-piece 5 and upon the shafts 12 and 13 are secured spools 16. The other ends of the shafts 12 and 13 within the cross-piece 6 are provided with similar spools 17. Similar in position and construction are spools 18, secured upon the projecting ends of the shafts 12 and 13, directly outside of the cross-piece 6. All of these spools are similar in construction and design and the manner of securing them. They also serve the same object—viz., that of providing a guide or spindles upon which the ropes hereinafter mentioned are wound. The ends of the shaft projecting beyond the cross-piece 6 are longer than the projections beyond the cross-piece 5 and have connected directly adjacent the spools 18 a pinion or gear-wheel 19. This projecting end of the shaft is provided with another bearing 20, secured in the cross-piece 21, which is properly supported from the upright posts 4 by means of pieces 22 and 23. The two cross-pieces 6 and 21 provide a rest for the seat 8.

Located upon the cross-pieces 6 and 21 and between the seat and outside shafts 12 and 13 are counter-shafts 24, secured in their bearings 25. These counter-shafts 24 are provided with pinions or gear-wheels 26, which engage with the larger gear-wheel 19 upon the projecting ends of the shafts 12 and 13. The counter-shaft has a squared end 27, which projects beyond the bearing 25 and upon which a keyed crank 28 is adapted to be re-

movably placed and by means of which the said shafts are manipulated.

Having described the operating mechanism of my invention, I will now proceed to describe the bed of the receptacle in detail. The bed is composed, essentially, of two sections, which when the device is closed or not in use forms one single wagon-bed. This bed has sides and ends which are divided longitudinally through the center, thus forming the two sections 29 and 30, which are connected together only at the top by lap-hinges 31, which are secured upon cross-pieces 32, which connect the two sides with each other. The hinges 31 make a joint between the two sections 29 and 30 and allow said sections 29 and 30 to be used simultaneously with or independently of each other. Secured in the horizontal pieces 2 and 3 are staples 33, in which wedge-shaped pieces 34 are adapted to fit and project above said horizontal pieces 2 and 3 and engage against the side boards of the bed and prevent them from tilting outward when the wagon is loaded and not in use. When the operation of dumping takes place, these standards are removed. The wedge or pointed end is so constructed in order that when the standards are driven upward through the staples 33 said standards will force the bed back into its proper alignment in case it should have bulged out from the effect of the weight of the load.

The direct operating mechanism consists of ropes. These ropes 36 have one of their terminals secured in eyebolts 35, which are fastened in the sides of the the bed, near the bottom of same and adjacent the ends of said bed. The other terminals of these ropes are fastened upon the spools or drums 16 and 17 and are adapted to be wound upon said spools by the operation of the main shafts 12 and 13 by the crank 28. Auxiliary ropes having one end fastened to the drums or spools, which are located on both ends of the said shaft and designated by the numerals 15 and 18, and the other end of said ropes 37 are first passed through suitable pulleys 38, secured in the cross-pieces 5 and 6 of the base-frame, and thence secured to eyebolts 39, fastened in the ends of the sections 29 and 30 of the bed. The operation of this mechanism will be described hereinafter.

I have not as yet stated that the dumping-receptacle and its detail parts are adapted to be constructed and fit upon an ordinary wagon-gearing.

Having briefly stated the object and fully described the parts and construction of my invention in detail, I will now proceed to set forth its operation. Premising that the wagon-bed is filled with wheat and that it is desired to discharge the load of same, the wagon is driven over the bin or chute. The ropes are in position, as shown in Figs. 1 and 2. The crank 8 is placed upon the keyed end 27 of the counter-shaft 24, and by the turning of said crank the pinion 26 upon the counter-shaft 24 is revolved, and its engagement with the gear-wheel causes said gear-wheel, which is keyed upon the main shaft 12, to revolve. In this operation the rope 37, which is wound upon the spool 18, is unwound from said spool 18, and the slack is gathered up by the raising of the section 29 by the rope 36, one end of which is fastened to the spools 16 and 17, and consequently when the main shaft 12 is turned by the indirect turning of the crank 28 said rope is wound upon the spools 16 and 17, thus raising the section 12, to which the other end of the rope 36 is fastened, to a position right angular from that occupied when the dumping device is not in use.

Before proceeding farther I will state that in my descriptions I have tried to adhere to the operation of only one of the sections—viz., 12—and its accompanying parts; but the action of both sections 12 and 13 and their actuating parts is the same, and consequently one of the main features of my invention is the result—viz., the adaptability of the sections, respectively, to be used simultaneously with or independently of the same.

When it is desired to again close the sections 29 and 30 together to form a bed, the crank is again applied and the shafts turned in a reversed direction until they have gravitated back to the original position. A pawl 40 is provided and secured to the counter-shaft 24 in such a manner that when it is desired it can be turned so that it will engage in the teeth of the gear-wheel 19. In its normal position, however, it rests upon the cross-piece 21.

In Fig. 3 the dotted lines show the position of one of the sections when it is raised in a dumping position, and also shown in dotted lines is the position of the rope 37, running through the pulley 38 and secured to the eyebolt 39 on said section, and shows the manner in which the slack is taken up by said section being raised.

Having fully described my invention, what I claim is—

1. In a dumping-receptacle, the combination, with the bed composed of two sections hinged together at the top, of means for both opening and closing said sections independent of one another, substantially as and for the purpose set forth.

2. In a dumping-receptacle, the combination, with the bed composed of two longitudinal sections hinged together at the top, of two longitudinal shafts arranged above said bed and ropes wound reversely on each of said shafts and attached to the respective bed-sections in substantially the manner and for the purpose described.

3. A dumping-receptacle having a base-frame composed of side pieces 2 and 3, connected together by cross-pieces, upright supporting-posts 4, secured to the corners of said base-frame and connected at the tops by cross-pieces 5 and 6, provided with bearings 14, in which main shafts 12 and 13 are constructed

to fit and revolve, spools 15, 16, 17, and 18, mounted relatively on said shafts 12 and 13, gear-wheels 19, mounted upon the projecting ends of said shafts 12 and 13, counter-shafts 24, secured in suitable bearings 25, a pinion 26, keyed upon said counter-shaft 24, and the projecting end of said counter-shaft 24 fitted to receive a crank 28, by means of which the entire dumping mechanism is manipulated, substantially as set forth.

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

CHARLES H. McROBERTS.

Witnesses:

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