(No Model.) 2 Sheets—Sheet 1.

H. D. LORASH & C. HILGEMEIER.

DUMP BED FOR WAGONS.

No. 579,116. Patented Mar. 16, 1897.

Fig. 1.

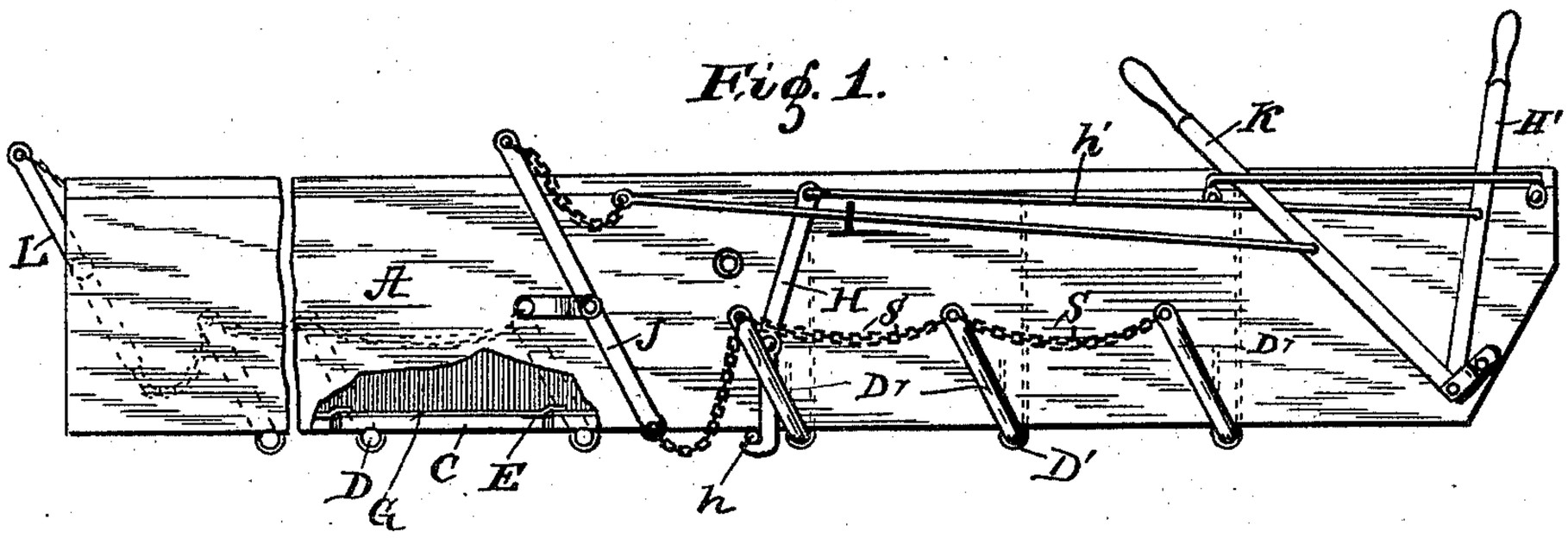

Fig. 2.

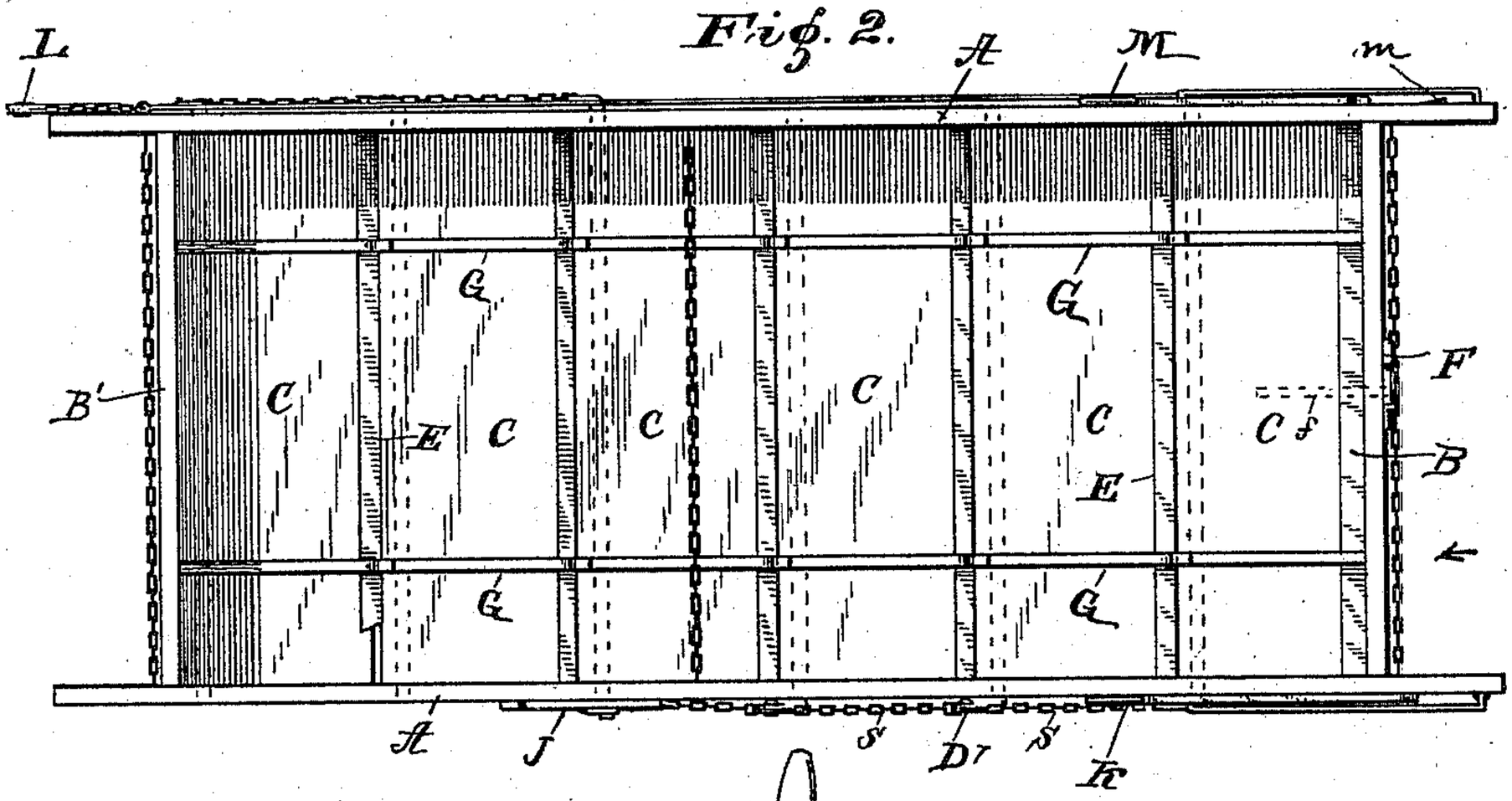

Fig. 3.

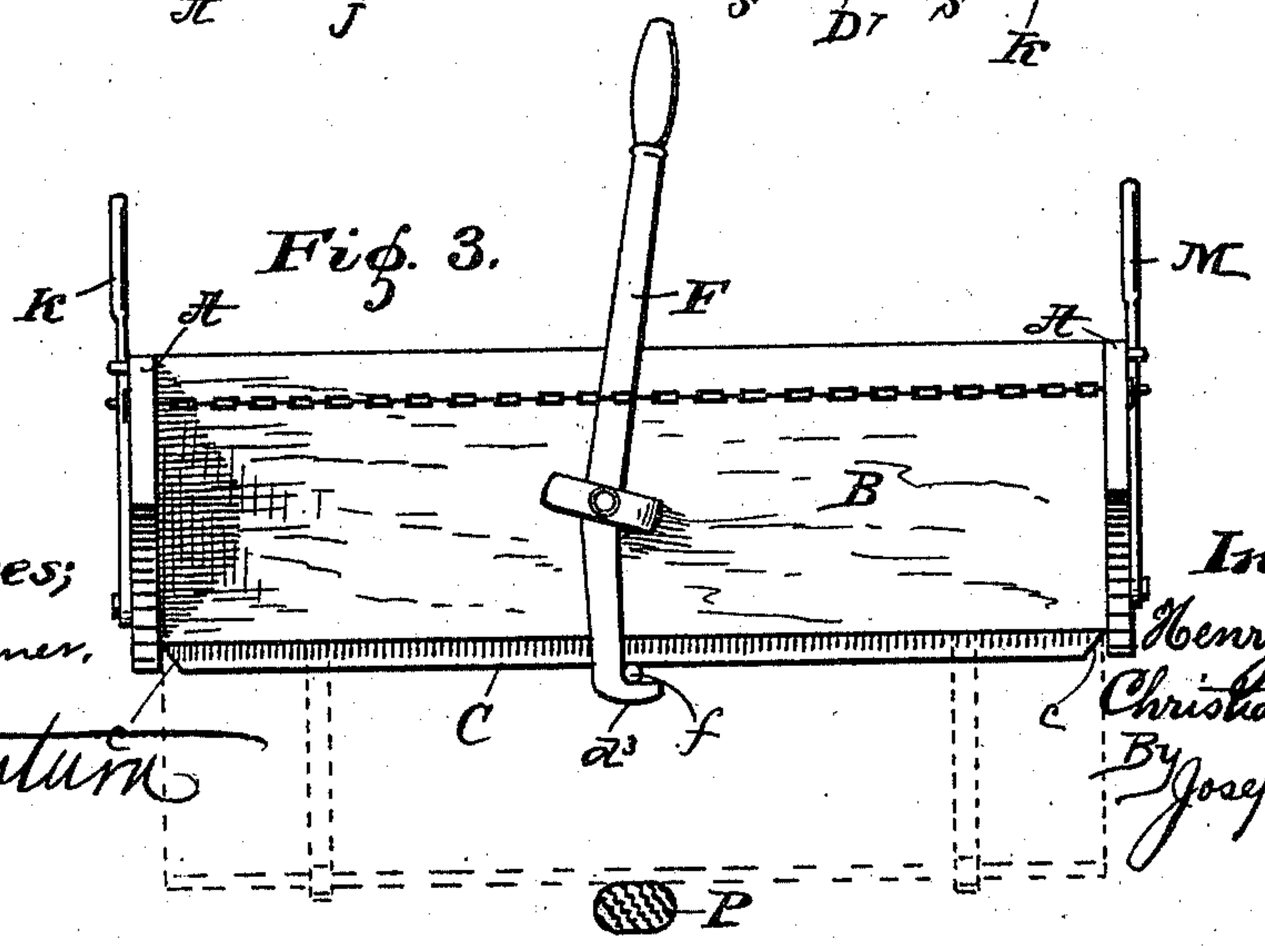

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Fig. 4.

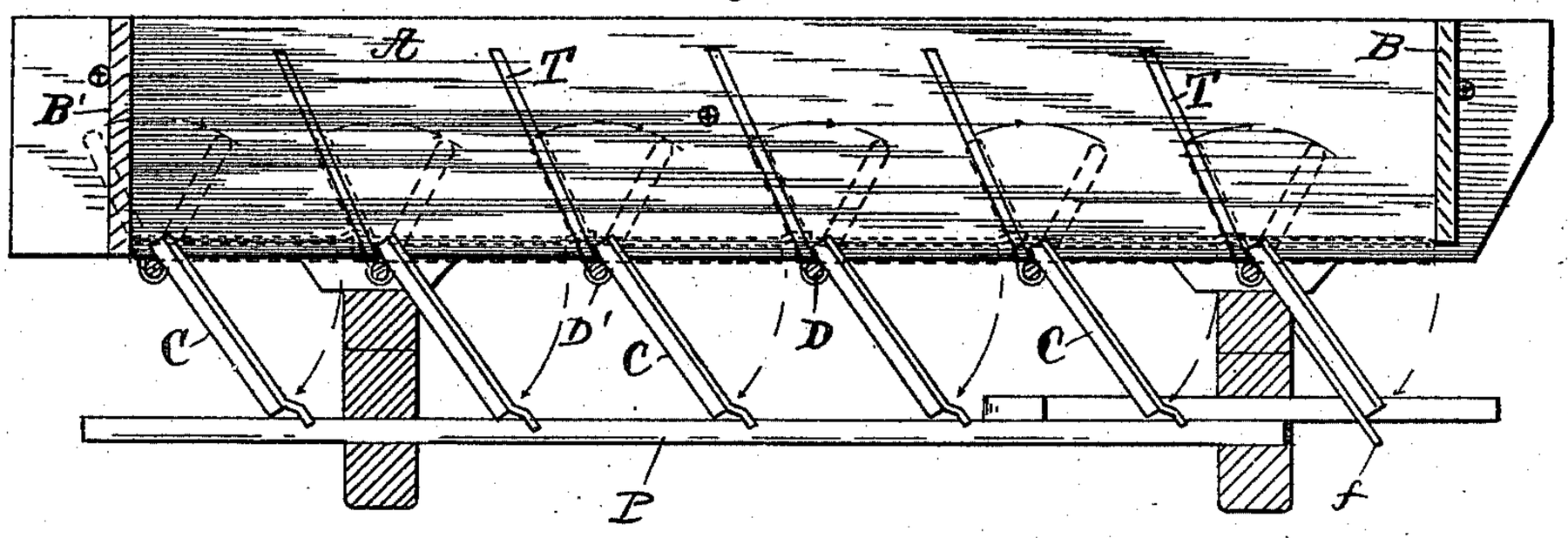


Fig. 5.

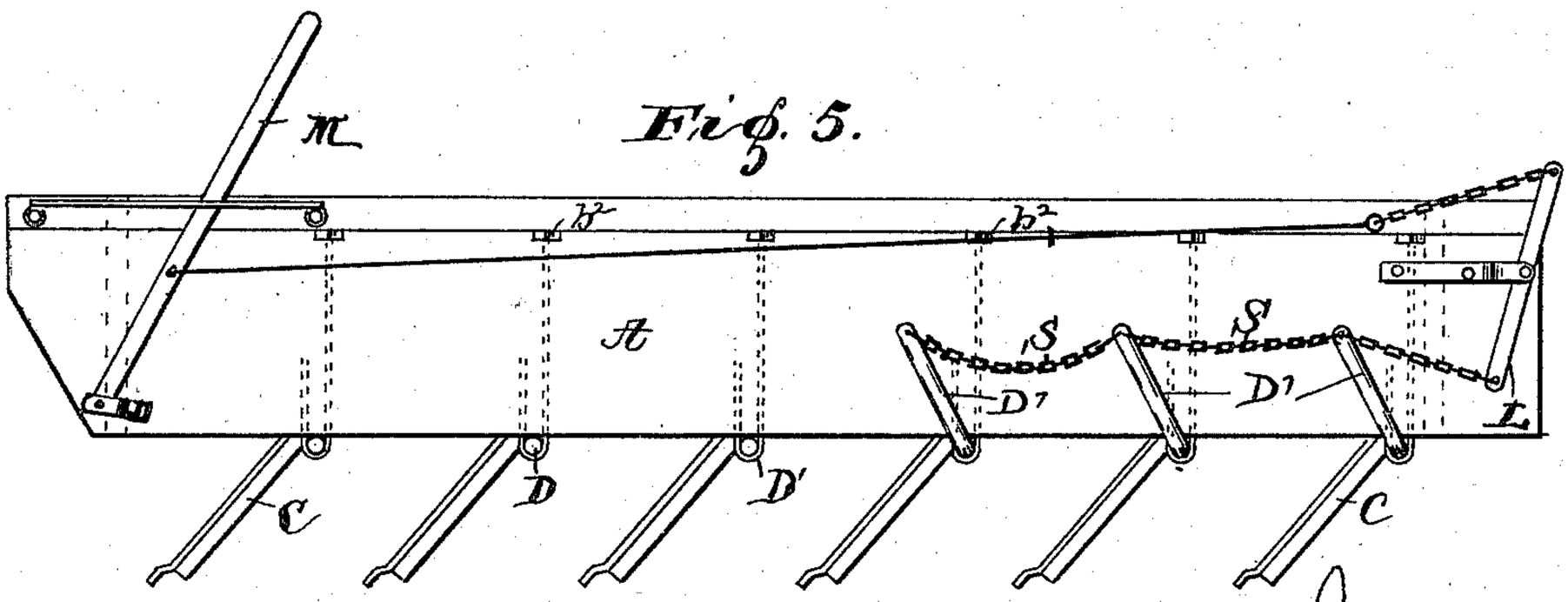
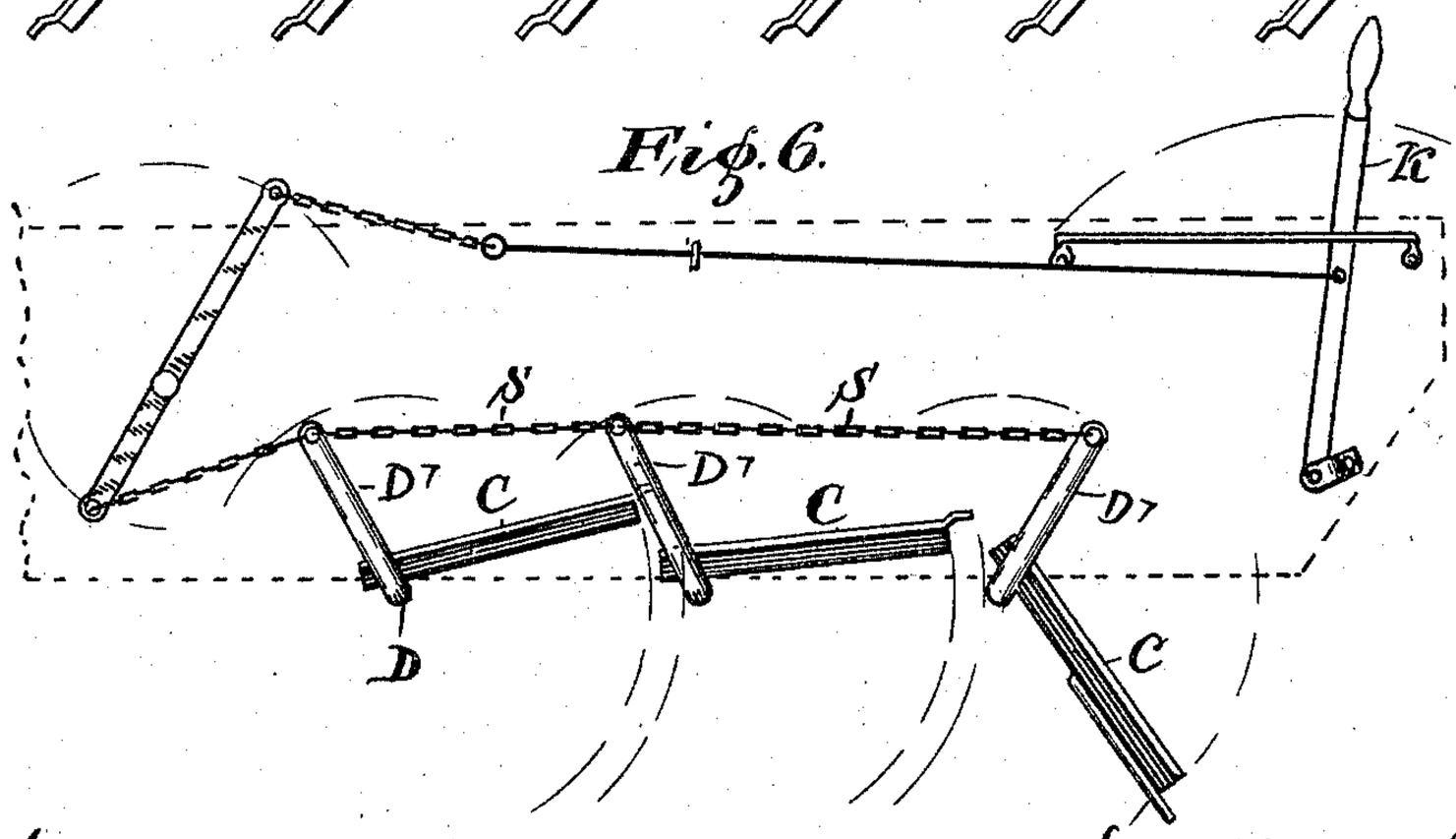


Fig. 6.



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UNITED STATES PATENT OFFICE.

HENRY D. LORASH AND CHRISTIAN HILGEMEIER, OF INDIANAPOLIS, INDIANA, ASSIGNORS OF ONE-HALF TO CHARLES S. COOPER AND ALLEN A. RUSSELL, OF SAME PLACE.

DUMP-BED FOR WAGONS.

SPECIFICATION forming part of Letters Patent No. 579,116, dated March 16, 1897.

Application filed October 10, 1896. Serial No. 608,486. (No model.)

To all whom it may concern:

Be it known that we, HENRY D. LORASH and CHRISTIAN HILGEMEIER, citizens of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Dump-Beds for Wagons; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to make and use the same.

This invention relates to beds for hauling sand, gravel, dirt, and like substances in which a quick means for discharging the load is desired, the object being, first, to provide a removable dump-bed which can be used on any of the wagons of usual construction having removable beds; second, to provide means for dumping a part of the load at a time when it is desired to do so; third, to provide a bed which will distribute the contents equally over all of the ground underneath the wagon; fourth, to provide a discharge that will obviate all danger of clogging the operative parts with gravel, that will clean itself, and which will permit boulders and like bodies of considerable bulk to pass out without danger of lodgment on the way out; fifth, to provide a simple, durable, and inexpensive construction.

We accomplish the objects of this invention by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a view in side elevation of our improved bed with the parts in position to receive and hold the load. The view is broken in two and shortened up to come within the limits of the drawing, and a part of the side of the bed is broken away to show the inside arrangement and construction. Fig. 2 is a plan view of the bed, showing the bottom sections closed. Fig. 3 is an end elevation of the bed, looking in the direction of the arrow, Fig. 2, and showing the open position of the sections in dotted lines. Fig. 4 is a vertical longitudinal section of the bed, showing the sections of the bottom in their open position in full lines and in dotted lines in their closed position; Fig. 5, a view in side elevation of the opposite side of the bed from that shown in Fig. 1 and showing the bottom sections in their open positions. Fig. 6 is a diagram showing the three front sections of the bottom and illustrating the manner in which the sections clear each other in opening and closing.

Similar letters of reference indicate like parts throughout the several views of the drawings.

A represents the sides of the dump-bed, B the front and B′ the rear end-gates, both of which may be removably secured, but preferably only the rear end-gate will be removable, while the front gate is fixed. We prefer to use chains *b* in place of rods to tighten up the bed, because the chains can be unhooked and dropped down out of the way in less time and with less trouble than a rod could be withdrawn.

The bottom or floor of the bed will be in a plurality of sections C, which are hinged so all of them will swing down in the same direction, the floor in reality being made up of a series of trap-doors. Each of the sections C will be mounted on a flat bar D, which is bolted to the under side of the section. The bars project beyond both ends of the sections, and these projecting ends of the bars are made round in cross-section to form trunnions, which are fastened to the sides A of the bed by U-shaped irons D′, so as to form a hinge on which the sections may turn. The stems of the U-shaped irons are projected into the woodwork of the sides A. One of them, in the construction which we have here adopted, goes through almost to the top edge of the side and is there secured by means of a nut b^2. (See Fig. 5.) The other stem will be amply strong if it goes only a portion of the distance through the side, as shown by the dotted lines in the drawings. In the construction of the sides, as shown in the drawings, they are made up of two boards, a wide one on the bottom and a narrow one on the top edge, and the nuts for holding on the bolts D′ will be placed between the wide and narrow boards.

E are metal strips fastened to the upper front edges of each one of the sections and projecting out so as to overlap the next ad-

jacent section. This strip closes up the space between the sections and acts as a guard to protect the edges from wear. The position of the hinge-bar D is close to, but not at, the rear edge of the section, so that when the section swings down in dumping the rear edge will be drawn away from the front edge of the section next following. When the sections are all in the same horizontal plane, that is, in their closed position, the front edge of each section is supported by the rear edge of the section just in front, and the last forward section of the series is supported by a hook d^3, which is pivotally secured to the front end-gate of the bed and is caught over a pin *f*, fastened to the front section. The hook d^3 is the lower terminal of the lever F, the upper end of which lever projects above the bed to form a handle for moving the lever in engaging and releasing the pin *f*. Transverse bars G are fastened in pairs to the upper sides of the sections. The front ends of these bars extend beyond the front edges of the sections, and it is by these projections that the sections are supported.

In dumping the load the lever F is moved so as to leave the pin *f* unsupported. The weight of the load above it forces the front section of the floor down and by so doing swings the back edge of the section upwardly and forwardly, so as to leave the front edge of the next section unsupported, and the weight above it causes it to drop down, thereby releasing the next section, and so on throughout the whole series. It will therefore appear that the movement of the lever F so as to remove the support for the pin *f* causes the whole load to be dumped.

It is sometimes desirable to dump only half of a load at one place, and in order to do this we will provide means for holding the rear sections from dropping down. This is done by means of a hooked lever H, which is pivoted to the side of the bed and hooks over a pin *h*, which is fastened to one of the sections of the floor. As long as the section having the pin is supported the remaining sections to the rear of it will be supported. The lever H is connected by means of the rod *h'* with the hand-lever H', placed within easy reach at the front end of the bed. When it is desired to dump only one-half of a load, the lever H' will be held and the front sections will be allowed to drop.

To keep gravel and small pieces from wedging between the end of the sections and the side of the bed, we will provide the under side bevels *c*, which allow the particles to drop on down out of the way. The sections C drop down until they are arrested by striking on the coupling-pole P of the wagon, and by raising or lowering the bed and thereby increasing or lessening the distance between the bed and the pole the angle of inclination of the sections can be regulated.

In order to raise the sections of the floor into horizontal position ready for use, we prolong the bars D at one end and bend up the extension to form the arm D^7. These arms are joined together in two series by means of chains S in the manner as shown in the drawings. The front half of the arms are connected with the lower end of the lever J, which lever is pivoted approximately midway of its length to the side-board of the bed, and the upper end of the lever J is connected with the lever K at the front of the bed. The arms belonging to the rear half of the sections will be joined together with chains in the same manner as described for the front sections and will be connected with the lower end of the lever L. The lever L and the arms from the rear sections are on the opposite side of the bed from the arms belonging to the front sections in order to avoid too much interference of parts which would follow an arrangement of all on the same side. The lever L is connected with the hand-lever M at the front of the bed in the manner as shown in Fig. 5, and a catch *m* (see Fig. 2) is for the purpose of holding the lever in the position assumed by it when the sections are raised. In setting the sections the rear set will be first brought up by a forward movement of the lever M, and the three sections composing the rear set are chained together in such manner that the last or hindmost section will be brought a little above the horizontal before the section in front of it starts to move, and the second section from the back moves up and past the horizontal plane before the third section starts, then the third section comes up, and all are held in raised position by locking the lever M under the catch *m*. After that the front set is brought up in the same manner—that is, by beginning with the rear section of the set and swinging it past the horizontal plane before the next one is set in motion.

Fig. 6 shows the front set with the two rear sections raised and the front section ready to start on its upward movement. When the front section is up in position, the pin *f* is caught and held by the hooked lever, and the levers K and M are released and the sections of the bottom allowed to settle back into their proper horizontal plane.

T are metal straps to keep the sections from wearing out the sides of the bed.

Having thus fully described our invention, what we claim as new, and wish to secure by Letters Patent of the United States, is—

1. In a dump-bed for wagons, the combination with a bottom consisting of a plurality of hinged and swinging sections having the front edge of each section supported by the section next in front of it in the manner substantially as shown and described, a crank secured to each of said sections said cranks being joined together by chains into groups, each chain increasing in length from the shortest chain which will connect the levers to the first crank for the purposes set forth, and hand-levers connected with the chains where-

by the sections can be brought back into the plane of the bed-bottom after the load has been dumped but in the reverse order in which they were lowered in dumping.

2. In a dump-bed for wagons, a bottom consisting of a plurality of sections hinged so as to swing downwardly when the load is dumped, the said sections having their ends beveled on the under sides thereof, substantially in the manner as shown and for the purposes specified.

3. The combination with the sides A and ends B and B′, forming the body of a dumping-bed, of the bottom sections C hinged to the sides A in the manner as described, the transverse bars G, plates E, cranks D^7, chains S connecting the cranks together in two series, said chains being of increasing length beginning in each series with the shortest chain which will extend from its operating-lever to the first crank of the series, and hand-levers K and M connected by chains with the series of cranks whereby the bottom sections can be returned to form the plane of the floor by moving the levers, all substantially as described and for the purposes specified.

In testimony whereof we affix our signatures in presence of two witnesses.

HENRY D. LORASH.
CHRISTIAN HILGEMEIER.

Witnesses:
JOSEPH A. MINTURN,
F. W. WOERNER.