

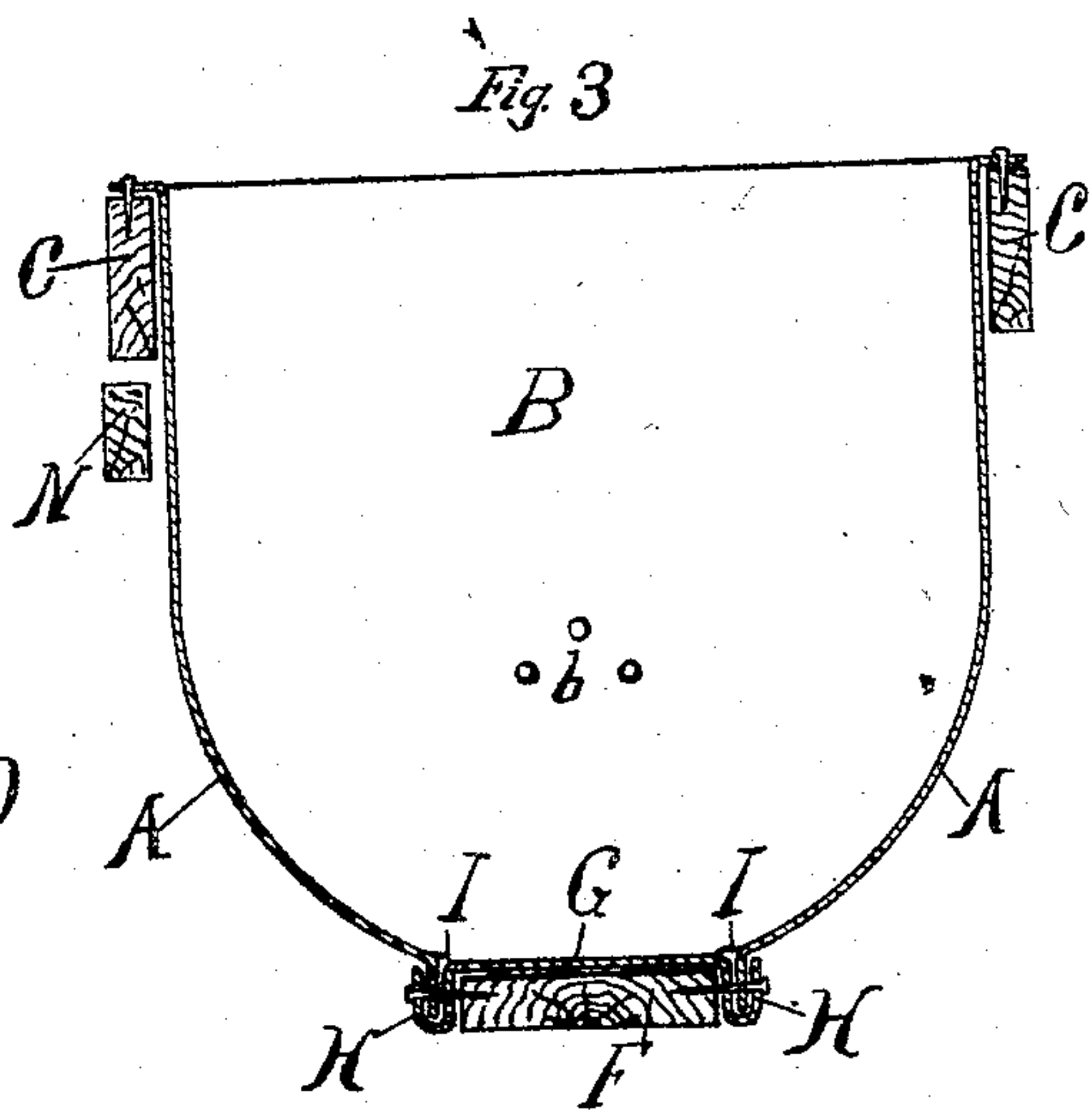
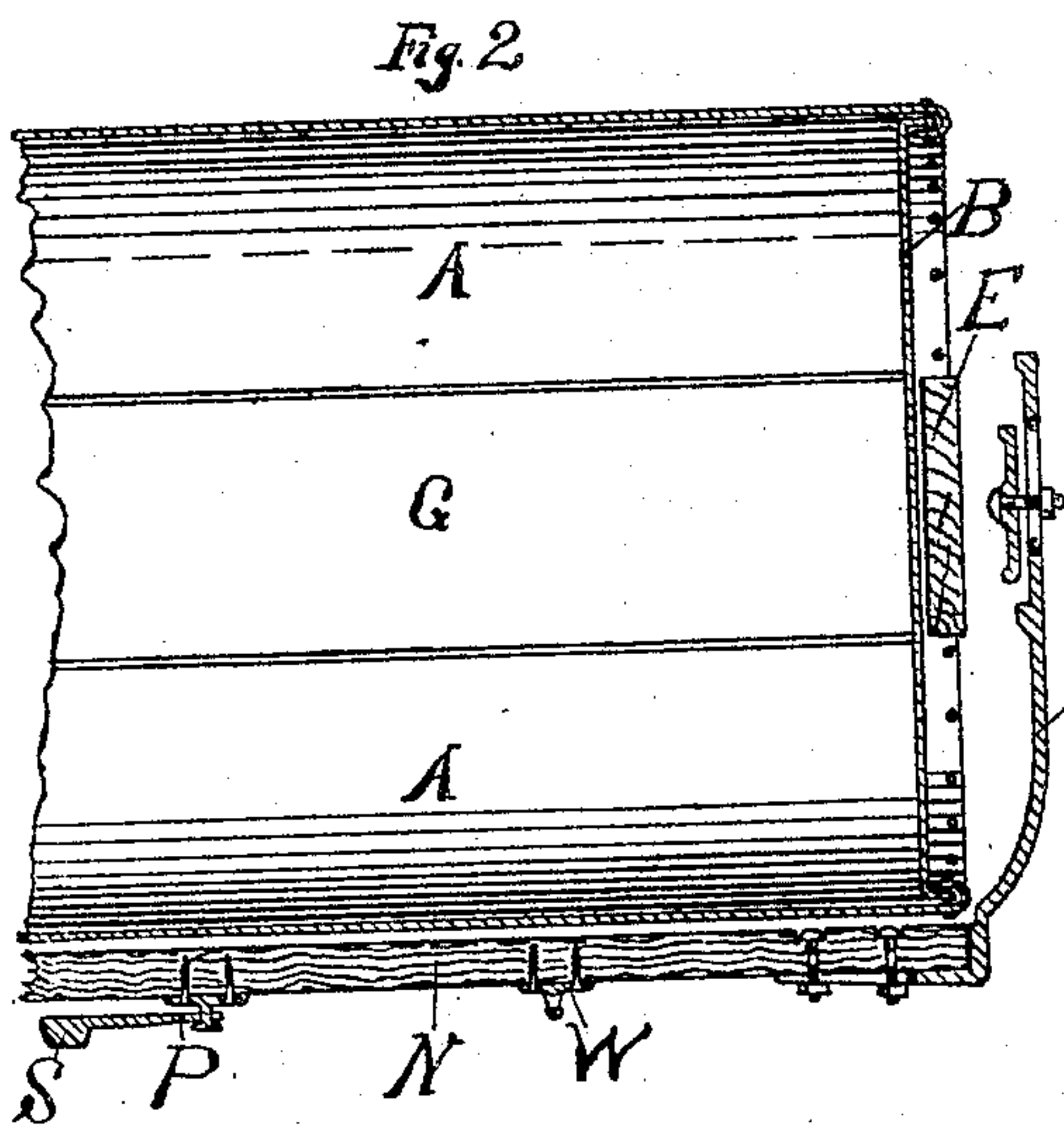
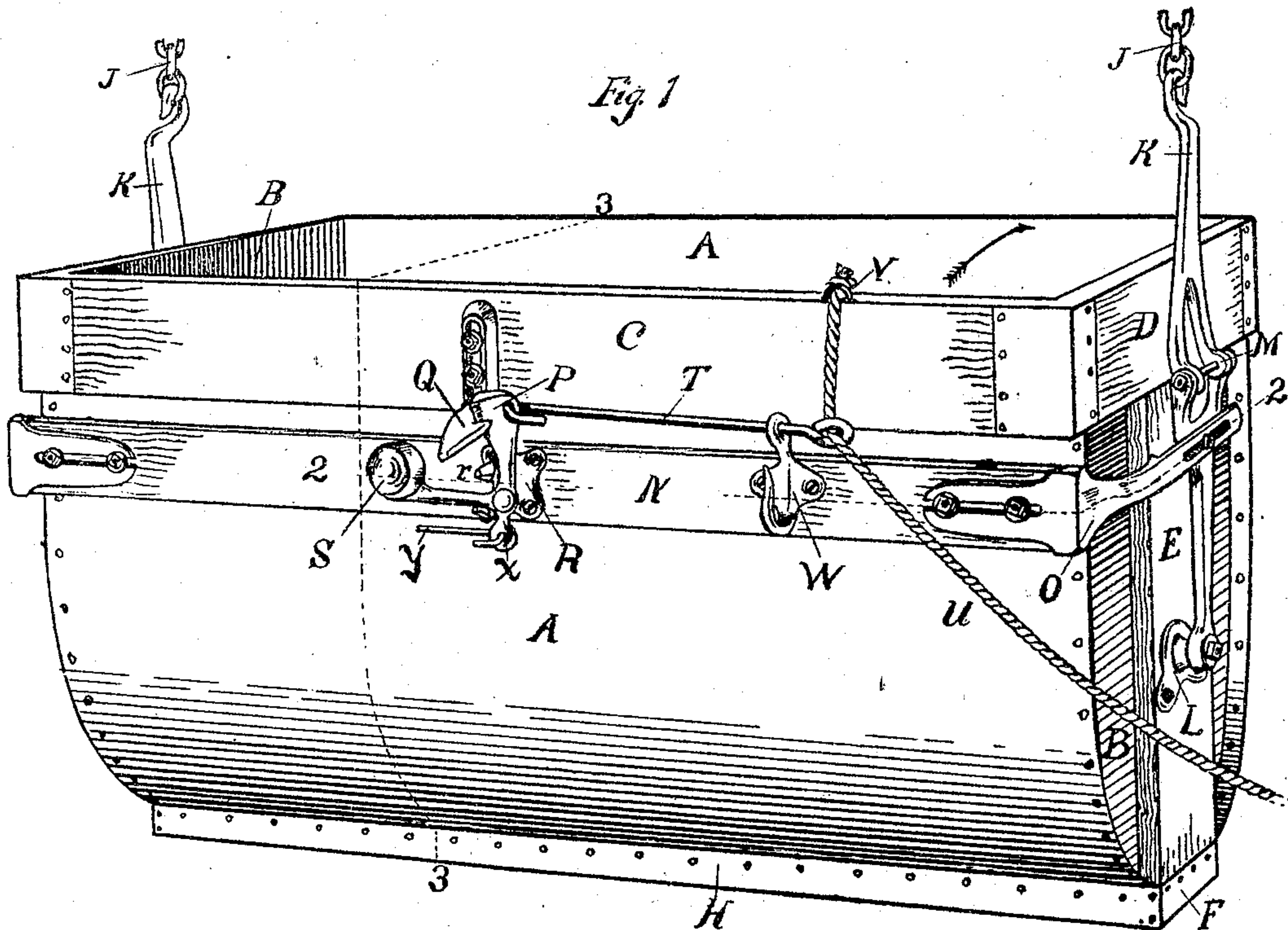
No. 795,692.

PATENTED JULY 25, 1905.

D. B. CHERRY.
DUMPING BOX.

APPLICATION FILED FEB. 28, 1905.

2 SHEETS—SHEET 1.



WITNESSES:

E. H. Lichtenberg
Laura Kampf.

INVENTOR

David B. Cherry.

BY

William London.
ATTORNEY

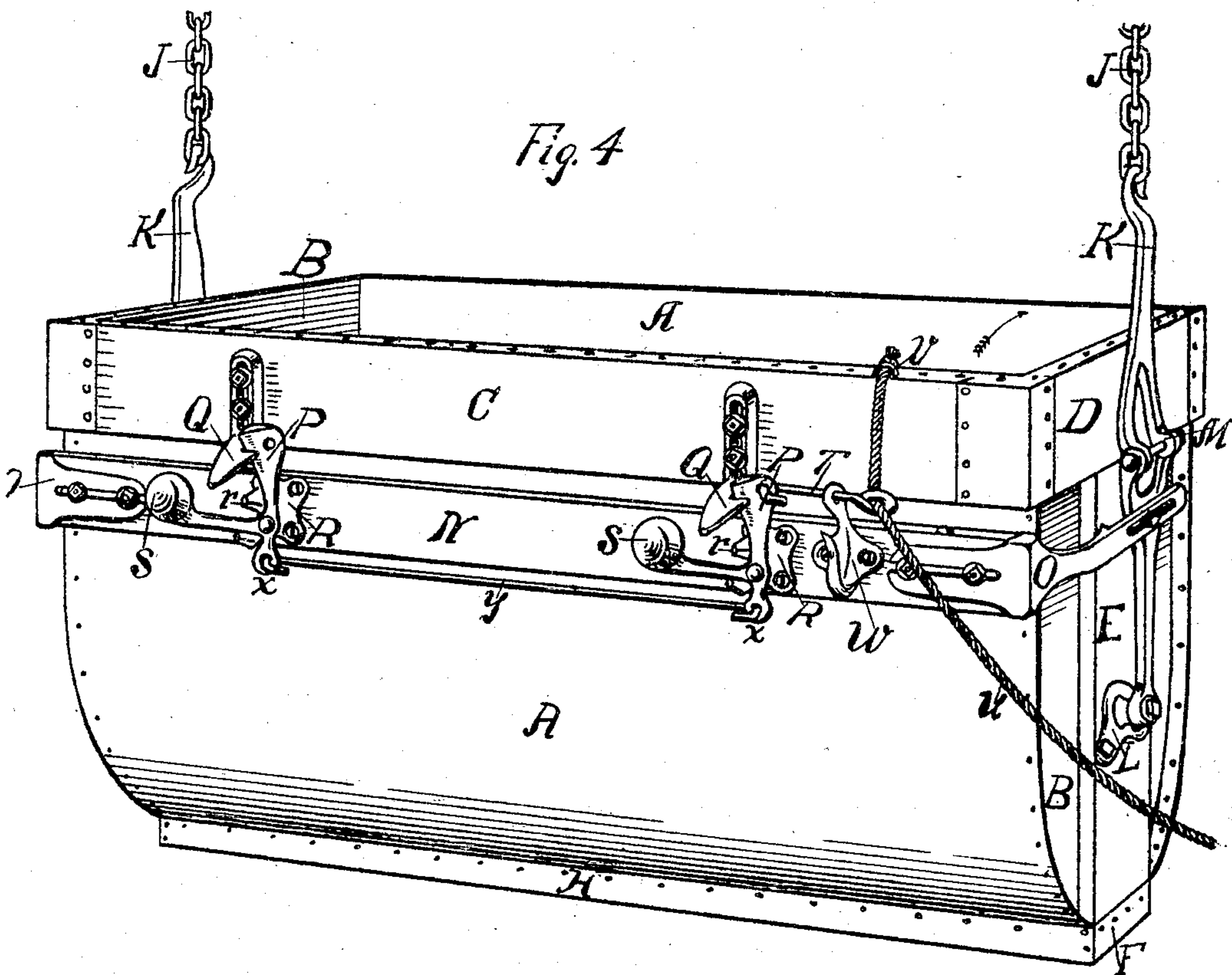
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E. H. Lichtenberg
Laura Kumpf

Inventor

David B. Cherry
by *William London*
Atty.

UNITED STATES PATENT OFFICE.

DAVID B. CHERRY, OF KNOXVILLE, IOWA, ASSIGNOR TO LOUDEN MACHINERY COMPANY, OF FAIRFIELD, IOWA, A CORPORATION OF IOWA.

DUMPING-BOX.

No. 795,692.

Specification of Letters Patent.

Patented July 25, 1905.

Application filed February 28, 1905. Serial No. 247,795.

To all whom it may concern:

Be it known that I, DAVID B. CHERRY, a citizen of the United States, residing at Knoxville, in the county of Marion and State of Iowa, have invented a new and useful Improvement in Dumping-Boxes, of which the following is a specification.

My invention relates to boxes or receptacles for feed and litter carriers and the like; and it consists of an improved construction of the box itself and also of the attachments whereby it is held in place while carrying a load and whereby it is dumped to discharge the load and then returned to its carrying position, all of which is fully set forth in the specification and particularly pointed out in the claims.

In the accompanying drawings, which form a part of this specification, Figure 1 is a perspective of a dumping-box embodying my invention. Fig. 2 is a horizontal section looking downward on line 2 2 of Fig. 1. Fig. 3 is a transverse vertical section on line 3 3 of Fig. 1. Fig. 4 is a perspective view of a dumping-box, showing two latches on one of its sides.

Referring to the drawings, A represents the sides of the box, which are made of sheet metal, and B the ends, which are also of sheet metal, but may be made of wood, if preferred. The upper edge of the box is supported by a rectangular-shaped frame made of side timbers C and end timbers D, and the sheets A and B are secured at their upper edges to this frame. At each end a vertically-disposed timber E is joined to the central part of the timber D, and to the lower ends of these vertical end timbers a timber F is secured, so as to pass along under the bottom of the box from end to end. A bottom piece of sheet metal G is placed upon the timber F, and its edges are bent down over the edges of the timber and are then doubled up on themselves so as to form deep narrow troughs or recesses H. The lower edges of the sheets A are inserted in these troughs or recesses, and the whole is suitably secured to the edges of the timber F by nails or otherwise. To insure watertight joints, the edges of the sheets A and G are soldered together at I. The ends of the sheets A are doubled back on themselves, as shown in Fig. 2, and the edges of the sheets B are bent at right angles and inserted in the troughs or recesses thus formed, and the whole is securely riveted together, and the inside meeting edges are then soldered together.

It will be seen that the timbers C, D, E, and F, joined together as they are, form a crate or frame which fully supports the sheet-metal plates A, B, and G, which form the box, and this crate or frame prevents the box from getting twisted out of shape, thus producing a substantial though cheaply-constructed device for the purpose intended.

In Figs. 2 and 3 the sheets A and B, A and G, and the timbers C, E, and F are shown with spaces between in order to show the arrangement more plainly; but it will be understood that these parts will all be brought in direct contact, so as to produce a water-tight box.

This box is intended to be used with a carrier such as that shown in my Patent No. 578,722, of March 16, 1897, in which a shaft is used to wind up the box in going with a load or returning empty and to let it descend to be loaded again. To fit my box to be thus used, I provide it with chains J to wind upon said shaft. The chains J are connected to upwardly-extending arms K, which are pivoted at their lower ends to brackets L, which are secured to the timbers E about the center of the ends of the box by bolts, which are marked b in Fig. 3. The arms K are fitted near their centers with hinged joints M, the object of which is to permit the upper ends of the arms to swing in or out as the chains may be wound upon or unwound from the shaft of the carrier above mentioned without crowding the central or lower ends of said arms against or away from the ends of the box. Preferably the ends of the sections of the arms K, which are hinged together, are widened and made forked, and a long bolt is passed through holes in these forks, so as to hinge the sections together. In this way the joints or hinges are made stronger and more durable than they would otherwise be. To hold the arms K securely in place, I use a bar N, which is placed at one side of the box, and to each end of this bar I attach brackets O, which are disposed to pass around each end of the box, and these brackets are attached to the arms K below the joints M. These brackets are fitted with slots in each end, through which bolts are passed to connect them, as shown, to the bar N and the arm K. In this way the brackets can be readily adjusted to fit boxes of different widths and lengths.

To hold the box in the proper position for carrying loads, as well as to provide means for

dumping it at the point of deposit, I affix a latch P to the bar N and a catch Q to the timber C and arrange them to connect together and hold the box in its upright position. The latch is preferably mounted on a base-plate R so it will oscillate thereon and is provided with a weighted end S and a trip-rod T. To limit the movement of the latch, I provide the plate R with two lugs r, one above and the other below the shank which connects the weighted end S to the main body of the latch P. A pull on the trip-cord will draw the latch out of engagement with the catch, and the rod being released the weighted end S will bring them back into engagement. The lower ends of the arms K being pivoted to the brackets L, the box will be free, when the latch P is released from the catch Q, to tilt in the direction of the arrow and discharge the load. To operate the latch from a distance, I use the trip cord or rope U, which is passed through an eye on the end of the rod, and one of its ends is secured by a staple V or otherwise to the upper edge of the box. A pull on the cord U will draw the latch P out of engagement with the catch Q and permit the box to tilt. The pivots at L can be set a little to the side of the box having the latch or the box can be loaded a little heavier on the other side, so as to cause it to dump readily when unlatched. By holding the cord U the operator can retard the dumping of the box, if desired, and then by letting loose of it dump the box when ready. After the box has been dumped and the load discharges it can be brought back again to its upright position by drawing on the cord, and when in proper position it can be latched there by suddenly releasing the cord, when the weighted end S will bring the latch into engagement with the catch Q. A casting W, having an eye on its upper end, is secured to the bar N, and the rod T is passed through this eye to support it in proper position. The lower end of the casting W is fitted with a hook upon which the trip-cord U may be hung when not in use.

Sometimes it is advisable to use two latches on the box, especially when it is to be used for carrying ensilage or other heavy material, and in this case I provide my latch with a depending eye X, and into this eye I fit a connecting-rod Y. In this case the casting W is set closer to the end than shown in drawings. One of the latches will be set about where the casting is in drawings and the additional latch will be set an equal distance from the opposite end of the box, as shown in Fig. 4. The additional latch will be fitted with a depending eye X, and the connecting-rod Y is hooked or otherwise connected to this eye, so that when the first latch is operated the additional one will also be operated the same as if the rod T were connected directly to it.

In place of the weighted end S a spring can be used to throw the latch P into engagement with the catch and other similar changes in the details of construction may be made without departing from the spirit of my invention.

While a single latch, as shown in Fig. 1, will be sufficient for ordinary work, it will be better to use the additional latch shown in Fig. 4 for heavy work. The two latches being duplicates of each other, the reference-letters of the corresponding parts are made the same.

What I claim is—

1. In a dumping-box having a rectangular-shaped open top, a strengthening-frame secured to the upper edges of said top, vertically-disposed pieces applied to the ends of the box and secured to the central portions of the ends of said strengthening-frame, and means to hold said vertical pieces in engagement with the lower portions of the box.

2. In a dumping-box having a rectangular-shaped open top, a strengthening-frame secured to the upper edges of said top, vertically-disposed pieces applied to the ends of the box and secured to the central portions of the ends of said strengthening-frame, and a horizontally-disposed piece applied to the bottom of the box and secured to the lower ends of said vertical pieces.

3. In a dumping-box having a rectangular-shaped open top, T-shaped pieces applied to the ends of the box, side pieces applied to the upper edges of the sides of the box and secured to the ends of the arms of the T-shaped pieces, and means to hold the lower ends of said pieces in engagement with the bottom of the box.

4. In a dumping-box having a rectangular-shaped open top, T-shaped pieces applied to the ends of the box, side pieces applied to the upper edges of the sides of the box and secured to the ends of the arms of the T-shaped pieces, and a horizontally-disposed piece applied to the bottom of the box and secured to the lower ends of the T-shaped pieces.

5. In a dumping-box having a rectangular-shaped open top, vertically-disposed pieces secured to the ends of said box, pivots upon said pieces, and hanger-bars having upwardly-extended ends secured to said pivots.

6. In a dumping-box having a rectangular-shaped open top, vertically-disposed pieces secured to the ends of said box, pivots upon said pieces, and hanger-bars having jointed upper ends secured to said pivots.

7. In a dumping-box having a substantially rectangular-shaped open top, pivots secured to the central portions of the ends of said box, and hanger-arms having jointed upper ends secured to said pivots.

8. In a dumping-box having a substantially rectangular-shaped open top, pivots secured to the central portions of the ends of said box,

hanger-arms having jointed upper ends secured to said pivots, and means to wind on a shaft secured to the upper ends of said arms.

9. In a dumping-box having a substantially rectangular-shaped open top, pivots secured to the central portions of the ends of said box, and hanger-arms secured to said pivots, said arms being made in two sections with forked ends jointed together on a horizontal line parallel with the ends of the box so the upper sections of the arms will be free to swing toward and away from the upper ends of the box.

10. In a dumping-box adapted to tip over to discharge its load, pivots on opposite ends of said box, jointed hanger-arms secured at their lower ends to said pivots and at their upper ends provided with means to wind upon a shaft.

11. In a dumping-box adapted to tip over to discharge its load, pivots on opposite ends of said box, jointed hanger-arms secured at their lower ends to said pivots and a stay-bar passed around one side of the box, and connecting said arms together below the joints.

12. In a dumping-box adapted to tip over to discharge its load, pivots on opposite ends of said box, jointed hanger-arms secured at their lower ends to said pivots, and an adjustable stay-bar passed around one side of the box, and connecting said arms together below the joints.

13. In a dumping-box having a substantially rectangular-shaped open top, hanger-arms pivoted to the ends of the box near its central portions, a bar passed along one side of the box, and brackets connecting the central portions of the arms and the ends of the bar together.

14. In a dumping-box having a substantially rectangular-shaped open top, hanger-arms pivoted to the ends of the box near its central portions, a bar passed along one side of the box, and adjustable brackets connecting the central portions of the arms and the ends of the bar together.

15. In a dumping-box having a substantially rectangular-shaped open top, hanger-arms pivoted to the ends of the box near its central portions, a bar passed along one side of the box, and brackets having their ends set at right angles to each other and having slots therein whereby they may be adjustably connected at one end to the bar and at the other to the arms.

16. A dumping-box having a substantially rectangular-shaped top, suspending-arms pivoted to the ends of the box near or below its central portions, a stay-bar passed along one side of the box, and connected to the suspending-arms below the upper edge of the box, a catch secured to the side of the box adjacent to the stay-bar, and a movable latch mounted on the stay-bar and adapted to engage the catch and hold the box in loaded position.

17. A dumping-box having a substantially rectangular-shaped open top, suspending-arms pivoted to the ends of the box near or below its central portions, a stay-bar passed along one side of the box, and connected to the suspending-arms below the upper edge of the box, a catch secured to the side of the box adjacent to the stay-bar, a movable latch mounted on the stay-bar and adapted to engage the catch and hold the box in loaded position, and a tripping device to disengage the latch and release the catch.

18. A dumping-box having suspending-arms pivoted to the opposite ends thereof, a stay-bar passed around one side of the box and connected to said arms, a catch secured to the side of the box adjacent to the stay-bar, and a trippable latch mounted on the stay-bar and adapted to engage and hold the catch.

19. A dumping-box having suspending-arms pivoted to the opposite ends thereof, a stay-bar passed around one side of the box and connected to said arms, a catch secured to the side of the box adjacent to the stay-bar, a pivoted latch mounted on the stay-bar so as to engage the catch and tripping means to release the latch.

20. A dumping-box having suspending-arms pivoted to the opposite ends thereof, a stay-bar passed around one side of the box and connected to said arms, a catch secured to the side of the box adjacent to the stay-bar, a casting having a pivot-pin and two laterally-projecting guards, one above the other, secured to the stay-bar, a latch mounted upon the pivot-pin and having a weighted end and an intermediate shank interposed between the guards and means to release the latch.

21. A dumping-box having suspending-arms pivoted to the opposite ends thereof, a stay-bar passed around one side of the box and connected to said arms, a catch secured to the side of the box adjacent to the stay-bar, a pivoted latch mounted on the stay-bar, a trip-rod having an eye on its outer end connected to the latch, a casting having an eye to receive and support the trip-cord affixed to the stay-bar, and a trip-cord secured to the upper edge of the box and passed through the eye of the trip-rod.

22. A dumping-box having suspending-arms pivoted to the opposite ends thereof, a stay-bar passed around one side of the box and connected to said arms, a catch secured to the side of the box adjacent to the stay-bar, a pivoted latch mounted on the stay-bar, a trip-rod having an eye on its outer end connected to the latch, a casting having an eye to receive and support the trip-rod affixed to the stay-bar, and a trip-cord secured to the upper edge of the box and passed through the eye of the trip-rod, said casting having a hook to support the trip-cord when not in use.

23. In a trip-latch for a dumping-box of the character described, a depending part fitted

with an eye, and a connecting-rod fitted in the eye and adapted to connect with and operate a similar latch when placed upon the box.

24. In a dumping-box, two side pieces of sheet metal, a bottom piece of timber, and a bottom piece of sheet metal placed upon the timber, and the edges of the adjoining pieces of sheet metal being secured together and to the edges of the timber.

25. In a dumping-box, two side pieces of sheet metal, a bottom piece of timber, and a bottom piece of sheet metal placed upon the timber, and the edges of the bottom piece of sheet metal being bent down over the edges of the timber and then upward to form troughs on each side thereof, the adjoining edges of

the side sheets being bent downward and inserted in the troughs and the adjoining edges of the sheets being secured to the edges of the timber and fitted to each other.

26. A dumping-box having suspended arms pivoted to opposite ends thereof, a stay-bar passed around one side of the box and connected to said arms, duplicate latches mounted on the stay-bar so as to engage the catches and means to release the catches in unison and permit the dumping of the box.

DAVID B. CHERRY.

Witnesses:

J. J. ROBERTS,

J. B. ELLIOTT.