A. N. DOUD.

CONCRETE HOLDING AND CARRYING DEVICE.

APPLICATION FILED DEC. 9, 1907.

928,858.

Patented July 20, 1909.

2 SHEETS—SHEET 1.

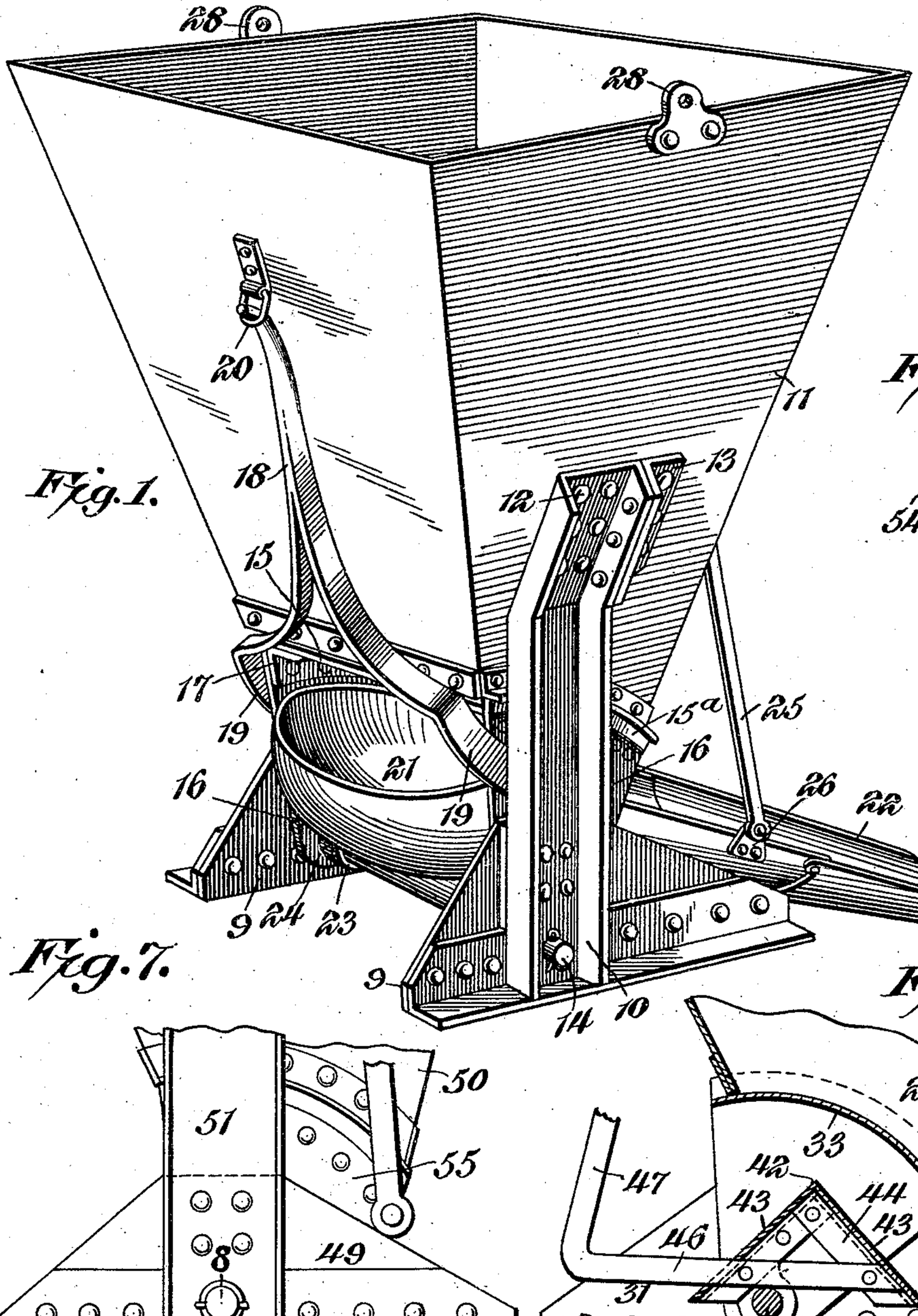

Fig. 1.

Fig. 7.

Fig. 8.

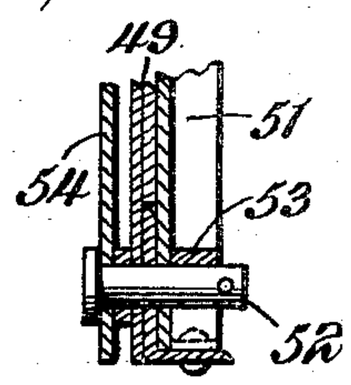

Fig. 5.

Witnesses

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2 SHEETS—SHEET 2.

Fig. 6.

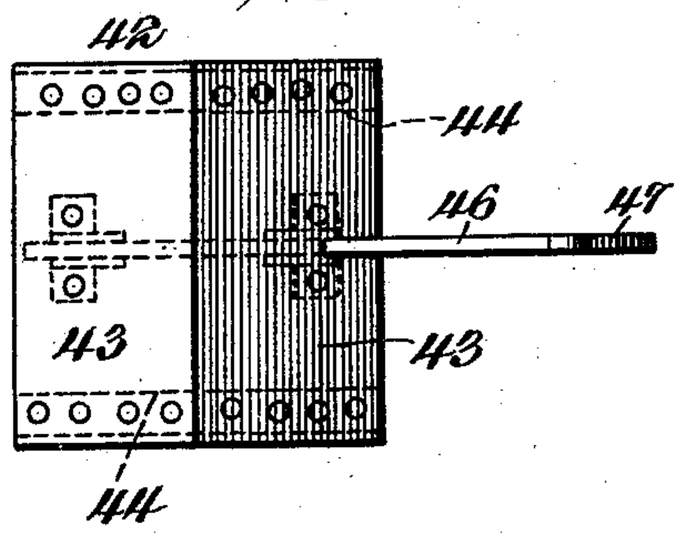


Fig. 2.

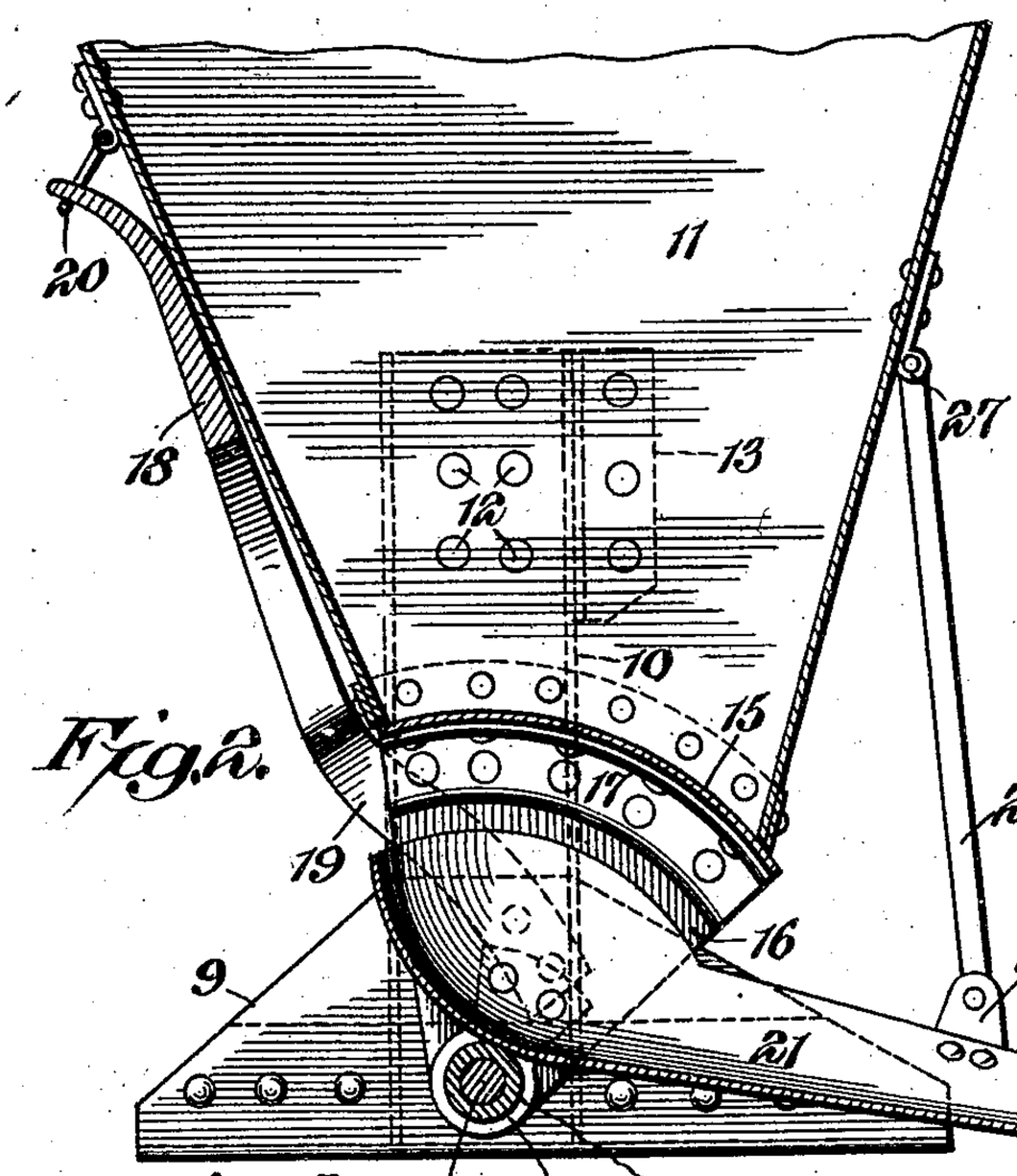
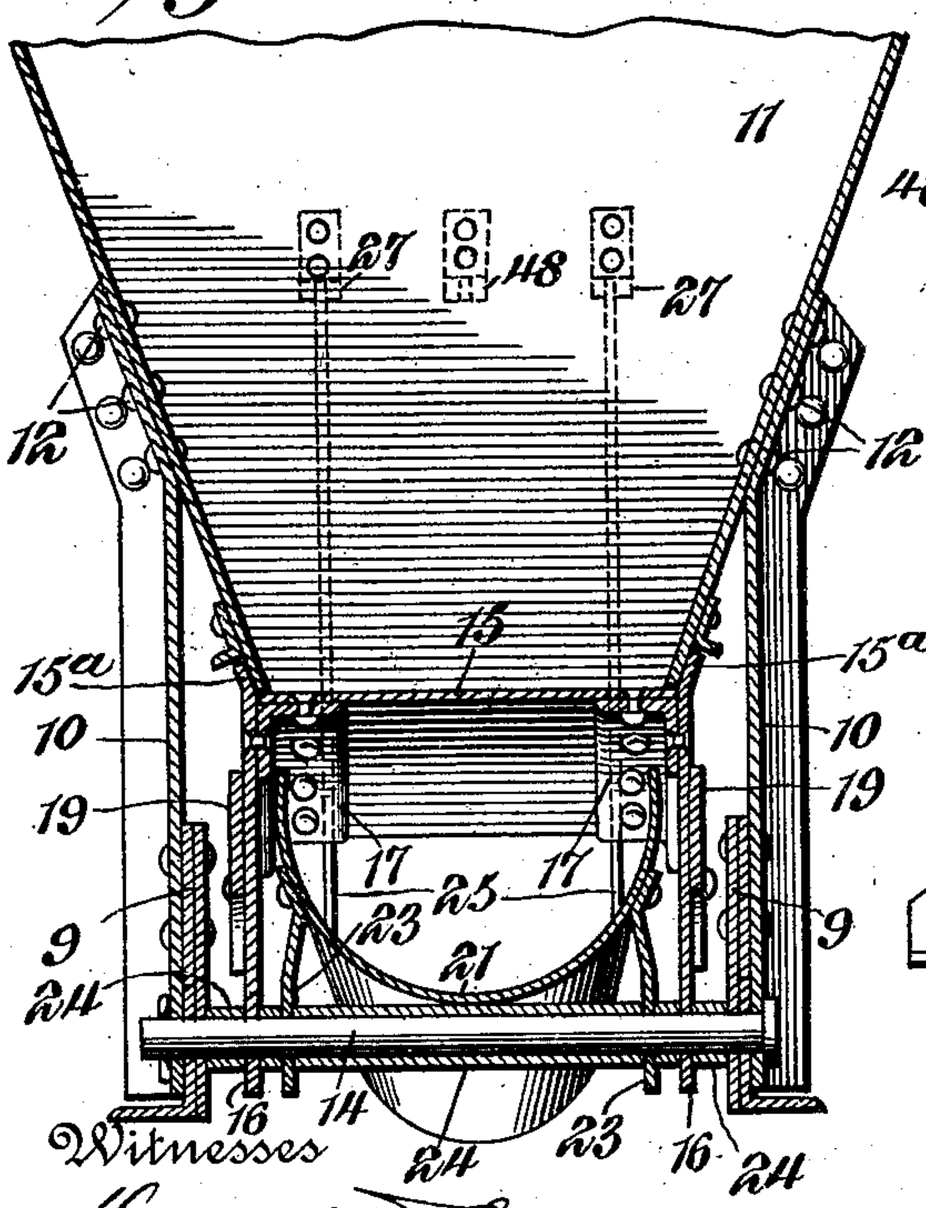


Fig. 3.



Witnesses

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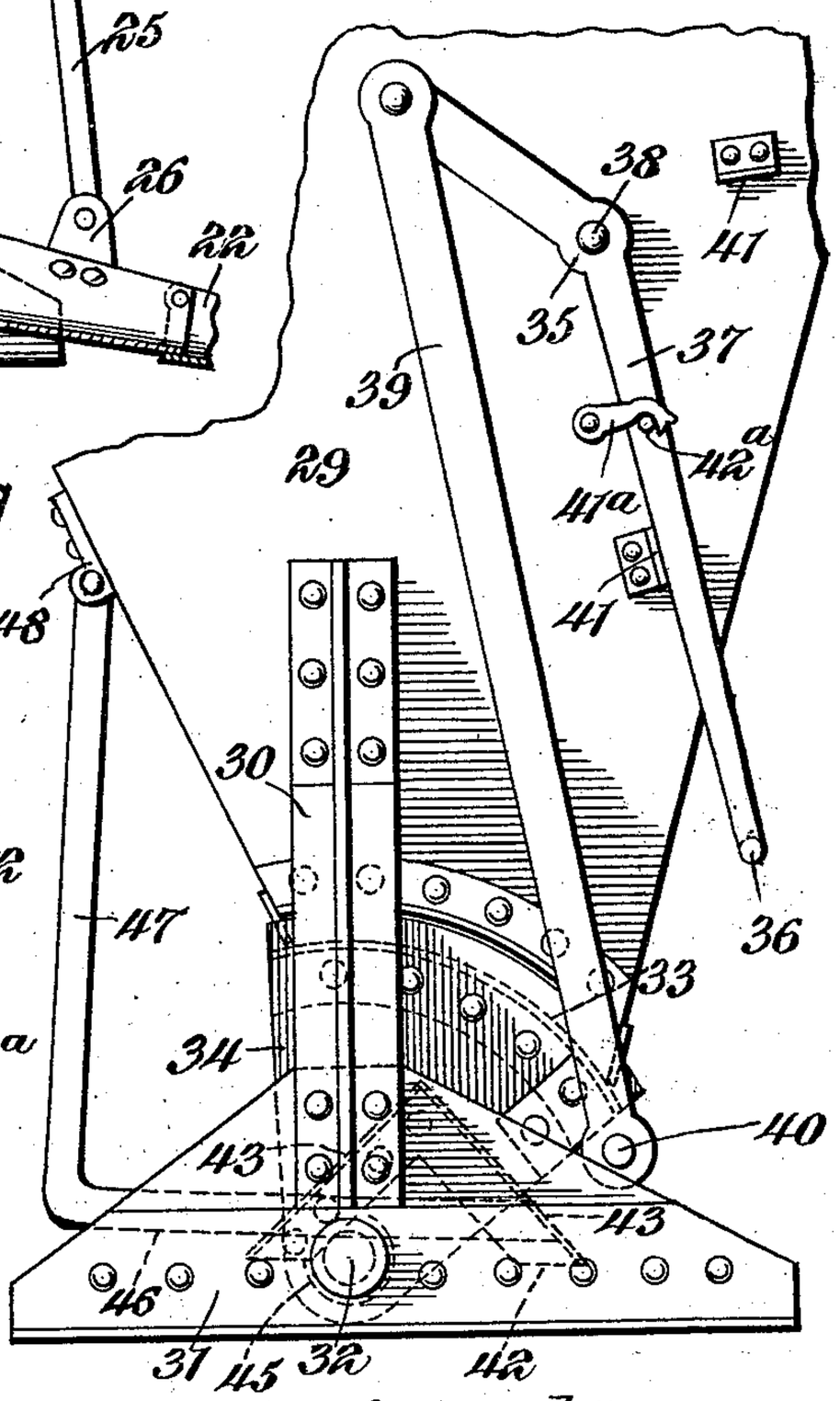
Fig. 4.



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UNITED STATES PATENT OFFICE.

ARTHUR NATHAN DOUD, OF NORTH STOCKHOLM, NEW YORK.

CONCRETE HOLDING AND CARRYING DEVICE.

No. 928,858. Specification of Letters Patent. Patented July 20, 1909.

Application filed December 9, 1907. Serial No. 405,759.

To all whom it may concern:

Be it known that I, ARTHUR NATHAN DOUD, a citizen of the United States, residing at North Stockholm, in the county of St. Lawrence and State of New York, have invented a new and useful Concrete Holding and Carrying Device, of which the following is a specification.

The primary object of the present invention is to provide a holder or receptacle together with novel and effective means whereby concrete or other material placed in said holder or receptacle can be delivered from the same in any amount desired, thus making the structure particularly useful in connection with the construction of concrete buildings, floors, walls and the like.

The preferred embodiment of the invention is illustrated in the accompanying drawings, wherein:—

Figure 1 is a perspective view of the mechanism. Fig. 2 is a vertical longitudinal sectional view therethrough. Fig. 3 is a vertical sectional view at right angles to Fig. 2. Fig. 4 is a side elevation of a modified form of construction. Fig. 5 is a vertical sectional view through the lower portion thereof. Fig. 6 is a plan view of the spreader. Fig. 7 is a side elevation of the lower portion of another modification of the invention. Fig. 8 is a detail sectional view on the line 8—8 of Fig. 7.

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

In the embodiment disclosed in Figs. 1–3 inclusive, a supporting base is employed comprising spaced sections 9, from which rise spaced standards 10. These standards are preferably channel bars, and secured to their upper ends, is a holder or receptacle, in the form of a vertically disposed hopper 11 having oppositely inclined walls. The upper ends of the standards are outturned so as to rest against the opposite side walls of the hopper, and are secured theretoby bolts or rivets 12 and angle brackets 13, which are fastened to the standards and to the adjacent walls. It will be noted that the standards are located at one side of the vertical center of the hopper. A pivot bolt 14 connects the base sections 9 and bridges the space between them, thereby constituting a tie between said sections. This pivot bolt, as shown more clearly in Fig. 2, is located at one side of the center of the hopper. The bottom of said hopper is open, but a closure therefor is employed in the form of a plate 15, which is curved concentrically to the axis of the pivot 14, and has depending side ears 16 secured thereto and journaled on the pivot. The ears 16 are preferably connected to the plate 15 by angle irons 17 and extend upwardly above the lower edges of the hopper, forming guide flanges 15^a, as shown in Fig. 3. In the present form of construction, the operating means for the closure 15, is a lever 18 having its lower end bifurcated, forming divergent arms 19 secured to the ears 16. The upper end of this lever constitutes a handle and is detachably engaged by a link 20 pivotally hung upon the adjacent side of the holder or receptacle.

Means for directing the material discharged from the hopper is also employed. This means consists, in the present form, of a chute that is composed of a body section 21, and a spout section 22 hinged to the outer end of the body section. The body section is supported below the lower end of the hopper, and its inner end is mounted on the pivot 14. For this purpose, said inner end is provided with depending ears 23 through which the pivot 14 passes. Spacing collars or washers 24 are preferably located between the various ears and between the outer ears and the adjacent base sections. The outer end of the body section 21 is supported by links 25 pivotally connected at their lower ends to upstanding ears 26 that are fastened to the chute. The upper ends of said links are connected to ears 27 carried by the adjacent side of the hopper. This structure may either be supported on a wheeled truck or car, or can be suspended, the hopper having suitable devices 28 for the latter purpose to which suspending mechanism can be connected. It will be evident that if concrete or other material is placed in said hopper, as long as the closure is across the bottom of the hopper, said material will be retained therein. Upon swinging the lever 18 away from the hopper, the closure will be opened and this opening movement will be of any extent desired. Moreover the closure can be returned whenever desired in order to cut off the flow of material from said hopper. The material gravitates into the chute or directing means, and running down the same will be discharged from the spout. The spout section can be readily swung upwardly, so that it will not be in the way dur-

ing the transportation of the hopper. It will be evident that this structure is particularly useful in connection with building operations where concrete is employed, inasmuch as it can be readily transported from place to place, and the material delivered in such quantities, as will be needed.

Another embodiment of the invention is disclosed in Figs. 4, 5 and 6. In this case, the receptacle or hopper is designated 29, and is mounted on standards 30 that rise from a base 31. This base carries a pivot 32 located at one side of the center of the hopper, and a swinging closure 33 has ears 34 journaled on the pivot. The operating means for the closure consists of a lever 35, in the form of a yoke, having a handle portion 36 that extends across the hopper. The side arms 37 are pivotally mounted between their ends, as shown at 38 upon the sides of the receptacle. The upper and inner ends of said arms have links 39 pivotally connected thereto and the lower ends of said links are pivotally connected as shown at 40 to the opposite sides of the closure. Stops 41, limit the swinging movement of the arms 37, and said arms are normally held against movement by a latch 41^a engaged with a pin 42^a on one of said arms. It will thus be evident that by swinging said arms, the closure may be operated to any extent desired. In this modification of the invention, instead of the chute, the material directing means is in the form of a spreader 42 comprising a substantially V-shaped structure, the opposite divergent walls 43 of which are suitably braced as shown at 44. This spreader has depending ears 45 mounted on the pivot 32, and a holding arm 46 connected to the walls extends beyond the same, and has an upturned terminal 47 engaged with an ear 48 mounted on the hopper.

No claim is made in this application to the specific divider disclosed in the modification, nor to the structure including the closure independently of the material directing means, as claims to these combinations are presented in a divisional application filed March 28, 1908, Serial No. 423,895. It will be understood that this structure operates in substantially the same manner as that already described, except that the material delivered from the hopper is spread in opposite directions. It will also be evident that a spreader of the character outlined above, can be employed in connection with the structure illustrated in Figs. 1, 2 and 3, that is to say, the spreader being substituted for the chute, and also the operating means for the closure disclosed in Fig. 4 can be used in an embodiment of the invention, in which a chute is employed.

Another embodiment of the invention is disclosed in Figs. 7 and 8. In this structure, the base is designated 49, and the hopper 50 is mounted on standards, one of which is shown at 51. The pivot in the present modification comprises two short stubs, one of which is illustrated, and designated 52. This stub has its outer end engaged in one of the base sections, and also embraced by a reinforcing strap 53. The inner end of the stub pivot has mounted thereon an ear 54 of the swinging closure 55. In other words, this form of construction is substantially the same as that first shown, except that the pivot is made in two sections, and the particular advantage for this arrangement is that there is nothing beneath the receptacle or hopper that will interfere with the passage of concrete or material.

From the foregoing, it is thought that the construction, operation and many advantages of the herein described invention will be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is:—

1. A portable concrete holder and carrier comprising a hopper-like body open at its lower end and having means at its other end whereby it may be supported from hoisting mechanism, opposed standards attached to the sides of the hopper and extending down below the bottom thereof, base sections on the standards adapted to support the hopper when disengaged from the hoisting mechanism, a movable closure for the bottom of the hopper mounted between the standards, and material-directing means independent of the closure and mounted beneath the same.

2. In a structure of the character set forth, the combination with a portable hopper having inclined opposite sides and an open bottom, of means for supporting the hopper including a base located below and spaced from said hopper, said base comprising opposed sections located on opposite sides of the lower end and opposed standards connecting the base and the opposite sides of the hopper and supporting the latter upon the former, a swinging closure for the bottom of the hopper operating between the standards and pivoted thereto, and material directing means located between the standards and beneath the closure, said material directing means being mounted on the pivotal connection of the closure.

3. In a structure of the character set forth, the combination with a portable hopper having inclined opposite sides and an open bottom, of means for supporting the hopper including a base located below and spaced from said hopper, said base comprising opposed

sections located on opposite sides of the lower end, and opposed standards connecting the base and the opposite sides of the hopper and supporting the latter upon the former, said standards being located at one side of the vertical center of the hopper, a swinging closure pivoted to the standards and operating between the same, and material directing means located between the standards and beneath the closure.

4. A portable concrete holder and carrier including a hopper-like body having an open lower end, opposed horizontally-extending angle irons forming base sections located below the open end of the hopper, standards attached to the base sections and extending upward to the opposed sides of the hopper above the lower end, a transverse bar connecting the standards at their lower ends below the mouth of the hopper, a closure operating between the standards and base and shiftably closing the open end of the hopper, and material-directing means mounted between the standards and base sections and beneath said closure.

5. In a structure of the character set forth, the combination with a base frame comprising spaced sections, of a tie rod connecting the sections, a hopper or receptacle secured to and between the sections and having an open bottom, a closure for the receptacle pivotally mounted on the tie rod, and material directing means mounted on the tie rod below the closure and independent thereof.

6. In a structure of the character set forth, the combination with a base comprising spaced sections and standards rising from said sections, of a receptacle secured to and between the standards and having an open bottom, a tie rod connecting the spaced sections, a movable closure for the bottom having depending ears pivoted on the rod, and a chute arranged between the ears below the closure and also pivoted on the said rod.

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

ARTHUR NATHAN DOUD.

Witnesses:
CLOYTON J. FOLSOM,
MENA STEARNS.