J. R. McWANE.

SHAKE-OUT BOX.

APPLICATION FILED JULY 12, 1909.

992,575. **Patented May 16, 1911.**

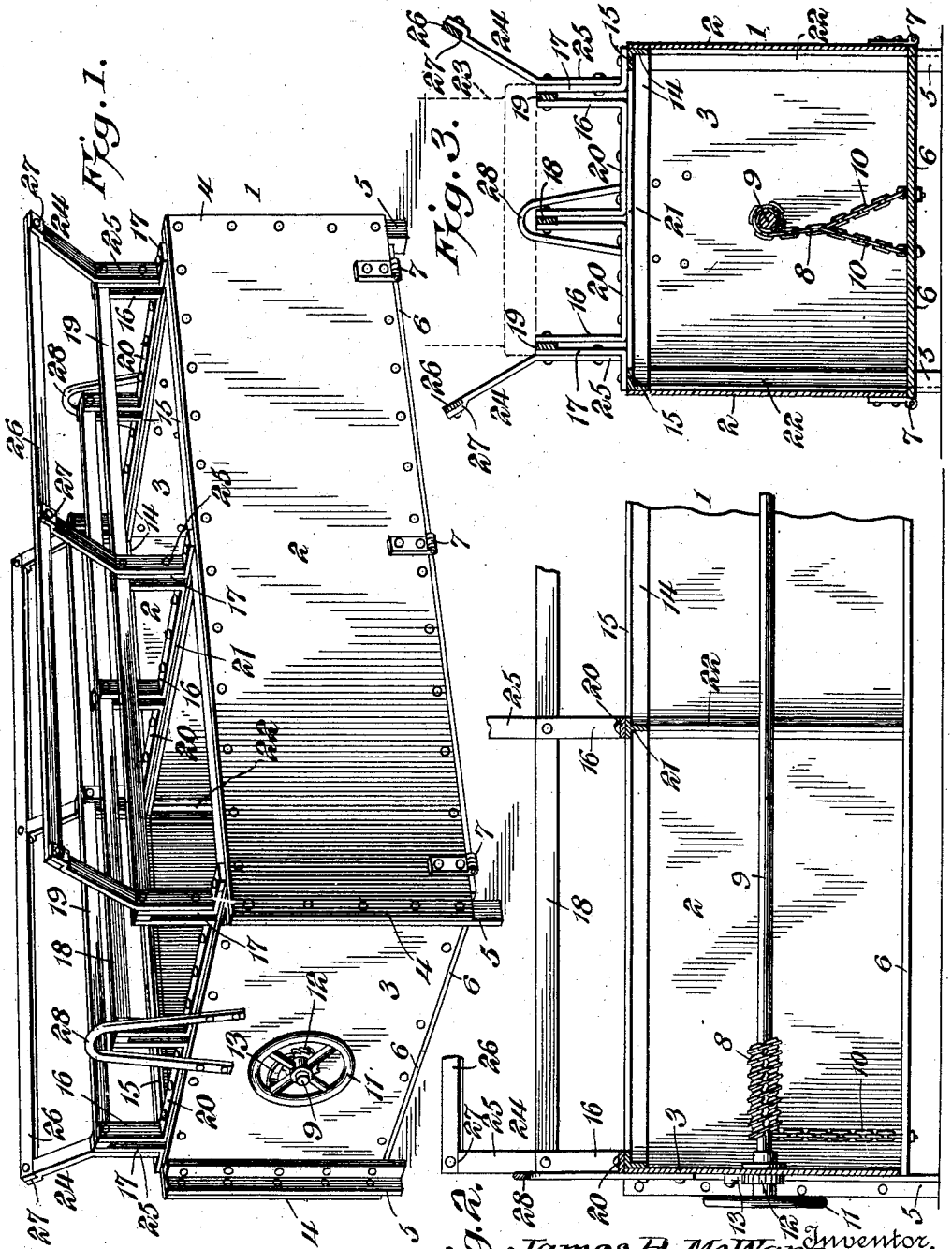

Fig. 1.

Fig. 3.

Fig. 2.

Witnesses

Howard D. Orr.

H. C. Riley

Inventor,

James R. McWane,

By E. G. Siggers

Attorney

UNITED STATES PATENT OFFICE.

JAMES R. McWANE, OF BIRMINGHAM, ALABAMA.

SHAKE-OUT BOX.

992,575. Specification of Letters Patent. Patented May 16, 1911.

Application filed July 12, 1909. Serial No. 507,128.

To all whom it may concern:

Be it known that I, JAMES R. McWANE, a citizen of the United States, residing at Birmingham, in the county of Jefferson and State of Alabama, have invented a new and useful Shake-Out Box, of which the following is a specification.

The invention relates to a shake-out box constituting an element of the pipe making apparatus, covered by my co-pending application, Serial No. 507,127, filed July 12, 1909, but not specifically claimed therein.

The object of the present invention is to provide for pipe pits a shake-out box, adapted to permit the flasks to be shaken out at a common point, and capable of enabling the molding sand to be returned to the ramming platform at intervals in comparatively small quantities, whereby the sand may be accurately retempered and immediately used.

Another object of the invention is to provide a shake-out box of this character, adapted to afford a support for the flasks, while the pipes are being pulled, and capable of being readily handled by the crane of a pipe pit, and of enabling its contents to be easily dumped when it arrives at the desired point.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawing, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawing:—Figure 1 is a perspective view of a shake-out box, constructed in accordance with this invention. Fig. 2 is a longitudinal sectional view of a portion of the same. Fig. 3 is a transverse sectional view of the shake-out box.

Like numerals of reference designate corresponding parts in all the figures of the drawing.

1 designates an oblong box or receptacle open at the top and constructed of stout sheet metal, or other suitable material and having its sides 2 extended beyond its ends 3 to provide projecting flanges 4 for the attachment of legs 5, which support hinged bottom sections 6 above the bottom of the pit, or other supporting surface upon which the shake-out box rests. The legs 5, which may be of any suitable construction, preferably consist of angle bars, extending from the top to the bottom of the receptacle, and fitted in the corners or angles formed by the ends 3 and the projecting terminal portions or flanges 4 of the sides 2, and they are riveted, or otherwise secured to the same. The bottom sections 6 are connected at their outer longitudinal edges to the lower edges of the sides 2 by hinges 7, and they are adapted to swing downward to dump the contents of the shake-out box. The sections 6 of the dumping bottom are connected by chains 8 to a horizontal windlass shaft 9, extending longitudinally of the shake-out box and journaled in suitable bearings at the ends thereof. The chains 8 are provided at their lower ends with branches 10, which are suitably secured to the sections 6 near the inner edges thereof. The shaft 9, which is adapted to be rotated to open and close the dumping bottom, is equipped at one end with a hand wheel 11, or other suitable means for rotating it, and it has a ratchet wheel 12 fixed to it and engaged by a pivoted pawl 13, mounted on the outer face of the adjacent end 3 of the box or receptacle, and adapted to lock the shaft against retrograde rotation to secure the hinged sections of the bottom in their closed position.

The shake-out box is reinforced at its upper edges by angle bars 14, forming inwardly extending horizontal supporting flanges 15, upon which are mounted inner and outer brackets 16 and 17 for supporting central and side flask-receiving bars 18 and 19. The inner brackets 16, which are arranged in pairs at the center and ends of the box or receptacle 1, are approximately U-shaped consisting of a horizontal bottom attaching portion 20, and inner and outer vertical arms. The outer brackets 17 are substantially L-shaped and consist of horizontal attaching portions and upwardly extending arms. The adjacent arms of the supporting brackets are spaced apart to receive the horizontal bars 18 and 19, which are arranged edgewise with relation to the flasks. The centrally arranged U-shaped and L-shaped brackets are mounted upon a top cross bar 21, preferably T-shaped in cross section and suitably connected at its terminals to the sides of the box or receptacle and

supported by metallic bars or cleats 22, located at the inner faces of the sides 2 of the box or receptacle and preferably T-shaped as shown, but the top cross bar 21 and the vertical bars or cleats 22 may be constructed of any other suitable material.

The spaced horizontal bars 18 and 19 form in conjunction an open grated frame, which is supported above the top of the box and constitutes a superimposed seat for the flasks, the lower portion 23 of one of which is illustrated in dotted lines in Fig. 3 of the drawing. The flask-supporting frame is equipped at opposite sides with inclined wings 24, forming guards and adapted to center the flasks with relation to the shake-out box, so that the sand will fall into the receptacle when the pipes are pulled. The guards or wings, which diverge upwardly, are composed of upwardly extending bars 25 and longitudinal connecting bars 26, secured to the upper ends of the bars 25. The bars 25 have their lower portions riveted, or otherwise secured to the outer faces of the vertical portions of the brackets 17, and the upper portions of the bars 25 are bent at an angle and extend upwardly and outwardly from the lower vertical attaching portions. The longitudinal connecting bars 26 are set in angular bends or seats 27 of the upper ends of the bars 25, and have their side faces arranged at an inclination. In placing a flask upon the shake-out box, the upwardly inclined guards or wings operate to center the same, so that when a flask rests upon the shake-out box, it will occupy a position directly over the receptacle, whereby all of the molding sand will fall within the box or receptacle 1. The box or receptacle 1 is constructed of a length to receive a flask at either side of its center, but it may be made of any capacity, as will be clearly apparent, and the superimposed flask-receiving seat or support may be varied in construction to adapt it to the character of the flasks and to secure the desired strength.

The shake-out box is equipped at its ends with upwardly extending loops or bails 28, adapted to be connected with the crane of a pipe pit, when it is desired to dump the shake-out box. The loops or bails, which are tapered upwardly, are composed of two sides and a connecting top portion, and the lower terminals of the sides are rigidly attached to the outer faces of the ends of the receptacle. The shake-out box, which is portable, enables the flasks of an entire pit or section of a pit to be shaken out at a common point, and the handling of the sand from the shake-out box enables the sand to be tempered immediately in small quantities with an accurate amount of clay wash and new sand, and the successive use of the sand will permit a pipe pit to be operated with a comparatively small amount of sand.

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

1. A shake-out box of the class described including a portable receptacle provided at the top with a flask-receiving seat to support a flask in a vertical position above the receptacle, and open at the seat to permit the sand from the flask to fall into the receptacle, said receptacle having a dumping portion.

2. A shake-out box of the class described including a receptacle open at the top and having supported across the top an open grated frame, said frame providing a flask-receiving seat to support the flask in a vertical position over the receptacle and permitting the sand from the flask to drop into the receptacle, said receptacle having a dumping portion.

3. A shake-out box of the class described including a receptacle having an open top and provided at the top with a horizontal flask-receiving seat for supporting the flask in a vertical position over the receptacle, and having means below the seat for discharging the contents of the receptacle, and means carried by the receptacle for enabling the same to be connected with a crane.

4. A shake-out box of the class described including a receptacle having an open top and provided with a superimposed horizontally arranged flask-receiving seat for supporting the flask in an upright position over the receptacle, said receptacle having means below the seat for discharging its contents, and bails or loops extending from the ends of the receptacle to enable the same to be connected with a crane.

5. A shake-out box of the class described including a receptacle having an open top and provided with a dumping bottom composed of sections hinged at their outer edges to the sides of the receptacle, said receptacle being also provided with supporting means at its bottom for holding the hinged sections out of contact with the surface on which the shake-out box is placed, means for securing the sections of the dumping bottom in their closed position, and means for supporting a flask in a vertical position over and upon the receptacle, said means consisting of an open frame constituting a flask-receiving seat.

6. A shake-out box of the class described including a receptacle having an open top with an open frame forming a horizontal flask-receiving seat for supporting a flask in a vertical position over the receptacle, the latter being provided with a dumping bottom composed of hinged sections, and legs secured to the receptacle and extended below the same for supporting the dumping bottom above the surface on which the shake-out box is placed.

7. A shake-out box of the class described including a receptacle open at the top, and an open frame mounted upon the receptacle and forming a superimposed horizontal flask receiving seat for supporting the flask in a vertical position over the said receptacle, and having upwardly extending guiding means at the outer sides of the seat, which guiding means are arranged to center the flask with respect to the receptacle and also form guards for the flask.

8. A shake-out box of the class described including a receptacle open at the top, and an open grated frame mounted upon the receptacle and having a superimposed horizontal flask-receiving seat to support a flask in a vertical position over the receptacle, said frame having inclined guards extending upwardly from the flask-receiving seat at the outer sides thereof for centering the flask thereon, and also form guards for the flask along the seat, said receptacle having means below the seat for discharging the contents thereof.

9. A shake-out box of the class described including a receptacle having an open top, and dumping means below the same, and a flask supporting frame mounted upon the receptacle and comprising a plurality of horizontal flask-receiving bars forming a seat to support the flask in a vertical position over the receptacle, and brackets supporting the bars in an elevated position above the receptacle, said bars being spaced apart to allow the contents of the flask to pass into the box.

10. A shake-out box of the class described including a receptacle, and a flask-supporting frame mounted upon the receptacle and comprising central and side horizontal flask-receiving bars, and inner and outer brackets supporting the horizontal bars in an elevated position with respect to the receptacle.

11. A shake-out box of the class described including a receptacle, and a flask-supporting frame mounted upon the receptacle and comprising inner approximately U-shaped brackets arranged in pairs and spaced apart at their adjacent sides, and outer approximately L-shaped brackets spaced from the outer sides of the U-shaped brackets, and horizontal bars supported by the brackets in the space between the adjacent sides thereof.

12. A shake-out box of the class described including a receptacle, and a flask-supporting frame mounted upon the receptacle and comprising flask-receiving bars, means for supporting the same in an elevated position with relation to the receptacle, upwardly extending bars having inclined portions arranged at the sides of the frame, and connecting bars secured to the said inclined portions and coöperating therewith to form guards.

13. A shake-out box of the class described including a receptacle provided at its upper edges with an inwardly extending horizontal flange, an intermediate top connecting bar extending across the receptacle between the ends thereof, brackets mounted on the ends of the said flanges and on the intermediate connecting bar, and horizontal flask-receiving bars supported by the said brackets in an elevated position with relation to the receptacle.

14. A shake-out box of the class described comprising a receptacle open at the top and having a dumping portion, and a superimposed frame including central and side longitudinal bars arranged edgewise and forming a flask-receiving seat, and guards extending upward at opposite sides of the seat.

15. A shake-out box of the class described comprising a receptacle open at the top and having a dumping portion, and a superimposed grated frame composed of spaced bars forming a flask receiving seat for supporting the flask in a vertical position over the receptacle.

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

JAMES R. McWANE.

Witnesses:
JOHN H. SIGGERS,
EDITH L. BROWN.