

E. C. WILEY.
 BLACKING BOX FOR JARRING MACHINES.
 APPLICATION FILED JUNE 24, 1910.

989,464.

Patented Apr. 11, 1911.

2 SHEETS—SHEET 1.

Fig. 1.

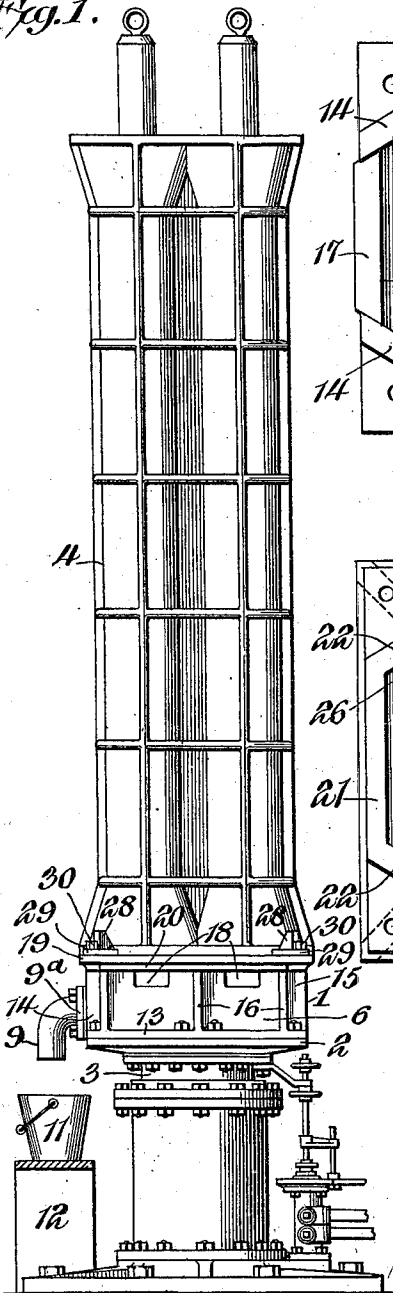


Fig. 4.

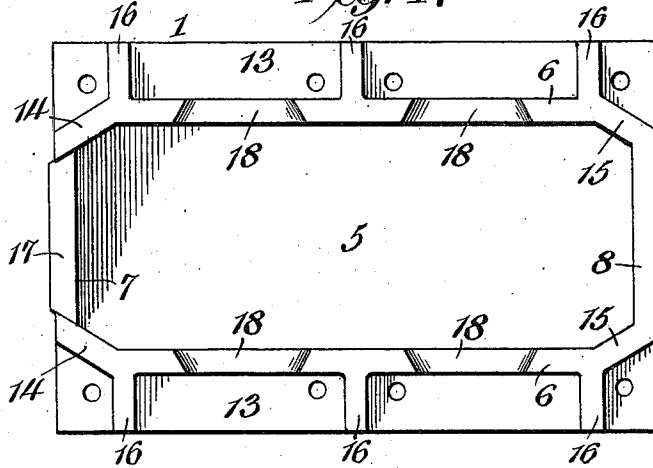


Fig. 5.

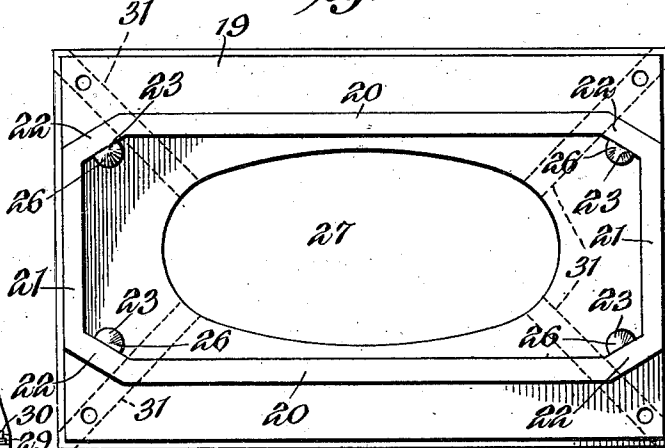
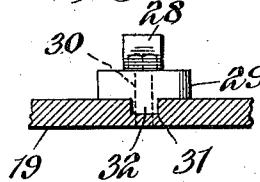


Fig. 6.



Edgar C. Wiley, Inventor,

By

E. G. Siggers.

Attorney

Witnesses

Howard D. Carr.
 H. J. Riley

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2 SHEETS-SHEET 2.

Fig. 2.

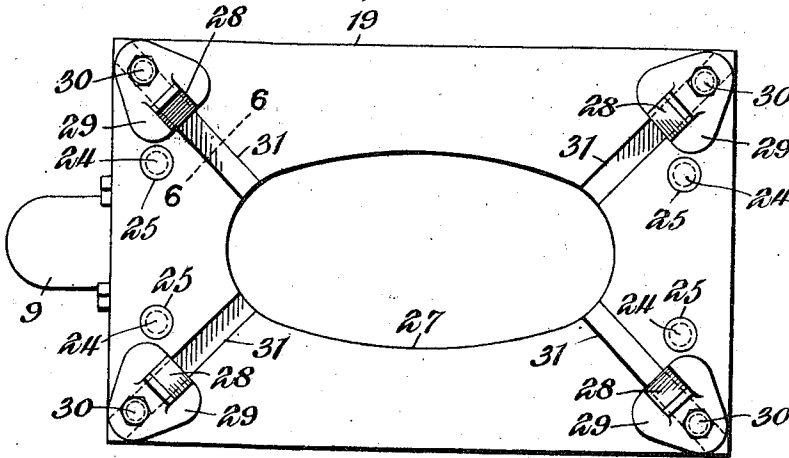


Fig. 3.

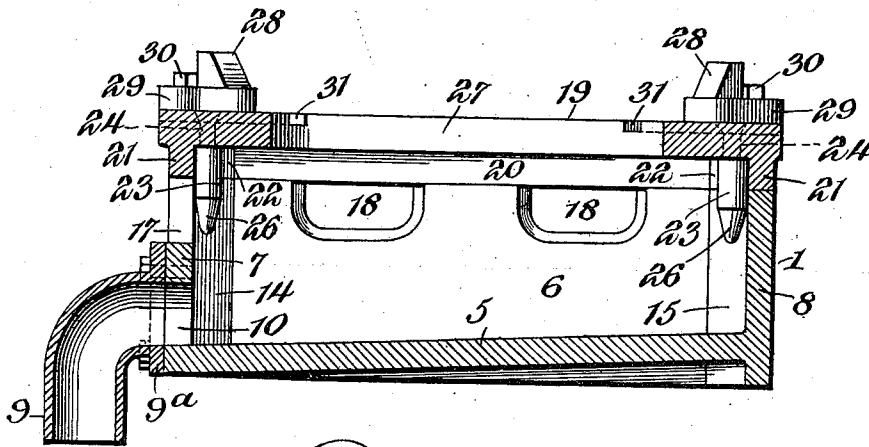
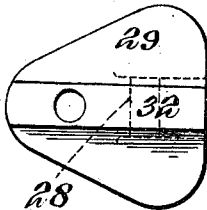


Fig. 7.



Witnesses

Howard D. Ott.
J. F. Riley

Edgar C. Wiley, Inventor,

By

C. G. Siggers.

Attorney

UNITED STATES PATENT OFFICE.

EDGAR CLARENCE WILEY, OF LYNCHBURG, VIRGINIA, ASSIGNOR OF ONE-HALF TO
LYNCHBURG FOUNDRY COMPANY, OF LYNCHBURG, VIRGINIA.

BLACKING-BOX FOR JARRING-MACHINES.

989,464.

Specification of Letters Patent.

Patented Apr. 11, 1911.

Application filed June 24, 1910. Serial No. 568,736.

To all whom it may concern:

Be it known that I, EDGAR C. WILEY, a citizen of the United States, residing at Lynchburg, in the county of Campbell and State of Virginia, have invented a new and useful Blacking-Box for Jarring-Machines, of which the following is a specification.

The invention relates to a blacking box for jarring machines.

The object of the present invention is to provide a simple, strong and comparatively inexpensive blacking box, designed for use on jarring machines, and adapted to enable the sand molds to be blacked without removing them from the jarring machine, and capable of catching the superfluous blacking mixture as the same runs from the lower end of the flasks and of discharging the mixture into a bucket or other receptacle placed at one side of the machine, and adapted also to permit a torch to be introduced into it to illuminate the interior of the mold, so that the latter may be inspected from the top.

A further object of the invention is to provide a blacking box of this character, adapted to be readily applied to a jarring machine, and capable of sustaining the weight of a multiple flask, and equipped with means for centering the flasks as they are placed on it by a crane, or other means.

Another object of the invention is to equip the blacking box with a removable top, adapted to facilitate its construction and afford accommodation for all types and sizes of pipe flasks.

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 drawings, 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 drawings:—Figure 1 is a side elevation of a blacking box, constructed in accordance with this invention and shown applied to a jarring machine and supporting a multiple flask, a bucket being in position for catching the blacking mixture. Fig. 2 is an enlarged plan view of the blacking box. Fig. 3 is a central longitudinal sectional view of the same. Fig. 4 is a plan view of

the blacking box, the cover being removed. Fig. 5 is a reverse plan view of the removable cover. Fig. 6 is a detail sectional view on the line 6—6 of Fig. 2. Fig. 7 is a reverse plan view of one of the centering plates.

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

In the embodiment of the invention illustrated in the accompanying drawings, 1 designates a blacking box, constructed of suitable metal and designed to be mounted upon the table 2 of the piston 3 of a jarring machine, and capable of supporting a multiple flask 4, as illustrated in Fig. 1 of the drawings. The jarring machine shown in Fig. 1 is not claimed in the present case, as it forms the subject-matter of a companion application, executed by me of even date herewith the serial number of which is 568,735, and while I have shown the blacking box applied to my improved jarring machine, yet it will be readily understood that it is applicable to various jarring machines and may be readily applied to the same by securing it to the tables thereof.

The blacking box, which is substantially oblong, is composed of an inclined bottom 5, integral side walls 6, and front and rear end walls 7 and 8. The bottom 5 is inclined toward the front end of the blacking box, and is adapted to direct the blacking mixture to an approximately L-shaped discharge spout 9, having an attaching flange 9^a bolted, or otherwise secured to the front of the blacking box at a discharge opening 10 and having a depending portion adapted to deliver the mixture into a bucket 11, or other suitable receptacle. The bucket 11 is designed to be arranged upon a suitable support 12, located at one side of the machine beneath the spout, as clearly illustrated in Fig. 1 of the drawings. The blacking box is provided at the bottom with an outwardly extending horizontal attaching flange 13, presenting a flat lower face to the table of the jarring machine and adapted to be secured to the same by bolts, or other suitable fastening means. The end portions of the blacking box are tapered, as clearly shown in Fig. 4 of the drawings, the terminal portions 14 and 15 of the side walls being converged outwardly. The blacking box is reinforced at the outer faces of the side walls by vertical flanges 16, extending outwardly to the

planes of the outer edges of the bottom flange 13. The front wall is provided at the upper portion with a recess or opening 17, and the side walls have openings 18 arranged in pairs and located between the flanges 16, and adapted to permit a torch to be introduced into the blacking box to illuminate the interior of the molds so that the latter may be inspected from the top thereof.

The blacking box is equipped with a removable top 19, consisting of a plate provided with side and end flanges 20 and 21, corresponding to the configuration of the walls of the blacking box, and adapted to fit on the upper edge thereof, as clearly shown in Fig. 3 of the drawings. The side flanges 20 have terminal outwardly converging portions 22, corresponding to the side walls of the blacking box, and in order to enable the removable top to be readily placed in proper position upon the walls of the blacking box, it is equipped at the end angles formed by the side and end flanges 20 and 21 with depending pins 23, provided with reduced shanks 24, which are headed and secured in perforations 25 of the top of the blacking box. The lower end portions 26 of the pins are tapered and facilitate easy and rapid placing of the top accurately upon the body of the blacking box.

The flask is a two-way flask, but the blacking box may be constructed to support a single flask or a multiple flask, having any number of molding compartments. The top, which forms a flask-receiving seat, is provided with an elliptical opening 27, adapted to permit the blacking mixture dripping from the lower ends of the compartments of the flask to flow into the blacking box, which forms a catch basin. The side portions of the removable top project laterally beyond the side walls and extend to the planes of the side edges of the bottom attaching flanges 13. The blacking box 1 is shown in the accompanying drawings for use in connection with pipe molding flasks, and in practice the flasks are placed on and removed from the blacking box by the crane of a pipe pit. In order to center the flask on the blacking box, the latter is equipped with centering devices 27, located at the corners of the top of the blacking box. Each centering device consists of an upwardly projecting lug 28, having an inclined inner edge or face and arranged centrally at the inner edge of a horizontal attaching plate 29, formed integral with the lug 28 and secured to the top of the blacking box by means of a bolt or screw 30. In order to enable a single fastening device to be employed for securing each of the centering devices to the top of the blacking box, the said top is provided in its upper face with approximately diagonal grooves 31, adapted to receive ribs 32, formed integral with the attaching plates

29 and depending from the lower faces of the same. The ribs slidably interlock the centering devices with the top of the blacking box, and the centering devices are adapted in the process of construction to be arranged at different distances from the center of the blacking box to accommodate flasks of different sizes, and the blacking box may be changed to adapt it for a different size of flask by simply removing the top plate and substituting therefor another having the centering devices, arranged in proper position to center the flask to be jarred. The upwardly projecting lugs present inner inclined edges to the bottom of the flask 4 and operate to center the same on the blacking box, as the flask is lowered onto the same. The blacking box, which is adapted to support the flask during the packing of the sand around the pattern by the jarring machine, enables the sand molds to be blacked while on the jarring machine. The blacking mixture is poured into the sand molds at the top in the usual manner, and that which runs from the lower ends of the molds is caught by the blacking box and discharged into the bucket 11.

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

1. The combination with a jarring machine, of a blacking box carried by the jarring machine and having a flask-receiving seat and adapted to support a flask while the sand mold is being blacked.

2. The combination with a jarring machine, of a blacking box carried by the same and having a flask-receiving seat adapted to support a flask while the sand mold is being blacked and provided with a compartment arranged to receive the blacking mixture, which drips from the bottom of the flask.

3. The combination with a jarring machine, of a blacking box carried by the same and having a flask-receiving seat adapted to support a flask while the sand mold is being blacked and provided with a compartment arranged to receive the blacking mixture, which drips from the bottom of the flask, and an exterior spout communicating with the compartment for discharging the blacking mixture.

4. The combination with a jarring machine, of a blacking box carried by the same and having a flask-receiving seat adapted to support a flask while the sand mold is being blacked and provided with a compartment arranged to receive the blacking mixture, which drips from the bottom of the flask, and an exterior spout communicating with the compartment for discharging the blacking mixture, the bottom of the compartment being inclined in the direction of the spout.

5. The combination with a jarring machine, of a blacking box carried by the jarring machine and having a flask-receiving seat and adapted to support a flask while the sand mold is being blacked and provided with a compartment and having a discharge opening, and an exterior spout secured to the blacking box at the discharge opening for discharging the blacking mixture into a receptacle.

6. The combination with a jarring machine, of a blacking box carried by the jarring machine and having a flask-receiving seat and provided beneath the same with an opening to permit a torch or other light to be introduced into the blacking box.

7. The combination with a jarring machine, of a blacking box carried by the jarring machine and having a flask-receiving seat and provided beneath the same with a compartment, said blacking box being also provided with an opening communicating with the compartment to permit a torch or other light to be introduced into the same.

8. The combination with a jarring machine, of a blacking box carried by the same and having a flask-receiving seat and provided with a compartment located beneath the same to receive the blacking mixture, which drips from the bottom of the flask, said blacking box being provided in its opposite walls with openings to permit the introduction of a torch, and means for removing the blacking mixture from the blacking box.

9. The combination with a jarring machine, of a blacking box carried by the same and comprising a flask-receiving top, and supporting means spacing the flask-receiving top from the jarring machine.

10. The combination with a jarring machine, of a blacking box carried by the same and comprising a flask-supporting top portion, and supporting means spacing the top portion from the jarring machine, said top portion being provided with an opening to permit the liquid to flow into the blacking box when the sand mold is blacked.

11. The combination with a jarring machine, of a blacking box carried by the same and comprising a flask-supporting top portion, and supporting means spacing the top portion from the jarring machine, said top portion being provided with an opening to permit the liquid to flow into the blacking box when the sand mold is blacked, and the said supporting means having an opening to permit a torch or other light to be introduced into the blacking box.

12. The combination with a jarring machine, of a blacking box carried by the same and having a flask-receiving seat and provided with an opening communicating with the interior of the blacking box, and means for centering a flask on the blacking box to

arrange the same in proper position with respect to the opening.

13. The combination with a jarring machine, of a blacking box carried by the same and having a flask-receiving seat and provided with an opening communicating with the interior of the blacking box, and centering devices arranged at the flask-receiving seat and having inclined faces adapted to center a flask to arrange the same properly on the seat with respect to the said opening.

14. The combination with a jarring machine, of a blacking box carried by the same and having a flask-receiving seat and provided with an opening communicating with the interior of the blacking box, and centering devices for properly positioning the flask on the seat with respect to the said opening, each centering device consisting of an upwardly projecting lug having an inner inclined face.

15. The combination with a jarring machine, of a blacking box carried by the same and having a flask-receiving seat and provided with an opening communicating with the interior of the blacking box, and centering devices for properly positioning the flask on the seat with respect to the opening, each centering device consisting of an upwardly projecting lug, and a horizontal attaching plate secured to the top of the blacking box.

16. The combination with a jarring machine, of a blacking box carried by the same and having a flask-receiving seat and provided with an opening communicating with the interior of the blacking box, and centering devices for properly positioning the flask on the seat with respect to the opening, each centering device consisting of an upwardly projecting lug, and a horizontal plate interlocked with the top of the blacking box, and a fastening device piercing the plate and securing the same to the top of the blacking box.

17. The combination with a jarring machine, of a blacking box carried by the same and having a flask-receiving seat provided with grooves, centering devices having depending ribs slidable in the grooves, and fastening means piercing the centering devices and securing the same to the top of the blacking box.

18. The combination with a jarring machine, of a blacking box carried by the same and having a flask-receiving seat provided with approximately diagonal grooves, centering devices each consisting of an upwardly projecting lug, and a horizontal attaching plate having a depending rib to fit the said grooves, and fastening means piercing the horizontal plates of the centering devices and securing the same to the top of the blacking box.

19. A blacking box for jarring machines

consisting of a hollow body having its top provided with an opening for the passage of the blacking mixture, a flask-receiving seat, and centering devices mounted upon the top and adjustable radially.

20. A blacking box for jarring machines comprising a bottom, supporting walls forming a compartment, and a removable top having an opening to permit the blacking mixture to drip into the compartment and provided with means for interlocking it with the walls of the blacking box.

21. A blacking box for jarring machines comprising a bottom, supporting walls forming a compartment, and a removable top having an opening to permit the blacking mixture to drip into the compartment and provided with depending pins arranged to fit within the compartment and engage the inner faces of the walls thereof.

22. A blacking box for jarring machines comprising a bottom, supporting walls forming a compartment, and a removable top having an opening to permit the blacking mixture to drip into the compartment and provided with depending pins arranged to fit within the compartment and engage the inner faces of the walls thereof, the lower portions of the pins being tapered to facilitate the placing of the top on the walls.

23. A blacking box for jarring machines comprising a body having supporting walls, and a removable top forming a flask-receiving seat and provided with an opening to permit the blacking mixture to drip into the blacking box, said top being also provided with flanges corresponding with and

adapted to rest upon the upper edges of the walls of the blacking box.

24. A blacking box for jarring machines comprising a body having supporting walls, and a removable top forming a flask-receiving seat and provided with an opening to permit the blacking mixture to drip into the blacking box, said top being also provided with flanges corresponding with and adapted to rest upon the upper edges of the walls of the blacking box, and means carried by the top of the blacking box and extending below the flanges thereof for detachably engaging the walls of the blacking box.

25. A blacking box for jarring machines comprising supporting walls forming a compartment, one of the walls being provided with a discharge opening, an inclined bottom arranged to direct the blacking mixture to the discharge opening, horizontal attaching flanges arranged at the bottom of the blacking box exteriorly of the compartment thereof, and a removable flask-receiving top having an opening to permit the blacking mixture to drip into the compartment and provided with flanges corresponding with the walls of the blacking box and arranged to rest thereon.

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

EDGAR CLARENCE WILEY.

Witnesses:

JAS. T. CARTER,
J. B. JENNINGS.