

(No Model.)

J. FARNEN & J. MULLOY.
BRICK MOLD SANDER.

No. 469,400.

Patented Feb. 23, 1892.

Fig. 1.

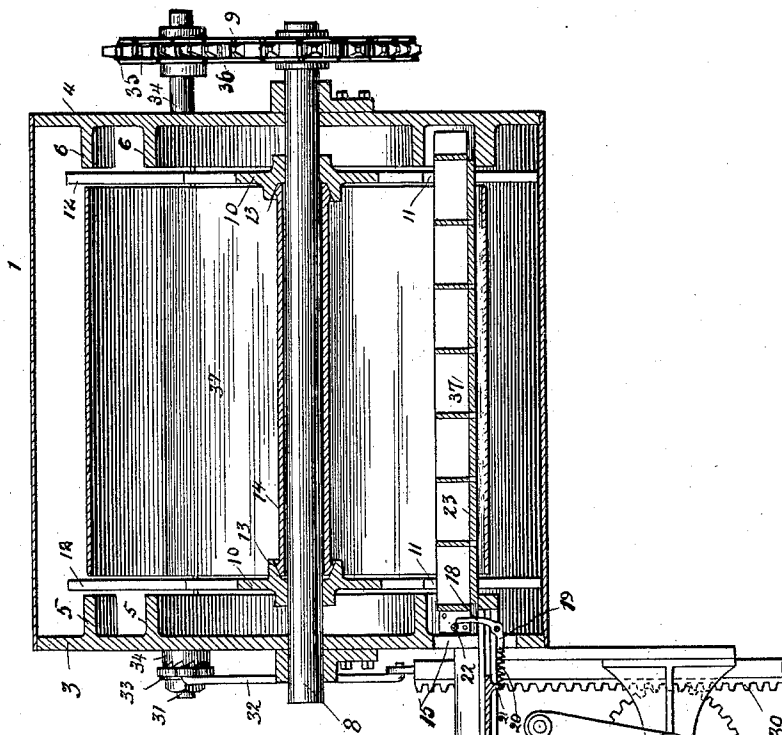
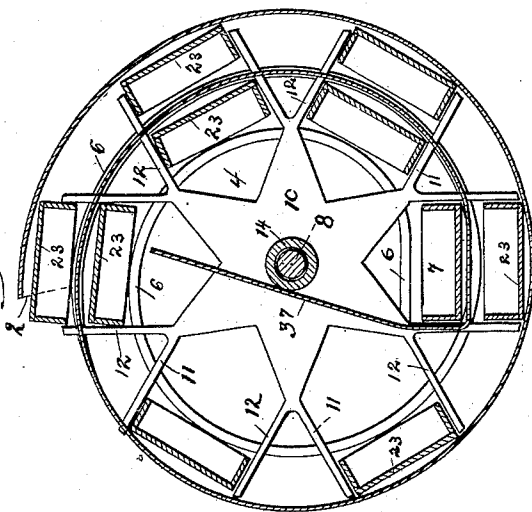


Fig. 2.



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JOHN FARNEN AND JOHN MULLOY, OF CHICAGO, ILLINOIS.

BRICK-MOLD SANDER.

SPECIFICATION forming part of Letters Patent No. 469,400, dated February 23, 1892.

Application filed October 1, 1891. Serial No. 407,473. (No model.)

To all whom it may concern:

Be it known that we, JOHN FARNEN and JOHN MULLOY, citizens of the United States, both residing at Chicago, in the county of Cook and State of Illinois, and have invented certain new and useful Improvements in Machines for Sanding Brick-Molds, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a central longitudinal vertical section, and Fig. 2 is a vertical cross-section.

Our invention relates to machines for sanding brick-molds preparatory to their being refilled with clay.

The object of our invention is to provide an improved sanding-machine which will be adapted to be operated in connection with a machine for emptying the molds after they have been filled, such as the machine shown and described in our application filed May 22, 1891, Serial No. 393,779.

We accomplish our object as hereinafter specified and as illustrated in the drawings.

That which we regard as new will be pointed out in the claims.

In the drawings, 1 indicates the sander, which is somewhat cylindrical in shape. The exterior of the sander consists of a thin sheet of metal or other suitable material, which incloses the various parts of the sander. An opening 2 is provided at the upper portion of the sander, which opening is of such size and shape as to permit of the introduction of a mold.

3 and 4 indicated disks of wood or other suitable material, which form the ends of the sander. Upon each end, at the interior of the sander, are formed flanges 5 and 6, which are spirally arranged to form guides for the molds after they have been introduced into the sander. The flanges 5 and 6 are so arranged that as the mold is moved around in the sander it will assume the various positions indicated in Fig. 2 and will finally be carried to the point 7, when it will be ready to be withdrawn from the sander.

8 indicates a shaft, which is mounted centrally in the sander and extends longitudinally through it, being journaled in suitable bearings. A sprocket-wheel 9 is mounted upon one end of the shaft, or instead of a sprocket-wheel a pulley may be used.

Mounted upon and keyed to the shaft 8 are wheels 10, which are adapted to be rotated by the rotation of the shaft 8. Each of the wheels 10 is provided with arms 11 and 12, which are at such a distance apart that they will receive a mold between them, as best shown in Fig. 2, and they are of such length that when a mold is placed upon the sander at the opening 2 it will be engaged by one of the arms 12 and moved into the opening 2. We prefer to use two wheels 10, one located near each end of the sander; but a greater number may be used, if desired. The inner portion of the hub of each wheel 10 is recessed and beveled, as shown at 13 in Fig. 1, and a sleeve 14 is fitted upon the shaft 8 between said hubs, the ends of the sleeve being beveled, so that they will fit snugly into the recesses in the hubs of the wheels 10. By this construction the sand in the sander will be prevented from falling upon the shaft 8.

15 indicates an opening in one end of the sander opposite the point 7, through which the molds are withdrawn after being sanded.

16 indicates a carriage, which is adapted to move upon horizontal guides 17, which are suitably supported on a level with the opening 15 at each side of the carriage.

18 indicates a dog, which is pivoted to the inner end of the carriage 16 and is provided with an arm 19, which extends at right angles to it.

20 indicates a spring, which at one end is connected to the arm 19 and at the other to a lug 21 upon the inner end of the carriage 16, as best shown in Fig. 1. The dog 18 is adapted to engage a bar 22 upon the end of a mold or some similar device adapted to be seized for the purpose of drawing the mold out of the sander.

The carriage 16 is connected to a lever 24 by means of a connecting-rod 25 in such manner that by operating the lever 24 the carriage 16 will be moved back and forth upon the guides 17.

26 indicates a rock-shaft, which is provided with an arm 27, connected to the lever 24 by a connecting-rod 28. By this construction as the shaft 26 is rocked the lever 24 will be reciprocated and the carriage 16 will be moved back and forth upon the guides 17.

29 indicates a cogged wheel, which is mounted upon the shaft 26 and is rotated alternately in opposite directions by means of a rack 30. The rack 30 is mounted in suitable guides in such manner that it will be adapted to be reciprocated vertically.

31 indicates a rock-shaft, which is mounted in suitable bearings and is connected to the rack 30 by means of a connecting-rod 32, which at one end is connected to the rack 30 and at the other end to a crank-arm 33, mounted upon and keyed to the rock-shaft 31.

34 indicates a sleeve, which is mounted upon the shaft 31. The end of the sleeve 34 adjacent to the crank-arm 33 is provided with ratchet-teeth adapted to engage similar teeth upon the inner portion of the crank-arm or upon the shaft, the arrangement being such that as the shaft 31 is rocked the sleeve 34 will be intermittently rotated.

35 indicates a sprocket-wheel, which is mounted upon the sleeve 34 and is geared to the sprocket-wheel 9 by means of a chain 36. When a pulley is used instead of the wheel 9, a pulley may also be used instead of the wheel 35, and the two pulleys may then be connected by a belt. Any suitable mechanism may be provided for rocking the shaft 31. By this construction when the shaft 31 is rocked the sleeve 34 will be made to rotate intermittently and an intermittent rotation imparted to the wheels 10. The molds in the sander will thereby be moved intermittently around the interior of the sander, and the adjustment of the various parts is such that when the molds arrive at the point 7 opposite the opening 15 the wheels 10 will remain stationary for a sufficient length of time to permit of the withdrawal of the molds from the sander.

The arrangement of the carriage 16 and dog 18 is such that when a mold 23 arrives at the point 7 in the sander the carriage 16 will move to such position that the dog 18 will engage the bar 22 upon the end of the mold, and the carriage will then be moved outward, drawing the mold out of the sander.

A quantity of sand is placed in the interior of the sander, and the molds are introduced into the sander in an inverted position. As they move to the lower portion of the sander upon the flanges 5 and 6 they will take up a quantity of the sand, which will be scattered over the interior of the molds as they continue to move around upon the flanges until they again reach the upper part of the sander, when they will be again upturned and the sand will be permitted to fall back into the lower portion of the sander.

In order to prevent the sand which falls out of the molds from falling into the sanded molds before they are withdrawn from the sander, a deflecting-plate 37 is provided, which extends around the interior of the sander, as shown in Fig. 2. This deflecting-plate preferably consists of a continuation of a portion of the exterior covering of the sander. When more than two wheels 10 are used, it will be

necessary to divide the deflector 37 into two or more parts to permit of the rotation of the wheels.

As hereinbefore stated, the sander above described is adapted to be used in connection with the machine described in our said former application; but it may also be used alone or in connection with other machines, if desired.

That which we claim as new, and desire to secure by Letters Patent, is—

1. In a brick-mold sander, the combination, with a sand-receptacle, of spiral guides for supporting the mold, and means for moving the mold on the spiral guides so that such mold traverses a spiral path, substantially as described.

2. In a brick-mold sander, the combination, with a cylindrical sand-receptacle, of end disks or pieces carrying spiral guides, and rotating devices for moving the mold on the spiral guides so that such mold traverses a spiral path, substantially as described.

3. The combination, with a cylindrical shell having an opening at the top for the admission of a brick-mold, interior spiral flanges adapted to support and guide the mold, and an opening at the lower portion of one end of the shell, of devices for moving the mold around the interior of the shell to a point opposite said opening, substantially as described.

4. The combination, with an exterior cylindrical shell having an opening near the top for the admission of a brick-mold and an opening near the lower portion of one end for the removal of the mold, of interior spiral flanges in the opposite ends of the shell, adapted to support and guide the mold, and wheels adapted to receive and carry the mold around the interior of the shell to a point opposite said opening, substantially as described.

5. The combination, with an exterior cylindrical shell having an opening near the top for the admission of a brick-mold and an opening near the lower portion of one end for the removal of the mold, of interior spiral flanges in the opposite ends of the shell, adapted to support and guide the mold, and wheels 10, having arms 11 and 12, adapted to receive the mold and carry it around the interior of the shell, substantially as described.

6. The combination, with an exterior cylindrical shell having an opening near the top for the admission of a brick-mold and an opening near the lower portion of one end for the removal of the mold, of interior spiral flanges in the opposite ends of the shell, adapted to support and guide the mold, wheels 10, having arms 11 and 12, adapted to receive the mold and carry it around the interior of the shell, and a deflecting-plate 37, substantially as and for the purpose specified.

7. The combination, with a cylindrical shell having openings for the admission and removal of molds and spiral flanges in the ends of said shell, of a shaft 8, journaled in said

shell, wheels mounted upon said shaft, adapted to engage the molds and carry them around the interior of the shell, and mechanism for intermittently rotating said shaft, substantially as described.

5 8. The combination, with a cylindrical shell having openings for the admission and removal of molds and spiral flanges in the ends of said shell, of a shaft 8, journaled in said
10 shell, wheels 10, the hubs of said wheels being recessed and beveled, a sleeve 14, adapted to fit upon said shaft, the ends of said sleeve being adapted to fit into the recesses in said hubs, and mechanism for intermit-
15 tently rotating said shaft, substantially as described.

9. The combination, with a cylindrical shell having openings for the admission and removal of molds and spiral flanges in the ends
20 of said shell, of a shaft 8, journaled in said shell, wheels 10, mechanism for intermittently rotating said shaft, a carriage 16, and mechanism for moving said carriage back and forth to remove the molds from the shell, sub-
25 stantially as specified.

10. The combination, with a cylindrical shell having openings for the admission and removal of molds and spiral flanges in the ends of said shell, of a shaft 8, journaled in said shell, wheels 10, mechanism for intermittently
30 rotating said shaft, rock-shaft 26, having arm 27, lever 24, connecting-rods 25 and 28, carriage 16, dog 18, and mechanism for rocking the shaft 26, substantially as described.

11. The combination, with a cylindrical shell
35 having openings for the admission and removal of molds and spiral flanges in the ends of said shell, of a shaft 8, journaled in said shell, wheels 10, rock-shaft 26, having arm 27, lever 24, connecting-rods 25 and 28, carriage
40 16, dog 18, cogged wheel 29, rack 30, rock-shaft 31, having arm 33, connecting-rod 32, sleeve 34, sprocket-wheel 35, and mechanism for rocking the shaft 31, substantially as described.

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