

W. E. HILTON.
BRICK MOLD SANDING MACHINE.
APPLICATION FILED FEB. 15, 1912.

1,053,993.

Patented Feb. 25, 1913.

2 SHEETS-SHEET 1.

Fig. 1.

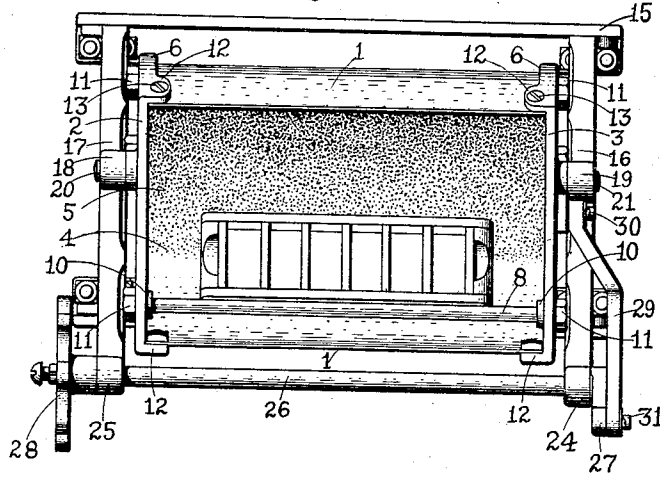


Fig. 2.

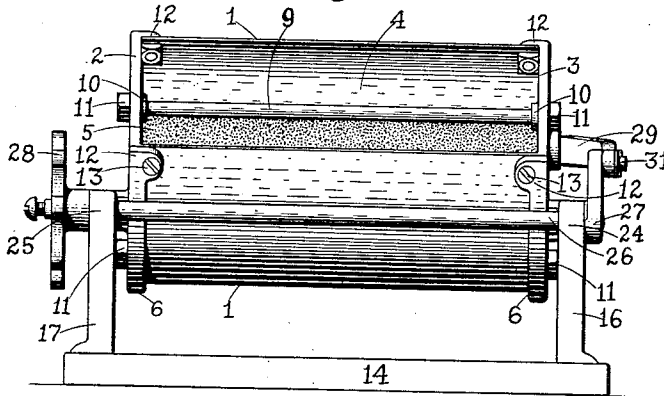
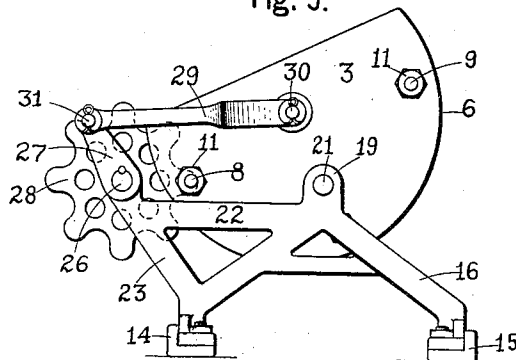


Fig. 3.



Witnesses.

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2 SHEETS—SHEET 2.

Fig. 4.

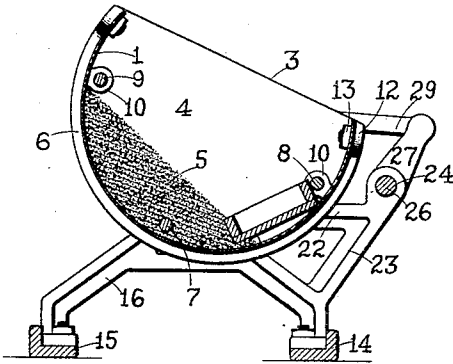


Fig. 5.

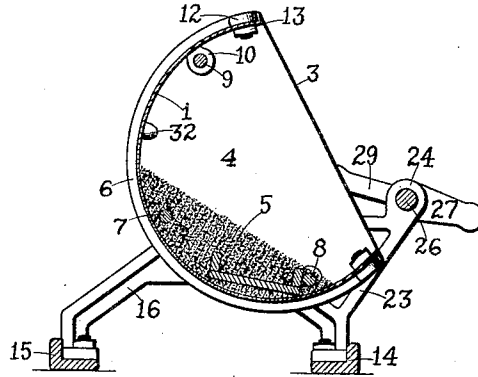


Fig. 6.

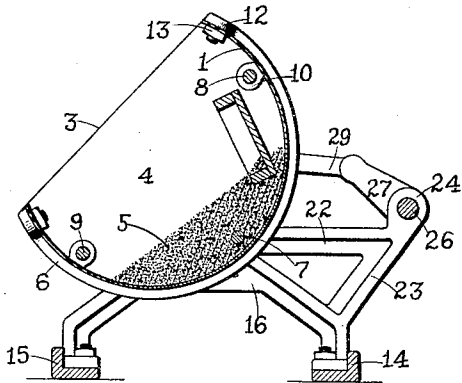


Fig. 7.

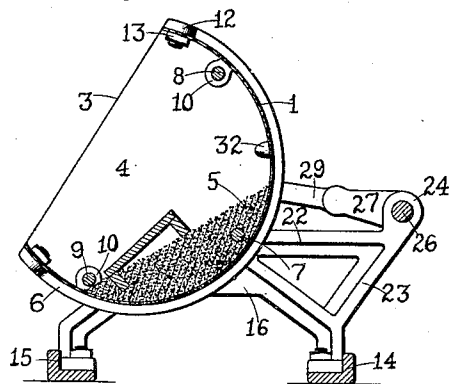


Fig. 8.

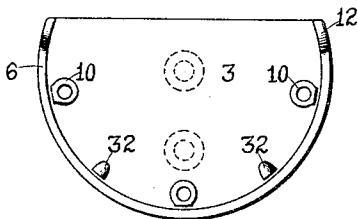


Fig. 9.



Witnesses.

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BRICK-MOLD-SANDING MACHINE.

1,053,993.

Specification of Letters Patent.

Patented Feb. 25, 1913.

Application filed February 15, 1912. Serial No. 677,707.

To all whom it may concern:

Be it known that I, WALTER E. HILTON, a citizen of the United States, residing at Dunkirk, in the county of Chautauqua and State of New York, have invented certain new and useful Improvements in Brick-Mold-Sanding Machines, of which the following is a specification.

This invention relates to improvements in machines for sanding the molds in which bricks or like articles are made.

The primary object of the invention is to produce a machine of this class of extremely simple and durable construction in which the molds are placed and automatically tumbled to bring every portion thereof in contact with the sand.

The invention also relates to certain details of construction which will be herein-after described and perhaps claimed, reference being had to the accompanying drawings in which a preferred adaptation of the invention is illustrated.

Figure 1 is a top plan of the improved brick mold sanding machine. Fig. 2 is a side elevation of the improved brick mold sanding machine. Fig. 3 is an end elevation of the improved brick mold sanding machine. Fig. 4 is a transverse vertical section through the improved brick mold sanding machine illustrating the oscillating sand holding tub turned to the preferred position in which the brick mold is placed therein. Fig. 5 is a transverse vertical section through the improved brick mold sanding machine with the sand holding tub tilted from its position in Fig. 4 to the limit of its movement in one direction and showing the sand completely covering the brick mold. Fig. 6 is a transverse section through the improved brick mold sanding machine with the sand holding tub turned far enough in its movement in the opposite direction to start the brick mold in its tumbling or reversing movement. Fig. 7 is a transverse section of the improved brick mold sanding machine with the oscillating sand holding tub turned to the limit of its movement in a direction opposite to Fig. 5 and the sand mold in a reversed position in the sand. Fig. 8 is a detached inside face view of one of the end portions of the oscillating sand holding tub. Fig. 9 is a detached top view of a brick mold used in connection with this machine.

In referring to the drawings in detail, like numerals designate like parts.

It is customary in order to prevent the brick clay sticking in the brick molds to sand the surface of the brick mold. This sanding is accomplished either by hand or by the employment of brick mold sanding machines which are usually placed in proximity to the brick machine and are driven by power from said brick machine. The present invention is designed for the purpose of sanding the surfaces of brick molds and is so constructed and arranged that the brick molds are dropped individually, or one by one, into one side of an oscillating sand holding tub, and are completely buried beneath the surface of the sand, and are tumbled or reversed in position by the oscillation of the sand holding tub, being removed by workmen at the opposite side of the machine.

Referring to the accompanying drawings, the sand holding tub consists of a curved or rounded body portion 1 and two transversely extending vertical end portions or members 2 and 3 which are located at opposite ends of the curved body and close said ends leaving a trough like chamber 4 in which the sand 5 is loosely thrown. The end portions or members 2 and 3 are each provided with an inwardly extending lateral flange 6 which is curved to the curve of the body portion 1 and fits around the exterior marginal surface of the end of said body portion 1. The end portions or members 2 and 3 are secured together by longitudinally extending tie rods preferably three in number which are respectively designated by the numerals 7, 8 and 9. These tie rods extend through the end portions or members 2 and 3 and longitudinally within the oscillating sand holding tub at a short distance inwardly from the inner surface of the body portion 1.

Referring to the accompanying drawings it will be noted that the longitudinally extending tie rod 7 is located near the bottom of the tub and the tie rods 8 and 9 are respectively located on opposite sides and at a short distance from the top of the tub. Inwardly extending enlargements or bosses 10 are formed on the inner surface of the end portions or members through which the tie rods pass. Nuts 11 are screwed upon the outer projecting ends of the tie rods and

serve to fasten the end portions or members rigidly in position. The body portion is also additionally fastened at its upper corners to inwardly extending ears 12 formed on the end portions or members 2 and 3 by screw bolts 13.

The sand holding tub is mounted on pivots in a suitable frame so as to oscillate or swing to and fro thereon.

- 10 The form of frame construction illustrated in the accompanying drawings consists of two angular iron bars 14 and 15 arranged in parallel longitudinal separated arrangement and inverted V-shaped transverse frame end members 16 and 17 which are bolted at their lower ends to the longitudinal frame members 14 and 15. The bearings 18 and 19 extend respectively up in a vertical direction from the upper central terminations of the inverted V-shaped frame members 16 and 17.

- The oscillating sand holding tub is provided with two oppositely extending bearing pins 20 and 21 which are journaled in the bearings 18 and 19 respectively. These bearing pins 20 and 21 are preferably formed integral with and extend longitudinally out from points located vertically below the center of the end portions or members 2 and 3. The sand holding tub is oscillated or rocked to and fro on these bearing pins or pivots by mechanism which is preferably constructed as follows: A lateral extension is formed on each of the inverted V-shaped frame members. As shown in the accompanying drawings the lateral extension of the inverted V-shaped frame member 16 consists of an upper horizontal arm 22, a lower diagonally extending arm 23, and the lateral extension attached to the inverted V-shaped member 17 comprises a corresponding upper horizontal arm 22 and a corresponding lateral diagonally extending arm 23. Bearings 24 and 25 are formed at the outer juncture of the horizontal and diagonally extending arms and a shaft 26 is journaled in said bearings. A crank 27 is attached to one end of this shaft and a sprocket wheel 28, or other suitable power transmitting device, is mounted at the opposite end of the shaft. A connecting rod 29 is pivoted at one end by a pivot 30 to a point vertically above the bearing pin 19 and is pivoted at its opposite end to the outer end of the crank 27 by a pivot pin 31.

- Suitable lugs or inwardly extending projections 32 are formed on the inner surfaces of the end portions or members 2 and 3 and are located at proper intervals thereon for the purpose of holding the end margins of the curved body portion against the inwardly extending flanges of the end portions or members thereby considerably stiffening and strengthening the oscillating sand holding tub.

It will be noted by referring to the accompanying drawings that there are but six wearing parts on the machine.

The operation of this improved machine will be clearly understood by referring to Figs. 4, 5, 6 and 7. Referring to these figures, the brick mold is placed in the oscillating sand holding tube when it is approximately in the position shown in Fig. 4, or, in other words at or near the limit of its swinging movement in one direction. In placing the brick mold in the tub, it is preferably inserted therein so as to extend longitudinally as shown in Fig. 1, being laid against one side of the inner surface of the body of the tub with its upper side edge against the tie rod 8. As shown in Fig. 4 the brick mold is at a slight slant from the vertical and is not as yet covered with sand. The further movement or swing of the oscillating sand holding tub from the position shown in Fig. 4 to the limit of its swing movement in one direction or to the position shown in Fig. 5 causes the sand to flow over and completely bury the brick mold. The return movement or swing of the sand holding tub first starts the sand flowing to the opposite side of the tub and then when a position approximately to the position shown in Fig. 6 is reached, automatically causes the brick mold to tumble or reverse this position in the tub.

Referring to Fig. 6, the brick mold is shown at a point where it is just starting to tumble or reverse itself, while in Fig. 7 it is shown turned completely over or upside-down.

The brick mold is removed from the oscillating tub either when the tub reaches the limit of its movement or swing in one direction, as shown in Fig. 7, or when it is turned slightly on its return movement in its opposite direction.

The principal advantages of this improved brick mold sanding machine are that each mold is individually sanded by itself; that every part of the surface of the brick mold is sanded; that the brick mold is automatically tumbled or reversed while in the oscillating tub being placed therein in a nearly upright position and being turned over to an inverted position; and that the machine is very quick and convenient in operation. Other advantages of the machine reside in the great simplicity and cheapness of its construction; in the manner in which it is operated; and in the fact that no machinery is arranged within the sand tub, thereby permitting the sand within the tub to be easily and quickly cleansed when dirty, by sifting the same.

In this improved machine the brick mold is simply dropped loosely into the oscillating sand holding tub in approximately the same manner in which it is dropped by hand

into the ordinary sand box, used in hand sanding. As the oscillating sand holding tub is pivoted at a short distance from the bottom, it is almost balanced in all positions
5 so that it does not require very much power to run it. The shaft for oscillating the sand holding tub may be revolved in either direction without changing the oscillating movement. As the brick mold is placed loosely
10 in the tub of the machine and as no machinery is arranged within the interior of the tub, this improved machine will sand any size brick mold without alteration. Neither the brick mold nor the machine
15 can be broken or in any way injured by failure of the workmen to remove the mold from the sand holding tub after it is sanded,

for the machine would only shift the sand and brick mold back and forth within the tub doing no damage whatever. 20

I claim,—

In a machine of the class described, a machine frame, an oscillating sand holding tub journaled in said machine frame in which a brick mold is adapted to be
25 loosely placed, a shaft journaled in said frame and connected to a suitable source of power, a crank on said shaft and a connecting rod pivoted at its respective ends to the sand holding tub and the crank.

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Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
