May 5, 1931. E. F. OYSTER 1,804,181

MOLD MACHINE

Filed Sept. 11, 1928 2 Sheets-Sheet 1

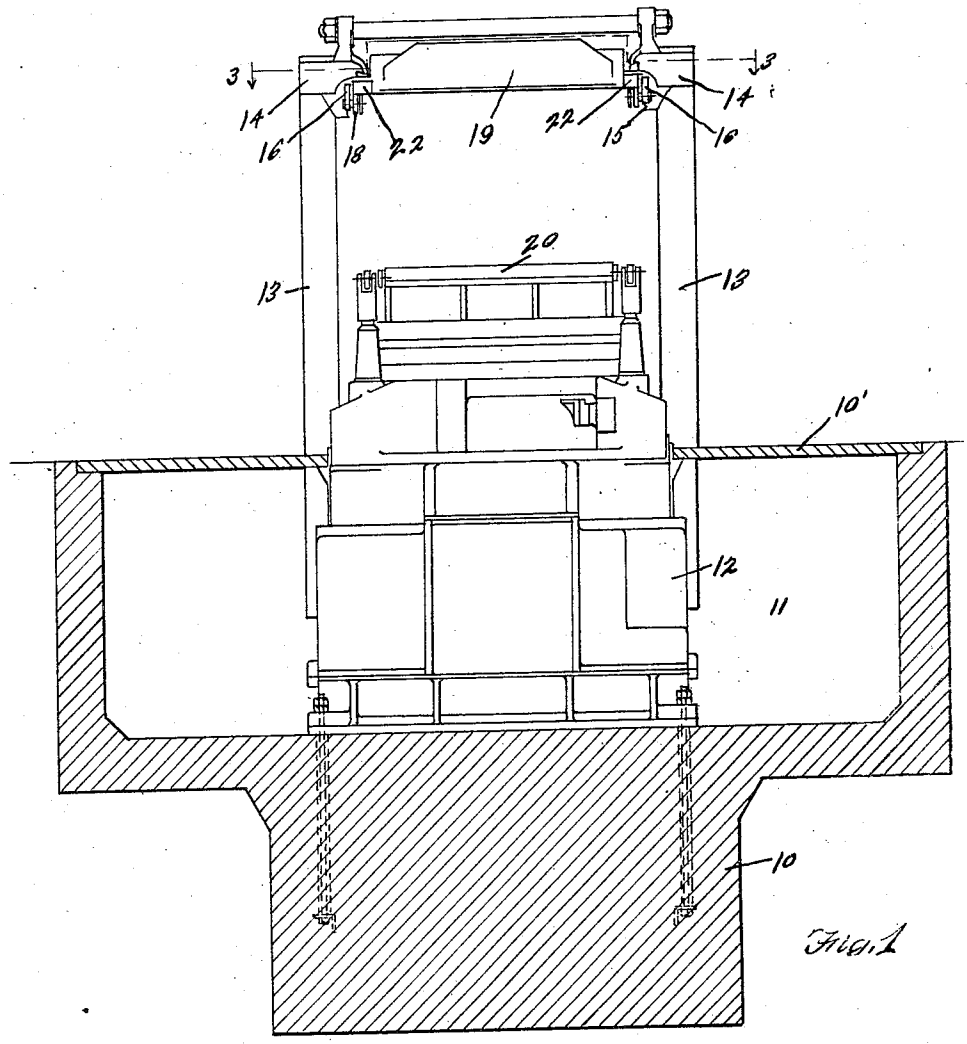


Fig. 1

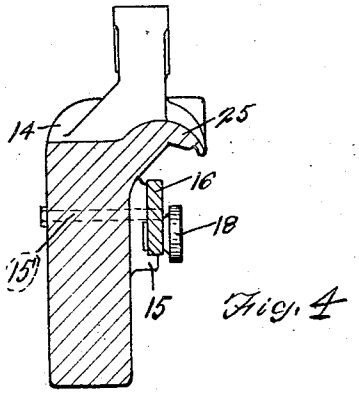


Fig. 4

INVENTOR.

Earl F. Oyster

BY

Day & Berlin & Day

ATTORNEYS.

May 5, 1931. E. F. OYSTER 1,804,181

MOLD MACHINE

Filed Sept. 11, 1928 2 Sheets-Sheet 2

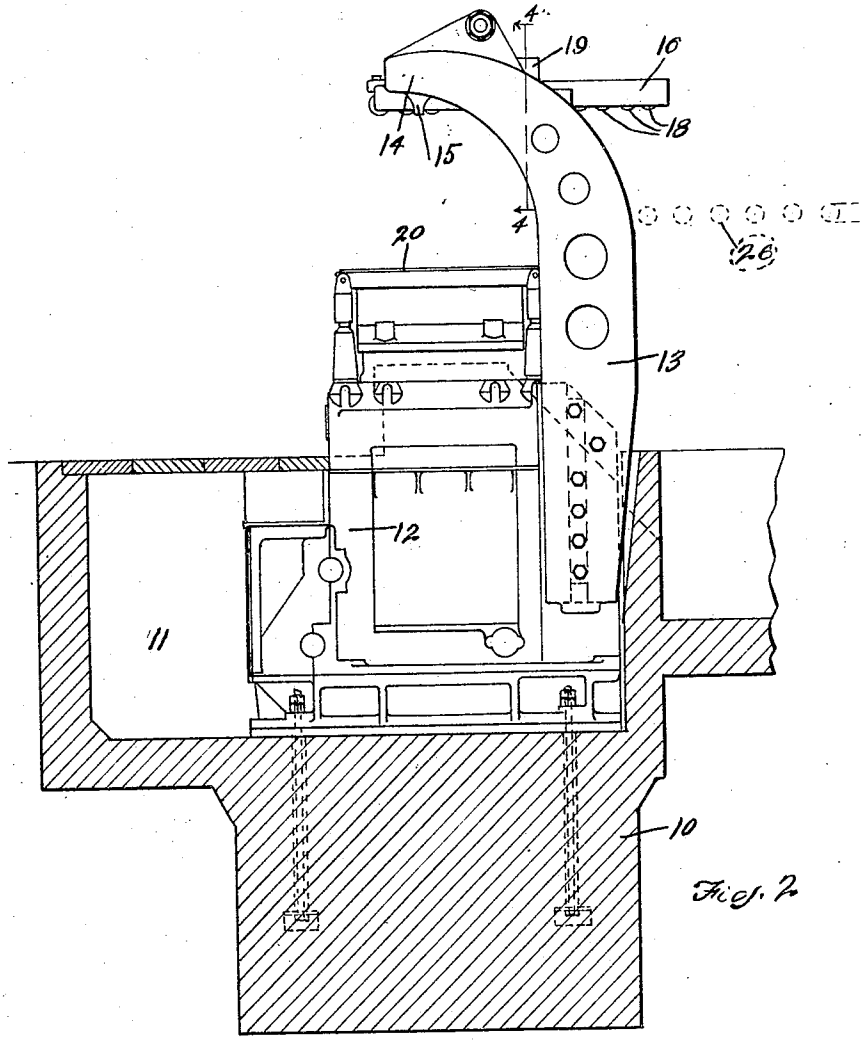


Fig. 2

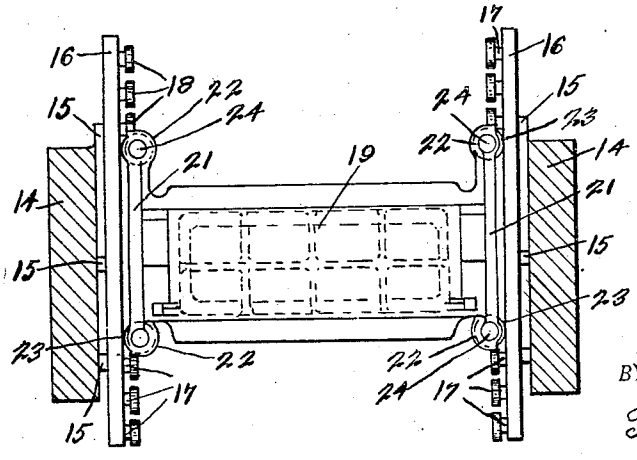


Fig. 3

INVENTOR.

Earl F. Oyster

BY

Fray & Berlin & Fray

ATTORNEYS.

Patented May 5, 1931 1,804,181

UNITED STATES PATENT OFFICE

EARL F. OYSTER, OF SHAKER HEIGHTS, OHIO, ASSIGNOR TO THE OSBORN MANUFACTURING COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO

MOLD MACHINE

Application filed September 11, 1928. Serial No. 305,246.

The present invention relates, as indicated, to machines for making sand molds for foundry use, and more particularly to a novel mounting for the squeeze heads thereof. The primary object of the invention is to provide, in a device of the class described, a squeeze head which may be easily and smoothly moved into and out of position for cooperation with the mold and mold bed. Further objects of the invention will appear as the description proceeds. To the accomplishment of the foregoing and related ends, said invention, then, consists of the means hereinafter fully described and particularly pointed out in the claims.

The annexed drawings and the following description set forth in detail certain mechanism embodying the invention, such disclosed means constituting, however, but one of various mechanical forms in which the principle of the invention may be used.

In said annexed drawings:

Fig. 1 is a front elevation of a machine embodying the present invention, the foundation therefor being shown in section; Fig. 2 is a side elevation thereof, the foundation still being shown in section; Fig. 3 is a plan view of the squeeze head, the machine frame being shown in section substantially upon the line 3—3 of Fig. 1; and Fig. 4 is a fragmentary vertical section of a detail taken substantially on the line 4—4 of Fig. 2.

Referring more particularly to the drawings, the reference numeral 10 indicates the foundation for the machine formed to provide a cavity 11 closed floor planks 10′ and enclosing the base portion of the frame 12 of the machine. The frame comprises a pair of arms 13 which extend upwardly on opposite sides of the machine and are curved at their upper ends to provide portions 14 extending over and above the major portion of the machine, as is most clearly shown in Fig. 2.

Referring to Fig. 3, it will be seen that each of the portions 14 is formed to provide a plurality of brackets 15 extending inwardly from the inner face thereof, and that a bar 16 is mounted upon the inner face of each of said portions 14, each of said bars resting upon its respective brackets 15. Bolts 15′ may be provided to secure said bars 16 in place.

From the inner face of each of said bars there extend a plurality of pins 17, which may be screws threaded through said bars, or which may be dowels set in said bars or integral projections cast on said bars. Upon each of said pins 17 there is mounted a roller 18, it being noted that said rollers 18 are mounted upon horizontal axes. A squeeze head 19 is adapted to be supported upon said two series of rollers.

The present machine comprises the usual mold bed 20 which, through suitable means comprising no part of the present invention, is adapted to be elevated to bring a mold carried thereon into contact with the head 19 and to squeeze said mold against said head. The head 19 may be reciprocated in a horizontal plane upon the rollers 18 into and out of the path of said bed 20.

Referring now once more to Fig. 3, it will be seen that the head 19 is provided at its opposite ends with rail projections 21, and that each of said projections is formed at each of its ends with an enlarged socket 22 in which is adapted to be mounted a roller 23 secured in place by a vertical pin 24. Said rollers 23 are adapted to engage said bars 16 to guide said head 19 in its reciprocatory movement with respect to said bars.

Referring now to Fig. 4 it will be seen that each of said frame portions 14 is formed to provide an overhang 25 which overlies the respective rail projection 21 of the head 19 when said head is disposed in the path of said bed 20. Said overhang rigidly limits the vertical movement of said head under pressure exerted by said bed 20. Of course it is to be understood that a slight clearance is provided between the upper surfaces of said projections 21 and the adjacent surfaces of the overhangs 25 in order to provide for free movement of said head upon the rollers 18.

In Fig. 2 I have indicated in dotted lines a roller conveyor which may be utilized for brining molds to the machine and/or for removing the same therefrom.

While I have shown and described an installation in which the rollers comprising the anti-friction means between the head 19 and the bars 16 are mounted on said bars, it is to be understood that I contemplate also a structure in which rollers shall be mounted on horizontal axes upon the head 19 and shall roll upon the bars 16, or equivalent members.

Other modes of applying the principle of my invention may be employed instead of the one explained, change being made as regards the mechanism herein disclosed, provided the means stated by any of the following claims or the equivalent of such stated means be employed.

I therefore particularly point out and distinctly claim as my invention:

1. In a machine of the class described, a mold bed adapted to be vertically reciprocated, a squeeze head adapted to be moved into and out of the path of said bed, and anti-friction means supporting said head.

2. In a machine of the class described, a mold bed adapted to be vertically reciprocated, a squeeze head adapted to be moved into and out of the path of said bed, and anti-friction means supporting said head and limiting the motion thereof to a horizontal plane.

3. In a machine of the class described, a frame, a mold bed vertically reciprocably mounted in said frame, a portion of said frame extending above and over said bed, a track-way mounted on said frame portion, and a squeeze head supported on said trackway and movable thereon into and out of the path of said bed.

4. In a machine of the class described, a frame, a mold bed vertically reciprocably mounted in said frame, a portion of said frame extending above and over said bed, a horizontal trackway mounted on said frame portion, and a squeeze head supported on said trackway and movable thereon into and out of the path of said bed.

5. In a machine of the class described, a frame, a mold bed vertically reciprocably mounted in said frame, a portion of said frame extending above and over said bed, a pair of bars mounted on said frame portion, a series of rollers on each of said bars, and a squeeze head supported on said rollers and movable thereon into and out of the path of said bed.

6. In a machine of the class described, a frame, a mold bed vertically reciprocably mounted in said frame, a portion of said frame extending above and over said bed, a pair of bars mounted on said frame portion, a squeeze head supported on said bars and movable thereon into and out of the path of said bed, and anti-friction means between said head and said bars.

7. In a machine of the class described, a frame, a mold bed vertically reciprocably mounted in said frame, a portion of said frame extending above and over said bed, a pair of bars mounted on said frame portion, a series of rollers on each of said bars, a squeeze head supported on said rollers and movable thereon into and out of the path of said bed, and means on said frame cooperating with said head to limit vertical movement thereof.

8. In a machine of the class described, a frame, a mold bed vertically reciprocably mounted in said frame, a portion of said frame extending above and over said bed, a pair of bars mounted on said frame portion, a series of rollers mounted on horizontal axes projecting from each of said bars, a squeeze head supported on said rollers and movable thereon into and out of the path of said bed, and rollers carried by said head on vertical axes and engaging said bars.

9. In a machine of the class described, a frame, a mold bed vertically reciprocably mounted in said frame, a portion of said frame extending above and over said bed, a pair of bars mounted on said frame portion, a series of rollers on each of said bars, and a squeeze head supported on said rollers and movable thereon into and out of the path of said bed, said frame portion overlying said bars to form abutments limiting vertical movement of said head when said head is in the path of said bed.

Signed by me this 5th day of September, 1928.

EARL F. OYSTER.