

(No Model.)

2 Sheets—Sheet 1.

H. E. DENNIS.
MOLD PRESS.

No. 500,320.

Patented June 27, 1893.

Fig. 1.

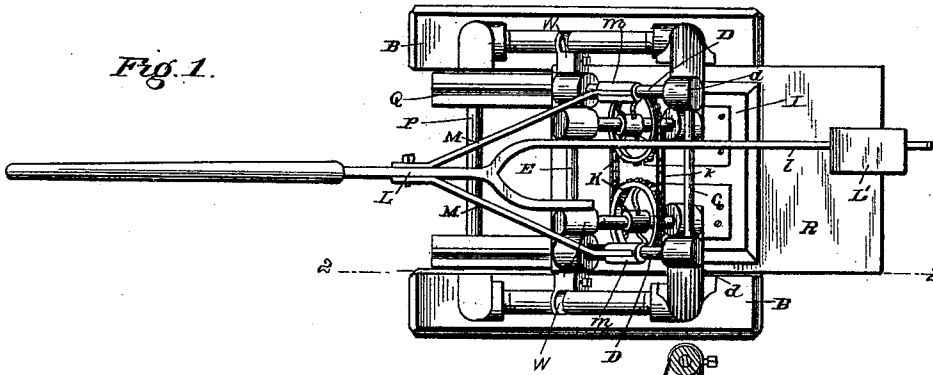
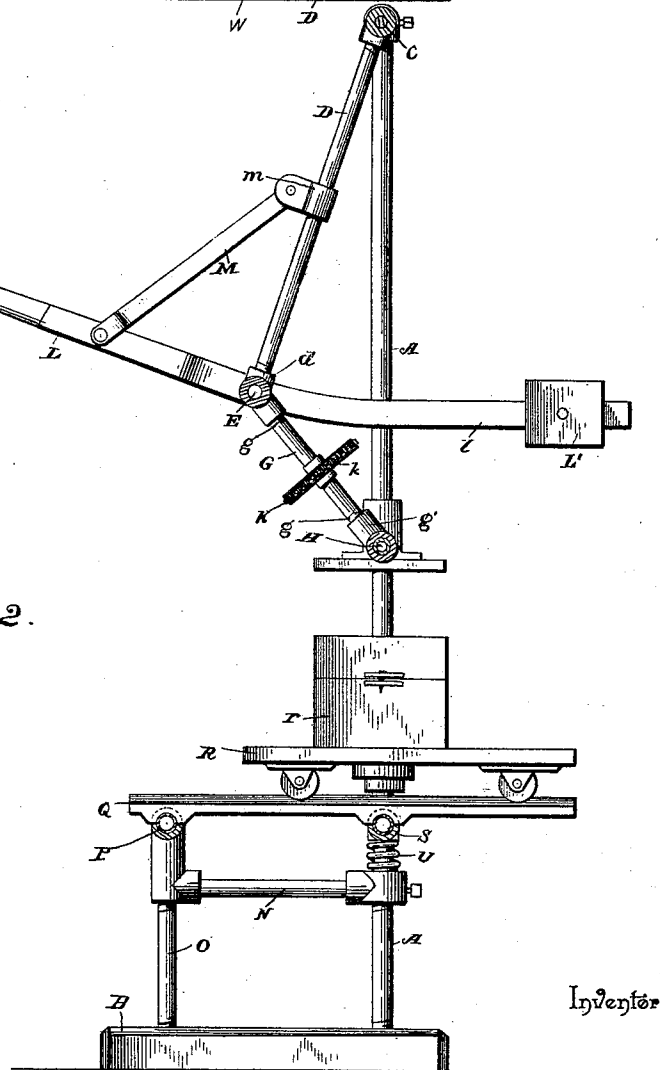


Fig. 2.



Witnesses

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2 Sheets—Sheet 2.

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Fig. 3.

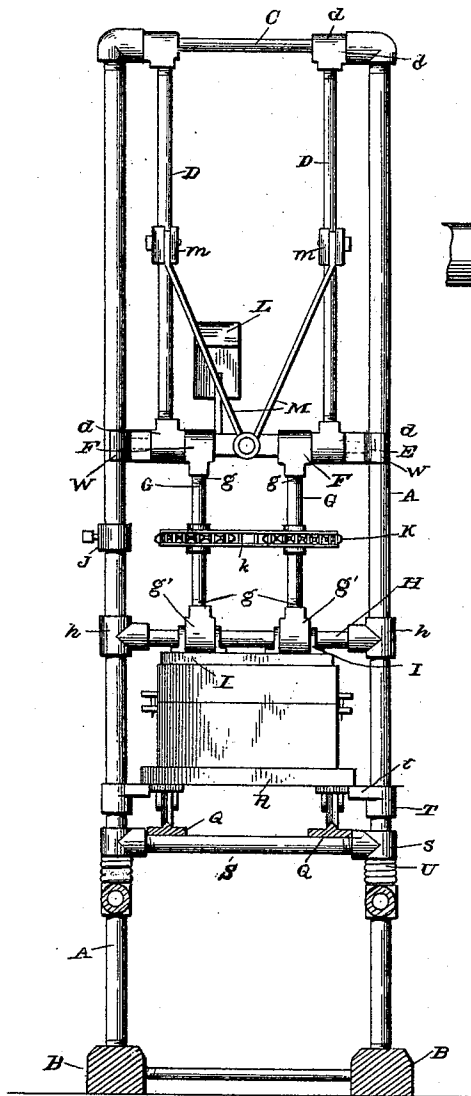


Fig. 4.

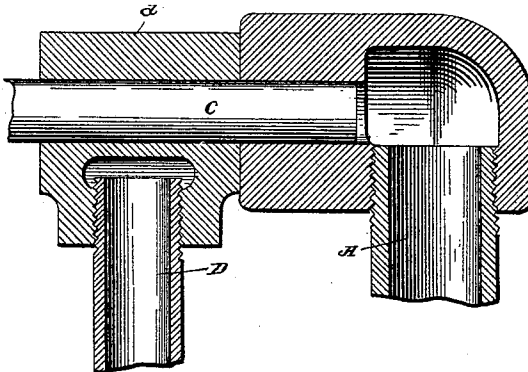
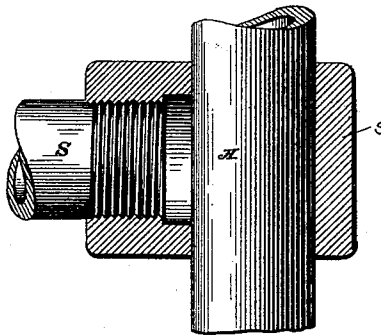


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

HENRY E. DENNIS, OF BUFFALO, NEW YORK.

MOLD-PRESS.

SPECIFICATION forming part of Letters Patent No. 500,320, dated June 27, 1893.

Application filed June 20, 1892. Serial No. 437,395. (No model.)

To all whom it may concern:

Be it known that I, HENRY E. DENNIS, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented a new and useful Mold-Press, of which the following is a specification.

This invention relates to mold presses; and it has for its object to provide an improved mold press by means of which snap-flask or bench molding may be accomplished more rapidly and with less expenditure of power than by means now in common use.

To this end the main and primary object of the invention is to provide an improved press by means of which the operator is enabled to apply a concentrated pressure to the mold and remove the same quickly, which greatly facilitates forming molds.

With these and many other objects in view, which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination and arrangement of parts hereinafter more fully described, illustrated and claimed.

In the accompanying drawings:—Figure 1 is a top plan view of a mold press constructed in accordance with this invention. Fig. 2 is a vertical longitudinal sectional view of the same on the line 2—2 of Fig. 1. Fig. 3 is a front elevation, closed. Fig. 4 is a detail sectional view of the top joint. Fig. 5 is a similar view of the connection with one of the sliding collars.

Referring to the accompanying drawings:—A A represent opposite vertical uprights arising from the opposite bases or sills B, and connected at their upper ends by the connecting bar C, to complete an upright rectangular frame in which are mounted the various parts of the press, it being, of course, understood that the said frame may be constructed of connected piping or other suitable frame pieces. Pivotaly suspended from the bar or rod C and working within the rectangular frame are the parallel upper lever members D, which, where piping is employed, may be screwed into the coupling collars *d*, loosely mounted upon said bar C, while the lower ends of said lever members D, are screwed into the lower coupling collars *d*, pivotaly mounted upon the joint or hinge rod

E, connecting the lower ends of said lever members. Loosely mounted upon the joint or hinge rod E, are the threaded coupling collars F, into which are adjustably screwed the upper threaded ends of the lower adjustable lever members G. The lower adjustable lever members G are reversely threaded at their opposite ends as at *g*, and are adapted to have the lower ends thereof adjustably engage the coupling collars *g'*, which collars are loosely mounted upon the sliding follower bar H. The said follower bar H has the opposite ends thereof connected to the opposite sliding guides *h*, embracing and sliding upon the opposite frame pieces or standards A, so that as the joint or hinge of the lever members, which comprise a knee joint, is moved in and out, the said follower bar slides up and down to carry the follower head I upon and above the flask being operated upon. The said follower head I is loosely connected to said follower bar, and the upper movement of the same, or the opening of the press is limited by means of the stop collar J, adjustably mounted upon one of the standards A. In order to provide for the adjustment of the follower for flasks of different heights and therefore regulate the movement of the knee joint, the lower adjustable lever members G are provided with sprocket wheels K over which passes the endless belt *k*, which provides for the simultaneous adjustment of the said lower members in their respective coupling collars, and therefore the consequent adjustment of the press.

An operating forked lever L extends to the front of the press and is loosely connected to or mounted upon the joint or hinge rod E, and has one of the fork arms continued into an extension *l*, projecting to the rear of the frame and accommodating an adjustable weight *L'*, which, after the follower has been forced down upon the flask, breaks the hinge or joint and opens the press automatically. The handle portion of the lever L at the front of the press is held in any desired elevation by means of the front brace bars M, pivotaly connected to said lever and the opposite adjustable clamps *m*, adjustably secured to the opposite upper lever members D. The movements of the several press devices actuating the follower head will be readily apparent.

Connected to the opposite standards A, a slight distance above the sills B, are the opposite side pieces N, extending to the front of the machine and connected to the short front standards or uprights O, which are connected at their upper ends by the front transverse track supporting rod or bed P, upon which rest the front ends of the rails Q, forming a track upon which travels the movable truck R, upon which the flask r, is placed to be moved directly under the follower head, and removed when the mold is completed. The rear portion of the rails of the track rests upon the movable supporting bar S, having the ends connected to the opposite sliding spring supported collars s, moving upon the opposite standards A, and normally held against the supporting lugs T, adjustably mounted upon the said opposite standards, and provided with the inwardly projecting supporting ledges t adapted to project under the sides of the truck. Springs U mounted over the opposite standards and bearing under said collars s, hold said collars in such position, so that when the follower head is brought down upon the flask, the truck is forced down upon the supporting lugs which receive the entire pressure of the press and consequently relieves the bed or track of the press from undue pressure.

In operation the flask, or either part thereof, is placed on the truck R and filled with loose sand to be packed as will be readily understood. The truck is now moved upon the track to bring the flask under the follower head. The lever L is now lowered, rapidly at first, thereby gradually closing the hinge or joint, until the angle of the lever members is finally reduced and the leverage is completed, it being readily seen that such a movement provides for a gradually increasing leverage to secure a heavy pressure upon the mold. As the pressure is received by the truck, the track yields and transfers the strain to the lugs T, as already noted, whereby all lower parts of the press are relieved from pressure and the flask rigidly supported. When the pressing is completed, an upward motion of the lever releases the follower and the weight L' returns it to its highest position. The springs U release the truck from the lugs, and the truck is then withdrawn.

Stops W connected to each end of the rod E prevent the joint from going beyond the standards A, which said stops engage when the joint members are straightened out to operate the press, as will be at once apparent.

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

1. In a molding machine, a vertical rectangular frame, knee jointed levers suspended within said frame, means for simultaneously adjusting the lowermost of said levers, a vertically movable follower connected with said lowermost levers, and a movable bed, substantially as set forth.

2. In a mold press, a vertical rectangular frame, upper lever members pivotally suspended from the top of said frame, lower lever members pivotally and adjustably connected with the lower ends of said upper members, a sliding follower bar pivotally and adjustably connected with said lower members, a weighted lever connected to the upper lever members and to the joint of both lever members, and a flask bed, substantially as set forth.

3. In a mold press, a vertical rectangular frame, upper lever members pivotally suspended within said frame, lower lever members pivotally and adjustably connected at the lower ends of said upper members to form a knee joint, a sliding follower bar sliding upon said frame and connected with said lower members, a vertically moving follower connected with said follower bar, a weighted lever connected with the joint of said lever members, a flask bed, and means for yieldingly supporting said bed substantially as set forth.

4. In a mold press, opposite vertical uprights connected at their upper ends to form a rectangular frame, upper lever members pivotally suspended from the top of said frame, a joint or hinge rod connecting the lower ends of said lever members, a sliding follower bar moving within said frame, threaded coupling collars loosely connected with said joint or hinge rod and said follower bar, lower hinge members adjustably engaging said coupling collars, means for simultaneously adjusting said lower hinge members an operating lever connected with said hinge rod, means for overbalancing said lever, and a flask bed, substantially as set forth.

5. In a mold press, the frame, upper lever members pivotally suspended within said frame, a hinge rod connecting the lower ends of said lever members, opposite guides moving on the frame, a sliding follower bar connected with said guides, threaded coupling collars loosely mounted upon said hinge rod and said follower bar, lower lever members having reversely threaded ends engaging the collars on the hinge rod and follower bar respectively, sprocket wheels mounted on said lower lever members, an endless chain passing over said sprocket wheels, means for moving said lever members, and a bed, substantially as set forth.

6. In a mold press, a vertical rectangular frame, upper lever members pivotally suspended within said frame and connected at their lower ends, lower lever members jointed with the connected ends of said upper members means for simultaneously adjusting said lower lever members, sliding guides moving on said frame, a transverse follower bar connected with said guides and pivotally with the lower ends of the lower lever members, an adjustable stop arranged above one of said guides, a forked lever pivotally connected with the joint of said lever members and

provided with an extension arm, an adjustable weight mounted upon said arm, brace bars pivotally connected with said lever and adjustably pivoted on the upper lever members, and a flask bed, substantially as set forth.

7. In a mold press, the combination of a vertical rectangular frame, the follower moving in said frame, a yielding track arranged within the frame below the follower, supporting lugs adjustably secured to the frame above said track, and a flask truck moving over said track and adapted to rest upon said lugs under pressure, substantially as set forth.

8. In a mold press, the vertical rectangular frame having the opposite vertical standards, an extension bed frame connected with the lower ends of said standards, a fixed sup-

porting bar at the front end of said frame, a vertically yielding supporting bar sliding upon said opposite standards, supporting springs arranged beneath said yielding supporting bar, a track resting upon said fixed and yielding supporting bars, supporting lugs adjustably secured to said standard over said yielding supporting bar, a flask truck moving upon said track, and the follower, substantially as set forth.

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

HENRY E. DENNIS.

Witnesses:

ALEX. SHEPHERD,
F. W. HULL.