H. R. ATWATER.

MOLD MAKING MACHINE.

APPLICATION FILED JULY 26, 1909.

1,117,153. **Patented Nov. 17, 1914.**

Fig. 1.

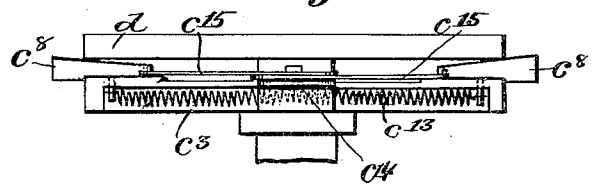


Fig. 2.

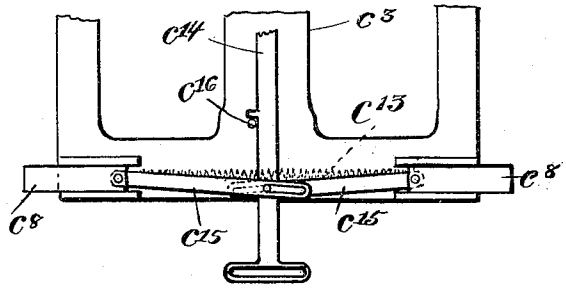
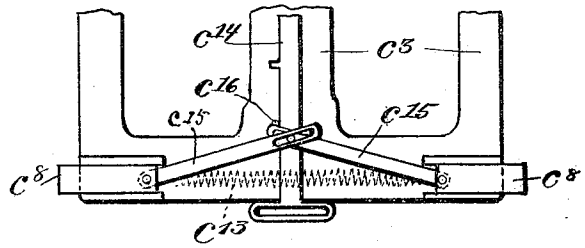


Fig. 3.



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UNITED STATES PATENT OFFICE.

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MOLD-MAKING MACHINE.

1,117,153. Specification of Letters Patent. Patented Nov. 17, 1914.

Application filed July 26, 1909. Serial No. 509,697.

To all whom it may concern:

Be it known that I, HARRY R. ATWATER, a citizen of the United States, and a resident of Cleveland, county of Cuyahoga, and State of Ohio, have invented a new and useful Improvement in Mold-Making Machines, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

The present invention comprises certain details of improvement in the mold-making machine that forms the subject matter of U. S. Letters Patent No. 890,919 dated June 16, 1900. The machine illustrated in said patent, as of course the one in hand, belongs to the so-called "rock-over" type of mold-making machine that is characterized by having separate parting and filling stands located adjacent to each other, with a holder for the pattern plate pivotally secured to said filling stand, so as to be adapted to be swung over in reverse position onto the parting stand. The latter is vertically reciprocable so that, the holder, proper, being sustained by the filling stand in horizontal position when thus reversed, the mold may be drawn from the pattern by simply lowering the parting stand; whence the name of the latter.

The patented structure just referred to includes as one of its features, a set of laterally spaced, depressible pins or members that project upwardly from the parting stand, the function of which is to accommodate said stand to any unevenness or irregularities in the under side of the mold-bottom; for as the mold is lowered onto said depressible members upon reversing the pattern plate holder, they will be depressed more or less, but always remain in contact with such bottom. By thereupon locking them in whatever position they are thus forced to assume, the mold will be sustained when it is lowered from the pattern in exactly the position assumed by it, when first turned over.

More specifically then, the present invention has as its object, the provision of improved means for thus accommodating the parting stand to the unevenness and irregularities in the under side of the mold bottom.

To the accomplishment of these and related objects, said invention 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 several of the various mechanical forms in which the principle of the invention may be used.

In said annexed drawings:—Figures 1 and 2 are respectively a side elevation and a plan view of the parting-stand with means for operating my improved adjusting device; and Fig. 3 is a plan view similar to Fig. 2, but showing the parts in different operative positions.

The various features of the machine proper have not been illustrated as they may be of any usual construction. The parting-stand comprises a plunger c adapted to be vertically reciprocated by any suitable means. Such plunger is provided with any suitable platform-like head c^3 upon which the mold d is adapted to rest in the final stage of the operation, although not directly contacting therewith as will be presently explained. It is when the machine has been thus positioned that the parting-stand obviously requires to be adjusted to the under side of the mold and my improved means for this purpose will now be described.

It is desirable to provide a plurality of adjustable members and to operate the same simultaneously, although permitting independent adjustment of the members. To this end I provide four spaced horizontally movable wedge blocks c^8. Such blocks are disposed one at each of the four corners of the stand. Each block has its upper face inclined and accordingly, inward movement of the same secures a wedging effect, more or less movement being required, depending upon the relative elevation of the particular corner of the mold bottom. In order to draw the wedge blocks c^8 inwardly into contact with the bottom of the mold, correspondingly disposed pairs of wedge blocks are connected by tension springs c^{13}, or equivalent means, that are just strong

enough to produce the desired movement without exerting any appreciable lifting action against the mold. Pending the positioning of the latter, the blocks are retained in their inactive outer positions by means of a handled bar c^{14} mounted in the stand so as to be reciprocable transversely of the springs just referred to, and connected with said blocks by links c^{15}. These links in effect operate as a toggle, the springs normally retaining the same in the position of rest shown in Fig. 2, where a stop c^{16} limits the outward movement of the bar; while the same springs are left free to draw the blocks inwardly, in the position of parts shown in Fig. 3, by reason of the connection of the links with such bar being slotted. It will be understood that only a relatively slight adjustment in the matter of height is required, and so the wedges need not be at all sharply inclined, provided they are of reasonable length; hence no appreciable outward thrust is exerted by the mold.

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 mold-making machine, a parting stand comprising a suitable support, a plurality of laterally spaced wedge members independently movably mounted upon said stand and adapted to be brought into contact with the mold-bottom, and clamping means for said members, respectively, whereby the latter may be secured in such contacting positions.

2. In a mold-making machine, a parting stand comprising a suitable support, a plurality of laterally spaced movable members on said support adapted to be independently brought into contact with the mold-bottom when the latter is suspended horizontally thereover, means tending to render said members operative, and means controlling aforesaid means, substantially as described.

3. In a mold-making machine, a parting stand comprising a suitable support, a plurality of laterally spaced movable members on said support adapted to be independently brought into contact with the mold-bottom, means tending to bring said members into such contact, and means simultaneously operative upon all said members, adapted to retain the same against aforesaid means.

4. In a mold-making machine, a parting stand comprising a suitable support, a plurality of spaced wedge members movably mounted upon said stand, tension springs tending to bring said members into contact with the mold-bottom, a reciprocable bar, and links connecting said bar with said members, said links having a lost-motion connection with the bar, whereby said members may be retained out of contact with such mold-bottom against said springs or be brought independently into such contact by said springs.

5. In a mold-making machine, a parting stand comprising a suitable support, a plurality of pairs of spaced wedge members movably mounted upon said stand, the members of respective pairs having their thin ends directed inwardly, tension springs connecting such paired members, a reciprocable bar, and links connecting said bar with said members, said links having a lost-motion connection with the bar, whereby said members may be retained out of contact with such mold-bottom against said springs or be brought independently into such contact by said springs.

6. In a mold-making machine, a parting-stand comprising a suitable support, a plurality of spaced wedge members movably mounted upon said stand, resilient means for bringing said members into contact with the mold bottom, a reciprocable bar and links connecting said bar with said members.

7. In a mold-making machine, a parting-stand comprising a suitable support, a plurality of spaced wedge members movably mounted upon said stand, resilient means for bringing said members into contact with the mold bottom, a reciprocable bar and links connecting said bar with said members, said links having a lost motion connection with the bar whereby said members may be retained out of contact with such mold-bottom against said resilient means or be brought independently into such contact by said resilient means.

Signed by me this 23rd day of July, 1909.

HARRY R. ATWATER.

Attested by—

ANNA L. GILL,

JNO. F. OBERLIN.