H. REYNOLDS
Molding Machine.

No. 198,856. **Patented Jan. 1, 1878.**

fig. 1

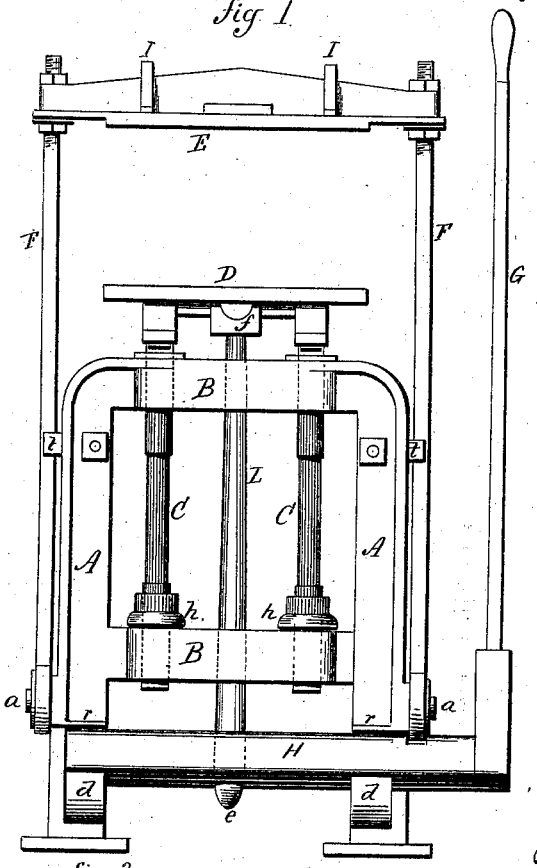


fig. 2

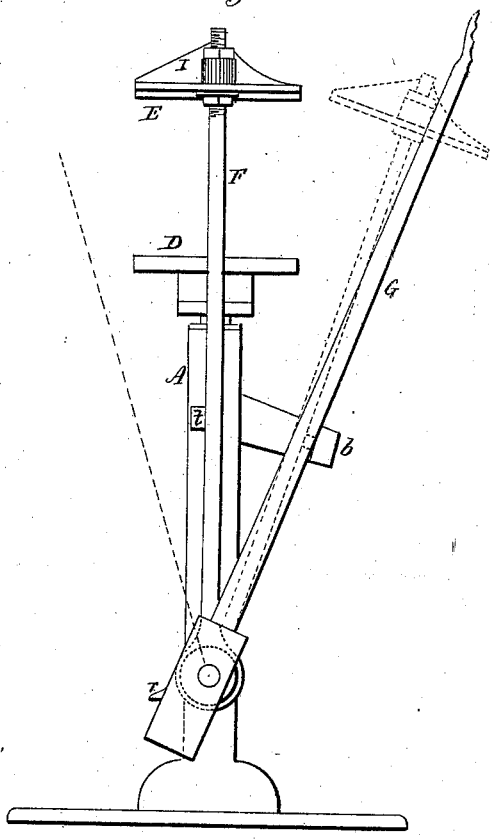


fig. 3

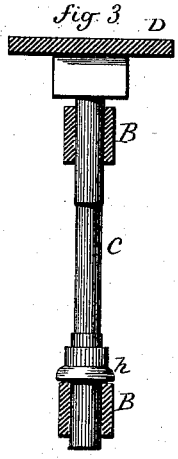


fig. 4

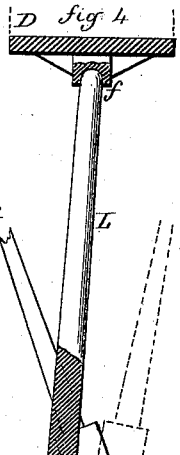
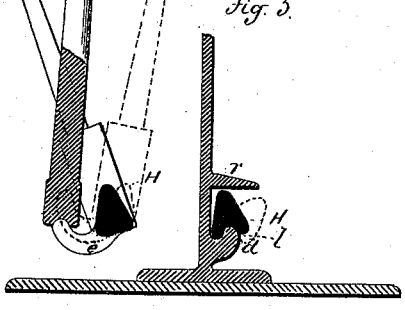


fig. 5



Witnesses.
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UNITED STATES PATENT OFFICE.

HENRY REYNOLDS, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO REYNOLDS & CO., OF SAME PLACE.

IMPROVEMENT IN MOLDING-MACHINES.

Specification forming part of Letters Patent No. **198,856**, dated January 1, 1878; application filed November 9, 1877.

To all whom it may concern:

Be it known that I, HENRY REYNOLDS, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Molding-Machines; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a front view; Fig. 2, a side view; Figs. 3, 4, and 5, detached views.

This invention relates to an improvement in machines for molding from small patterns, and such as are commonly termed "match-plate" or "snap-flask" moldings.

The object of this invention is to simplify the construction of such machines, render them more convenient for use, and to protect the parts from the sand which naturally works into the moving joints; and the invention consists in the combination of parts and details of construction as hereinafter described, and more particularly recited in the several claims.

A represents the upright supporting parts of the frame, connected by transverse bars B B; C C, vertical slides arranged to work freely up and down through the cross-bars B B. On the upper end of these vertical slides C the bed D is rigidly attached, the said bed lying in a horizontal plane, and on this bed the flask and sand are placed, in the usual manner for similar molding-machines. E is the compressing-platen, and at each end is rigidly fixed to a rod, F. These rods extend down below the table, and are secured to trunnions *a*, so that the platen E may be turned back from over the bed D, as seen in Fig. 2, and in that position supported by a stop or stops, *b;* but when the flask has been filled and the compression is required, the platen is brought over the bed, as seen in Figs. 1 and 2, then the bed D raised to produce compression; and this raising is effected by means of a hand-lever, G, attached to or made a part of a rock-shaft, H. This rock-shaft is supported at each end on bearings *d*. From the shaft an arm, *e*, extends backward, as seen in Fig. 4, and forms a bearing for an upright, L, the upper end of the upright taking a bearing in a socket, *f*, on the under side of the bed, as seen in Fig. 4, so that as the lever is pulled forward, as in broken lines, Fig. 4, the bed will be correspondingly raised.

It is impossible to prevent more or less sand falling from the table onto the parts of the machine below, and without protection the working parts would be exposed to such sand, and which, if allowed to work into the bearings, will soon necessitate repairs of the parts or cause imperfect working of the machine.

In order to protect the bearings on the vertical slides, there is on each of the slides C a collar, *h*, sufficient in extent to cover the joints, and should be of a downwardly-expanding shape, so that the falling sand striking thereon will be thrown off and away from the parts of the machine.

The rock-shaft H is cast or shaped with a cavity, *l*, corresponding to each of the bearings *d*, as seen in Fig. 5, and over the shaft at these points there is a ledge, *r*, projecting forward, and so as to prevent the possibility of the sand entering the working parts of the rock-shaft H.

The projecting ledges *r* also serve a second purpose, and that is to prevent the accidental removal of the rock-shaft H from its bearings.

The rock-shaft is introduced by turning it so far forward, as indicated in broken lines, Fig. 5, that it may be introduced onto the bearings *d*, and then turned up under the ledges *r*, which will prevent any vertical movement of the rock-shaft, and the natural working of the shaft is entirely within the range of the ledges *r*.

For the convenience of the workman the upper surface of the platen E is inclined, or inclined ribs I are formed thereon, the inclination of which is such that when the platen is thrown back, as indicated in broken lines, Fig. 2, the ribs will assume nearly a horizontal position. These ribs serve, in that condition, as a convenient place for the molder to set the upper part of his flask on its edge and expose the molded surface for the "touching up" that may be required, and at the same time the lower part is exposed on the bed.

When the platen is brought forward its proper relative position to the bed D is indicated by stops *t*.

I claim—

1. In a molding-machine, in combination with a vertically-moving bed, the slides C, which guide the said bed, and the protecting-collars *h* on said slides, substantially as described.

2. The combination of a vertically-moving bed, the rock-shaft, and lever, the said rock-shaft constructed with cavities upon the under side, corresponding to bearings on the frame, and with a connection from said rock-shaft to said bed, to communicate the movement of the lever through the rock-shaft to the bed, substantially as described.

3. In combination with the vertically-moving bed, rock-shaft, and its bearings, the projecting ledges *r* over said bearings, substantially as described.

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Witnesses:
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