J. H. HEARN.

Brick and Soap Press.

No. 164,997. Patented June 29, 1875.

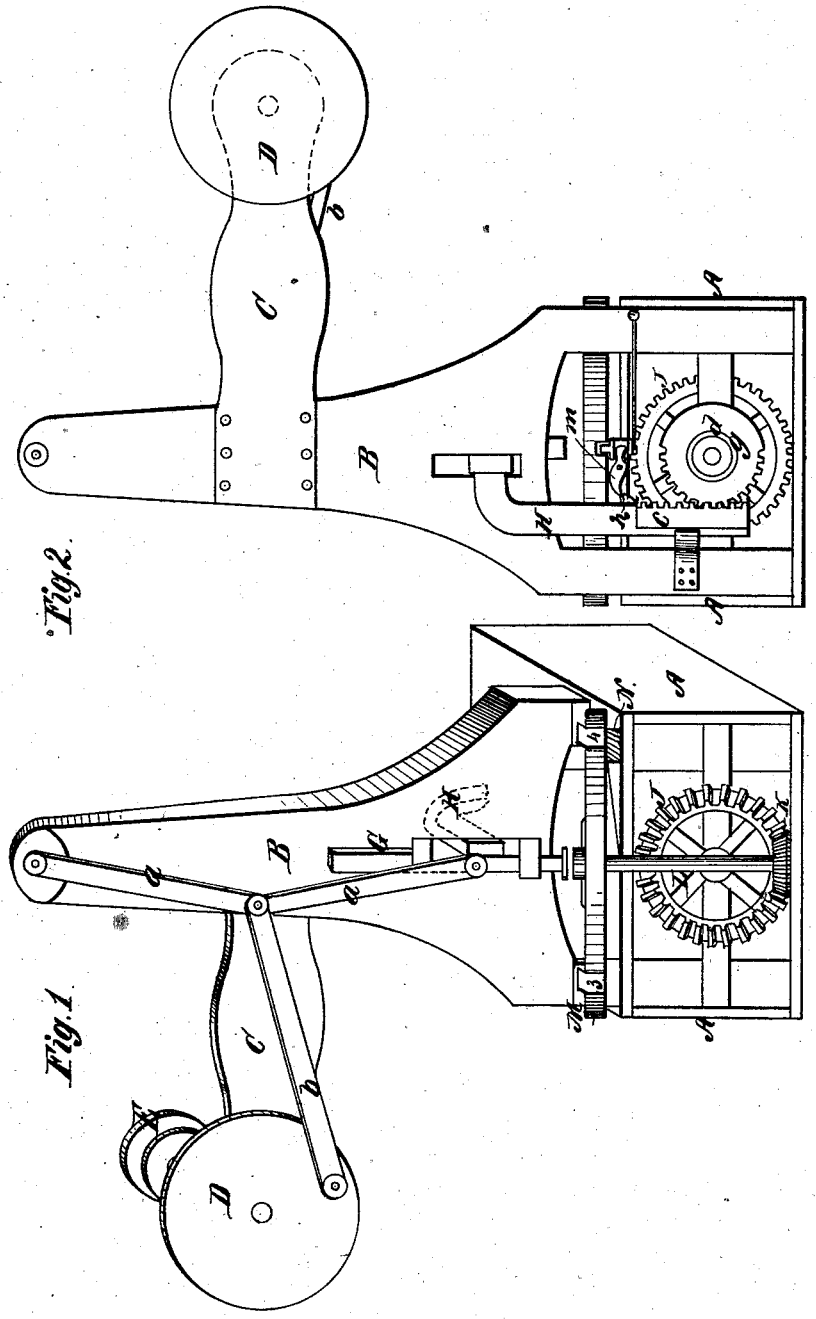

Fig. 2.

Fig. 1.

Witnesses.

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UNITED STATES PATENT OFFICE.

JACOB H. HEARN, OF MARSHALLTOWN, IOWA.

IMPROVEMENT IN BRICK AND SOAP PRESSES.

Specification forming part of Letters Patent No. **164,997**, dated June 29, 1875; application filed March 23, 1875.

To all whom it may concern:

Be it known that I, JACOB H. HEARN, of Marshalltown, in the county of Marshall and State of Iowa, have invented an Improved Brick and Soap Pressing Machine, of which the following is a specification:

My invention consists in mounting and combining a press, and a table carrying molds, in such a manner that the reciprocating motion of the plunger will automatically and alternately rotate, and hold and lock the table, at the precise points of time required to subject the substance in the molds to the action of the plunger; all as hereinafter fully set forth.

Figure 1 of my drawing is a perspective view, illustrating the construction and operation of my invention. Fig. 2 is a rear elevation of the same.

A A represents the base, in the form of a suitable frame-work. B is a vertical post, rigidly secured to the base A, to support the press and its operative mechanism. C is an arm, extending at right angles from the post B. D is a crank-wheel, which has its bearing in the end of the arm C. E is a belt-wheel, or suitable driving-wheel, rigidly fixed on the shaft of the crank-wheel D. *a a* is a toggle-joint, pivoted at its top to the post B, and at its bottom to the press. *b* is a horizontal link, connecting the crank-wheel D with the toggle-joint *a a*. G is the plunger, mounted in bearings projecting from the post B. H is a rack-bearer, rigidly attached to the plunger G. *c* is a vertical rack, attached to the lower end of the bearer H. *d* is a gear-wheel or sector, loose upon the shaft *g*, which has its bearings in the frame A. J is a bevel-gear wheel, rigid on the horizontal shaft *g*. K is a pinion, matching and engaging the wheel J, rigidly fixed on the lower end of the vertical shaft L, which has its bearings in the frame A. M is the rotating table, rigidly fixed to the top of the shaft L. 1 2 3 4 are mortises through the table, in which suitable molds are carried and operated. N is an inclined plane, secured to the frame A, underneath the table M, in such a manner that it will successively lift the molds in the mortises 1 2 3 4 as the table makes quarter revolutions, simultaneously with each upward movement of the press G. *h* is a cam on the rack-bearer H. *m* is a spring-latch, pivoted to the frame A in such position relative to the rotating table M that the latch *h* will engage notches in the edge of the table, and in time with the mold-apertures 1 2 3 4.

In the practical operation of my press any suitable power may be applied to operate the driving-wheel E, and thereby rotate the crank-wheel D, and communicate an up-and-down motion to the press G, through the medium of the horizontal link *b* and toggle-joint *a a*. The press G, carrying the rack *c*, on the bearer H, at each upward movement causes the rack *c* to engage the toothed sector *d*, which is loose on the horizontal shaft *g*. A suitable clutch or ratchet on the side of the sector *d* causes the sector to lock to the shaft *g*, and actuate the bevel-gear J K, and the vertical shaft L, and thereby cause the table M to make a quarter revolution. The cam *h*, on the rack-bearer H, in its upward movements engages the pivoted spring-latch *m*, and frees the latch from the table, to allow the table to move.

The molds in the apertures 1 2 3 4 can be filled and emptied successively by attendants.

During each downward movement of the press the latch *m* locks and holds the table M stationary, and the press engages the mold immediately underneath, and compresses the contents of the mold. The upward movement of the press frees the table, and moves it sufficiently to bring a successive mold into proper position for its next downward move. The simultaneous movements of the press and table thus produced furnishes a new and convenient means of compressing clay, soap, and other plastic substances.

I am aware that in the construction of my press I employ common mechanism and common devices, but my manner of arranging and combining the various parts to make the vertical plunger G and the horizontal rotating table M co-operate to accomplish the results contemplated produces a new and useful machine.

I claim as my invention—

1. The combination of frame A, post B, arm C, wheels D and E, connecting-link *b*, toggle-joint *a a*, and plunger G, when ar-

ranged substantially as and for the purposes shown and described.

2. The plunger G, carrying the cam *h* and rack *c*, the sector *d*, and bevel-gear wheel J on the shaft *g*, the pinion K and table M on the shaft L, and the spring-latch *m* on the frame A, arranged and combined substantially as and for the purposes shown and described.

JACOB H. HEARN.

Witnesses:
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