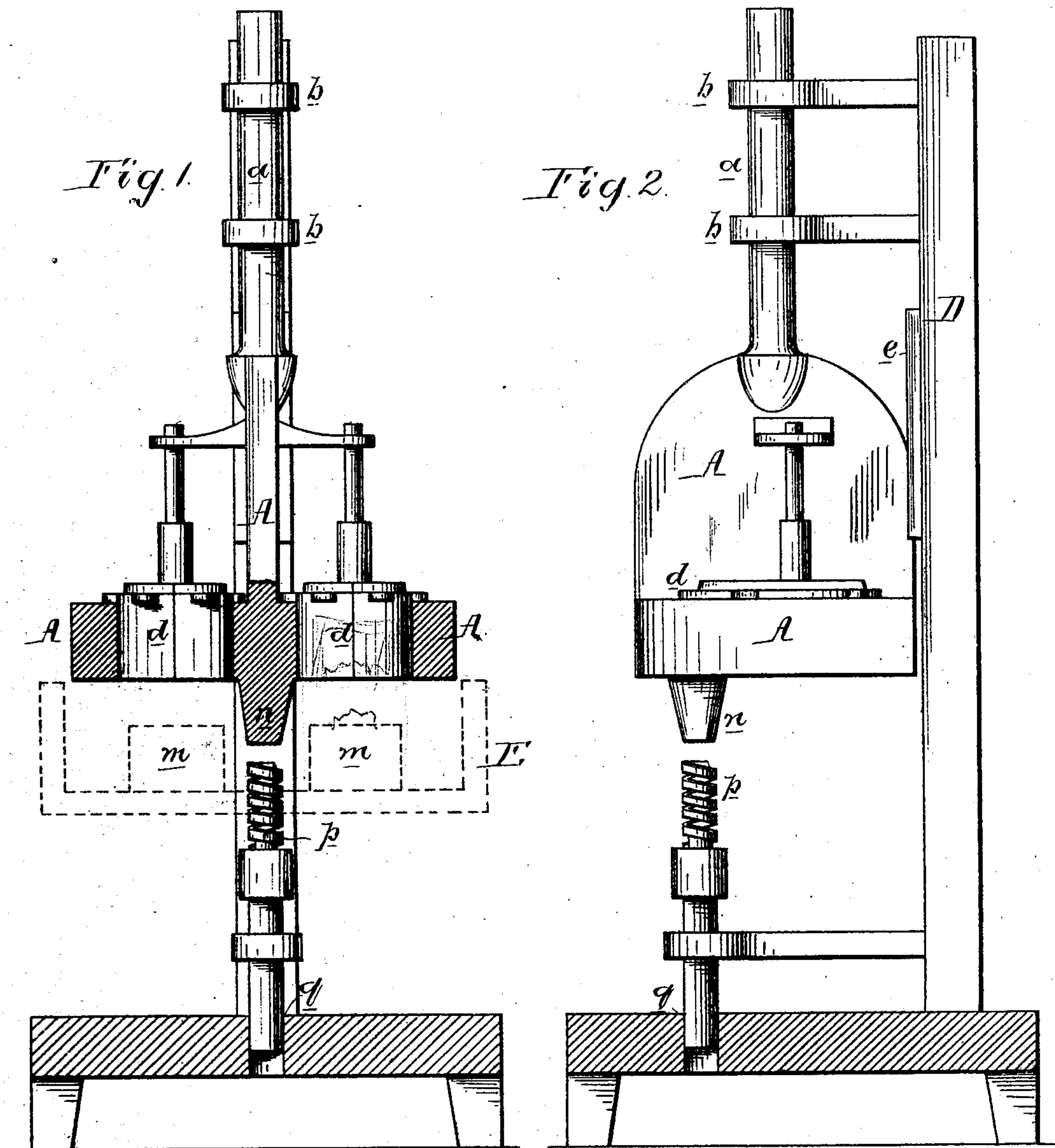


W. J. REAGAN.
Molding Apparatus.

No. 151,911.

Patented June 9, 1874.



Witnesses,

Hubert Howson
Thomas M. Howson

William J. Reagan
by his Atty.
Howson and Son.

UNITED STATES PATENT OFFICE.

WILLIAM J. REAGAN, OF ROYER'S FORD, PENNSYLVANIA, ASSIGNOR TO
ROYER'S FORD IRON FOUNDRY, OF SAME PLACE.

IMPROVEMENT IN MOLDING APPARATUS.

Specification forming part of Letters Patent No. **151,911**, dated June 9, 1874; application filed
April 24, 1874.

To all whom it may concern:

Be it known that I, WILLIAM J. REAGAN, of Royer's Ford, Montgomery county, Pennsylvania, have invented an Improvement in Molding Apparatus, of which the following is a specification:

My invention relates to improvements in the machine for forming sand-molds, for which Letters Patent were allowed to me on the 14th day of April, A. D. 1874; and the object of my present improvements is to insure a uniform packing of the sand on and around the patterns, to prevent the damaging of the latter by the rammer, and the formation of a clear gate in the mold, objects which I attain in the manner illustrated in the accompanying drawing, in which—

Figure 1 is a vertical section of sufficient of my said molding apparatus to illustrate my invention, Fig. 2 being a side view of Fig. 1.

A is the rammer, having a stem, *a*, guided by projections *b* on the frame D, on which are also guides *c* for preventing the rammer from turning. The rammer is raised and permitted to fall onto the sand contained within the molding box or flask E, (shown by dotted lines in Fig. 1,) this movement being imparted to the rammer in the manner described in the aforesaid application, which also described the molding-flask too fully to need repetition here.

It has been found that the rammer, as originally constructed, disarranged and otherwise damaged the patterns contained within the flask by the severe blows imparted to the sand—a difficulty which I obviate by providing the rammer with yielding blocks *d d*, properly guided in the manner shown in Fig. 1, these blocks conforming to the shape of, but being somewhat larger than, the pattern onto which the rammer packs the sand. Supposing, for instance, that there are patterns *m m* of sad-irons contained in the box, as shown by dotted lines in Fig. 1, when the rammer descends on the sand the blocks will yield more or less, while the remainder of the rammer will pack the sand around the patterns, the blocks themselves being sufficiently heavy to insure a proper packing of the sand

immediately above the patterns. In other words, the result of the action of the rammer and its yielding blocks will be an equal, or nearly equal, packing of the sand on all sides of the pattern; any projections of the patterns, moreover, such as the handles of sad-irons, cannot be disturbed or broken, as the blocks will yield before any such accident can occur. The blocks may be made of sufficient weight, or may be weighted, or so acted on by springs, that on the descent of the rammer they will act with sufficient force on the sand. When the rammer is elevated the blocks will fall, and in doing this will force out any sand which may have adhered to the sides of the openings in said rammer. On the under side of the rammer is a conical projection, *n*, immediately below which a screw-auger, *p*, is attached to the upper end of or forms a part of a spindle, *q*, which is arranged to revolve and slide vertically in suitable bearings on the frame. After the desired number of blows have been imparted to the sand in the box, and while the rammer is resting on the sand, the rotating spindle *q* is elevated, and its auger bores a clean gate into the packed sand as far as the projection *n* on the rammer, after which the spindle, with its screw-auger, is depressed.

It has not been deemed necessary to illustrate or describe mechanism for elevating or depressing the spindle, as many different devices may be used for that purpose.

I claim as my invention—

1. In a machine for forming sand-molds, the combination of the rammer A with yielding blocks *d d*, of a shape conforming, or nearly so, with patterns on and around which the sand has to be packed.

2. The combination of the rotating and sliding screw-auger *p* with the projection *n* on the rammer.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WM. J. REAGAN.

Witnesses:

WM. A. STEEL,
HARRY SMITH.