

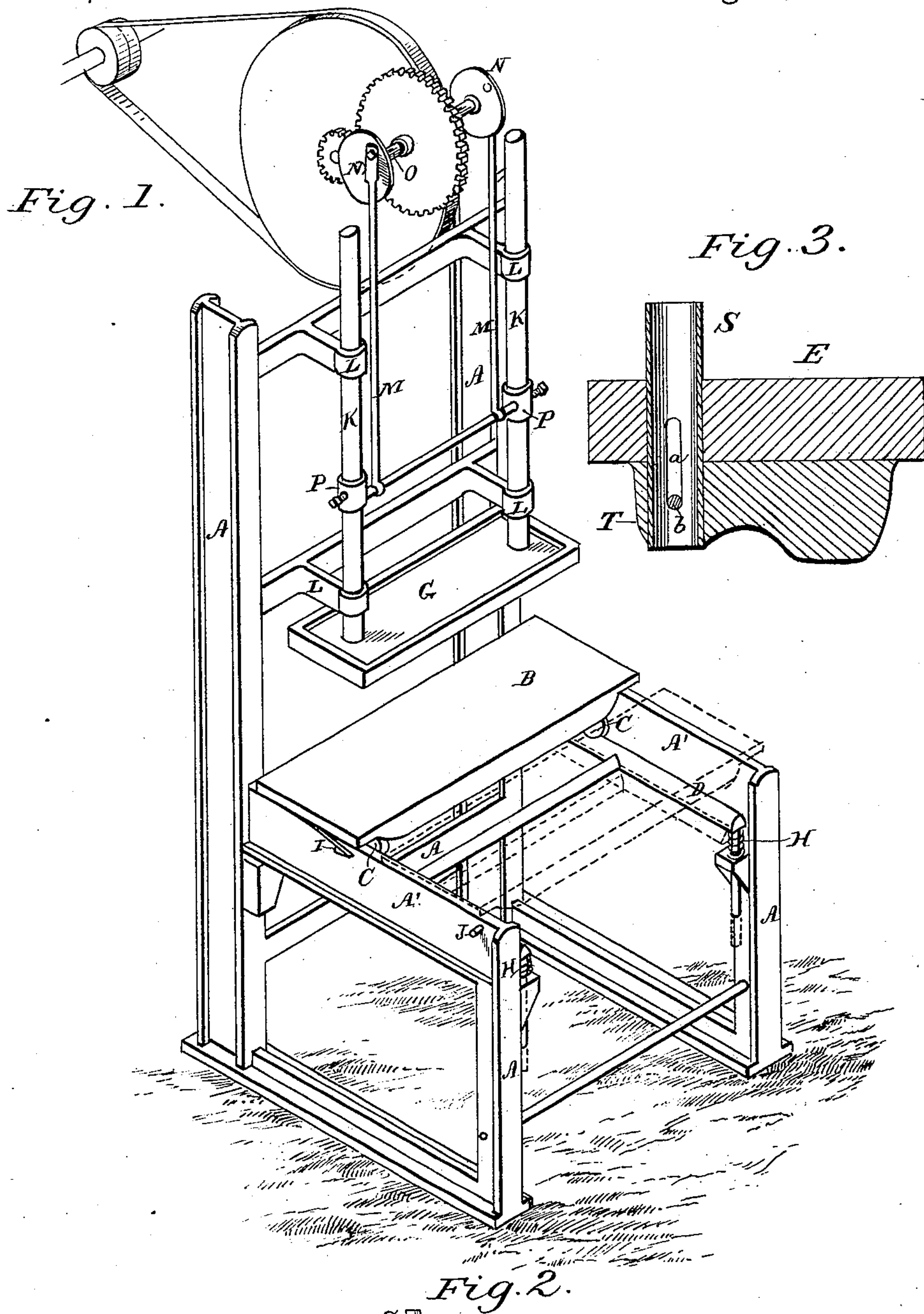
(No Model.)

E. THOMAS.

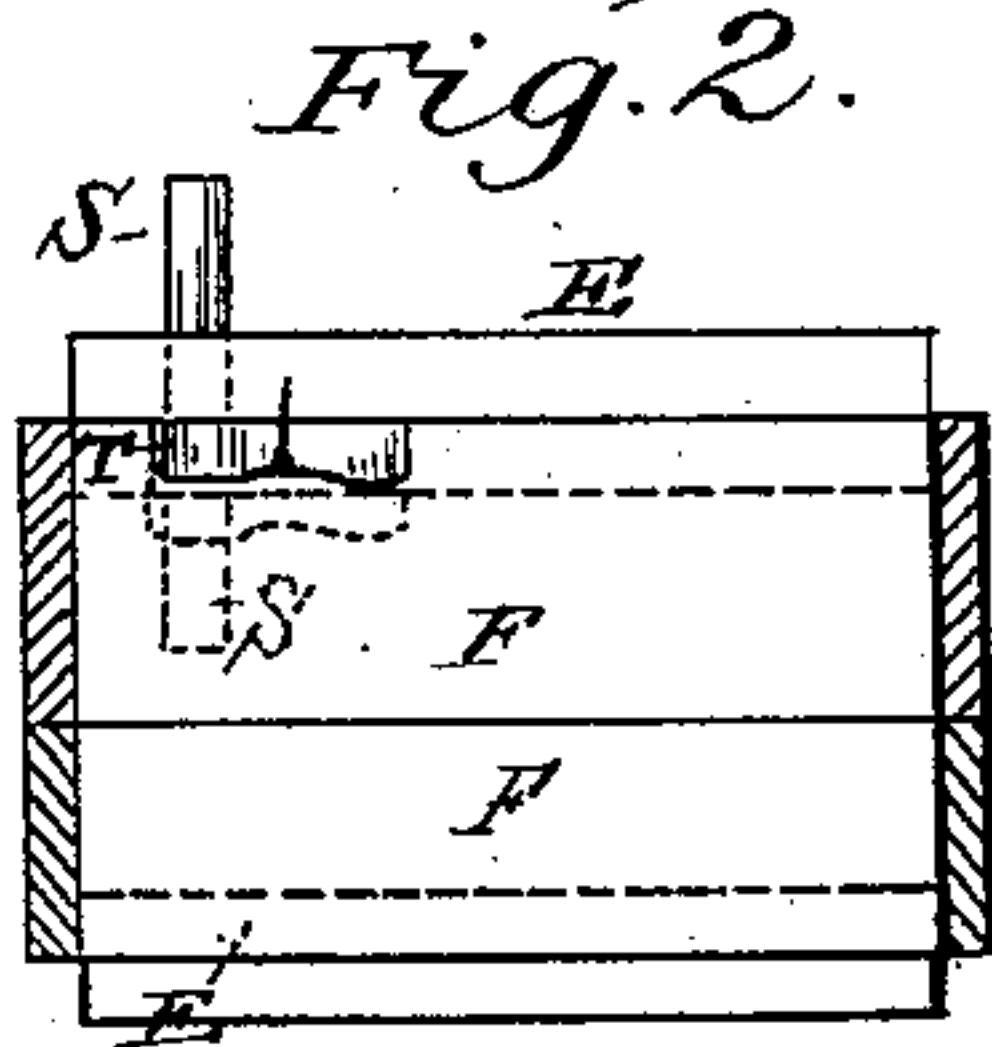
MACHINE FOR MAKING MOLDS FOR CASTINGS.

No. 282,588.

Patented Aug. 7, 1883.



Witnesses.  
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# UNITED STATES PATENT OFFICE.

ELEAZER THOMAS, OF PAWTUCKET, RHODE ISLAND.

## MACHINE FOR MAKING MOLDS FOR CASTINGS.

SPECIFICATION forming part of Letters Patent No. 282,588, dated August 7, 1883.

Application filed December 13, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, ELEAZER THOMAS, of Pawtucket, in the county of Providence and State of Rhode Island, have invented certain  
5 new and useful Improvements in Machines for Making Molds for Castings, of which the following is a specification, reference being had to the accompanying drawings, making a part thereof.

10 The object of this invention is to furnish a power-machine—that is, one adapted to be operated by power supplied from the driving-shaft in a foundry—by which to effect the compacting of the sand around the pattern in a  
15 founder's flask, as a substitute for the manual labor of ramming, the work of said machine greatly facilitating the molder's labor and improving the character of the castings.

20 The special work which my machine is designed to accomplish is the slow, uniform, and powerful pressure of the sand from opposite directions toward the pattern in the center of the flask without tasking the workman's strength. The machine furnishes, in addition, a spring-  
25 supported platform mounted on trucks, serving as the molder's bench, and as a carriage to easily move the filled flask beneath the pressing-machine.

30 In the drawings, Figure 1 is a perspective view of the machine complete, ready for use, and showing the platform in position beneath the plunger. Fig. 2 is a transverse section of the flask, showing the positions of the follow-boards in full and dotted lines; and Fig. 3 is a  
35 detail illustration of the slot-and-pin connection, which permits a vertical movement to the sprue-cutting tube.

40 A A' represent the frame of the machine, strongly made of wood or iron uprights and cross-pieces, and solidly supported to resist the strains of use.

45 B is a platform, arranged to be drawn forward on its truck-wheels C and track D to the position indicated by dotted lines in Fig. 1, to support the flask F while the molder is at work, and to be rolled backward with the filled flask upon it to its place beneath the plunger G, so that the follow-boards E of the flask, Fig. 2, may be pressed toward each other, as de-  
50 noted by dotted lines, to compact the sand.

The tracks D D are supported on springs H, powerful enough to bear the weight of the

platform B and the loaded flask, so that in its forward and backward movement said platform may not drag upon the horizontal bars A' beneath its ends, but may run freely over  
55 and slightly above them, thus greatly lessening the labor of handling the flasks.

Pressure upon the flask to pack the sand therein brings the ends of the platform down  
60 on the rails A', compressing the springs H and depressing the rails D temporarily. Catches I, engaging with pins J, hold the platform at the front of the frame until the flask is ready for pressure.  
65

When the flask containing the pattern has been filled with sand, instead of compacting it by ramming in the usual way, or by any lever-  
70 pressure requiring manual labor, the necessary pressure is exerted by mechanical means, as shown in the drawings. A plunger, G, having two piston-rods, K, works vertically through bearings L, fixed to the frame, and a very slow reciprocating movement is given to said rods and plunger by a pitman, M, extending from  
75 each rod to a crank or crank-wheel, N, on a rotary or semi-rotary counter-shaft, O. A train of gearing or of belts and pulleys serves to reduce the speed and enables the workman to observe the extent of compression exerted, and to suspend or relieve the same at the proper  
80 time in a manner well known without interrupting the rotation of the main shaft. The counter-shaft O may, however, make a complete revolution, and the pitmen M M a continuous and uninterrupted reciprocation by so  
85 adjusting the length of the pitmen as to give only the requisite pressure at the extremity of the stroke. Such adjustment may be effected by means of a sleeve-nut serving to shorten or  
90 lengthen the pitman; or, as illustrated in the drawings, clamps or collars P, adjustable by means of set-screws, may secure the ends of the pitmen to the piston-rods K at the proper points.  
95

100 In Fig. 2 I have illustrated a sprue-cutting tube, S, which has a vertical movement through the upper follow-board, E, and through a teat, T, secured to the under side of said board. The stroke of the plunger carries the tube down, as indicated by dotted lines, but does not detach it from the follow-board and teat, to which it is connected by a slot, a, and pin b. This movement cuts out of the mold as much sand

as lies within the tube when it has been so carried downward and compacts such portion of the sand, so that it is removed with the tube inclosing it when the follow-board is taken off, thus forming with the teat a complete sprue with reservoir.

Having thus described my improvements, I claim—

1. In a power molding-machine, the frame A A' and movable platform B, in combination with the follower G, having duplicate piston-rods K K, each provided with double bearings in the frame and with a pitman, substantially as and for the purposes herein set forth.

2. In a molding-machine, the frame A A' and spring-supported track D D, in combination with the wheels and platform B, mounted thereon, for the purposes set forth.

3. In a molding-machine, the spring-supported track, the rolling platform mounted thereon, and suitable catches, I J, substantially as and for the purposes herein set forth.

4. A molder's flask provided with a movable follow-board having a teat secured thereon, in combination with a sprue-cutting tube adapted to work vertically through said board and teat, and united to them for such movement by a slot-and-pin connection, substantially as and for the purpose herein set forth.

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