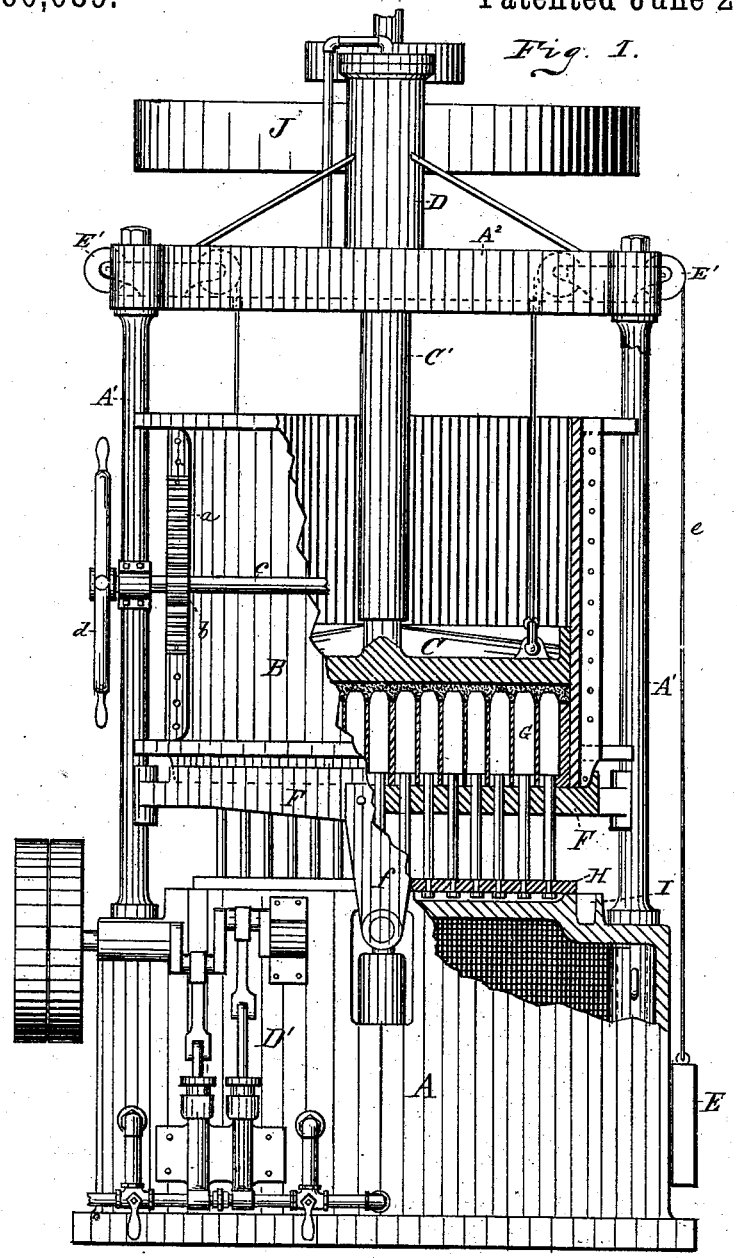
(No Model.) 3 Sheets—Sheet 1.

J. T. EDSON.

MECHANISM FOR FORMING TYPE CASES FROM PAPER PULP OR OTHER PLASTIC MATERIAL.

No. 260,089. Patented June 27, 1882.

Fig. 1.



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MECHANISM FOR FORMING TYPE CASES FROM PAPER PULP OR OTHER PLASTIC MATERIAL.

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Fig. 2.

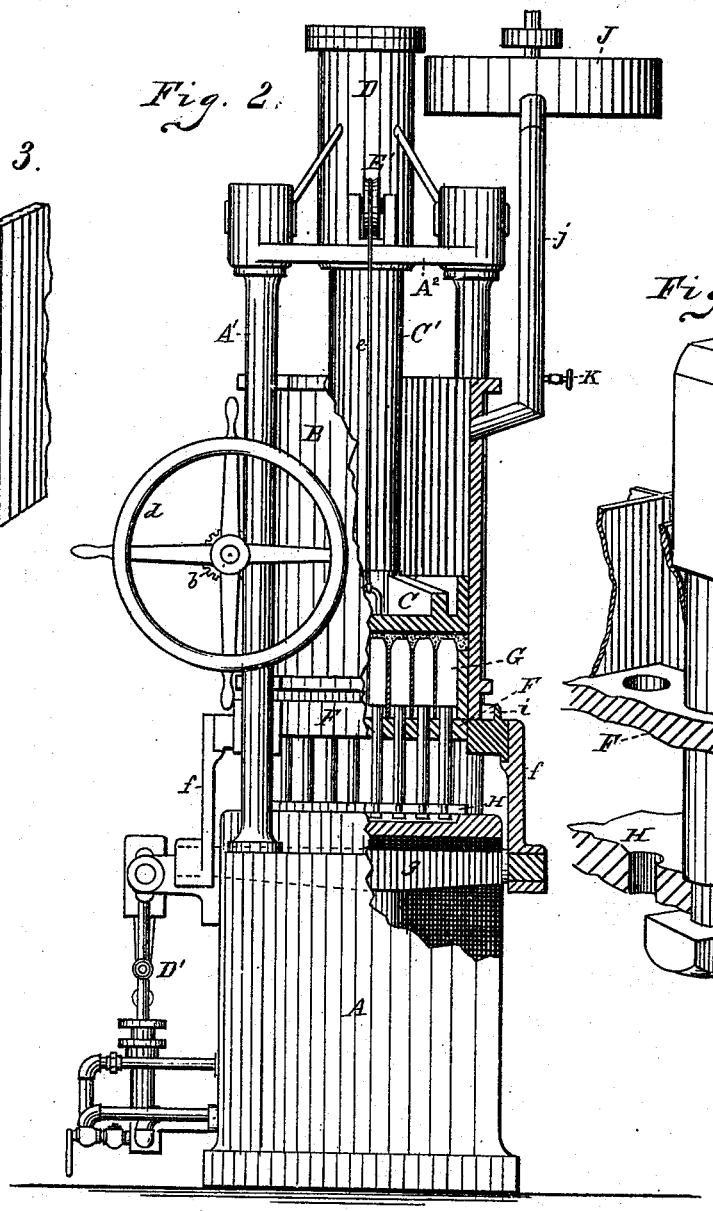


Fig. 3.

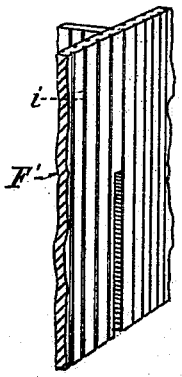
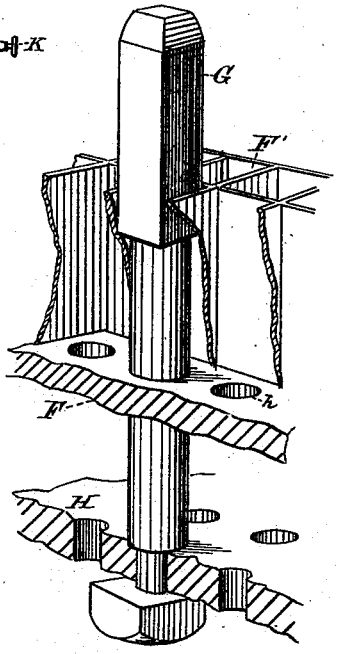


Fig. 4.



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3 Sheets—Sheet 3.

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MECHANISM FOR FORMING TYPE CASES FROM PAPER PULP OR OTHER PLASTIC MATERIAL.

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Fig. 5.

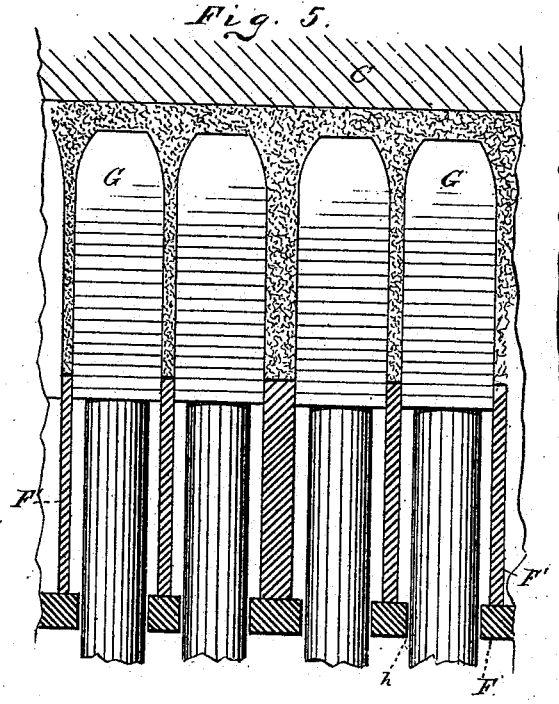


Fig. 6.

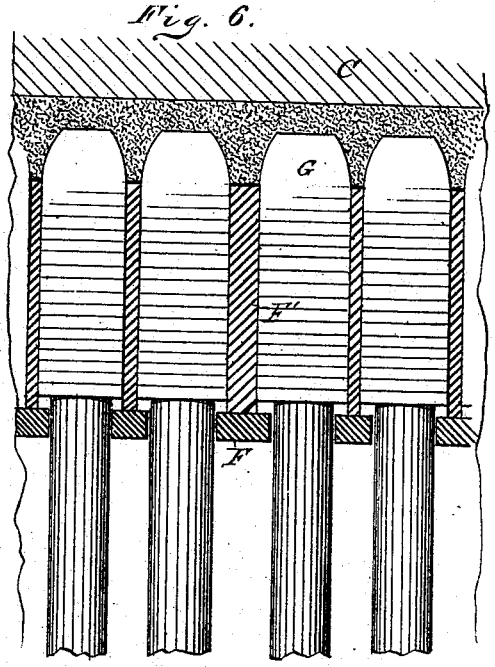


Fig. 7.

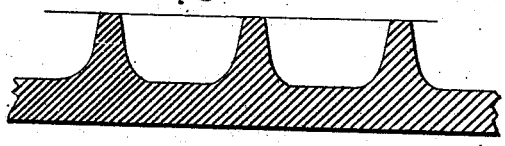


Fig. 8.

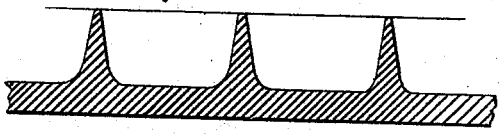
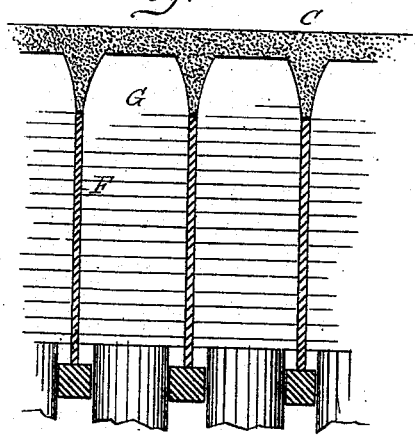


Fig. 9.



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UNITED STATES PATENT OFFICE.

JULIUS T. EDSON, OF CLEVELAND, OHIO.

MECHANISM FOR FORMING TYPE-CASES FROM PAPER-PULP OR OTHER PLASTIC MATERIAL.

SPECIFICATION forming part of Letters Patent No. 260,089, dated June 27, 1882.

Application filed November 9, 1881. (No model.)

To all whom it may concern:

Be it known that I, JULIUS T. EDSON, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Mechanism for Forming Type-Cases from Paper-Pulp or other Plastic Material; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to mechanism for forming type-cases from paper-pulp or other plastic material.

In the drawings, Figure 1 represents a front elevation, partly in section, of my device for manufacturing type-cases. Fig. 2 is a side elevation of the same, also shown partly in section. Fig. 3 shows the manner of joining the plates by halving; also, the grooves or depressions in the plates, which allow the water to pass down. Fig. 4 represents detached sectional views of the die, plates, and lower platen. Fig. 5 is a detached sectional view, showing the pulp pressed down by the upper platen, with the lower platen in position to move upward to complete the case. Fig. 6 is a view similar to Fig. 5, with the lower platen raised. Fig. 7 is a part of the case in section. Fig. 8 is a view of the same, showing its form when completed. Fig. 9 is a view of the reducing-dies.

The frame of the machine consists of its bed A, the pillars A′, and the cross-head A^2. The pillars are secured at the base to the bed of the machine and at the top to the cross-head.

Between the pillars A′, and loosely attached to them, is a reservoir, B, which is adapted to be raised and lowered by means of a rack, *a*, and pinion *b*, the rack being permanently secured to the side of the reservoir. The pinion *b* is attached to a shaft, *c*, at ends of which are hand-wheels *d*.

In the reservoir is a closely-fitting platen, C, to which is attached a ram, C′. This ram passes into the cylinder D, from whence it receives hydraulic pressure, which forces the platen down. The platen is raised by means of the weight E, which is connected to the platen C by means of a cord, *e*, which passes over the rollers E′ E′.

F is the lower platen, which has brackets extending from it, which slide upon the pillars A′ A′. To this platen are attached arms *f f*, which in turn are secured to the shaft *g*, which is operated by the hydraulic pump D′. The platen F has holes drilled in it to admit the passage of the dies G.

In the drawings is shown one form of die, the upper portion being square with the top, tapering so as to form the shape shown in Fig. 7. The lower part of the die is cylindrical and passes through the openings *h*, which are somewhat larger than the die, so as to allow the water to pass through. It then passes to the supplementary bed H, to which it is secured. In the bed of the machine, and surrounding the supplementary bed, is a groove or recess, I, which receives the water that flows from the pulp and passes it off into a waste-pipe.

Upon and permanently secured to the platen F rest plates F′, which form a recess adapted to fit closely around the dies G. These plates are provided with grooves or corrugations *i*, through which the water that is pressed from the pulp is permitted to pass to the recess I, which surrounds the supplemental bed-plate H.

In the drawings I have shown one process by which the pulp may be fed into the reservoir. It consists of a hopper, J, with a detachable spout, *j*, which may be placed into an opening in the reservoir whenever it is desirable to allow the pulp to pass into it, the valve K answering the purpose of checking the pulp whenever the spout *j* is not connected with the reservoir.

I will now proceed to describe the operation of my device.

The reservoir being filled with the amount of pulp necessary, the platen C is forced down upon it, pressing it down, as shown in Figs. 1 and 5. The upper part of the pulp is now firmly packed, while the lower part is still soft. Therefore the lower platen, F, is forced up until it comes in contact with the reservoir, and forms the case, as shown in Fig. 6. The platen C and the reservoir B are now raised, and the platen F is forced up a trifle more, which will loosen the pulp from the dies. It can now be

taken off and put in a larger set of dies, (represented in Fig. 9,) and be compressed, so as to form the case, as shown in Fig. 8.

If it is found that the pulp is of so thin a consistency that it enters the grooves *i*, hereinbefore described, and thus prevents the drainage of the water, said grooves may be covered by a gauze or equivalent covering to prevent the pulp from entering and clogging the water-passages.

What I claim is—

1. In a machine for the manufacture of type-cases from paper-pulp, the combination, with the frame, of a movable reservoir, an upper and a lower platen, each adapted to be moved independently of the other, and means, substantially as described, for increasing or diminishing the pressure of the platen, substantially as set forth.

2. In a machine for the manufacture of type-cases from plastic material, the combination, with the frame, of an upper and a lower platen, each adapted to move independently of the other, and a reservoir for containing the plastic material, and within which the upper platen moves, substantially as set forth.

3. In a machine for the manufacture of type-cases from paper-pulp, the combination, with the platens and frame, of a movable reservoir adapted to contain the pulp before molding, and to be raised out of the way to permit the withdrawal of the type-case after it is molded, substantially as set forth.

4. In a machine for the manufacture of type-cases from plastic material, the combination, with the forming-dies, of movable grooved casings, substantially as set forth.

5. In a machine for the manufacture of type-cases from paper-pulp, the combination, with the upper and lower casing, adapted to move independently of each other, of a series of forming-dies and grooved casings surrounding the latter, substantially as set forth.

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

JULIUS T. EDSON.

Witnesses:
JNO. CROWELL, Jr.,
ERNEST O. ORSBURN.