(No Model.)

# J. X. BROWNE.

## APPARATUS FOR MAKING STEREOTYPE MATRICES.

No. 332,873. Patented Dec. 22, 1885.

Fig. 1.

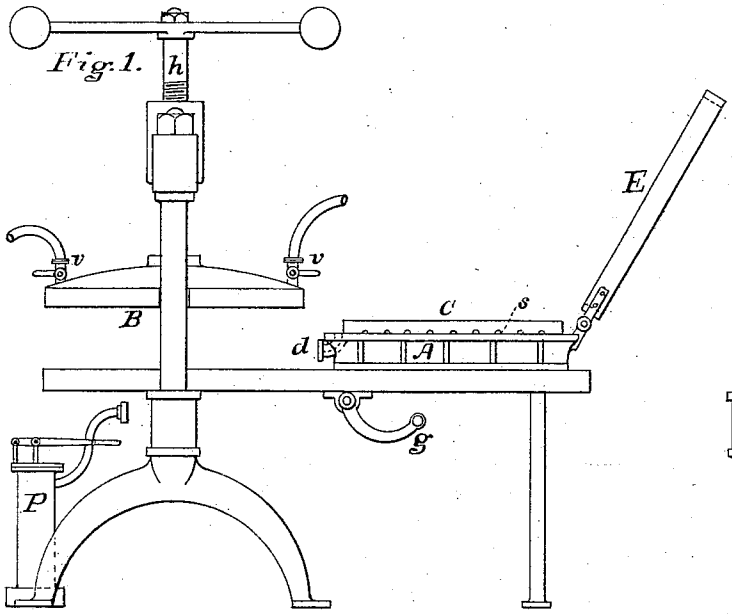



Fig. 2.

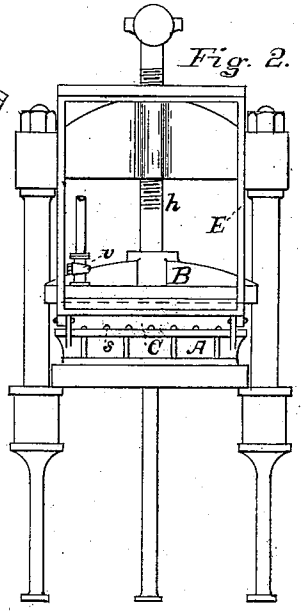



Fig. 3.

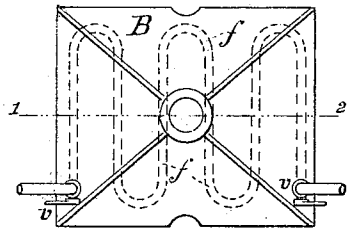



Fig. 5.

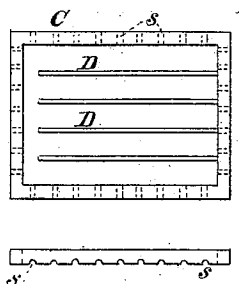



Fig. 6.

Fig. 7. Fig. 8.

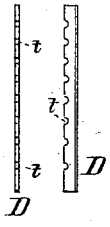
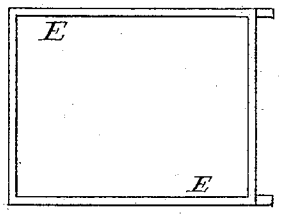



Fig. 9.



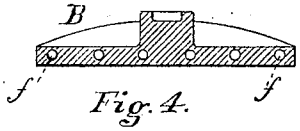




Fig. 4.

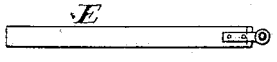



Fig. 10.

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# UNITED STATES PATENT OFFICE.

JOHN X. BROWNE, OF BROOKLYN, NEW YORK.

## APPARATUS FOR MAKING STEREOTYPE MATRICES.

SPECIFICATION forming part of Letters Patent No. 332,873, dated December 22, 1885.

Application filed April 9, 1884. Serial No. 127,216. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN X. BROWNE, a citizen of the United States, residing in the city of Brooklyn, county of Kings, and State of New York, have invented a new and useful Improvement in Apparatus for Making Stereotype Matrices, of which the following is a specification.

The nature of the present invention relates to improvements, as more fully hereinafter set forth, in the construction of machines for making matrices for stereotyping.

Figure 1 is an elevation in side view of a machine which resembles in appearance and construction a Washington printing-press. Fig. 2 is an end elevation of the same machine. Fig. 3 is a top view of the platen or upper plate of the press. Fig. 4 is a sectional view of the platen on the line 1 2, Fig. 3. Fig. 5 is a top view of the chase with several column-rules in the position they ordinarily occupy. Fig. 6 is a side view of the chase. Fig. 7 is a bottom view of a column-rule provided with the small perforations or grooves. Fig. 8 is a side view of a column-rule provided with the small perforations or grooves. Fig. 9 is a top view of the metal frame, constructed as hereinafter described; and Fig. 10 is a side view of the same frame.

Similar letters refer to similar parts throughout the several views.

A is the movable bed of the press, upon which is laid the form of type. I provide this bed with a nozzle, *d*, at one end, which may be connected to an air-pump, P, and there is to be an open communication or passage from the nozzle through the casting of the bed to its upper surface.

B is the platen, which serves also as a hot chest, and is constructed by casting it around a pipe, *f f f*, coiled or disposed in such manner that a hot liquid or gas may be conveyed by it through the platen, the lower face of which is thereby heated. Appropriate cocks or valves, *v v*, regulate the influx and efflux of the heat-conveying medium.

C is the chase, which differs from those now in common use only in that, to carry out the object of my invention, it is made with a number of small grooves or scores, *s s s*, across its lower edges.

D is a column-rule, which differs from those now in common use only in that, to carry out the object of my invention, it is made with a number of small grooves or scores, *t t t*, across its lower edges. These grooves or scores in both the chase C and the column-rules D are for the purpose of allowing the passage of air and vapor, and in Fig. 5 are shown several column-rules, D D, in the position which they ordinarily occupy in the chase C, by which it will be seen that any air or vapor within the innermost column of type could readily find its way through the scores in the column-rules to the scores in the chase, then to be disposed of as hereinafter described.

E is a metal frame which is intended, when in use, both to form the sides of an air-tight box and to serve as a stop to the descent of the platen, and thus prevent the crushing of the type. It is convenient in practice to hinge it to the side of the bed A, as shown in Fig. 1.

P is an air-pump of ordinary construction, to be operated either by hand or steam power, as may be most convenient.

To carry my invention into effect, I have the form of type made up with column-rules that have been scored on their bottom edges and inclosed in a chase similarly scored. I then place the form on the bed A of the press and cover it with suitable stereotype-paper made moist, on the top of which I spread an elastic cushion or soft blanket. Then I drop the frame E down upon the bed of the press, so as to completely surround the form, and, by means of the rounce *g*, I move the bed A, with the superimposed form and frame, to its proper place directly underneath the platen B, which has been previously heated by the passage of a hot substance through its internal pipe. Then I connect the suction-pipe of the pump P to the nozzle *d*, and by means of the screw *h*, working in the cross-head of the press, I force the heated platen down upon the elastic cushion or blanket, which in turn presses the stereotype-paper upon the surface of the type and forms the matrix. When the platen B has come down so far as to press upon the frame E, there is then formed, by the bed A of the press as a bottom, by the surrounding frame E as sides, and by the platen B as a top, a complete box inclosing the form of type and the matrix. The heated platen B vaporizes the moisture of the matrix, and I then exhaust the

air and vapor from the box thus formed, a free passage for the air, vapor, and water used to dampen the matrix from any part of the face of the matrix to the air-pump P being afforded by the grooves or scores on the bottoms of the column-rules and of the chase. A few moments suffice to dry the matrix, and upon its removal from the press it is ready for the caster.

I do not limit myself to the use of steam for heating the platen. Hot air, water, or any gas may be employed for this purpose. Nor do I limit myself to scores or grooves of any particular shape across the bottom edges of the chase and column-rules, even cuts made with the edge of a file answering the purpose.

I am aware that hollow chests have been used for heating purposes in lithographing, electrotyping, and stereotyping, and therefore I do not claim such a chest; but

What I do claim, and desire to secure by Letters Patent, is—

In a machine for making matrices for stereotyping, the combination of the following elements: a heated platen, B, bed A, provided with a hinged frame, E, chase C, provided with the grooves *s s*, and air-pump P, constructed and operating substantially as and for the purposes specified.

J. X. BROWNE.

Witnesses:
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