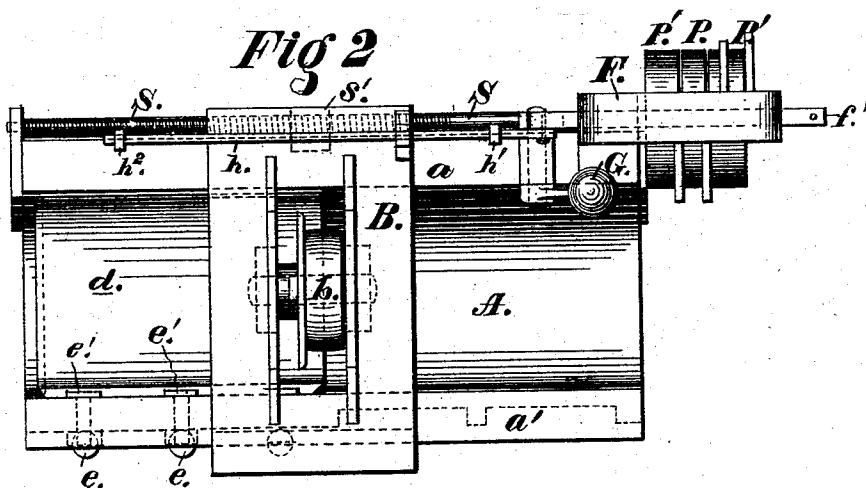
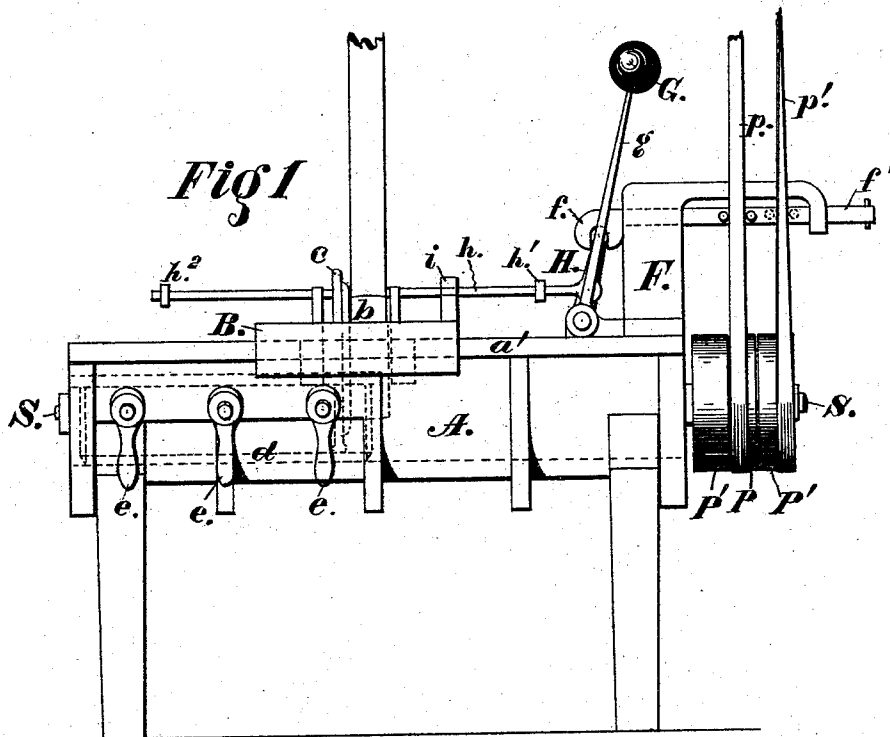


J. W. KELLBERG.

MACHINE FOR PLANING STEREOTYPE PLATES.

No. 172,325.

Patented Jan. 18, 1876.



Witnesses:

Stanley Williams
John Reif

Inventor:

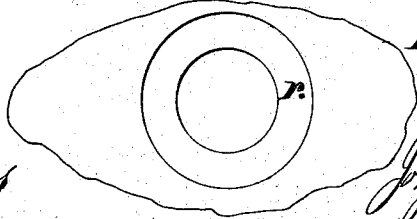
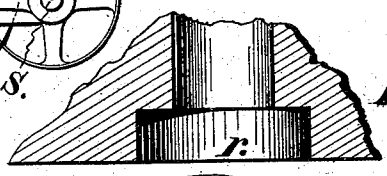
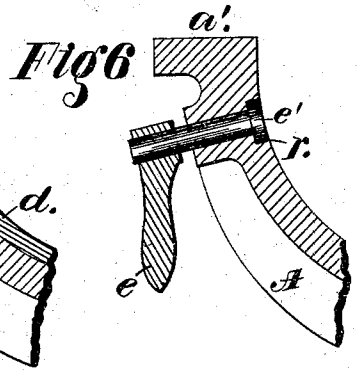
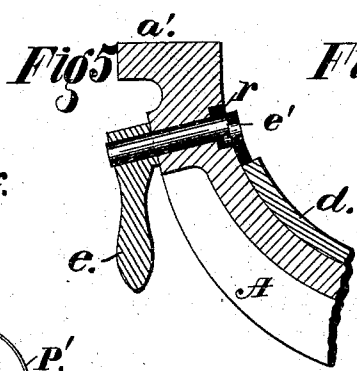
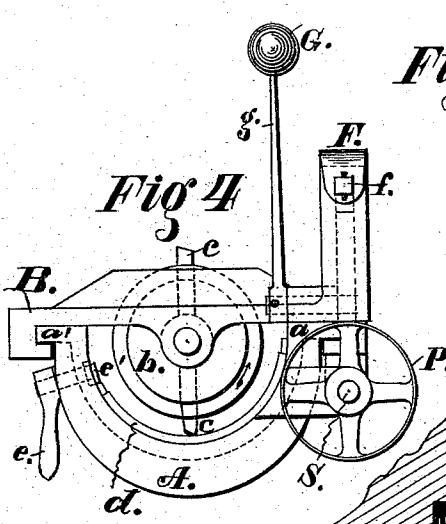
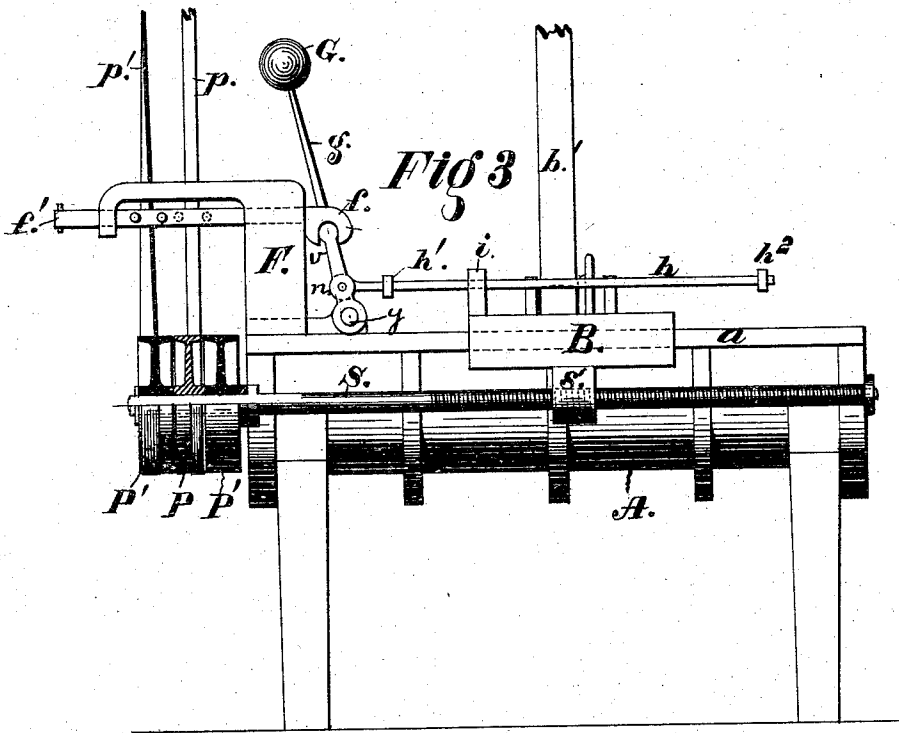
John W. Kellberg
by A. M. Hart, atty.

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Witnesses:

Stanley Williams
John Reif

Inventor:

John W. Kellberg
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UNITED STATES PATENT OFFICE.

JOHN W. KELLBERG, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN MACHINES FOR PLANING STEREOTYPE-PLATES.

Specification forming part of Letters Patent No. **172,325**, dated January 18, 1876; application filed November 4, 1875.

To all whom it may concern:

Be it known that I, JOHN W. KELLBERG, of Philadelphia, county of Philadelphia and State of Pennsylvania, have invented certain Improvements in Machines for Planing and Squaring the Ends of Segmental Stereotype-Plates, of which the following is a specification:

My improvement is intended for the preparation of circular stereotype-plates for the cylinders of the press, it being essentially important that such plates should be uniform in thickness and of even surface, and thus avoid the necessity of either overlaying or underlaying, and that the edges of the same should be exactly perpendicular to the axis and the periphery of the cylinder; and to accomplish these results with greater dispatch and facility is the object of this improvement.

My invention relates, in the first place, to a combination of devices by which the cutters, which plane the concave surface of the plate, are made to travel while the plate itself remains stationary; in the second place, to a combination of devices by means of which the direction of travel of the cutters is reversed automatically; and, in the third place, to another combination of devices by means of which the plate can be placed within the bed from the side, instead of the end, thereof, and can be fastened therein.

A more detailed description of my said improvement will be given, with reference to the accompanying drawings, in which—

Figure 1 represents a side elevation of a machine embracing the same, the front to the left; Fig. 2, a plan view of the same; Fig. 3, another side elevation thereof, the front to be the right; Fig. 4, a rear-end elevation; Fig. 5, a detail cross-sectional view of a part of the bed and of a plate, and containing an eccentric; Fig. 6, another like view of a part of the bed, containing an eccentric; and Figs. 7 and 8, like views of the recesses for the eccentrics.

A indicates the bed for the stereotype-plate, which is marked *d*. B is the sliding frame, which is provided with dovetail ways on its under side, to embrace and slide upon the rails *a' a'*, so that it cannot move out of line either vertically or laterally; and *b* is a belt-pulley, having its bearings in the sliding frame, and

it is driven by the belt *b'*, and upon the face of that pulley are fastened the cutters *c c*. The recesses *r r* in the inner surface of the bed A are made wide enough and deep enough for the eccentrics *e' e'* to be withdrawn into them, and so be out of the way, when a stereotype plate, *d*, is to be placed in the bed from the same side. The opposite edge of the plate *d* may abut against any projection on the bed, to prevent its yielding; but on the side where inserted the other edge of the plate is fastened and held by a series of eccentrics, *e' e'*, which are pushed through and turned by their handles *e e*; and where the peripheries of the eccentrics will not reach down to the edge of the plate, simple wedges may be used to go between them. The cutters *c c* are fed to the plate by means of the screw-shaft S, which has a screw-bearing in *s'*, projecting down from the sliding frame B, as shown, and is furnished with supports at each end in the main frame. The power to drive this shaft is communicated from above by means of two flat belts (one of which, *p'*, is crossed, and the other, *p*, is not) to a fast pulley, P, fixed upon the shaft S. *P' P'* are loose or idle pulleys, and are provided to carry the belts when the same are not in use.

When the belt *p* is on the fast pulley, and travels to the left, the shaft S drives the sliding frame, with the cutters, to the left; but when the cutters have reached the left end of the plate, then, by placing the crossed belt *p'* on the same pulley, the movement will be reversed, and so on.

F is a standard fixed upon the main frame, and it affords supports for the sliding rod *f'*. This rod, by means of pins, as shown, when moved back and forth endwise, will carry the belts *p p'*, and shift them on the pulleys *P' P'*, for the purpose of moving and reversing the direction of the sliding frame B, as hereinbefore stated; but, in order to give the proper movements to that rod, the end next the cutters is provided on the under side with a half-circular notch, which works loosely upon the top end of an upright arm, *v*, which, at its lower end, is fixed upon a horizontal revolving pin, *y*, which has its bearing in a projection from standard F. To the arm *v* is pivoted, at *n*, between its two extremities, another hori-

zontal sliding rod, *h*, which has its bearing in a post, *i*, on the sliding frame B, and has two stops upon it—one at *h*¹, and the other at *h*². Upon the inner end of the pin *y* is fixed a rod, *g*, which is loaded at its upper end with ball or weight G; and the use of this weight is to give momentum to the top of the arm *v* when the action of the sliding frame is to be reversed.

The result of these reversing devices is that, when the sliding frame B, in traveling to the left, brings its post *i* against the stop *h*² on the rod *h*, this rod, through the arm *v* and the rod *f*, will shift the open belt *p* from the fast pulley P, as shown in Fig. 3, to idle pulley P'; and the crossed belt *p'*, though drawn to some distance to the left, will still remain on its idle pulley P' on the right, the idle pulleys being much wider than the fast pulley, and then the feed-motion would cease, of course, but for the fact that the ball G, by reason of the impulse given it by the described movement, is carried beyond the perpendicular line, and then, by force of its weight, carries both belts to the left, and transfers the crossed belt from its idle pulley to the fast pulley P, and thus reverses the feed-motion. The rod *g* must, of course, have such length, and the

ball G such weight, in reference to the reversing devices, as best to effect the desired result.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of the bed A, sliding frame B, provided with screw-bearing *s* and with pulley *b* and cutters *c c*, and the screw-shaft S, substantially as and for the purpose described and set forth.

2. The combination of the sliding frame B, the horizontal sliding rod *h*, provided with stops *h*¹ and *h*², pin *y*, upright arm *v*, the rod *f*, provided with its horizontal belt-pins, and having its bearings in standard F, rod *g*, and weight G, substantially as shown and described, for the purpose set forth.

3. The combination of recesses *r r r* in bed A, large enough and deep enough to receive eccentrics *e' e' e'* wholly within them while a stereotype-plate is being inserted from the side of the machine, and the eccentrics themselves adapted to receive the plate from the side and hold it in position, substantially as shown and described.

JOHN W. KELLBERG.

Witnesses:

P. O'DONNELL,
F. L. ROEPKE.