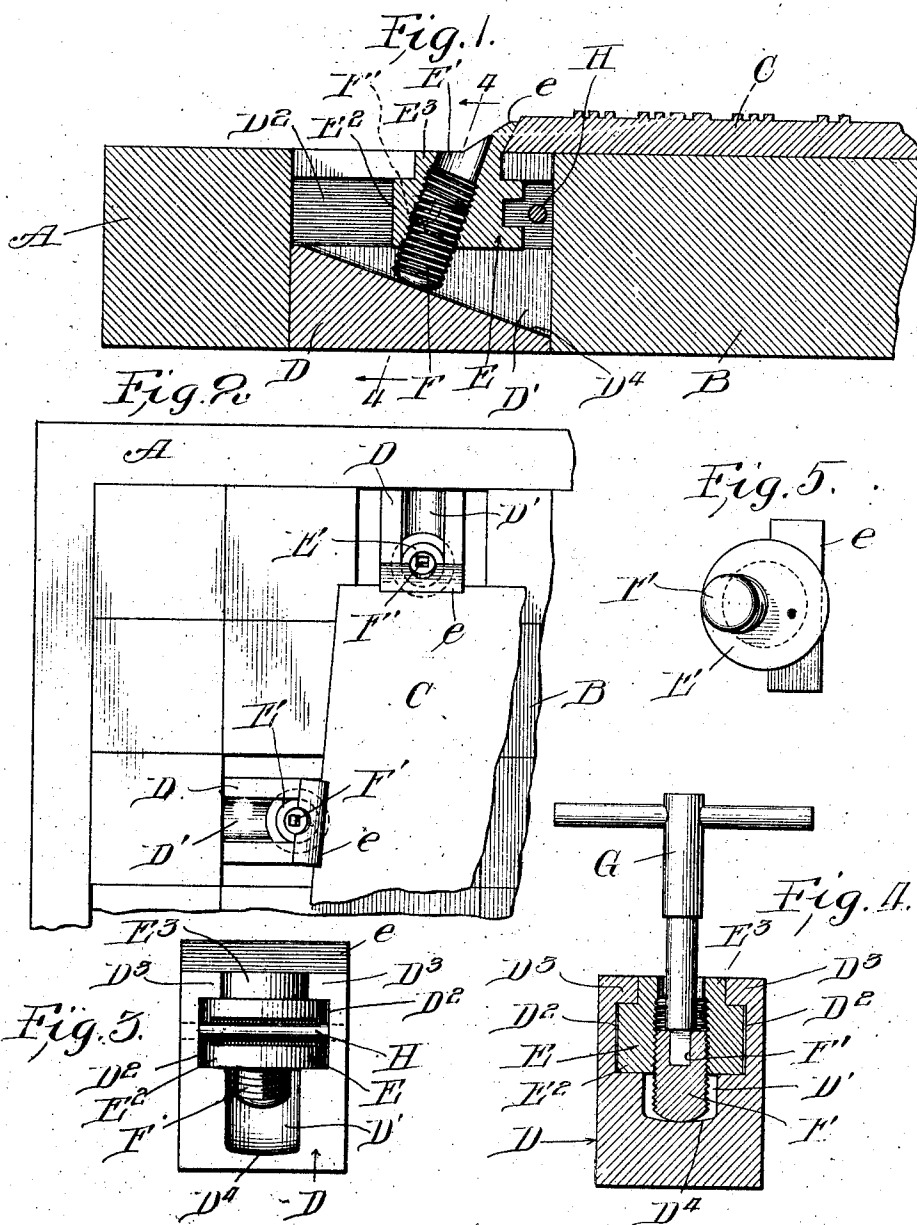


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 PRINTER'S PLATE HOOK.

APPLICATION FILED NOV. 9, 1911. RENEWED JULY 12, 1912.

1,043,105.

Patented Nov. 5, 1912.



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UNITED STATES PATENT OFFICE.

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PRINTER'S PLATE-HOOK.

1,043,105.

Specification of Letters Patent.

Patented Nov. 5, 1912.

Application filed November 9, 1911, Serial No. 659,270. Renewed July 12, 1912. Serial No. 709,066.

To all whom it may concern:

Be it known that we, MAX HOGE and JOHN W. PITT, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Printers' Plate-Hooks, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

The purpose of this invention is to provide an improved device of the character of a plate-hook for locking printing plates in a form.

It consists of the features of construction shown and described in the drawings as indicated in the claims.

In the drawings:—Figure 1 is a vertical section through a portion of a form with a plate-hook therein embodying this invention. Fig. 2 is a plan view showing a portion of a form with two similar plate-hooks positioned for holding a printing plate in the form. Fig. 3 is an end elevation of the plate-hook shown in Fig. 1. Fig. 4 is a section taken as indicated at line 4—4 on Fig. 1, and also showing a key or wrench in position for adjusting the clamping device. Fig. 5 is a detail of the jaw member, being a bottom plan view thereof.

In the drawings, A, represents one side of the chase; B, a base block in the frame; C, the printing plate thereon.

The plate-hook comprises a block or frame, D, of the height of the plate base, B, having a longitudinal channel or way, D¹, extending from end to end and opening up through the top of the block but not through the bottom, the opposite sides of said channel or way being provided toward the upper side with horizontal grooves, D², D². The hook or jaw, E, whose overhanging lip, e, is to engage the plate, C, is slidably mounted in the grooves, D², D², and is thus adapted for adjustment toward and from the plate, C. Such adjustment is accomplished by means of the controller screw, F, set in the jaw, E, with its axis perpendicular to the plane of the bottom wall of the channel, D¹, this bottom wall being inclined to the direction of the grooves, D², D², and to the direction of adjustment of the jaw, E. The threaded aperture in the jaw, E, which contains the adjusting controller screw, F, is continued upwardly in an aperture, E¹, through which the squared end of an oper-

ating key, G, may be inserted for engaging the squared recess, F¹, of the screw, and rotating the latter for adjustment of the jaw, E.

The above described construction is designed as an improvement upon that shown in the issued Patent, No. 989,153, in which the controller screw, F, was provided with a flange at its lower end, engaged in inclined guide slots; this necessitated the rotation of the screw for accomplishing any movement of the jaw, E, in either direction along the block, D. But, in the present construction, the jaw may be much more readily released from the plate, C, by rapidly unscrewing the screw, F, and sliding the jaw, E, out of engagement with the plate; and similarly, this arrangement allows of quicker adjustment of the jaw for securing the plate, C, such adjustment being made by merely sliding the jaw to the position in which its overhanging lip, e, engages the plate, C, when a slight turn of the controller screw, F, will serve to clamp the parts in position.

As a further improvement upon the form of the device shown in the above-mentioned Patent, No. 989,153, the portion of the jaw member, E, which is carried in the channel, D¹, is made circular in cross section so as to be rotatable therein. This circular part comprises the bottom flange, E², which is carried in the guide grooves, D², D², and the top of the jaw member just above this flange, indicated at E³, and positioned between the lips, D³, D³, of the block, D. This construction permits the clamping lip, e, to accommodate itself to any irregularity in the outline of the printing plate, C, when such outlines do not lie exactly perpendicular to the direction of the channel, D¹; this avoids the undue strain upon the lip, e, which would result if such accommodation were not possible.

It will be noted that the drawings show the bottom wall, D⁴, of the channel, D¹, as curved or rounded transversely. The purpose of this rounding of the bottom of the channel is to neutralize to some extent the effect which any slight rotation of the jaw member, E, within the channel, will have upon the angle at which the screw, F, meets the bottom of the channel. It will be understood that if the channel were made with a flat bottom, then the screw, F, would stand perpendicular to this bottom only when the

clamping lip, E, was positioned directly across the channel, and that any rotation of the jaw member, E, away from this position would cause the screw, F, to meet the bottom wall of the channel at an acute angle. If the bottom of the channel, D¹, could be so curved that when the jaw member, E, were rotated about its axis within the channel, the screw, F, would still stand perpendicular to the bottom wall, D⁴, and the entire force of the screw would be directed to clamping the printing plate and would not tend to create any undesired strains in the block, D. Although this condition cannot be perfectly fulfilled, the wall, D⁴, might be formed as the surface of a cone whose axis should be the path of the point of intersection of two axes, namely, those of the screw, F, and of the cylindrical jaw member, E, respectively,—the axis of such cone would thus be horizontal or at least parallel to the guide groove, D², D². Such a surface would prevent any side thrust from the screw, F, upon the guide groove, D², D², when the jaw member, E, were rotated away from its normal straight-ahead position, and would insure that the entire force of the screw was directed against the printing plate to be clamped. While it might not prove worth while to manufacture the block with the surface, D⁴, conforming exactly to this theoretical surface, it is found preferable to give it a curve approximating such a surface, and such a curve is shown in the drawings.

We claim:—

1. A printer's plate hook, comprising a block provided with longitudinally guide ways, and having an interior wall whose plane is oblique to the direction of such guide ways, a jaw member slidably mounted in the guide ways, and a clamping device on the jaw member adapted for movement toward and away from the oblique wall of the block and for exerting pressure thereagainst.

2. A printer's plate hook, comprising a block provided with longitudinally guide ways, and having an interior wall whose plane is oblique to the direction of such guide ways, a jaw member slidably mounted in the guide ways and having a threaded bore whose axis is perpendicular to the oblique wall of the block, and a clamp-screw engaged in said bore adapted for adjustment toward and away from said oblique wall.

3. A printer's plate hook, comprising a block having a longitudinal channel provided with longitudinally horizontal guide ways in its sides and a longitudinally sloping bottom; a jaw member mounted slidably in the horizontal guide ways and rotatable

therein about a vertical axis, said jaw member having a bore extending through it from top to bottom and threaded, and a screw engaged in said bore, accessible through the upper end of the bore for adjustment toward and from the sloping bottom wall of the channel.

4. A printer's plate hook, comprising a block having a longitudinal channel provided with longitudinally horizontal guide ways in its sides and a sloping bottom; a jaw member mounted in the horizontal guide ways, slidably and for rotation of the jaw about a vertical axis, said jaw member having an oblique bore extending through it from top to bottom whose axis is inclined in the direction in which the jaw faces, and a screw engaged with the threaded bore and accessible through the top of the bore for adjusting it toward and from the sloping bottom.

5. A printer's plate hook, comprising a block having a longitudinal channel provided with longitudinally horizontal guide ways in its sides and a sloping bottom; a jaw member mounted in the horizontal guide ways, slidably and for rotation of the jaw about a vertical axis, said jaw member having an oblique bore extending through it from top to bottom whose axis is inclined in the direction in which the jaw faces, and a screw engaged with the threaded bore and accessible through the top of the bore for adjusting it toward and from the sloping bottom, the bottom end of the screw being spherically curved for bearing at different angles upon the sloping bottom.

6. A printer's plate hook comprising, a block having a longitudinal channel provided with longitudinally horizontal guide ways in its sides, and a longitudinally sloping bottom; a jaw member mounted slidably in the horizontal guide ways and rotatable therein about a vertical axis, said jaw member having a bore extending through it from top to bottom and threaded, and a screw engaged in said bore accessible to the upper end of the bore for adjustment toward and from the sloping bottom wall of the channel, the said bottom wall of the channel being transversely concave and the end of the screw which operates thereagainst being spherically rounded.

In testimony whereof we have hereunto set our hands at Chicago, Illinois, this 28th day of October 1911.

MAX HOGE.
JOHN W. PITT.

Witnesses:

EDNA M. MACINTOSH,
M. GERTRUDE ADY.