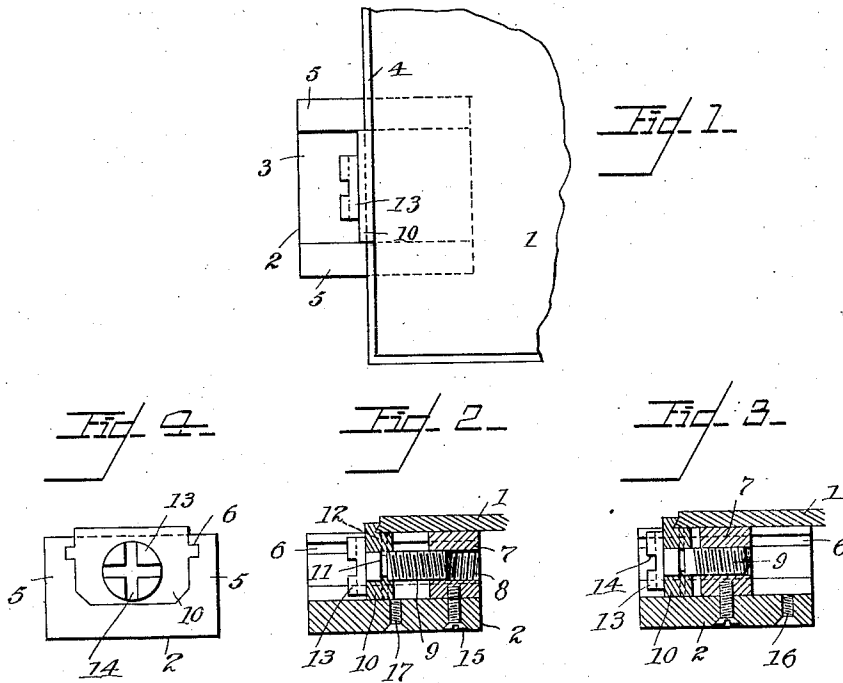


F. C. LEETHEM.
 PRINTER'S HOOK.
 APPLICATION FILED NOV. 10, 1911.

1,049,880.

Patented Jan. 7, 1913.



WITNESSES:

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PRINTER'S HOOK.

1,049,880.

Specification of Letters Patent.

Patented Jan. 7, 1913.

Application filed November 10, 1911. Serial No. 659,543.

To all whom it may concern:

Be it known that I, FRANK C. LEETHEM, a citizen of the United States, and resident of Middletown, in the county of Orange and State of New York, have invented certain new and useful Improvements in Printers' Hooks, of which the following is a specification.

This invention relates to the art of printing, and particularly to adjustable hooks for securing printing plates in the forms.

The hook belongs to the class of hooks described in my Patent #955,087, dated April 12, 1910.

An adjustable hook of this type comprises a channel block in which the hook proper is guided and adjustably mounted in such a way as to engage the edge of the printing plate overlying the block. The adjustment is effected by means of a screw disposed longitudinally in the channel. In order to effect the adjustment it is necessary to have one part fixed, so that as the screw rotates, the hook will travel along the channel.

The principal object of this invention is to produce a printer's hook of this character having a special construction which will operate to give an increased length of movement or travel of the hook in the block.

In the preferred form of hook described in my Patent #955,087, the screw is short, that is, shorter than the length of the block, and slugs or filling pieces are placed at the ends of the screw which fill the length of the channel and keep the screw from moving longitudinally; and the hook moves along the screw as a nut.

One of the objects of the present invention is to provide a construction enabling a hook of that character (having a short screw) to be given a wider range of travel, and without necessitating the employment of filling pieces or slugs in the channel.

The invention consists in the construction and combination of parts, to be more fully described hereinafter and particularly set forth in the claims.

In the drawing which fully illustrates my invention:—Figure 1 is a plan of the preferred form of the hook, showing it in engagement with the edge of the printing plate. Fig. 2 is a longitudinal vertical section through the hook shown in Fig. 1, and showing the printing plate in section. Fig. 3 is a view similar to Fig. 2, but showing the

parts of the hook in a changed relation, which shifts the location of the travel or clamping movement of the hook; and this view shows part of the plate in section. Fig. 4 is an end view of the hook shown in Figs. 2 and 3.

When the hook is in use the printing plate 1 lies upon its upper face as illustrated in Fig. 1. The hook comprises a body or block 2 which is of channel form, that is, it presents a wide channel 3 which extends longitudinally of the block and at right angles to the edge 4 of the printing plate which the hook engages. On account of its channel form, the block 2 presents upwardly extending side walls 5, and on the inner faces of these side walls longitudinally disposed grooves 6 are formed.

In the preferred form of the hook, I provide the channel 3 with a cross-head or nut 7 which is in the form of a slug which fits the outline of the channel and extends into the grooves 6, and is adapted to slide longitudinally in the channel. This nut or cross-head has a threaded opening 8 to receive an adjusting screw 9 extending longitudinally in the channel and projecting from the threaded opening 8. This screw has a swivel connection with the hook proper or hook 10 which slides freely in the channel; said swivel connection may be formed by means of the circumferential groove 11 in the shank of the screw which receives a pin 12 which is driven through the hook. Beyond the hook 10 the screw is formed with a head 13 having cross-cuts 14 to enable the screw to be rotated. The cross-head 7 is secured at one end of the channel by means of a removable screw 15 which passes up through the base of the block 2 as illustrated in Fig. 2. This screw passes through the threaded opening 16 which is at such a distance from the end of the block that when the cross-head is held in this way, the outer face of the cross-head will be flush with the adjacent end of the block. A similar threaded opening 17 is formed in the base of the block at the mid-length of the channel. From this arrangement it will be evident that when desired, the cross-head 7 may be shifted from the position shown in Fig. 2 to the position shown in Fig. 3; this change secures the cross-head in a new position and enables the hook 10 to move completely out to the end of the channel in the block, and gives it a new

range of movement or capacity. The head of the screw 5 is counter-sunk in the base of the block.

Special attention is also called to the fact that the hook of the form described is a self-contained hook, that is, it does not depend upon the locked-up parts to hold the adjusting screw in position.

Special attention is called to the fact that the crosshead 7 is clamped rigidly in position by a vertically inserted screw, so that the clamp force is a vertically applied force pressing the crosshead down against the bottom of the channel. This clamp arrangement is very advantageous for the reason that it does not tend to force the crosshead sidewise to press it against the side wall. Pressing the crosshead laterally or sidewise, as suggested, would tend to disturb the alignment of the hook 10, and would tend to shift the hook slightly, having a tendency to make the hook press ununiformly. That is, it would have a tendency to increase the binding force of the hook at one end of the hook and decrease the clamping force at the other end.

What I claim and desire to secure by Letters Patent is:

1. A printer's hook consisting of a block having a channel on the upper side thereof, extending completely through the same, a

crosshead conforming to the cross-section of said channel and arranged to slide therein, said crosshead having a threaded opening extending completely through the same longitudinally with said channel, means independent of said crosshead mounted in the wall of said block for securing said crosshead directly to the bottom of said channel, a hook sliding in said channel, and an adjusting screw mounted in said threaded opening for adjusting said hook.

2. A printer's hook consisting of a block having a channel on the upper side thereof extending completely through the same, a crosshead in said channel conforming to the outline of the interior of said channel, said crosshead being adapted to slide into the end of said channel and to slide longitudinally therein, and a set screw counter-sunk in the under face of said block and engaging said crosshead to lock the same in said channel, a hook sliding in said channel, and an adjusting screw mounted in said crosshead for adjusting said hook.

Signed at New York, in the county of New York and State of New York this 20th day of October A. D. 1911.

FRANK C. LEETHEM.

Witnesses:

CHAS. H. TOPPING,
A. W. PALMER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."