Nov. 1, 1932. E. E. THIEL 1,885,965

PRINTER'S REGISTERING DEVICE

Filed May 16, 1929

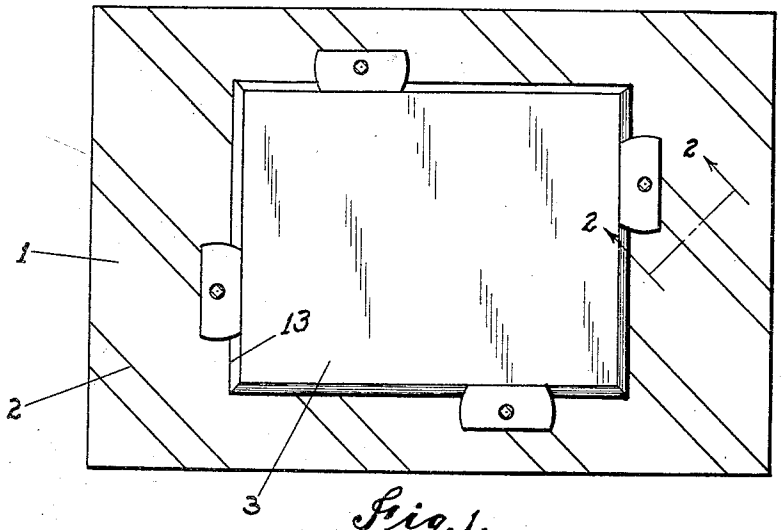


Fig. 1.

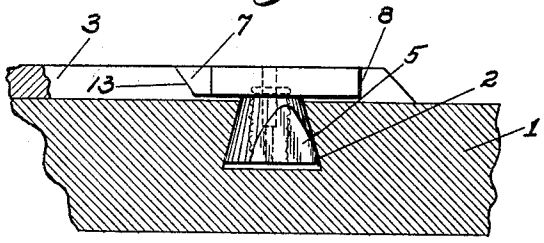


Fig. 2.

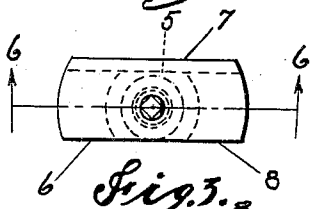


Fig. 3.

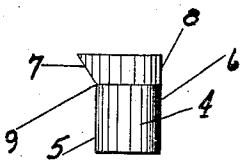


Fig. 4.



Fig. 5.

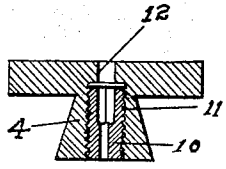


Fig. 6.

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UNITED STATES PATENT OFFICE

EMIL E. THIEL, OF CINCINNATI, OHIO, ASSIGNOR TO THE PRINTING MACHINERY COMPANY, OF CINCINNATI, OHIO, A CORPORATION OF OHIO

PRINTER'S REGISTERING DEVICE

Application filed May 16, 1929. Serial No. 363,575.

My invention relates to printers' registering devices which are adapted to be dropped in the groove of a printing plate support or foundation plate and tightened against the printing plate to retain the same during the printing operation.

It is the object of my invention to provide a simple drop-in hook for use with a printing plate support having grooves narrower at the top than at the bottom, which may be dropped in position without any adjustment and which, by the manipulation of a screw within the device, may be adjusted tightly against the edge of a printing plate.

Another object is the provision of a drop-in hook or registering device composed of only two parts—a solid support and hook—and a single adjustment screw. Another object is the provision of a registering device which, when the clamping jaw is against the edge of the plate, will enforce a locking engagement with the sides of the groove.

The above and other objects to which reference will be made in the ensuing disclosure, I accomplish by that certain combination and arrangement of parts of which I have shown a preferred modification.

Referring to the drawing:—

Figure 1 is a plan view of a printing plate showing a group of four registering devices retaining a printing plate.

Figure 2 is a sectional view of the combination shown in Figure 1 taken along the lines 2—2.

Figure 3 is a plan view of the registering device.

Figure 4 is a side elevation of the device.

Figure 5 is a front elevation of the device.

Figure 6 is a sectional view of the device taken along the lines 6—6 in Figure 3.

The printing plate support or foundation plate illustrated is a flat plate 1 having grooves 2 therein which are truncated in cross section, narrower at the top than at the bottom. Ordinarily the foundation for the printing plates is in the form of a roller in which the grooves are endless and the registering devices must be of such construction that they will fit in by dropping within the groove rather than by being inserted at the open end of a groove and worked forward to position against the edge of the printing plate.

The printing plate 3 must be accurately supported on the foundation during the printing operation and great care is necessary in positioning the plate and holding it firmly in position. As a great number of the registering devices is necessary the cost of manufacture is an important matter, and as noted, one of my objects is the provision of as inexpensive device as will adequately serve its purpose.

The registering device is composed of a solid piece having a body 4 which is in the form of a truncated cone with flattened sides 5, 6. The clamping hook has one edge provided with an inclined undercut face 7 and the other edge 8 may be straight, as indicated. The flattened face 6 of the frusto-conical body 4 preferably extends in alignment with the straight edge 8, and the other flattened side 5 extends to the lower edge 9 of the inclined face 7.

The device has a bore through it axially of the body 4, and the lower part of the bore is threaded and has a screw 10 screwed therein, having a squared socket 11 in its upper end, into which a wrench pin may be inserted through the upper end 12 of the bore.

It will be noted that the groves 2 in the foundation plate extend diagonally relative to the sides and ends of the printing plate, and therefore, as long as the clamping jaw is parallel with the flattened sides of the body of the device, when the jaw is aligned against the side or end of a plate, the rounded conical sides of the body will project in under the tapering side walls of the groove against which walls they will bear with the walls tangent to the conical sides when the screw is turned down.

Looking at the body of the device as shown in Figures 5 and 6, the shape of the frustum formed by the body will be substantially the same as the shape of the groove while looking at the drop-in hook endwise, as in Figure 4, the distance apart of the flattened sides 5 and 6 will be just enough to clear the distance between the walls at the top of

the opening in the groove. Thus, to insert the hook in a groove all that is necessary is to hold it with the flattened sides of the body parallel with the edges of the walls outlining the opening at the top of the groove. After the body is in the groove the device is turned so that the tapered conical walls of the body will extend in under the overhanging walls of the groove.

As the screw 10 is turned down with the wrench pin the lower end of the screw bears against the base of the groove and the body is permitted to be rocked toward the plate slightly by its line contacts against the overhanging tapered walls of the groove, causing the clamping face 7 of the jaw to press laterally and downwardly against the inclined edge of a wall of the plate as the screw is tightened.

It is important that the screw be turned down tightly because if the body becomes displaced the device is liable to fall out and ruin a printing plate. Modifications in structure in which the same inventive principle involved is employed will readily occur to those skilled in the art, but insofar as such modifications represent no more than mechanical changes in size and shape, I consider such modifications within the scope of my invention.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A clamping member for a printer's registering device comprising a body in the shape of a truncated cone and a hook part fixed on the small end of said body and extending laterally therefrom, and pressure means extensible from the large end of said body.

2. A clamping member for a printer's registering device comprising a body in the shape of a truncated cone with opposite flat sides parallel with the axis of the cone, and a hook part fixed to the smaller end of said body and extending laterally therefrom substantially at right angles to said axis, and pressure means extensible from the large end of said body.

3. A clamping member for a printer's registering device comprising a body in the shape of a truncated cone with opposite flat sides parallel with the axis of the cone, and a hook part fixed to the smaller end of the body and extending laterally therefrom substantially at right angles to said axis and having an engaging face substantially parallel with one of said flat sides, and pressure means extensible from the large end of said body.

4. A clamping member for a printer's registering device comprising a body in the shape of a truncated cone and a hook part fixed on the small end of said body and extending laterally therefrom, said body having an opening axially therethrough, and a clamping screw threaded into the part of the opening next to the large end of said body and extensible from said large end and provided with means engageable for turning it by an instrument inserted into the opening at said small end of the body.

5. In a printer's registering device, in combination with a base member having a plate-supporting surface and a groove opening through said surface with straight sides converging toward said surface, a clamping member comprising a truncated-cone shaped body fitting in said groove and a plate-engaging hook part fixed on the small end of the body and extending laterally therefrom across said surface, said body having an opening axially therethrough, and pressure means operatively engageable through the opening at the small end of the body and extensible from the opening at the large end of the body against the bottom of the groove.

6. In a printer's registering device, in combination with a base member having a plate-supporting surface and a groove opening through said surface with straight sides converging toward said surface, a clamping member comprising a truncated-cone shaped body fitting in said groove and a plate-engaging hook part fixed on the small end of the body and extending laterally therefrom across said surface, said body having an opening axially therethrough, and a clamping screw threaded into the part of said opening next to the large end of said body and extensible from said large end against the bottom of the groove and provided with means for turning it by an instrument inserted into the opening at the small end of said body.

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