(No Model.)

T. G. RUTH.

PERFORATOR FOR PRINTING PRESSES.

No. 245,565. Patented Aug. 9, 1881.

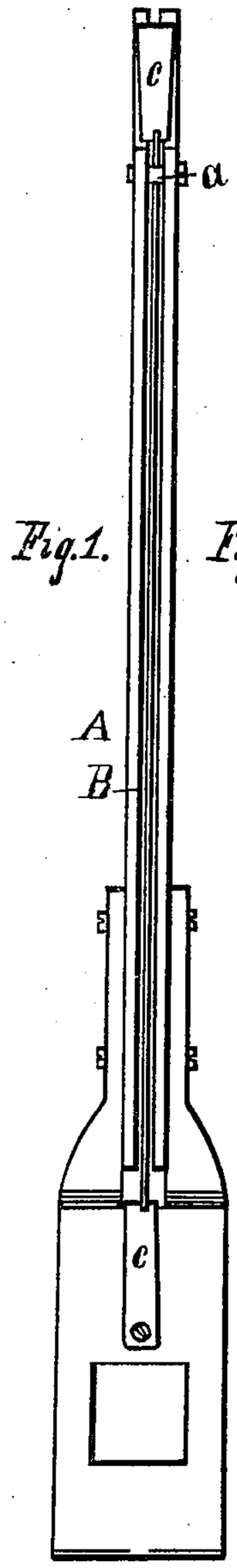

Fig. 1.

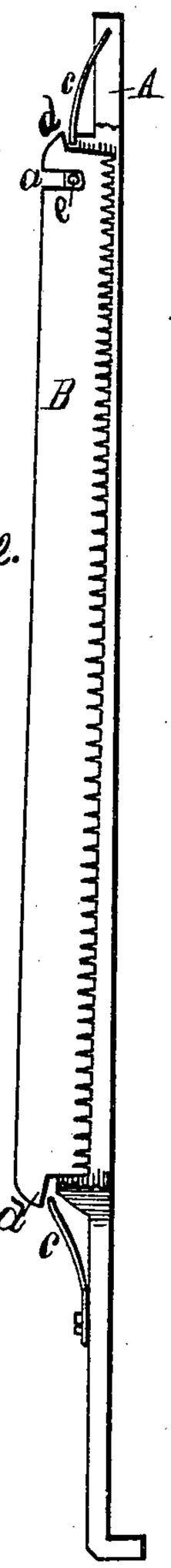

Fig. 2.

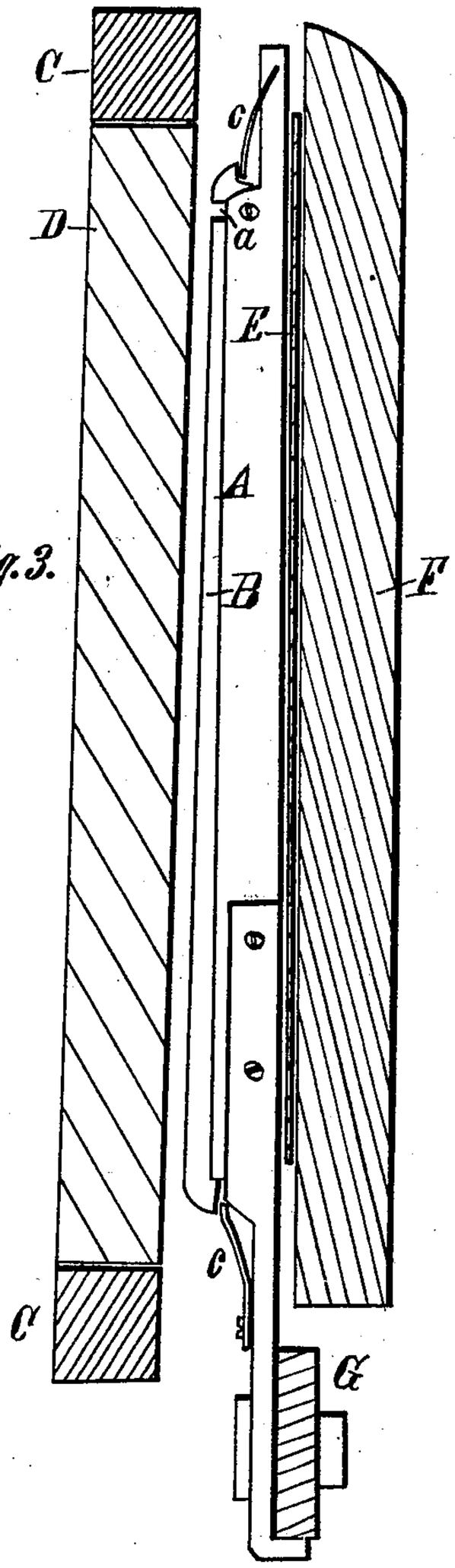

Fig. 3.

WITNESSES:

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UNITED STATES PATENT OFFICE.

THEODORE G. RUTH, OF STERLING, ILLINOIS, ASSIGNOR OF ONE-HALF TO WILLIAM F. EASTMAN, OF SAME PLACE.

PERFORATOR FOR PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 245,565, dated August 9, 1881.

Application filed February 3, 1881. (No model.)

To all whom it may concern:

Be it known that I, THEODORE G. RUTH, of the city of Sterling, in the county of Whiteside and State of Illinois, have invented a new and useful Improvement in Perforating-Gripers for Printing-Presses, which improvement is fully set forth in the following specification and accompanying drawings.

My invention relates to that class of printing-presses known as the "platén-press;" and it consists, essentially, of a bifurcated griper provided with a strip of perforating-rule working automatically in a slot of such griper, and which said griper is provided with a spring or series of springs so arranged as to cause the perforator to automatically disengage itself from contact with the paper after the perforation has been made and before the griper releases the paper to the platen.

There are several serious objections to perforators now in use which I have in my invention sought to obviate with marked success. The ordinary method now in use for making perforations on paper in the process of being printed by means of the platen-press is to lock the perforating-rule tightly in the form, allowing the cutting-edge of the perforator to project slightly above the type in the form. While by this method the paper is properly perforated, yet it is subject to serious objections, several of which I deem it necessary to notice. In the operation of the platen printing-press the inking-rollers are passed over the face of the type in the form, and necessarily over the sharp cutting-edge of the perforating-rule, and as no two jobs of printing are likely to be of the same size, the inking-rollers are soon cut to pieces by the perforating edge of the rule wherever it comes in contact with them. Another objection is that the perforating-edge of the rule is inked at the same time with the face of the type, and in perforating the paper always leaves a black inky line along the perforations, thus marring the looks and decreasing the salability of fine work. Still another objection to the present method is that, the ink being in its nature somewhat adhesive, some force is necessarily imparted by the grippers to release the paper from the face of the type, and the perforator having been forced through the paper, the latter, in being taken from the face of the type, is frequently torn along the line of perforations, and thus rendered useless, and is a source of great loss to the printer.

In the drawings, Figure 1 is a plan view of my invention. Fig. 2 is a side view of the same with the side cut away, showing the perforating-rule in position for operation. Fig. 3 is a vertical sectional view of the ordinary form, platen, and griper-bar of a platen printing-press, showing my invention in its proper relation thereto.

A is a griper, made of any suitable material, and consisting either of two plates fastened to a foot of the proper conformation and lying parallel to each other, with a sufficient space between their inner surfaces to allow of the free working of the perforating-rule, or of a single bar of metal sawed longitudinally through its center sufficiently to permit the perforating-rule to operate therein.

B is a strip of ordinary perforating steel rule fashioned to conform to the ordinary length and shape of the griper A. The griper A is provided with the plate-springs *c c*, fastened at either end of the griper, and which, in their operation, hold the perforating-rule B in its proper position when not in contact with the paper it is designed to perforate. The rule B is provided at each of its ends with the shoulders *d d*, which in operation act upon the springs *c c*, forcing them downward, so as to allow the cutting-edge of the rule B to engage the paper, and against which shoulders the springs *c c* act to disengage the rule B from the paper when the pressure is removed. The rule B is also provided with slot *a* at or near its forward end, through which is passed the screw *e*. The screw *e* serves the double purpose of holding the front or upper end of the two plates of the griper rigidly in their relative positions, and of a stop to the operation of the forward spring, *c*, in forcing the rule from its contact with the paper.

C is the ordinary form of a printing-press, into which the type is locked preliminary to taking an impression, and D an ordinary strip

of metal furniture locked with the type in the form any desired distance below the face of the type.

F is the platen, and E a sheet of paper in position thereon. G is a common griper-bar.

In operation my invention holds the same relation to a platen-press as does the ordinary griper.

In the process of printing and perforating paper, using my invention, the paper E is placed upon the platen F, and is thereby carried forward toward the form of type. On the way it encounters the griper A, which holds it firmly to the platen and all move forward to the form. When the platen, paper, and griper reach the form the rule B comes in contact with the metal furniture D, which presses the rule B against the springs *c c*, forcing them to give way sufficiently to permit the rule to pass through the slotted griper and into contact with the paper E, which it then perforates. As the platen starts back to its original position and its pressure is removed from the form the springs *c c* act at once to throw the rule B from its contact with the paper, while the griper still retains its hold upon the paper until subsequently released by the action of the press upon the griper-bar G in the ordinary way.

I do not confine myself to the form of spring shown in the drawings and herein described, as any form of spring may be used for the purpose described, and may be attached to any part of the griper. A single spring on the top of the griper working against a lug in the rule B would perform the same functions.

I am aware that different forms of gripers and perforators are in use; but

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The bifurcated griper A, the perforating-rule B, and the springs *c c*, arranged and operating substantially as shown and described.

2. In a printing-press, the combination of the griper A, screw *e*, rule B, provided with springs *c c*, the slot *a*, and shoulders *d d*, and griper-bar *g*, all substantially as arranged, and for the purpose mentioned.

THEODORE G. RUTH.

Witnesses:
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