

No. 646,184.

Patented Mar. 27, 1900.

J. A. LOFSTEDT.
PERFORATING RULE.

(Application filed Aug. 4, 1899.)

(No Model.)

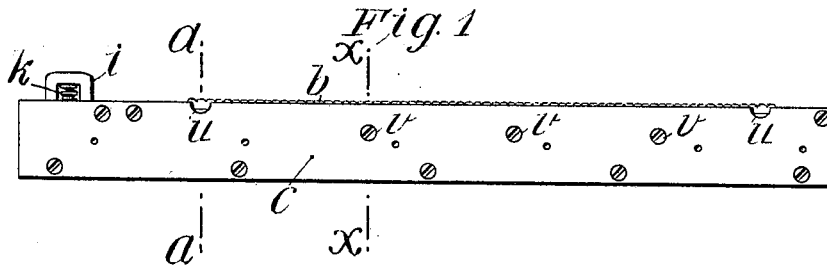


Fig. 2.

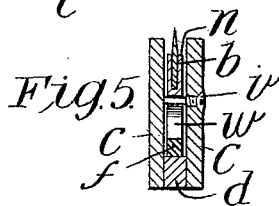
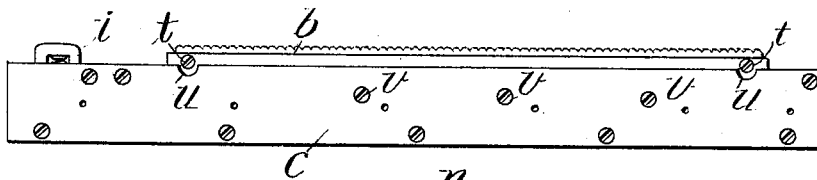


Fig. 3.

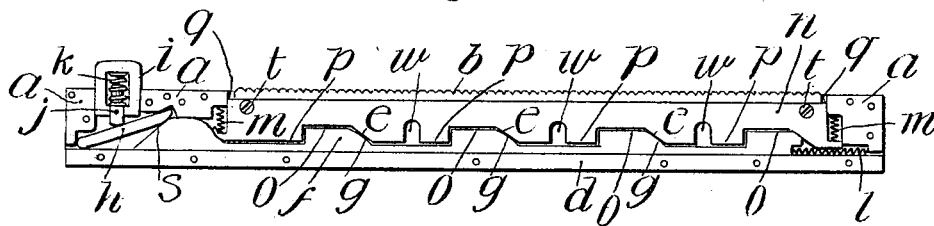
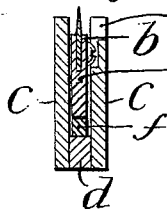


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

JULIUS AUG. LOFSTEDT, OF YONKERS, NEW YORK.

PERFORATING-RULE.

SPECIFICATION forming part of Letters Patent No. 646,184, dated March 27, 1900.

Application filed August 4, 1899. Serial No. 726,142. (No model.)

To all whom it may concern:

Be it known that I, JULIUS AUG. LOFSTEDT, a citizen of the United States of America, and a resident of Yonkers, county of Westchester, and State of New York, have invented certain new and useful Improvements in Perforating-Rulers, of which the following is a specification.

My invention relates to perforating-rulers for use in type-forms for automatically perforating the paper when the impressions are made to facilitate separating the printed pages; and it consists of improvements in the construction of devices whereby the perforating-blade is made to drop below the surface of the type-form to prevent it from marking the paper and for avoiding injury to the inking-rolls and to rise and be effectively supported to perforate the paper when the platen descends to make the impressions, as herein-after described, reference being made to the accompanying drawings, in which—

Figure 1 represents a side elevation of my improved perforating-ruler with the perforating-blade in the lower position, as when the inking-rolls are to be operated. Fig. 2 is a side elevation of the said ruler with the perforating-blade in its upper position for receiving the pressure of the platen and perforating the paper. Fig. 3 is a side elevation with the front side plate removed to show the construction and arrangement of the means for operating the perforating-blade. Fig. 4 is a transverse section of the ruler on line *a a*, Fig. 2. Fig. 5 is a transverse section on line *x x*, Fig. 3.

The perforating-blade *b* is located between two side plates *c*, bolted to the spacing-strip *d*, and spacing-pieces *a* being fitted in the grooved upper edge of a stiffening-plate *n*, which has several inclinations *e* in its lower edge, under which is a sliding bar *f*, having corresponding inclines *g* on its upper edge for acting on the inclines *e* of the blade-holding plate when shifted along under them and thrusting said blade up. Said sliding bar *f* also has facets *o* at the upper extremities of its inclines *g*, and plate *n* has corresponding facets *p* at the lower extremities of its inclines *e*, forming bearings whereby plate *n* is firmly supported at intervals along its length under the pressure of the platen.

The plate *n* has end bearings at *q* against spacing-pieces *a* to prevent it from moving lengthwise, and at each end is a spring *m* to force it down when released by the lifting-bar *f*.

As thus far described the construction is practically the same as in some other perforators and is not herein claimed as new.

To obtain sufficient lengthwise movement of the lifting-bar *f* for raising the perforating-blade with the necessarily-limited movement of the push-stud *i* on which the platen acts to operate said lifting-bar, said bar is formed with the incline *s* at the extremity next to the push-stud, between which and the end of the space in which the lifting-bar slides is a power-transmitting bar *n*, normally resting at one end in the angle between the spacing-bar *d* and the spacing-piece *a* and at the other end on incline *s* at its upper extremity, over which bar and intermediately of its ends the push-stud is located, so as to be thrust onto the bar and force its end resting on incline *s* down said incline, and thus force the bar along under plate *n* to raise it.

The bearing of the push-stud on bar *h* is about half the height of the incline *s*, while the end of bar *h* is made to move the full height of the incline, making considerably-greater lengthwise movement of the lifting-bar than if the push-stud acted directly on the incline *s*, thus obtaining the requisite lengthwise movement of the lifting-bar with a push-stud of very limited movement.

The movement of the push-stud is limited, because of the limited depth of the type-form affording but little space for it and because it is also desirable to employ a yielding push-stud to lessen the shocks and that will, after having effected the rise of the perforating-blade, yield while the platen completes its movement, for which there must be a little allowance, this being a contrivance to avoid the necessity of such accurate construction as would have to be if a rigid push-stud were used, and this yielding action is a further limitation to the movement of the push-stud. Such a yielding stud may be constructed in various ways; but in this example I have provided a striking-plunger *j*, slidable in the main part *i*, with a coiled compression-spring *k*, to be compressed between the plunger and

the part *i*, and thus ease the shocks. A retracting-spring *l* is provided to force the lifting-bar back and permit the perforating-blade to fall when the platen rises and relieves the push-stud.

5 The perforating-blade is notched in its edge, as usual. It is secured in the groove of plate *n* by screws *t*. The side plate *c* is notched at *u* to facilitate the use of a screw-
10 driver when the perforating-blade is to be removed. Stud-screws *v* are set in one side plate to bear against the inside of the other plate to prevent springing of the side plates and pinching plate *n* when the ruler is keyed
15 up in the type-form. Plate *n* is notched at *w* for these screws.

Instead of bolting the side plates *c* to the spacing-strip *d* said side plates and spacing-strip may be produced by placing a groove in
20 a solid piece.

In practice a piece of sheet-brass will be pasted on the tympan-sheet of the platen to act on the push-stud; but this forms no part of the invention claimed.

25 The perforating-blade is removably fitted in the plate *n* for removing, for sharpening, and renewal, as may be required.

The manner of using such perforating-rulers in type-forms is common and well
30 known and need not be shown in the draw-

ings, the invention being confined to the construction of the ruler.

What I claim as my invention is—

1. In a perforating-ruler, the combination with the perforating-blade, *b n*, having the
35 series of inclines *e* and facets *p* in its lower edge, and the lifting-bar *f* having the series of inclines *g* and facets *o* in its upper edge, and the inclined extremity *s*, of the power-transmitting bar intermediate of the inclined
40 extremity *s*, and the end spacing-piece, the push-stud and the retracting-spring, said stud adapted to act on said bar intermediate of its ends.

2. In a perforating-ruler, the combination 45 with the perforating-blade, reciprocating blade-lifting bar, power-transmitting bar and retracting-spring, of the push-stud having the yielding plunger and compression-spring.

3. The combination with the side plates *c*, 50 plate *n* and spacing-strip *d*, of the stud-screws *v* adapted to stay the side plates against compression, said plate *n* being notched for said stud-screws.

Signed by me at New York, N. Y., this 17th 55 day of July, 1899.

JULIUS AUG. LOFSTEDT.

Witnesses:

A. P. THAYER,
C. SEDGWICK.