

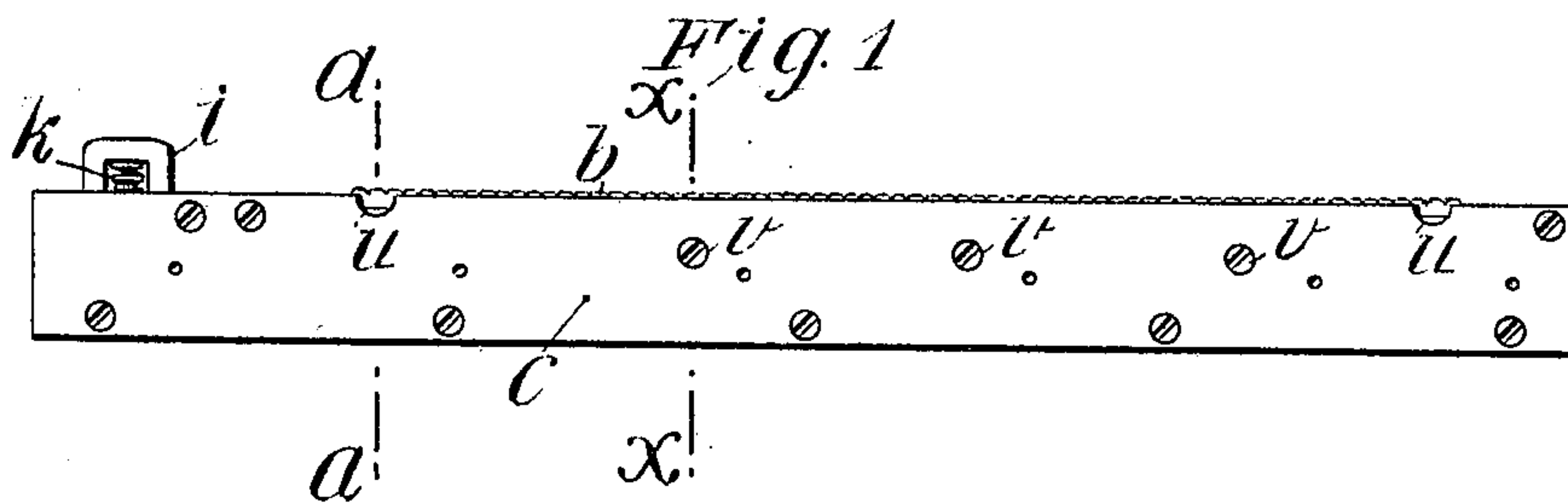
**No. 646,184.**

**Patented Mar. 27, 1900.**

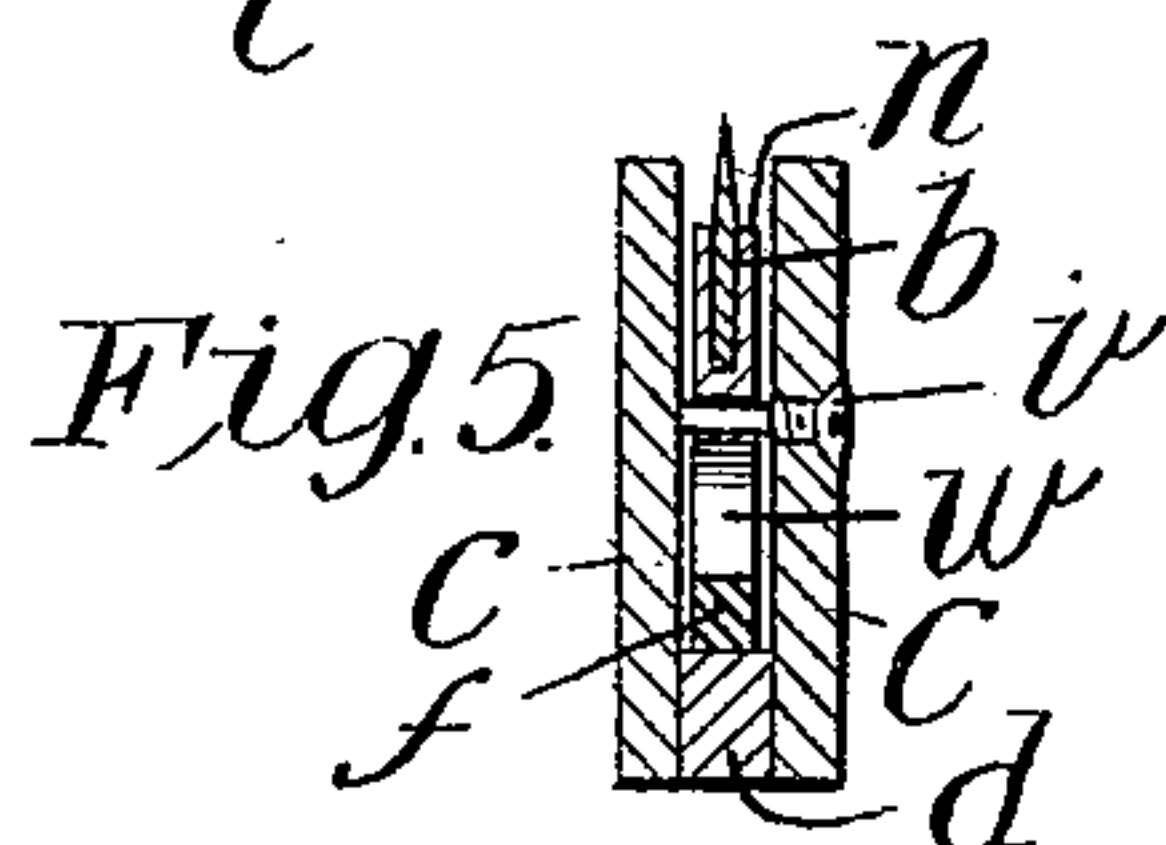
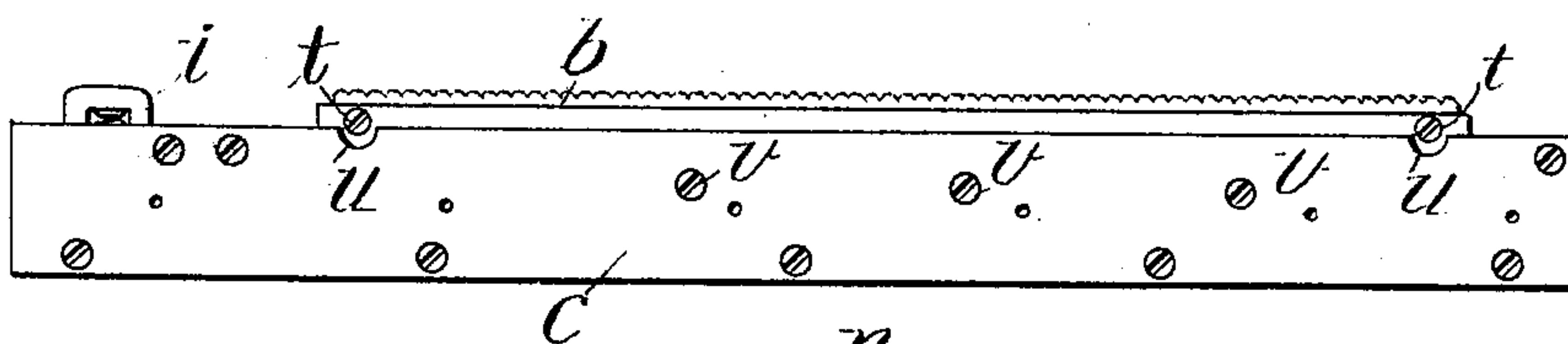
**J. A. LOFSTEDT.**  
**PERFORATING RULE.**

(Application filed Aug. 4, 1899.)

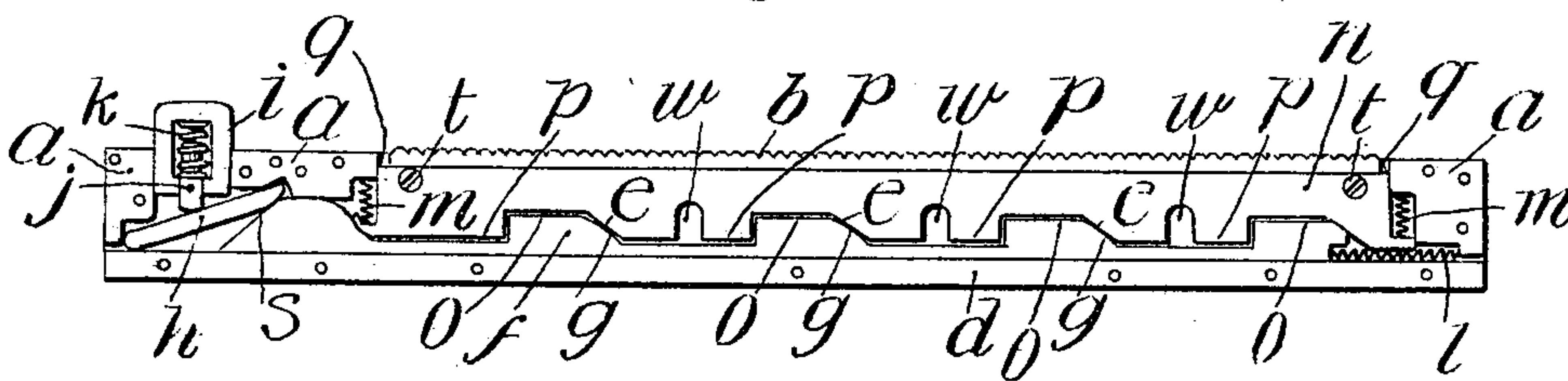
(No Model.)



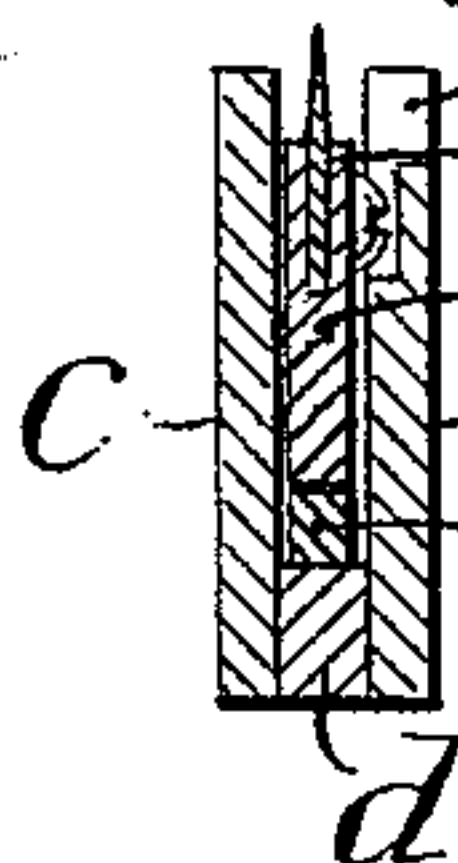
*Fig. 2.*



*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 hereinafter 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 *h*, 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.

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-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 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 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.

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 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 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 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 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*, 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 day of July, 1899.

JULIUS AUG. LOFSTEDT.

Witnesses:

A. P. THAYER,  
C. SEDGWICK.