

(No Model.)

G. H. SLOCUM & W. J. GAMBLE.
PERFORATING ATTACHMENT FOR PRINTING PRESSES.

No. 454,232.

Patented June 16, 1891.

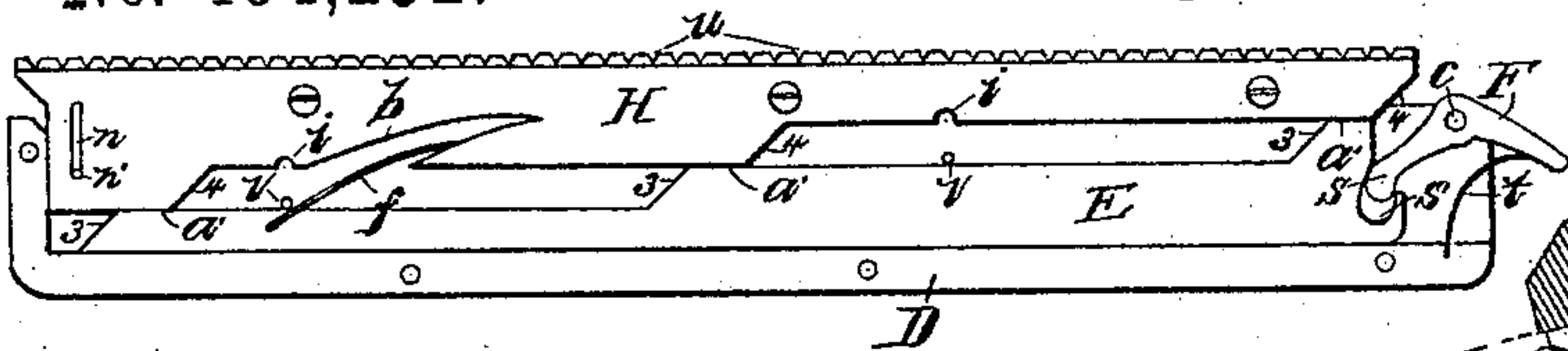


Fig. 4.

Fig. 1.

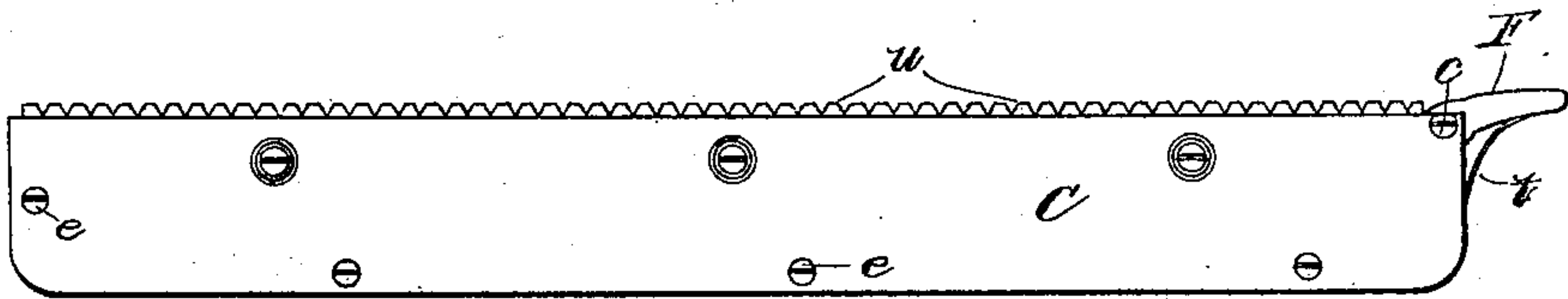
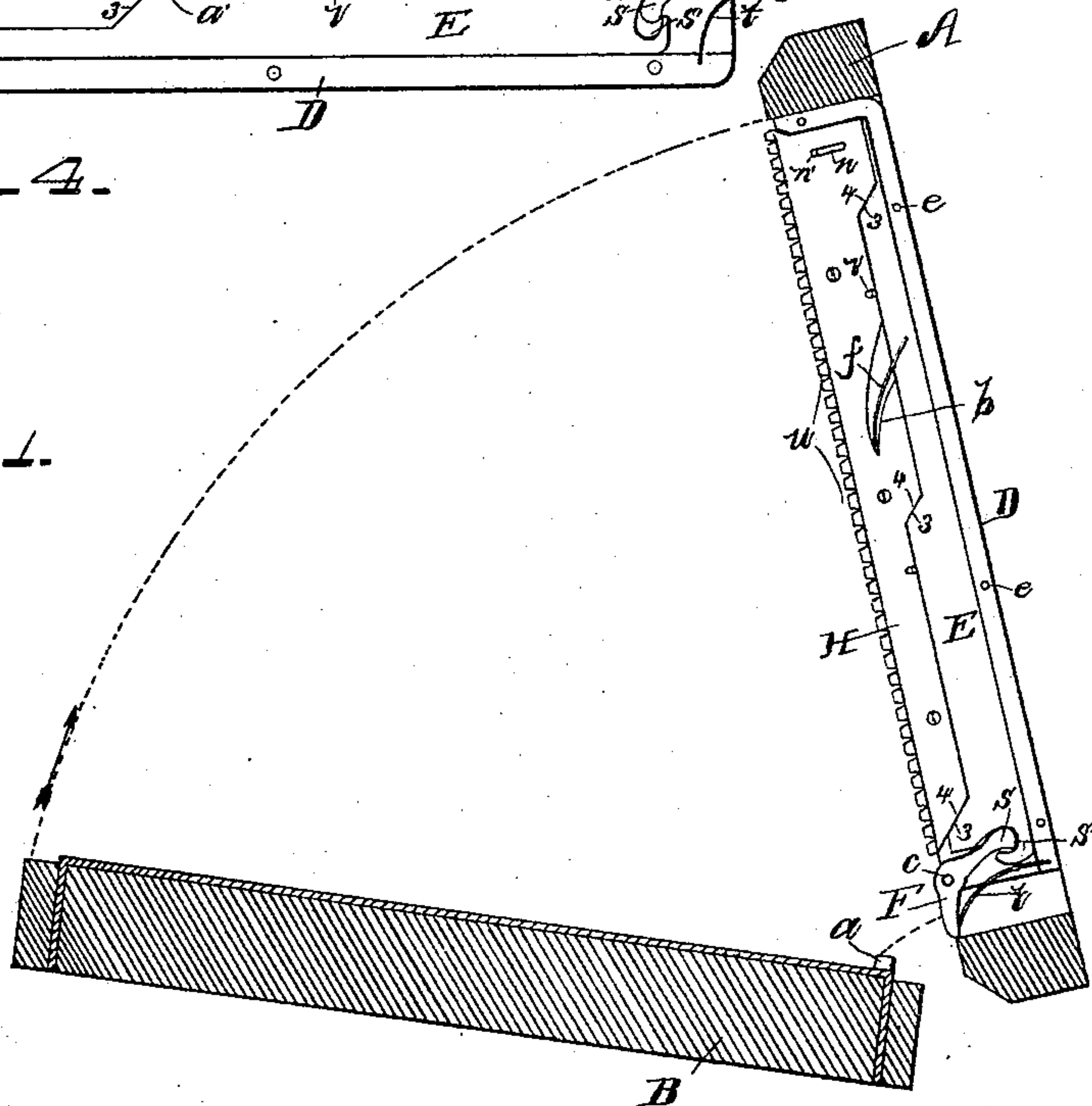


Fig. 2.

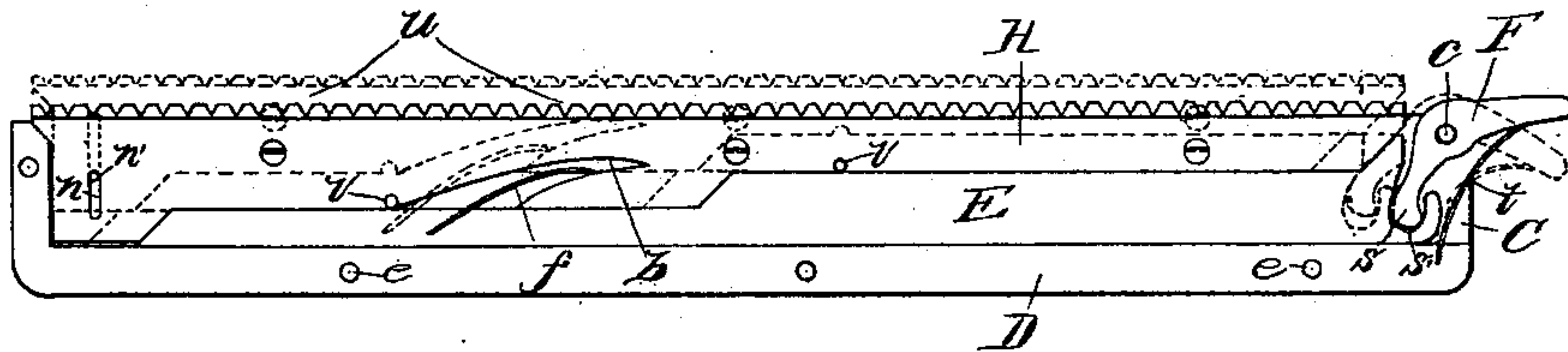


Fig. 3.

WITNESSES

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OF ONE-THIRD TO TIMOTHY C. QUINN, OF SAME PLACE.

PERFORATING ATTACHMENT FOR PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 454,232, dated June 16, 1891.

Application filed September 24, 1890. Serial No. 366,002. (No model.)

To all whom it may concern:

Be it known that we, GRANT H. SLOCUM and WALTER J. GAMBLE, citizens of the United States, residing at Caro, in the county of Tuscola and State of Michigan, have invented certain new and useful Improvements in Perforating Attachments for Printing-Presses; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in perforating attachments for printing-presses by means of which the printing and perforating may be accomplished simultaneously; and it consists in a certain construction and arrangement of parts whereby the reciprocating motion of the perforating-blade in the operation of perforating is made directly vertical, thus preventing the motion of the blade from moving the paper and slurring the print, as is incident in devices of this kind, in which the perforating-blade has a drawing or longitudinal motion. After the act of perforating, the blade is returned below the face of the type, so as not to injure the inking-rollers when passing over the surface thereof, all of which will be hereinafter more fully set forth, and the essential features of the device pointed out particularly in the claims.

In the accompanying drawings, forming a part of the specification, Figure 1 is a sectional view through the bed and platen of a printing-press, showing the perforator-case located in the bed of the press, with one of its side plates removed, exposing the interior arrangement of parts. Fig. 2 is a side elevation of the perforating device. Fig. 3 is a view of same with one of the side plates of the case removed, showing by dotted lines the position of parts when the perforating-bar is raised. Fig. 4 is a view of same, showing by solid lines the raised position of the perforating-bar.

Referring to the letters of reference, A indicates the bed, and B the platen of the press.

The perforator-case is composed of two metal plates C, divided by the rail D, to the sides of which said plates are secured by means of the screws *e*. Located in said case are the bars E and H, the bar E lying upon the dividing-rail D and adapted to slide longitudinally thereon, said bar being held in place by the pins *v*, that extend across the upper edge of the bar and are secured at their ends in the sides C of the case, as shown in Fig. 4. The upper edge of the bar E is made declinatory through a series of graduations, each graduation terminating with an inclined face 3. The under edge of the bar H is provided with corresponding graduations having the inclined faces 4. Said bar H is adapted to rest upon the bar E, the graduations in the meeting edges of said bars fitting one into the other, their inclined faces 3 4, respectively, being contiguous when said parts are in their normal position, as shown in Fig. 1. The bar H is adapted to carry the teeth *u*, by means of which the perforating is accomplished as said bar is projected from the case.

F indicates an actuating-lever pivoted at *c* in the end of the case, the inner end of said lever being provided with a ball *s*, adapted to lie in the socket *s'* in the end of the bar E, as clearly shown in Figs. 1, 3, and 4.

This improved perforating attachment is adapted to be keyed in the chase with the type and set in the bed A of the press, as shown in Fig. 1, and is actuated by contact of the outer end of the lever F with the pin *a*, set in the platen B of the press, as said bed and platen are brought together in the act of printing, the operation of the parts being as follows: As the outer end of the lever F is depressed by contact with the pin *a*, the inner end of said lever lying in the socket *s'* in the end of the bar E is thrown in, thereby sliding said bar longitudinally, and by means of its inclined faces 3 bearing against the inclined faces 4 of the bar H as the bar E is moved, raising said bar H squarely upward or at right angles to the motion of the bar E, and projecting the perforating-teeth *u*, as shown in Fig. 4, and by dotted lines in Fig. 3. The inclined faces 3 4 of the bars E H will slip past each other as the bar H reaches its maximum height, carrying the points of

contact between the meeting edges of said bars to the horizontal portions thereof, as shown at *a* in Fig. 4, thus affording a firm bearing for the bar H during the operation of perforating, and in which position of parts, as the lever F is still further depressed while making the impression, the bar E will slide under the perforator-bar H without moving it. This end play of the bar E under the bar H also permits the bed and platen of the press to move some distance apart before the perforator-bar is depressed, thus obviating the slurring of the print. As the pin *a* on the platen of the press releases the outer end of the lever F the spring *t*, secured in the dividing-rail D and bearing against the under face of said lever, will force the outer end thereof upward, drawing the inner end of said lever, which, lying in the sockets *s'* in the end of the bar E, slides said bar back, when the spring *f*, secured in the upper edge of the bar E and bearing in the inclined recess *b* in the under edge of the bar H, will draw said bar H down to its normal position, as shown in Figs. 1 and 2. The end of the bar H is provided with a vertical slot *n*, through which passes a pin *n'*, the ends of which are secured in the sides of the case. Said pin, lying within the slot *n*, guides the bar H in its vertical movement and confines it within the case. The under edge of the bar H is provided with notches *i*, (see Fig. 4,) that fit over the pins *v*, so as to permit the bars E and H to lie closely together when in the position shown in Fig. 1. The arrangement of parts is such that when the bar H is withdrawn within the case, after the operation of perforating, the teeth *u* will stand below the level of the type, so that the inking-rollers when passing over the face of the type will not be injured by said teeth.

Having thus fully set forth our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a perforating attachment, the combination of the perforator-case, the longitudinally-moving bar located in said case and hav-

ing a series of inclined bearings in its upper edge, the vertically-reciprocating bar carrying the perforating-teeth, located in said case above the longitudinally-moving bar and having a series of inclined bearings in its under edge, and the actuating-lever pivoted in the end of the case, the inner end thereof engaging the end of the longitudinally-moving bar, substantially as set forth.

2. In a perforating attachment, the combination of the perforator-case, the longitudinally-moving bar located in said case, said bar having a series of inclined bearings in its upper edge, the vertically-reciprocating bar carrying the perforating-teeth, located in said case above the longitudinally-moving bar and having a series of inclined bearings in its under edge, the spring secured at one end in the upper edge of the longitudinally-moving bar, the opposite end of said spring lying in a recess in the under edge of the vertically-reciprocating bar, the actuating-lever pivoted in the end of said case, its inner end engaging the end of the longitudinally-moving bar, and the spring secured in the end of the case and bearing against the under face of the outer end of said lever, substantially as specified.

3. In a perforating attachment, the combination of the perforator-case, the longitudinally-moving bar located therein, said bar having a socket in one end, the vertically-reciprocating bar carrying the perforating-teeth, located in said case above the longitudinally-moving bar and adapted to be actuated thereby, and the lever pivoted in the end of the case, said lever having a ball on its inner end adapted to lie in the socket in the end of the longitudinally-moving bar, substantially as specified.

In testimony whereof we affix our signatures in presence of two witnesses.

GRANT H. SLOCUM.
WALTER J. GAMBLE.

Witnesses:

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N. M. RICHARDSON.