

(No Model.)

G. & R. KENNEDY.

AUTOMATIC PERFORATOR FOR PRINTING PRESSES.

No. 364,021.

Patented May 31, 1887.

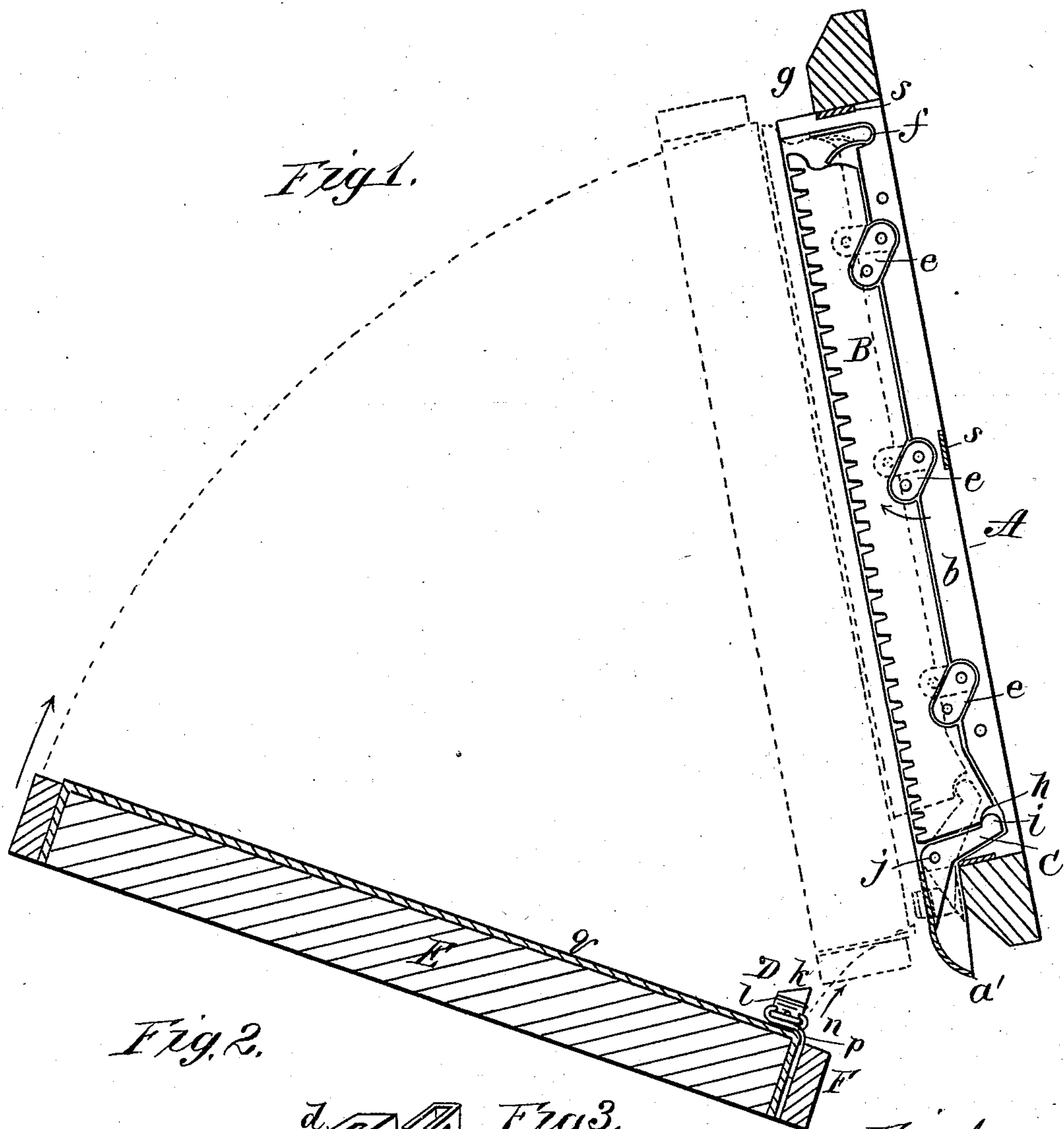
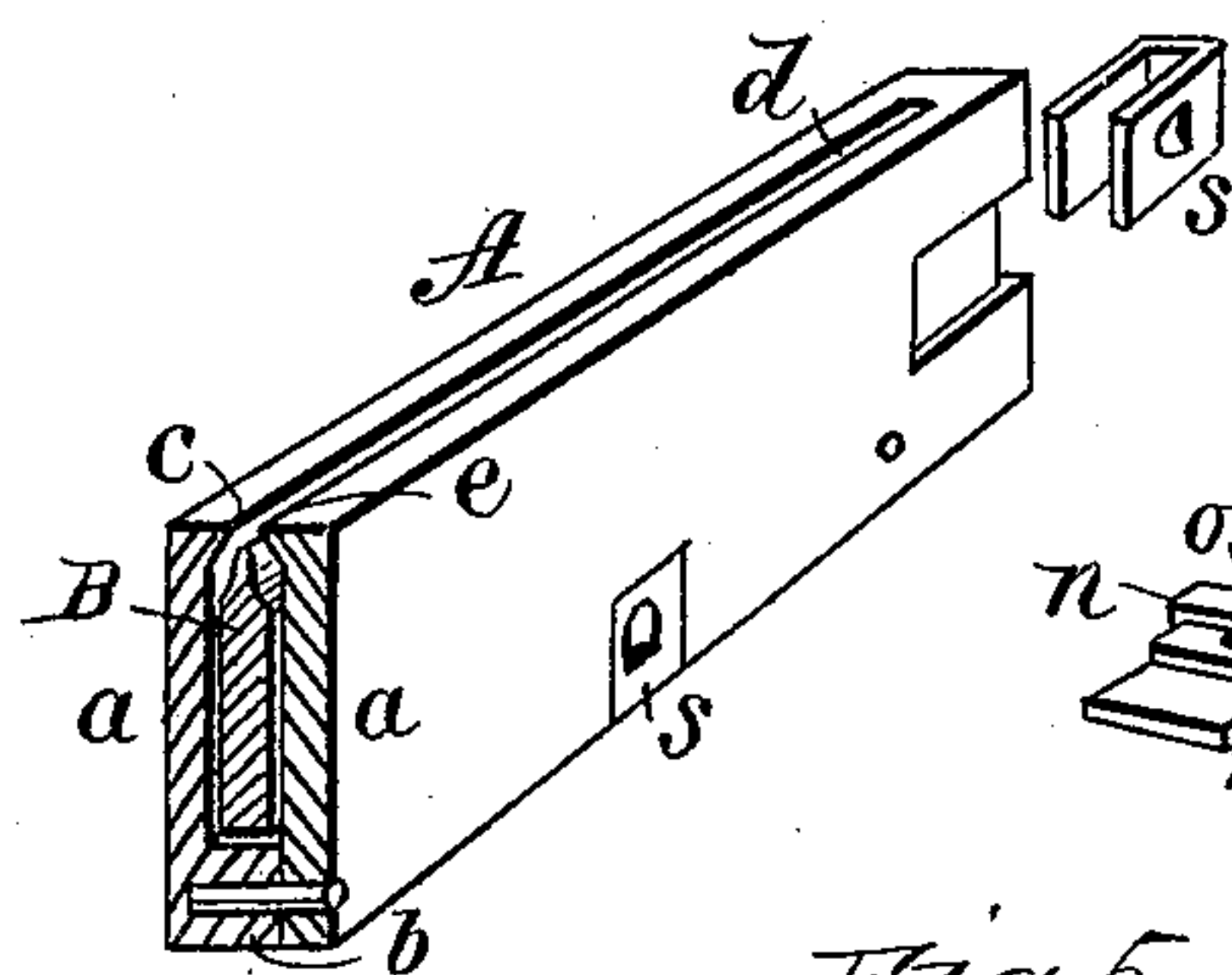


Fig. 2.



WITNESSES:

J. D. Garfield
W. Sedgwick

Fig. 3.

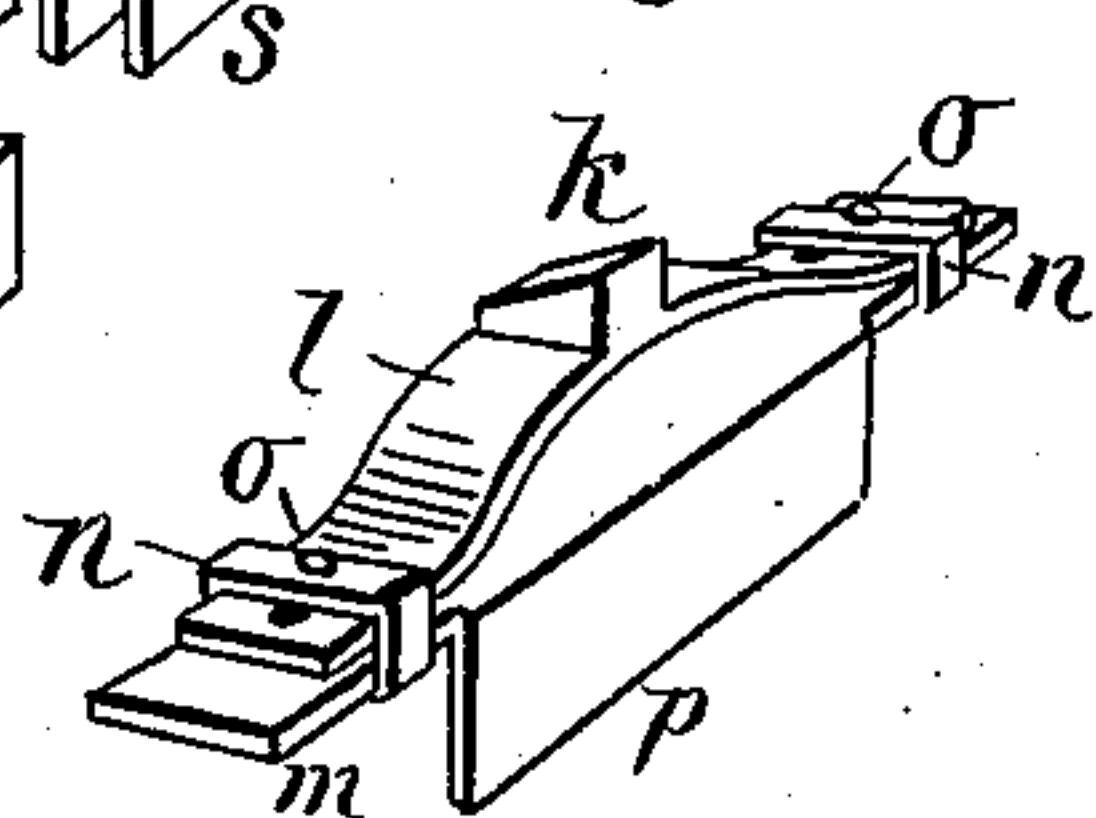


Fig. 4.

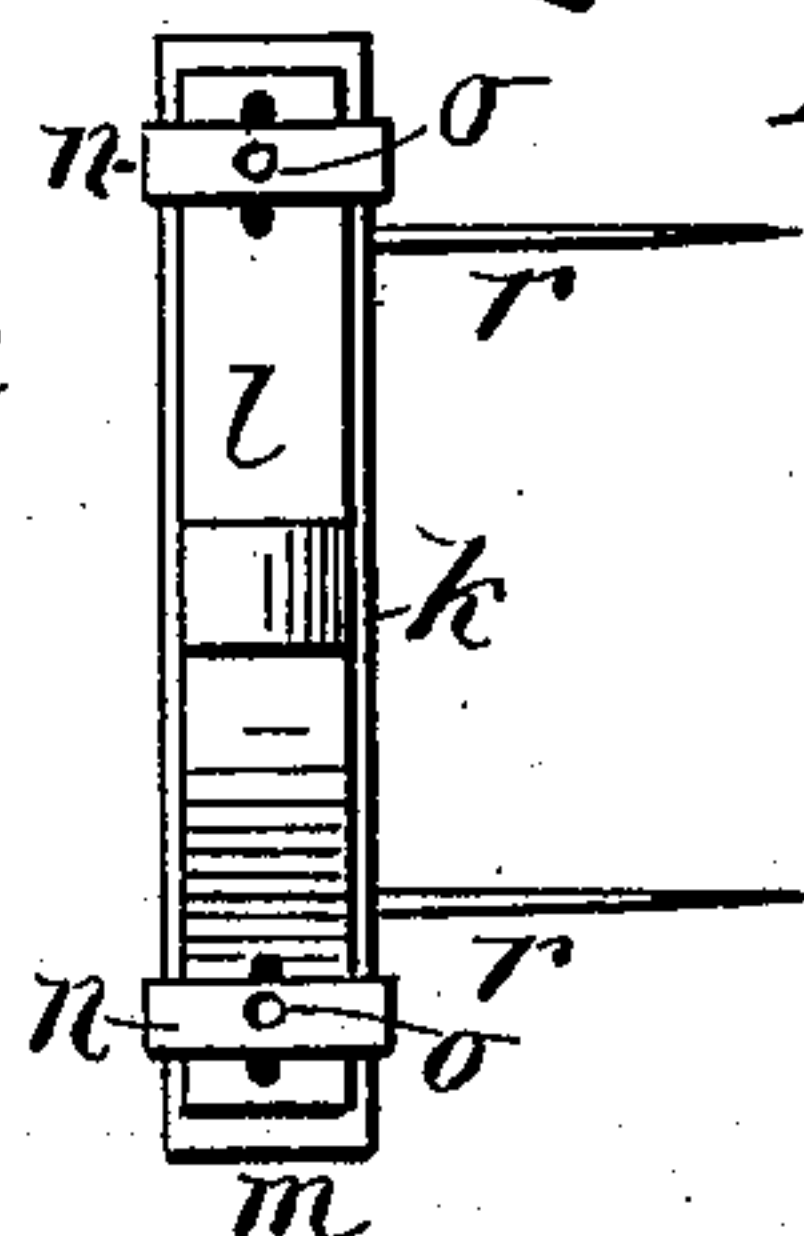
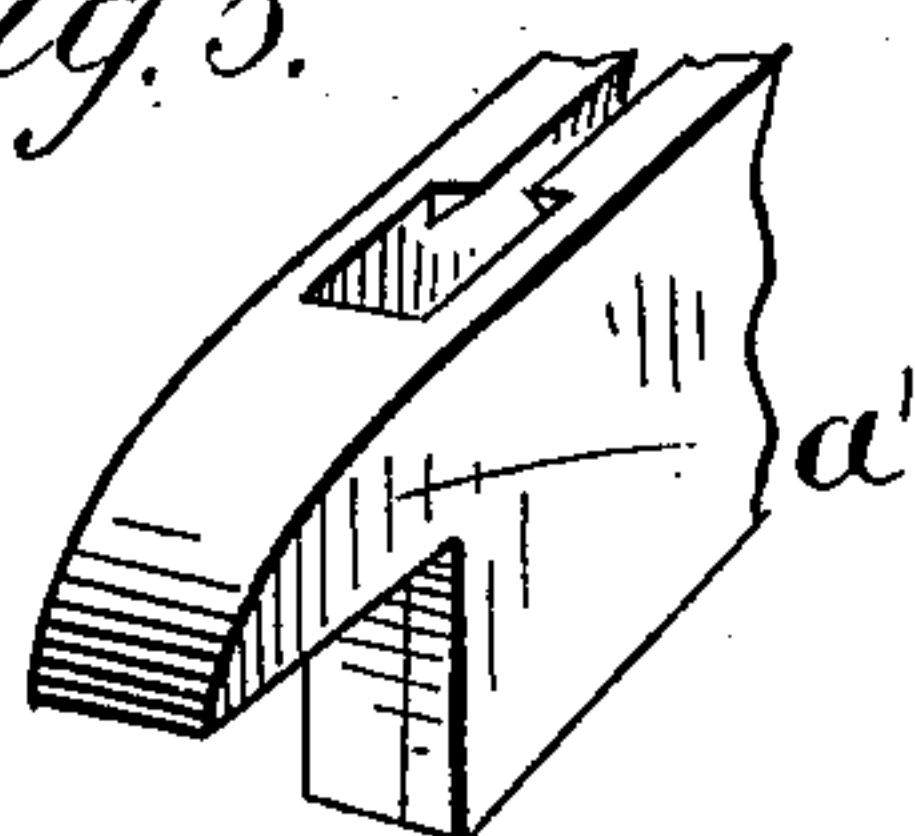


Fig. 5.



INVENTOR:

G. Kennedy
R. Kennedy
BY *Munn & Co*

ATTORNEYS.

UNITED STATES PATENT OFFICE.

GEORGE KENNEDY AND ROBERT KENNEDY, OF NEW WESTMINSTER,
BRITISH COLUMBIA, CANADA.

AUTOMATIC PERFORATOR FOR PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 364,021, dated May 31, 1887.

Application filed May 25, 1886. Serial No. 203,208. (No model.) Patented in England August 10, 1886, No. 10,193; in Belgium August 10, 1886, No. 74,183; in Canada August 20, 1886, No. 24,767, and in France August 27, 1886, No. 178,204.

To all whom it may concern:

Be it known that we, GEORGE KENNEDY and ROBERT KENNEDY, both of New Westminster, in the Province of British Columbia and Dominion of Canada, have invented a new and Improved Automatic Perforator for Printing-Presses, (for which Letters Patent of the following countries have been received, viz: Great Britain, No. 10,193, August 10, 1886; Canada, No. 24,767, August 20, 1886; Belgium, No. 74,183, August 10, 1886; France, No. 178,204, August 27, 1886,) of which the following is a specification, reference being had to the annexed drawings, forming a part thereof, in which—

Figure 1 is a vertical transverse section of a portion of a printing-press, showing the application of our invention. Fig. 2 is a detail sectional perspective view of a part of our improved perforator. Figs. 3 and 4 represent different forms of yielding contacts for working the perforator. Fig. 5 is a detail view of the end of the hollow rule, showing the lever-case.

Similar letters of reference indicate corresponding parts in the different figures of the drawings.

The object of our invention is to provide for printing-presses a device for perforating paper in the operation of printing, which will be raised up into position to be engaged by the paper while the paper is being printed, and will be dropped down below the surface of the type when the form is inked.

Our invention consists in a hollow rule containing a serrated cutter mounted on series of links to give it a parallel motion, and in the combination therewith of an angled lever pivoted in the hollow rule and arranged to be engaged by the yielding contact carried by the platen of the press.

The hollow rule A is formed of metal strips *a*, connected together in any convenient way, with a back piece, *b*, interposed between the metal strips *a*, the free edges of the strips being provided with inwardly-projecting lips *c*, leaving between them a narrow slit, *d*. The strips *a* are preferably clamped together by clips *s*, which are received in recesses in the sides of the strips *a*, and which may be re-

moved whenever it is desirable to clean the perforator; but we do not confine ourselves to this particular method of holding the parts together. In the hollow rule thus formed is supported a serrated knife-edged cutter, B, upon links *e*, which are pivoted to the back of the cutter and to the strip *b*, forming the back of the hollow rule A. In the present case there are three such links; but this number may be increased or diminished as circumstances may require. One end of the cutter is pressed by a spring, *f*, abutting against the closed end *g* of the hollow rule A. The opposite end of the cutter is widened and provided at its inner corner with a concave notch, *h*, for receiving the rounded end *i* of an angled lever, C, pivoted on the pin *j*, extending through the hollow rule A. The outer end of the angled lever C projects beyond the end of the hollow rule A in position to be engaged by the yielding contact-piece D, carried by the platen, and is protected from the ink-roller and from injury by the hood *a'*, projecting from the hollow rule.

The yielding contact D consists of a trapezoidal block, *k*, secured to the center of a bowed spring, *l*, which is held in place on the supporting-plate *m* by clips *n*, extending over the ends of the spring and secured to the edges of the plate. The ends of the spring are slotted to receive pins *o*, which project from the clips *n* into the slots of the spring. The edge of the supporting-plate *m* is provided with a right-angled lip, *p*, which is received between the blanket *q* on the platen E and the frame F, surrounding the platen and holding the blanket *q* in place. The block *k* is in this manner held at the edge of the platen in position to engage the outer end of the angled lever C.

Where the press is not provided with the frame F for holding the blanket in position, the yielding contact is held in place by pointed pins *r*, projecting from the edge of the plate *m*, in lieu of the lip *p*. These pins are inserted in the blanket and serve to retain the yielding contact in position for use.

The perforating device is clamped in the form in the chase, in the same manner as an ordinary rule, in the position in the form at which the perforations in the printed sheet are de-

sired. The form is clamped on the bed of the press, and the sheet to be printed is placed on the platen and carried forward against the form contained by the chase in the usual way; 5 but just before the contact of the paper with the face of the type the yielding contact D strikes the outer end of the angled lever C, turning it on its pivot, thus swinging the cutter B forward and outward on the links *e*, as indicated in dotted lines, causing the serrated edge of the cutter to project above the face of the type sufficiently to insure the perforation of the paper at the desired point when the paper is brought into contact with the face of 10 the type to receive the impression.

When the platen, together with the printed paper, is removed from the type, the yielding contact D is also removed from the end of the angled lever and the spring *f* pushes the cutter B forward, causing it to swing on the links *e* and retreat within the hollow rule A, so that 20 when the form is inked the inking-rollers will pass over the cutter without being injured thereby.

The employment of the yielding contact D permits of applying the perforator to the press without nice adjustments, as the spring *l* will allow the platen to move forward if the lever C should strike the chase G before the platen 25 has completed its excursion.

It is obvious that a number of our improved perforators may be applied in a single form, if desirable.

Having thus described our invention, what 35 we claim as new, and desire to secure by Letters Patent, is—

1. In a perforating attachment for printing-presses, the combination of the hollow rule A, the serrated cutter B, the links *e*, pivoted in 40 the rule and pivotally connected with the cutter, the spring *f*, arranged to withdraw the

cutter within the rule, the angled lever C, pivoted in the rule and adapted to engage the end of the cutter, and a contact carried by the platen for engagement with the angled lever, 45 substantially as herein shown and described.

2. The combination of the hollow rule A, the serrated cutter B, links *e*, pivoted to the cutter and to the back of the hollow rule, the spring *f*, the angled lever C, pivoted in the 50 hollow rule, and the yielding contact D, formed of the spring *l*, carrying the block *k*, the base-plate *m*, and the fastening device for securing it to the platen, as described.

3. In a perforating attachment to printing-presses, the combination, with the hollow rule A and cutter-operating lever C, of the hood 55 *a'*, attached to the hollow rule and inclosing the outer end of the lever, substantially as herein shown and described.

4. The combination, with the hollow rule and the cutter mounted therein, of a yielding contact carried by the platen of the press and constructed to throw the cutter outward, 60 substantially as set forth.

5. The combination, with hollow rule and the cutter mounted therein, of a yielding contact comprising a bowed spring and an incline block on the central part of its upper surface, 65 substantially as set forth.

6. The combination, with the rule and the cutter, of the platen and its surrounding frame and the contact comprising the bowed spring, the inclined block, the base-piece connected to said spring, and having a lip or flange extend- 70 ing between the platen and its frame and held in place thereby, substantially as set forth.

GEORGE KENNEDY.

ROBERT KENNEDY.

Witnesses:

JOHN BROWN,

JNO. O. MACLEOD.