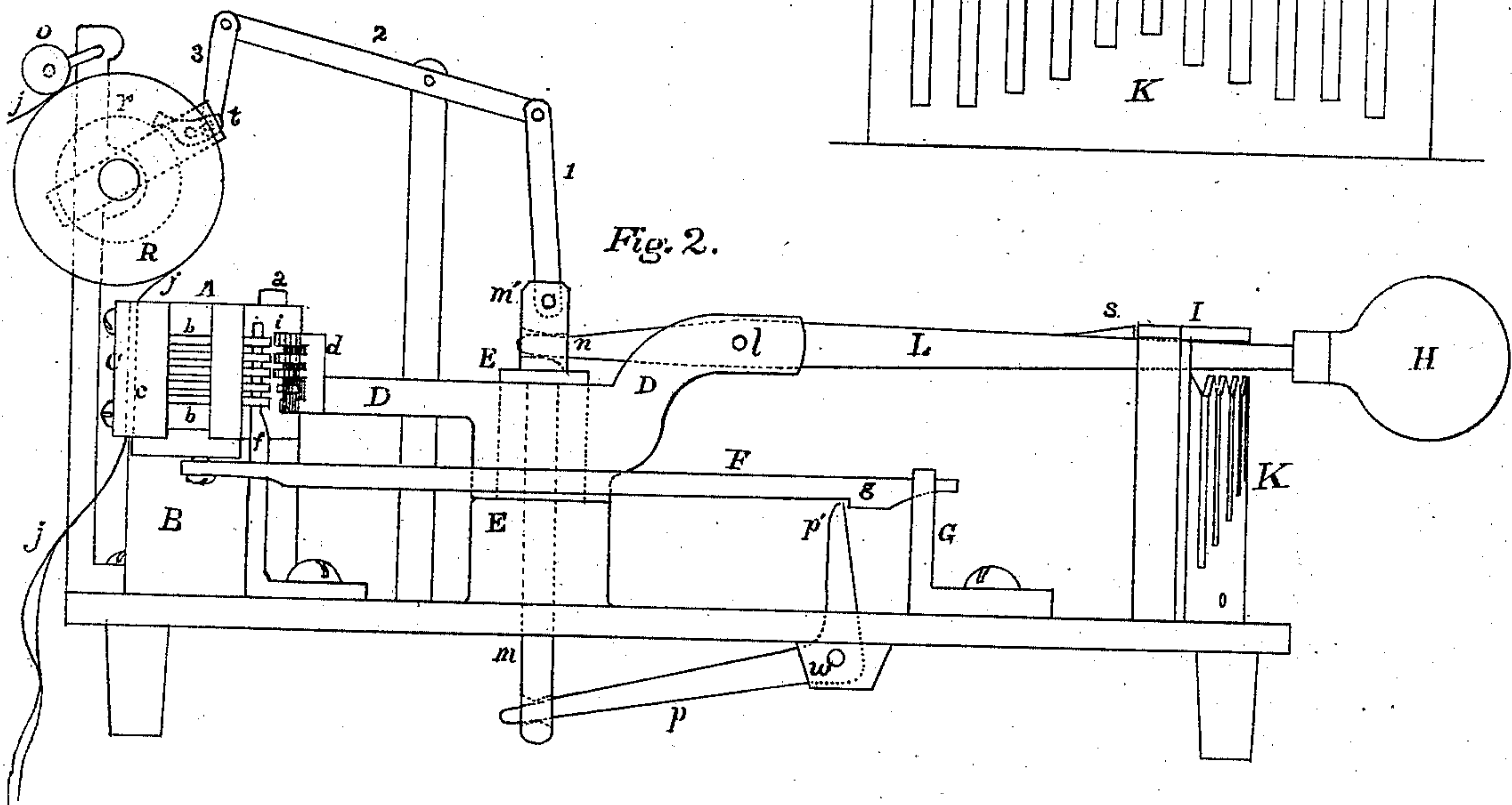
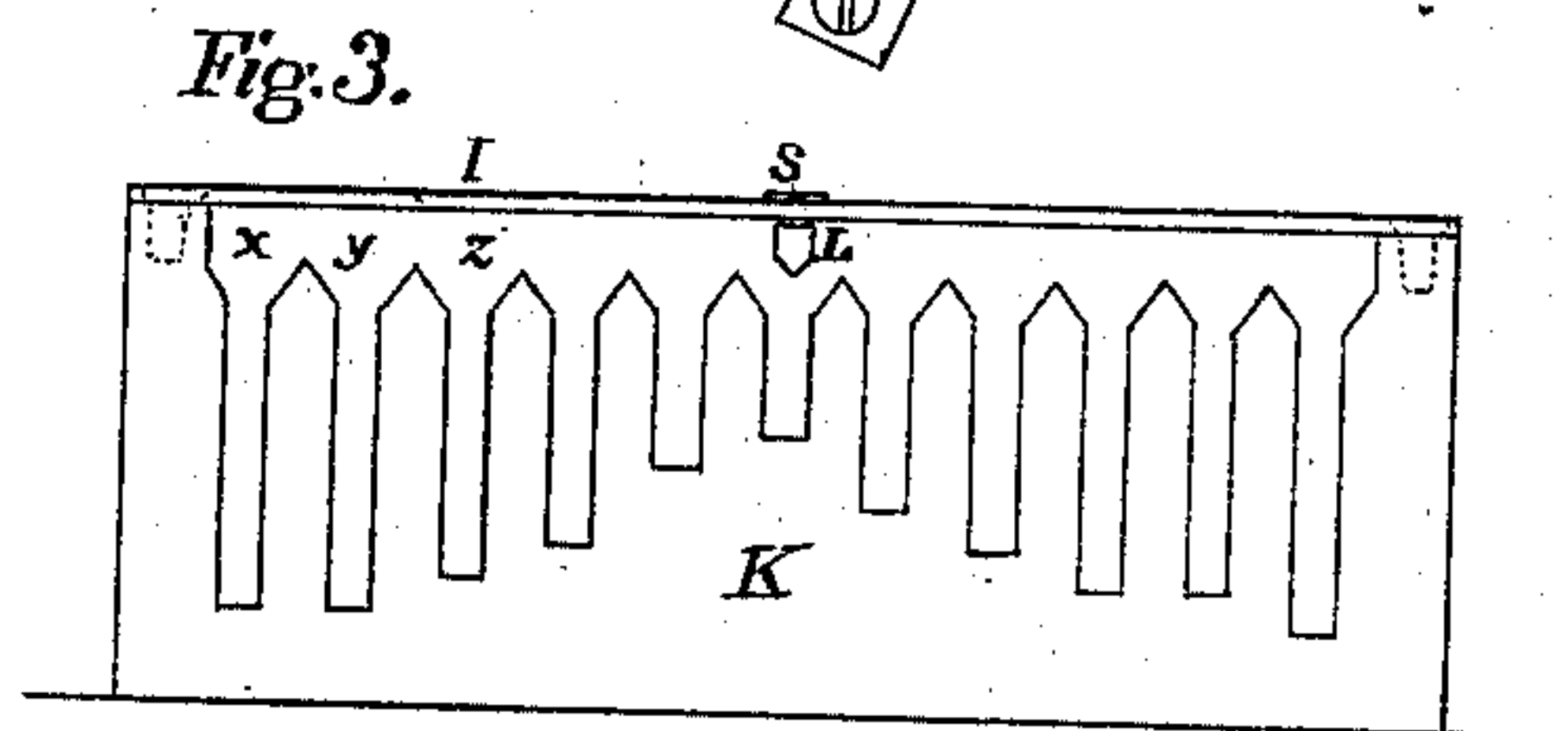
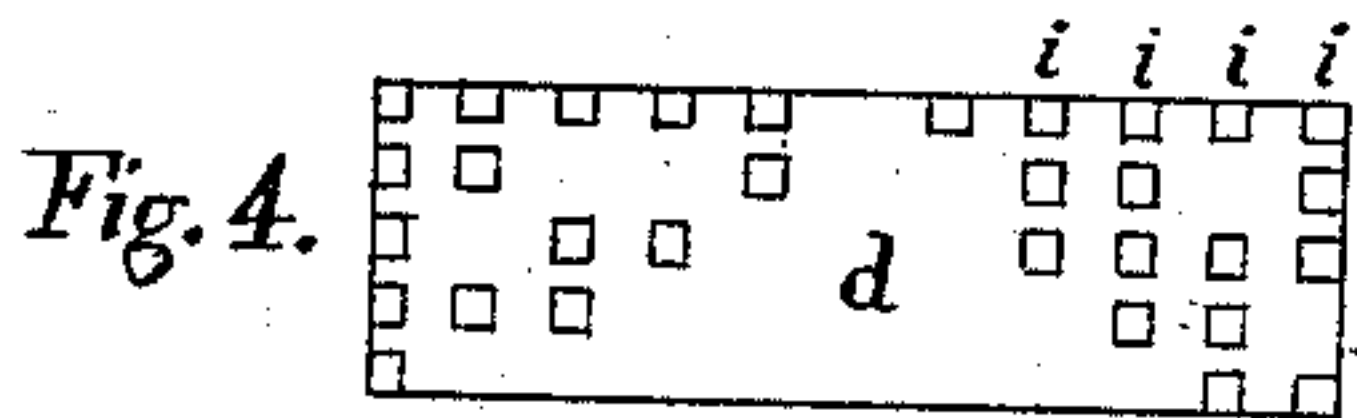
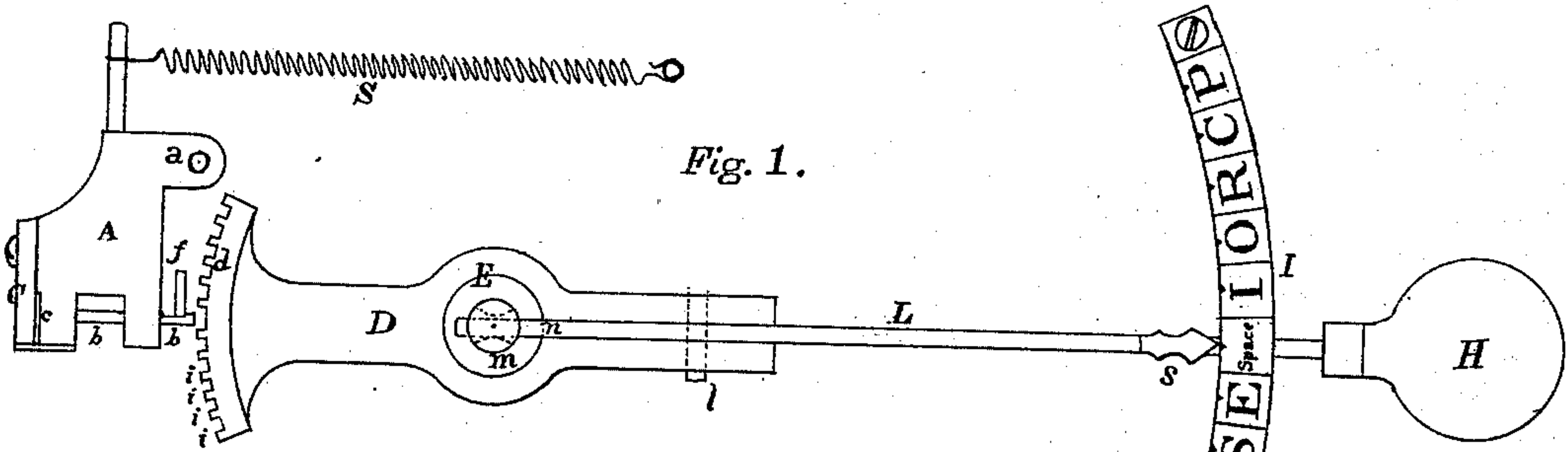


FRANK ANDERSON.

Improvement in Perforating Machines.

No. 122,098.

Patented Dec. 26, 1871.



Witnesses.

Thomas A. Whitney
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Inventor.

Frank Anderson.

UNITED STATES PATENT OFFICE.

FRANK ANDERSON, OF PEEKSKILL, NEW YORK.

IMPROVEMENT IN PERFORATING-MACHINES.

Specification forming part of Letters Patent No. 122,098, dated December 26, 1871.

I, FRANK ANDERSON, of Peekskill, in the county of Westchester and State of New York, have invented certain Improvements in Perforating-Machines, of which the following is a specification:

The object of this invention is to produce a machine that will easily and accurately perforate the characters of the Morse alphabet in the strips of paper that are used in automatic telegraphy. The object is not to produce a rapid, but a simple, reliable, and cheap machine.

Figure 1 is a plan of the parts essential to be shown. Fig. 2 is a side elevation of the same with the additional parts. Fig. 3 is an end elevation of the right of Figs. 1 and 2. Fig. 4 is a view of the end or face of the segment *d*.

b b, &c., Figs. 1 and 2, are the punches carried in the block *A*, the latter being free to move about the pivot *a*. *C* is the die in which the punches work, and is rigidly secured to *A* with a space, *c*, between, sufficiently wide to let the paper freely pass through. The course of the paper is shown at *j*, Fig. 2. *D* is an arm fitted to the upright post *E*, and capable of being moved around it as a center. The end *d* is formed into a segment of a circle, upon the face of which are numerous projections *i i i*, &c., shown more clearly at Fig. 4. This segment is just as wide on the face as the space occupied by the punches, of which there may be any number, and the projections are so placed that certain combinations of them may be brought opposite the punches, so that when the block *A* is forced against the segment certain of the punches will have to enter the die *C*. *f* is a stationary upright piece that engages in a small recess near one end of the punches, and prevents their return with the block *A*, thereby withdrawing them from the die and liberating the paper. The other end of the arm *D* is slotted so the lever *L* may pass through it. This lever is pivoted at *l*, and can be moved vertically without affecting the arm *D*; but, when moved laterally, carries the arm *D*, and consequently the segment *d* with it. *I* is an index marked with the letters of the alphabet or other characters, and is placed directly over the outer end of the lever *L*. On the latter is a pointer, *s*. The projections on the segment *d* are so placed with reference to this index that when the pointer *s* is opposite any letter the corresponding part of the segment is opposite the series of punches. If, then, the block *A* be forced against the segment, the character

corresponding to the letter indicated will be punched in the paper. To effect the movement of the block *A* at this time the post *E* is bored out and fitted with a stem, *m m'*, that will admit of a free vertical movement. In the upper part of the stem is a slot, *m'*, through which the end *n* of the lever *L* passes. This slot is so made that the angle of the lever *L* may be varied without affecting the movement of the stem. At the lower end of the stem, at *m*, there is another recess through which passes one end of the bell-crank lever *p*, which is pivoted at *w*. *F* is a bar attached to the block *A*. *g* is a notch in this bar, in which the end *p'* of the lever *p p'* engages, and when the lever *L* is depressed the stem *m* is raised, carrying with it the lever *p p'*, which in turn carries the bar *F* till it has gone far enough to punch the paper, when it is tripped by the stationary piece *G*, and the block or carrier *A* instantly returns by the pressure of the spring *S*. This is all done while the handle *H* is going down. During the time of this descent the pawl *t* of the feeding apparatus, operated (through connections 1 2 3) by the stem *m m'*, is moving down also to take an advanced hold on the ratchet-wheel *r*, which, as the handle is brought up, is revolved, carrying with it the feed-roll *R*, and moving the paper forward for the next letter. The plate *K* is slotted, as shown at *x y z*, &c., Fig. 3, for the purpose of guiding the descent of the lever *L*, a slot being placed under each letter on the index and insuring the right position of the segment *d* while the character is being formed. The upper ends of the tongues between the slots are pointed, as shown in Fig. 3, for the purpose of more readily guiding the lever *L* into the slot. The characters perforated being of different lengths, requires the paper to be moved different distances each time. To effect this the slots in *K* are made of varying depths, and as the throw of the paper is regulated by the movement of the lever *L*, the deeper the slots the further will the paper be thrown. The handle *H* is made spherical to allow of its adjusting itself in the fingers in its different positions.

To operate the machine the paper is passed through the narrow slot *c* and up over and between the rollers *R* and *O*. The handle *H* is then moved till it indicates the desired letter, and then depressed, observing always to move it clear down and clear back.

I claim as my invention—

1. The segment *d*, or its equivalent, carrying projections or cavities on its sides or face, in combination with a series of punches, substantially as and for the purpose hereinbefore set forth.

2. The movable block A carrying the die and punches with it, and moving on a pivot or in guides or otherwise, and operating against types, stops, or projections as *i i i*, substantially as and for the purpose hereinbefore set forth.

3. The lever L, in connection with the arm and segment D *d*, so constructed as to admit of both a lateral and vertical movement, substantially as and for the purpose hereinbefore set forth.

4. The manner of operating the punches and

feed, namely, through the center of oscillation of the arm D, substantially as and for the purpose hereinbefore set forth.

5. The slotted segmental plate K, or its equivalent, in combination with the lever L and segment *d* D, substantially as and for the purpose hereinbefore specified.

6. The stationary piece *f* for withdrawing the punches from the die, acting substantially as and for the purpose hereinbefore set forth.

FRANK ANDERSON.

Witnesses:

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