(No Model.)

# F. ANDERSON.

## AUTOMATIC FEEDER FOR PERFORATORS.

No. 265,209. Patented Sept. 26, 1882.

Fig. 3.

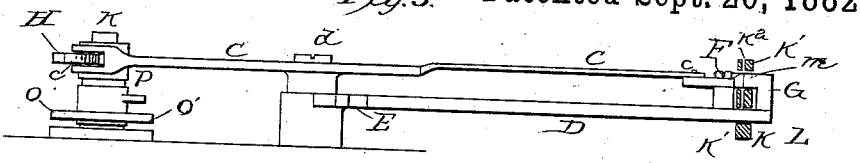

Fig. 1.

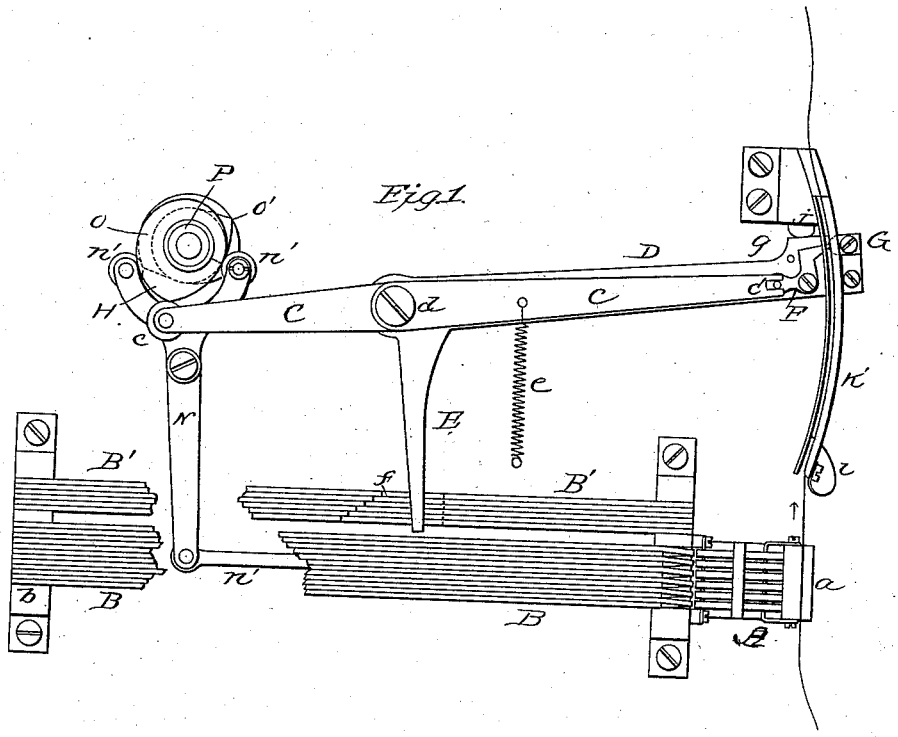

Fig. 2.

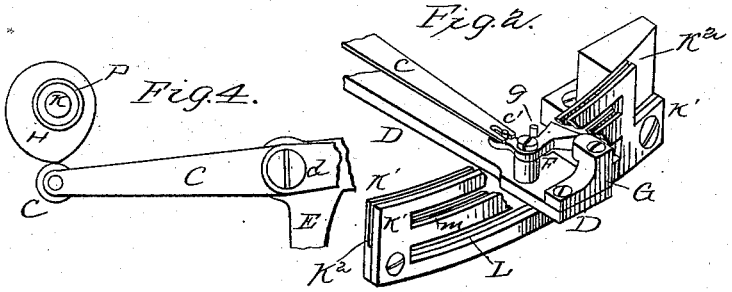

Fig. 4.



WITNESSES:

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## AUTOMATIC FEEDER FOR PERFORATORS.

SPECIFICATION forming part of Letters Patent No. 265,209, dated September 26, 1832.

Application filed January 6, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK ANDERSON, of Peekskill, in the county of Westchester and State of New York, have invented a new and useful Improvement in Automatic Feeders for Perforators; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to that class of machines known as "perforating" or "composing" machines used in automatic telegraphy, in which the keys operate only to determine the character to be made, the work being done by power applied independently of the keys.

My invention is an improvement upon the machine for which Letters Patent of the United States were granted to Anderson and Foote on the 8th day of June, 1880, No. 228,585.

The object is to insure reliable and accurate spacing for the varying lengths of feed required in said class of machines.

In the accompanying drawings, Figure 1 is a top view or plan of a device embodying the invention, and including only enough of the general machine to make clear the application of the device. Fig. 2 is a perspective view of part of Fig. 1. Fig. 3 is a side elevation of part of Fig. 1. Fig. 4 is a detached view of feed-cam, &c.

This device is to be applied to machines in which the movements are caused by coupling the parts for a moment with a continuously-running shaft, as is described in the patent above referred to. Said coupling continues only long enough to give one complete revolution of a sleeve bearing-cams, said cams imparting during their movement the various actions required. In the present case it is preferred to use a shaft in a vertical position, as shown; but this position is not essential.

In the drawings, K represents the shaft, which is kept in motion by any suitable power. Fitted to this shaft is a loose sleeve, P, so arranged that whenever a key is depressed a clutch is liberated, that instantly connects or couples this sleeve with the shaft while the latter makes one revolution, all as in the patent aforesaid. This sleeve P carries the feeding-cam H and the punching-cam O O. This punch-cam O works between the rollers $n'$ $n'$ on the forked lever N, and throws the punch-head A forward and back to its original position during about one-third of the revolution of the cam-sleeve P. The punches are forced against the permutation-bars B, a certain number of which are raised into the path of the punches by the key when it is depressed, as shown in the said patent heretofore referred to.

The feeding device consists of the two curved plates K′ K′, having a space, $K^2$, between them just wide enough to allow of the passage of the paper fillet. These plates have in them the two slots *m* and L. In the lower slot, L, lies the end of the arm or lever D, which is pivoted at *d*, the center also of the plate-curve, it being free to vibrate in the slot L. The angle-piece G is secured to end of arm D, and the upper part of it extends inward into the upper slot, *m*, as shown in Figs. 2 and 3, so that as it is moved in the slot it just touches the paper lying between the plates.

Near the end of the arm D, but on the opposite side of plates G, is pivoted a bell-crank-shaped pawl, F, having its point opposite the inward projections on G, and both lying in slot *m*, so that when the point of pawl F is against G the paper lying between will be clamped. The pawl F is limited in its movement by the part G on one side and by the pin *g* on the other.

Pivoted at the same point as the lever or arm D is the lever C, which has a roller, *c*, at one end and at the other, *c′*, engages with the pawl F. A spring, *e*, tends to keep the roller *c* against the cam H.

The operation of the mechanism thus far described is as follows: Figs. 1 and 4 show the cam and other devices in their state of rest. When a key is depressed the punch-cam first forces the punch-head forward and then back. While this is being done the feed-cam (both cams moving together) has moved till its shortest radius is next to the roller *c*, allowing spring *e* to act and vibrate lever C its full sweep. As lever C moves it opens pawl F till the latter strikes pin *g*, and then the arm D is also carried back with C. Then, as cam continues to revolve, its increase curve forces the lever C back to its original position. In moving back it first closes clamp F G, and then carries the whole, with arm D, back together, clamping and carrying paper also. When the cam arrives at its fullest point the full movement of feed has been made, and the cam stops till the

next letter is made. A cushion or stop, *j*, prevents inertia of arm carrying it too far. This movement would feed the paper an unvarying length each time; but the characters punched vary in length and require varying spaces. To produce the variable feed is the office of the feed-bars B′, as shown in the before-mentioned patent. The arm D has an arm, E, projecting at right angles to it, as shown. This arm E extends over the series of feed-regulating bars B′, so as not quite to touch them when in their position of rest. These bars have notches in them, which form the shoulders *f f*, so that if one of the series should be raised the arm E would strike said shoulder and stop further backward movement of feeding device till the cam came around far enough to return the whole to its original position.

The shoulders *f f* are varied according to the requirement of the case, and each key is connected with a feed-regulating bar that will give a proper amount of movement of the feed devices, and thereby a proper length for its characters.

The relative position of feed-bars B′ and feeding device might readily be so changed that the lever or arm D might itself strike the stops *f f*, and thereby dispense with the arm E for regulating the feed. In some varieties of perforations the conditions are such that the feed could be regulated by stops on the punch-bars B, thereby dispensing with special feed-bars B′.

A check-pawl or spring, *i*, Fig. 1, keeps the paper by any possibility from moving backward as the clamp moves back.

Having thus described my invention, what I claim is—

1. In a machine for perforating telegraphic paper, a curved guide, a feed-lever pivoted concentrically therewith, mechanism, substantially as described, for operating said lever, and an automatic clamp adapted to the curved guide, operated by the lever C, all essentially as set forth.

2. In a machine of the class named, a curved guide, a feed-lever pivoted concentrically therewith and operated by mechanism substantially as described, an automatic clamp, and feed-bars having varied stops adapted to limit the motion of the feed-lever, substantially as set forth.

3. The combination of the plates K′ K′, pivoted levers C and D, angle-piece G, bell-crank pawl F, spring *e*, feed-bars B′, and mechanism for oscillating the levers, substantially as described.

4. The combination of the levers D, carrying angle-piece G, and adapted to be stopped at different points by feed-bars B′, with the lever C, carrying pawl F, and with the stop *g* and spring *e*, the parts all operating as set forth.

5. The combination of the curved slotted plates K′ K′, levers C and D, angle-piece G, pawl F, and pin *g*, all the parts operating in the described apparatus as set forth.

6. The combination of the levers C and D and their pawl mechanism, operating in connection with the curved plates, the feed-bars and connections, as described, and the cam H, operating substantially as described.

7. The levers C and D and connections for feeding the paper, in combination with the forked lever N, operating-cam, rod *n′*, and punches, all as set forth.

8. The combination of the self-acting clamp F G, the lever D, the feed-bars B′, stops *f f*, lever C, cam H, and spring *e*, operating together as shown and described.

9. The combination of the cam H, levers C D, clamps F G, paper guides K′ K′, and stop-spring or pawl *i*, operating substantially as shown and described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANK ANDERSON.

Witnesses:
RUFUS ANDERSON,
COLERIDGE A. HART.