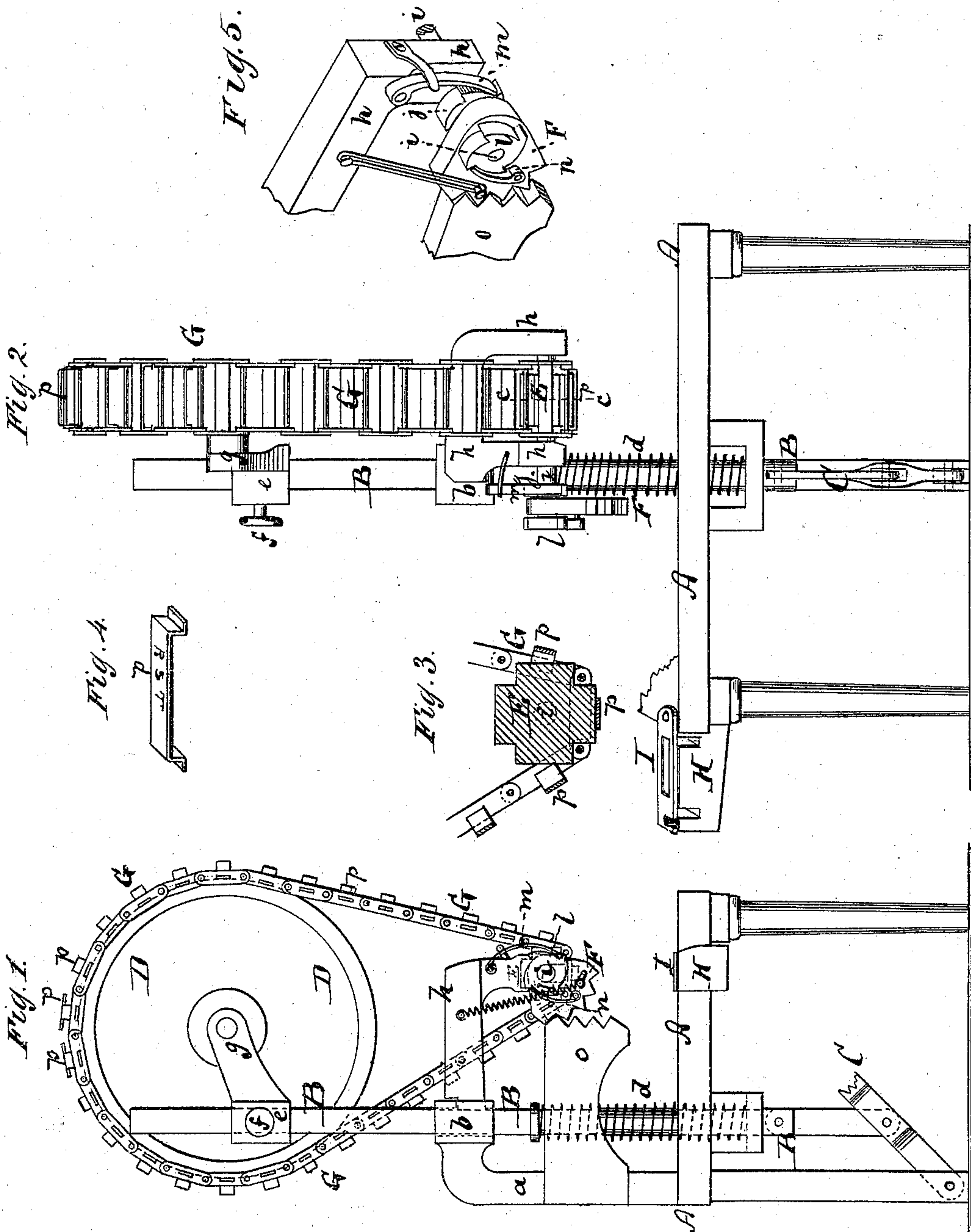


F. A. DARLING.
Addressing Machines.

No. 137,599.

Patented April 8, 1873.



Witnesses:

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Inventor:

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UNITED STATES PATENT OFFICE.

FRANCIS A. DARLING, OF FAYETTEVILLE, NEW YORK.

IMPROVEMENT IN ADDRESSING-MACHINES.

Specification forming part of Letters Patent No. **137,599**, dated April 8, 1873; application filed January 6, 1873.

To all whom it may concern:

Be it known that I, FRANCIS A. DARLING, of Fayetteville, in the county of Onondaga and State of New York, have invented a new and Improved Addressing-Machine, of which the following is a specification:

This invention relates to an improved addressing-machine, intended particularly for use of newspaper publishers and such other persons whose business requires them to send at frequent intervals documents or mail-matter to the same subscribers or persons, whose interest it is, therefore, to retain the address of such persons in position for use in printing. The invention consists in the employment of an endless chain passing around a prismatic presser-block, and having the address or printing plates removably secured to it by springing their ends into slots formed in the links of the same. The invention also consists in hanging the chain around a drum or wheel that is supported by a sliding frame, and in forming a toothed segment engaging with opposite ratchet-wheels on the arbor of the lower chain-holder or presser, for the purpose of turning the same one-quarter revolution at each downward motion of the frame, and for retaining the same in position immovably during the upward motion of the same.

In the accompanying drawing, Figure 1 represents a side elevation of my improved addressing-machine. Fig. 2 is a front elevation of the same. Fig. 3 is a detail vertical section on an enlarged scale taken on the plane of the line *c c*, Fig. 2; and Fig. 4 is a detail perspective view of one of the address-plates used in the chain. Fig. 5 is a detail view, showing the arrangement of pawl-and-ratchet mechanism.

Similar letters of reference indicate corresponding parts.

A in the drawing represents the table or frame-work, of suitable kind, for supporting the several parts of the machine hereinafter described. A stationary arm, *a*, projects upward from this table, and carries a slotted guide, *b*, for a vertical bar, B, which bar at its lower end connects by suitable means with a treadle, C, or equivalent apparatus, for being moved up and down. A spring, *d*, applied around the bar B serves to keep the same elevated unless power is applied in the oppo-

site direction. *e* is a sleeve which is adjustably applied to and around the upper part of the bar B, and which is fastened thereto by a thumb-screw, *f*, or equivalent means, so as to become immovable on the bar. A projecting arm, *g*, of the sleeve *e* serves as support for the shaft of a wheel, D. *h* is a projecting arm on the bar B below the wheel D, serving as a support for a transverse shaft or arbor, *i*. Upon this arbor is mounted a prismatic block, E, and there are furthermore mounted upon the same two ratchet-wheels, *j* and *l*, whose teeth stand in the same directions, the number of teeth in each being alike, and equal likewise to the number of faces of the block E.

I have represented the block E to be four-sided, and the ratchet-wheels consequently have each four teeth.

A spring-pawl, *m*, which is attached to the arm *h* of the bar B, bears against the teeth of the ratchet-wheel *j*, while another spring-pawl, *n*, secured to a toothed segment, F, that hangs loose on the arbor *i*, bears against the teeth of the ratchet-wheel *l*. The teeth of the segment F mesh into the teeth of a toothed projection, *o*, of the standard *a*. G is an endless chain placed around the wheel D and block E. It is composed of a series of jointed links whose side pieces are slotted so that the ends of the plates *p* can be sprung into these slots, as is clearly indicated in the drawing, more particularly by reference to Figs. 1 and 4. The distances between the plates *p* in the chain are such that, if the block E is turned one-quarter of a revolution at a time, such plates will successively be applied against the lower surfaces of the same, in manner shown in Fig. 3.

The operation of the machine is as follows: The paper to be printed is placed on the table A, beneath the chain G, and, ink being applied by suitable device against the faces of the plates *p*, the treadle is alternately depressed and lowered. Whenever the treadle is depressed the bar B is drawn down, and, being in connection with *h*, carries the segment F down with it, which, being in gear with the fixed teeth *o*, is rolled or turned in its descent, and by turning causes its pawl *n* to apply against the teeth of the ratchet-wheel *l*, and thereby imparts the quarter of a revolution to said ratchet and to the arbor in which the

same is mounted, and consequently also to the block E. The block being thus turned one-quarter of a revolution causes a new plate, *p*, of the chain G to be brought to its lower surface, and print the upper sheet of paper with such plate. During the subsequent ascent of the bar B the pawl *m*, applied against the ratchet-wheel *j*, prevents the block E from being turned, although the segment turns back to its former position, the pawl *n* on the segment slipping loose on its ratchet-wheel during such ascent.

The plates *p* on the chain may be made either single—that is to say, narrow—for single lines of address, or they may be made of greater width, as indicated at the upper part of Fig. 4, for two or more lines.

I show at H I devices I employ in producing lines of address on the plates *p*, but to which I make no claim.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination of the reciprocating bar B, a spring, *d*, movable arm *h*, ratchet-and-pawl mechanism, the segment F, and treadle C, fixed bar *o*, or other equivalent means of reciprocating the bar B, substantially as specified.

2. In combination with the elements of the first claim, the wheel D, chain G, and block E on arbor *i*, substantially as specified.

3. In combination with the chain G, the printing or address plates *p*, having their ends bent and inserted or sprung into the slots of the links thereof, as specified.

FRANCIS A. DARLING.

Witnesses:

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GEO. W. PUTNAM.