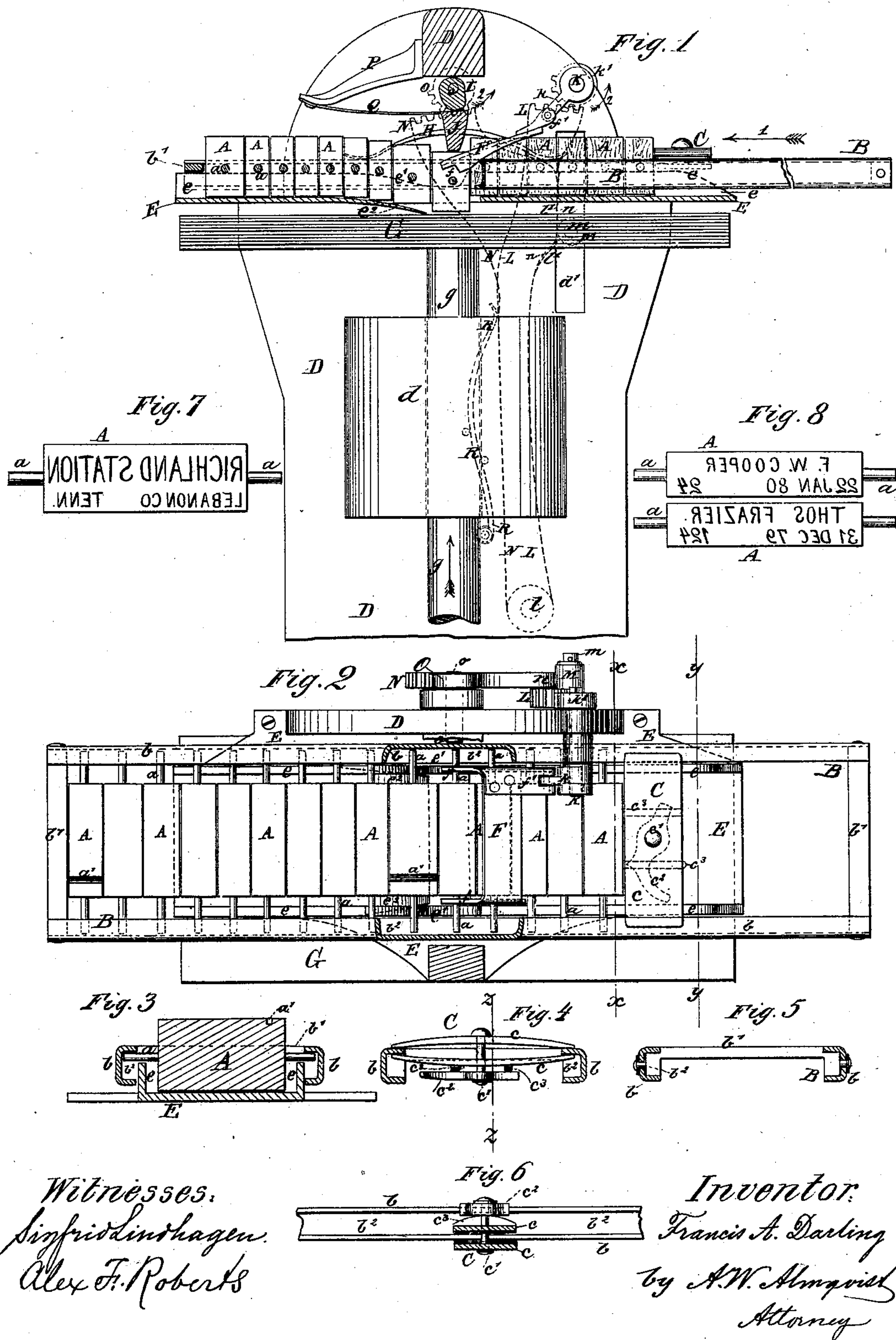


F. A. DARLING.
Addressing Machine.

No. 236,001.

Patented Dec. 28, 1880.



UNITED STATES PATENT OFFICE.

FRANCIS A. DARLING, OF BROOKLYN, NEW YORK.

ADDRESSING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 236,001, dated December 28, 1880.

Application filed February 6, 1880.

To all whom it may concern:

Be it known that I, FRANCIS A. DARLING, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Addressing-Machines, of which the following is a specification.

The object of my invention is to provide improved apparatus for rapidly and accurately printing the names and addresses of persons and places for directing newspapers and other periodicals to individuals and clubs of subscribers.

The invention consists in the construction and combination of the address-blocks, the galleys, and the various parts of the feeding and impression mechanism, as will be hereinafter described and claimed.

In the accompanying drawings, Figure 1 represents a front view of my improved addressing-machine, parts being shown in section. Fig. 2 is a top or plan view of the same, partly broken out. Fig. 3 is a cross-section through one of the printing-blocks, the galley, and galley-guide, the section being taken through the line xx of Fig. 2. Fig. 4 is a detail cross-section through the line yy of Fig. 2, showing a side or edge view of the printing-block clamp secured in position to the galley. Fig. 5 shows an end view of the galley with its side frame in section. Fig. 6 is a cross-section of the printing-block clamp, taken on the line zz of Fig. 4, and inverted in position as compared with the latter figure, or in the position corresponding with that of the blocks in Figs. 7 and 8, in which it is held when the clamp is fastened to the galley.

Similar letters of reference indicate corresponding parts in the several figures.

The addresses are engraved or stamped upon parallelipedon wooden blocks A, having axial wires a projecting one from either end of each block. For clubs of subscribers the post-office address common to all the members of the club is stamped upon a block, (which is larger, or marked with a saw-slit upon the back, as shown at a' , for better distinction from the rest,) such as shown in Fig. 7—for instance, thus: "Richland Station, Lebanon Co., Tenn.,"—and printed on the main wrapper inclosing together all the papers for the individual members of the club. The name of

each member is stamped upon a smaller separate block, as illustrated in Fig. 8—for instance, "F. W. Cooper," "Thomas Frazier"—together with the date of expiration of his subscription, thus: "22 Jan., '80," "31 Dec., '79."

To facilitate rapid reference to the entry-book of subscribers without need of looking through its index-pages, I have added at the left corner of the face of each block, below the subscriber's name, the number ("24," "124," or &c.) of the page in the book on which his name and account appear. A series of blocks, A, are then inserted face upward, to rest by their end pins, a , in the channeled sheet-metal side pieces, b , of a so-called "galley," B, joined at the ends to keep the channeled sides b at the proper distance apart by riveted cross-pieces b' , shaped as shown in Fig. 5. The inserted blocks are pushed together side by side and retained in said position by being held between one of the end bars, b' , of the galley and a stop-clamp, C, secured to the galley at the other end of the series of blocks.

The clamp C is made of two cast-metal plates, c , curved against each other, and secured together by a central rivet, c' , upon which is pivoted a button, c^2 , tightening against two cam-ridges or curved ribs, c^3 , which are formed on the outside of one of the plates c , one on each side of the pin or rivet c' . The clamp is inserted across the galley B to clasp between the ends of the pair of plates c the edge of the side piece, b , which forms one wall of the channel or groove b^2 , and is made to pinch the two opposite edges of the two side pieces, b , as shown in Fig. 4, by turning the button c^2 up on the highest portion of the ribs c^3 . This prevents the series of blocks A from getting apart laterally. The grooves b^2 are made sufficiently wider than the diameter of the end pins, a , to allow of sliding any one of the blocks A vertically to project its printing-surface from the flush surfaces of the adjacent blocks a suitable distance to give room for separate impression without blotting the paper printed upon by getting it in contact with the inked surfaces of the adjacent blocks.

In order to successively project the blocks for printing and withdraw them after the impression, I provide the following mechanism:

To a suitable vertical frame, D, is attached a horizontal plate, E, having parallel vertical flanges *e* arranged at such a distance apart that the measure between their outer edges is just enough less than the width of the opening in the galley B to allow of placing the latter above the plate E, with the side pieces, *b*, outside of the flanges *e*, thus causing the said flanges to guide the galley when the latter is slid along over the plate E.

The printing-surface of the blocks A being inked by means of an ordinary inking-roller, the galley B is inverted (to bring the face of the blocks A downward) and placed over the guide-plate E, with the sides *b* outside of the flanges *e*, so that galley and blocks together are supported upon the said flanges *e* by the series of pins *a*, and may be slid forward in direction of arrow 1 by a pawl, F, acting upon the pins *a*, while a cut or depression, *e'*, in the flanges *e* will allow the block, when its end pins are passing in the said depression, to sink or be pushed down with its face a distance below the surface of the other blocks, in which position it is held while the impression is being made.

G is the table upon which the wrapper or other paper is placed to be printed, and is attached to the upper end of a vertical rod, *g*, arranged to slide in a lug or other guide, *d*, on the frame D. The lower end of the rod *g* is intended to be attached to a treadle or foot-lever, (of the first class,) so that by pressure on the treadle the table G may be raised to press the wrapper against the inked face of the block in position to receive it. Fig. 1 shows the table G raised in position to impart the impression.

The bottom plate of the galley-guide E has an opening, through which the central block descends and is retained during the impression. At the side of the said opening the plate E is bent down to form (or has attached to it) a spring, *e²*, which serves to release the printed paper from the face of the block on the downward movements of the table G. The galley is steadied against vertical oscillation by the pressure of half-elliptic springs H, attached to the frame D, and pressing upon the side pieces, *b*, of the galley B.

The feed-pawl straddles the length of the blocks A and has notched ends *f*, engaging with the central pins, *a*, at either end of the block, to slide it along until it reaches the central cuts, *e'*, in the flanges *e*, where it is pushed down and held in position for printing by an oscillating cam, I, and stop-block J, acting on the upper side or back of the block A. The pawl F is pivoted by a lug, *f'*, to an arm, *k*, of a shaft, K, having its bearing in the frame D, and on whose other end, in the rear of the frame D, is secured a cog wheel or segment, *k'*, meshing in the teeth of a segmentally-toothed bar, L, which is pivoted at *l* on the back of the frame D.

To the rear edge of the table G is attached a pin, *m*, on which is mounted a roller, M,

which, as the table ascends, comes in contact with a welt or cam-projection, *l'* on the edge of the segment-bar L, and, in passing the said projection, presses the said bar L laterally, thereby turning the segment *k'* the part of one revolution required to give sufficient throw or feed movement to the pawl F. The frame D has a vertical slot, *d'*, cut through it to allow the roller M to pass up and down.

N is another segmentally-toothed bar, pivoted at *l* upon the same pivot as the bar L, and having a similar cam-projection, *n*, coinciding, when in the position shown in Fig. 1, with the projection *l'*, and acted upon simultaneously with the latter by the ascending roller M, to turn a cog segment or wheel, O, (mounted upon the same shaft, *o*, as the cam I,) and with it the cam I, into the position of its full downward throw, or as shown in Fig. 1. The shaft *o* of the cam and wheel I O is journaled in the frame D, parallel with the axis of the block A, in position for printing and at right angles to the axis of the rod *g*.

To a bracket, P, attached to the frame D is secured one end of a spring, Q, to whose other end is fastened the stop-block J in position to be interposed between the cam I and the central block, A, and resist the force of the impression.

Each successive feed movement of the pawl F causes the depressed block just printed with to travel by its end wire, *a*, up the inclined edge of the depression *e'* of the flange *e* until it resumes the position in which its horizontal surfaces are flush with those of the other blocks.

When the table G descends, a spring or springs, R, (acting upon the cog-segment bars L N on their edges opposite to those against which the roller M acts,) causes the wheels and cam *k* O I to turn in the direction of arrows 2, thus withdrawing the pawl F to take a new hold on the pins *a* for a subsequent feed, and releasing the block A just operated with, the stop-block J being raised by the spring Q on the withdrawal of the pressure of the cam I. When one galley has thus been fed through the machine another is substituted, and so on until the whole issue is addressed.

It is evident that the machine may be arranged to print by the downward movement of the printing-block upon a stationary plate or table; or the blocks A may be reversed and motion imparted to or against them to print on the upper side; but I prefer the construction as before described.

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

1. The addressing-blocks A, having axial end pins, *a*, in combination with a retaining galley or frame, B, having channeled side bars, *b*, in which the retaining-grooves *b²* are wider than the thickness of the said end pins, *a*, to allow of vertical movement of the blocks while in the galley, substantially as and for the purpose set forth.

2. The combination of the galley or frame B, having channeled side bars, *b*, and the adjustable clamp C, formed of the two curved cast-metal plates *c*, provided with the rivet *c'*,
5 button *c*², and ribs *c*³, for the retention of assorted addressing-blocks, substantially as specified.

3. The combination of the side-channeled retaining-frame, B, and the printing-blocks
10 A, having axial end pins, *a*, with a galley-guide, E, and an automatic feed-pawl, F, operating by contact with the said end pins, *a*, substantially as specified.

4. The side-channeled galley B and the ad-
15 dress-blocks A, supported by the end pins, *a*, of the blocks A, in combination with the galley-guide E, having guide-flanges *e* cut away and sloped at *e'*, and with a feed-pawl, F, and an automatic mechanism, substantially as de-
20 scribed, which successively projects the blocks A vertically beyond the surface of the remain-

der and keeps them in the projected position while the impression is taken.

5. The combination, with the sliding frame B and with blocks A, having end pins, *a*, of
25 the feed-pawl F, pivoted to the arm *k*, the shaft K, toothed segment or wheel *k'*, pivoted segmentally-toothed bar L, and a pin or roller, M, attached to the table G, for effecting the desired feed motion by the vertical motion of
30 the table G, substantially as specified.

6. The combination of the spring-raised stop-block J, the cam I, toothed wheel or segment O, the segmentally-toothed pivotal bar N, and
35 the pin or roller M, attached to the table G, for the purpose of successively projecting the blocks A for impression by the vertical motion of the table G, substantially as specified.

FRANCIS A. DARLING.

Witnesses:

A. W. ALMQVIST,
SIGFRID LINDHAGEN.