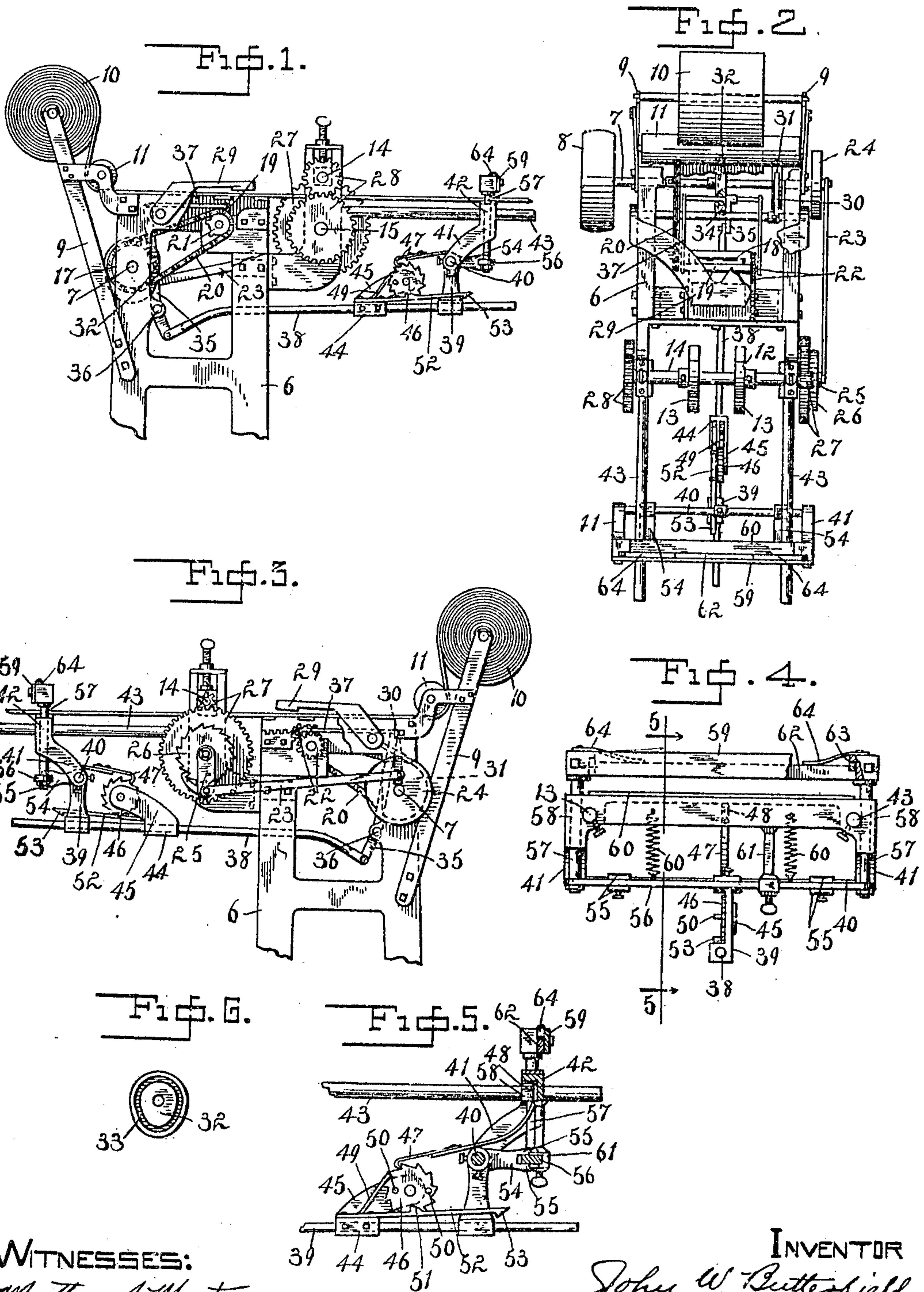


J. W. BUTTERFIELD.
ADDRESSING MACHINE.
APPLICATION FILED MAY 6, 1908.

947,589.

Patented Jan. 25, 1910.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN W. BUTTERFIELD, OF COLUMBUS, OHIO, ASSIGNOR OF ONE-HALF TO WALTER H. STRIPPEL, OF CHICAGO, ILLINOIS.

ADDRESSING-MACHINE.

947,589.

Specification of Letters Patent. Patented Jan. 25, 1910.

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To all whom it may concern:

Be it known that I, JOHN W. BUTTERFIELD, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Addressing-Machines, of which the following is a specification.

My invention relates to addressing machines and refers particularly to appliances of this class which print from a continuous roll of paper.

The chief objects of the improvements which form the subject matter of this application are:—to provide an automatic device for severing the printed strip at spaced intervals; to furnish a simple and effective mechanism for accomplishing the purpose desired, and to produce an apparatus that can be applied to machines of a type already in use and so designed that mechanical movements found therein can be utilized in producing the required movements.

I have shown the preferred form of my improved device in the accompanying drawing, forming a part of this application, the various details being illustrated in the following views:—

Figure 1 is a side elevation of an addressing machine with my improved paper cutting mechanism attached thereto, the driving pulley being removed and a portion of the framework broken away; Fig. 2 is a top plan view with some parts broken away; Fig. 3 is a side elevation viewed from a direction opposite to that shown in Fig. 1; Fig. 4 is a fragmentary view showing the paper cutting mechanism in end elevation, and Fig. 5 is a sectional view taken on the line 5—5 of Fig. 4. Fig. 6 is a detail of a cam used on my machine.

Referring to the details of the drawing, the numeral 6 indicates the frame of the printing machine, 7 the driving shaft and 8 the driving pulley mounted thereon. A bracket frame 9 supports a roll of paper 10 which passes around an idler 11 and is then fed horizontally by means of suitable rollers 12, 13, mounted on transverse shafts 14, 15, until it reaches the severing devices hereinafter detailed. Upon the shaft 7 is mounted a sprocket 17 which drives the inking rollers 18, 19 in the usual manner, through the medium of a chain 20, sprocket 21 and a train of gear wheels 22. The paper

feed rollers 12, 13 are operated intermittently by means of a connecting rod 23 adjustably attached at one end to a crank disk 24 carried on the driving shaft 7, and at the other pivoted to a pawl 25 which operates a ratchet wheel 26, suitable trains of gears 27, 28, giving the said rollers their proper movements. A platen 29 receives an oscillating motion by means of an arm 30 which engages a cam 31 carried on the main shaft 7. The inking rollers are carried forward at the proper time to make contact with the stencils (not shown) by the action of a cam 32, mounted upon the driving shaft 7, and provided with a cam groove 33, to receive a pin 34 attached to a rock arm 35 pivoted to the frame at 36. The upper end of this arm is connected by links 37 to the inking rollers and as the said cam revolves the arm 35 will be intermittently rocked, the cam groove 33 causing a positive movement of the arm in both directions.

To the lower end of the arm 35 is attached a rod 38, its forward end being slidably mounted in the lower end of a vertical arm 39 attached to a rock shaft 40 extending transversely and journaled in bracket arms 41 projecting downwardly from a cross bar 42 mounted to slide on parallel bars 43 attached to the main frame, thus permitting longitudinal adjustment. Upon the rod 38 is adjustably mounted a block 44 having an arm 45 carrying a ratchet wheel 46. When the rod 38 is reciprocated this wheel is actuated one tooth at a time by means of a spring pawl 47 fixed at 48 to the cross bar 42, a detent pawl 49 preventing backward movement of the said ratchet wheel. Upon one face of the latter, located diametrically opposite each other, are contact pins 50, which engage an inclined lug 51 fixed to a spring latch 52 attached at one end to the block 44 when the wheel 46 is turned. At the free end of this latch is a tooth 53 adapted to engage the arm 39 when one of the said pins engages the lug 51. Duplicate arms 54 mounted upon said rock shaft are furnished with forked ends 55 to engage a transverse bar 56 attached at each end to posts 57 which slide vertically in bearings 58. These posts are connected by a suitable blade 59 arranged to coact with a flat bar 60 to make a shearing cut when the blade 59 is depressed by the action of the rock shaft 40, springs 60 restoring the blade to its initial position shown

in Fig. 4 its upward movement being limited by a stop 61. A presser-bar 62, sliding in grooves 63 and held by springs 64, serves to clamp the paper firmly while being cut.

5 The action of the various mechanisms having been set forth in connection with the details of construction of the different parts, a brief description only will be necessary to be given here to enable any one skilled in
10 the art to understand the working of the apparatus. In printing machines of this type the paper is fed intermittently, and it is during the period of rest that the printing and cutting operations must take place.
15 During the time the paper is being fed forward the cam 32 acts to carry the rod 38 and its attachments in the same direction as the paper is moving, and during this movement the pawl 47 will ride over one tooth and
20 when the rod is retracted, the said pawl, being fixed, will move the wheel 46 one notch, and this step by step movement will continue, the wheel moving one step for each movement of the paper which corresponds
25 with each impression of the printing mechanism. When said wheel has been turned a sufficient number of notches to bring one of the pins 50 in contact with the lug 51 the tooth 53 will engage the arm 39 and as the
30 rod 38 moves backward the shaft 40 will be rocked and the paper will be severed by the descent of the blade 59. It will be noted that the cutting device as arranged does not operate after each printing operation. In
35 the construction shown there are two contact pins so that the paper is severed twice in each revolution, and as the wheel 46 has

twelve teeth, the paper will consequently be severed whenever six addresses have been printed. It will be obvious that this rela- 40
tion of the cutting operation to the printing may be varied by changes in the number of contact pins or the teeth of the ratchet wheel.

Having thus described my invention, what I claim as new, is:— 45

1. In a machine for the purpose stated, the combination with paper feeding mechanism, a movable blade, and a reciprocating member, of a rock-shaft, operative connection be- 50
tween the rock-shaft and said blade, an operating arm attached to said rock-shaft, a latch attached to the reciprocating member and adapted to engage said arm, and means for causing said latch to intermittently en- 55
gage said arm.

2. In a machine for the purpose specified, the combination with paper feeding mechanism, a movable blade, a reciprocating rod, and a cam for operating said rod, of a rock- 60
shaft, operative connection between the rock-shaft and said blade, an operating arm on said rock-shaft, a latch carried by the said rod, and adapted to engage said arm, a ratchet mounted on said rod, an operating 65
pawl for the ratchet, and projections carried by the ratchet and arranged to alternately engage said latch when the ratchet is rotated.

In testimony whereof I affix my signature in the presence of two witnesses.

JOHN W. BUTTERFIELD.

Witnesses:

H. H. FALKENBACH,
J. A. HEDGES.