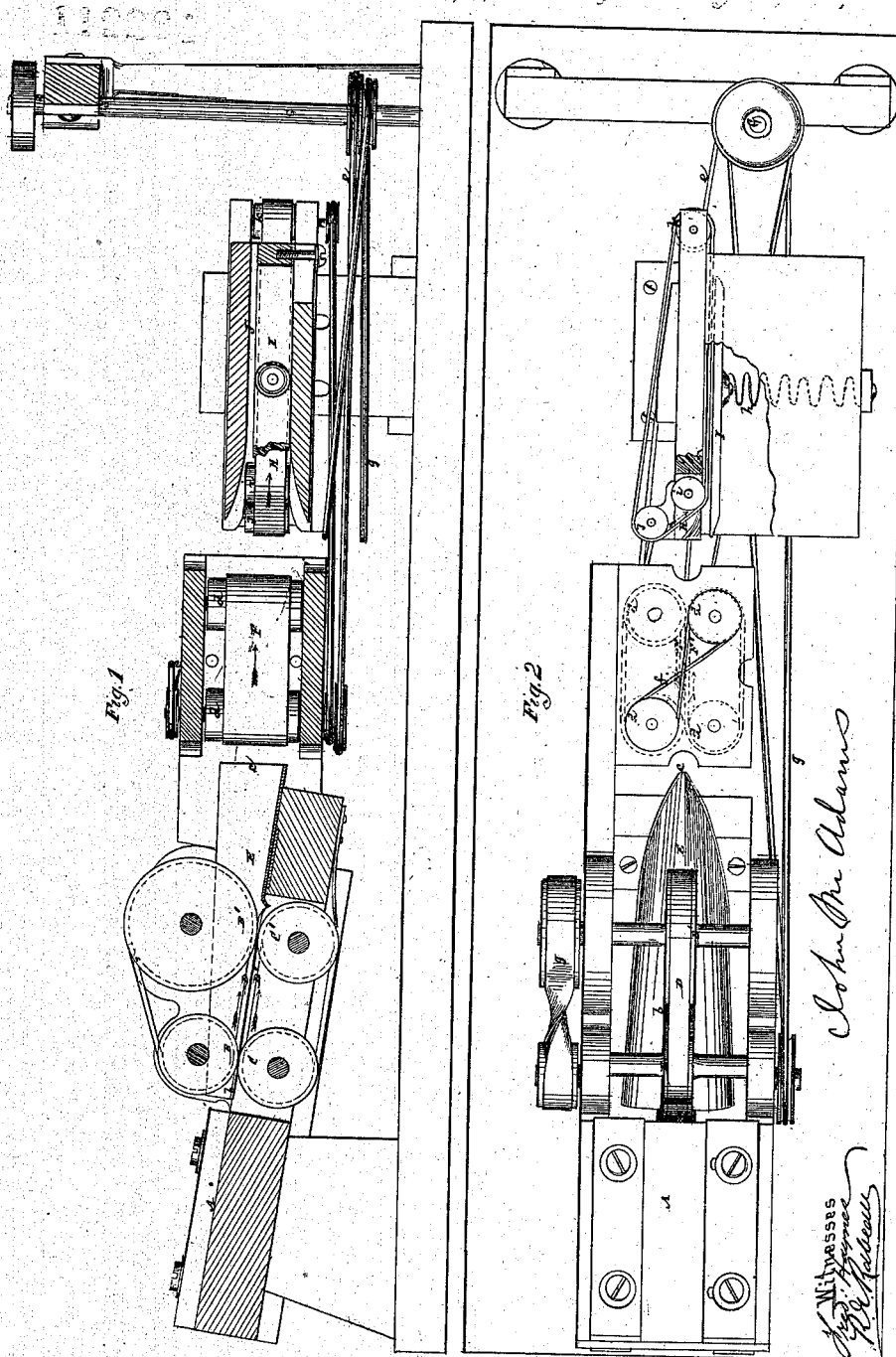


J. McADAMS.
PAPER FOLDING MACHINE.

No. 112,264.

Patented Feb. 28, 1871.



United States Patent Office.

JOHN McADAMS, OF BROOKLYN, NEW YORK.

Letters Patent No. 112,264, dated February 28, 1871.

IMPROVEMENT IN PAPER-FOLDING MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JOHN McADAMS, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Machines for Folding Paper and other Materials, applicable to the folding of ballots and to other purposes; and I do hereby declare that the following is a full, clear, and exact description, reference being had to the accompanying drawing forming part of this specification, and in which—

Figure 1 represents a vertical irregular longitudinal section, and

Figure 2, a plan of a machine constructed in accordance with the invention.

Similar letters of reference indicate corresponding parts.

My invention, although applicable to folding paper and other materials for various purposes, is mainly designed for and will here be described exclusively with reference to the automatic folding of ballots, whereby time and labor are economized, and a close and accurate folding of said articles is produced and the same delivered in packages or piles ready for use.

The invention consists in a combination of feeding-rollers with a stationary doubler or folding-trough or troughs, according to the number of folds required.

Also, in combination with one or more doublers or folders, of a presser, composed of endless belts, through which the doubled ballot or article is passed or drawn.

Likewise, in a receiver or packing-receptacle provided with a yielding follower and a belt-conductor, between which and the follower the folded articles as they come from the presser are fed in succession till a pile of the requisite size or thickness is obtained between said belt and follower.

Referring to the accompanying drawing—

A represents a feed-board or table, down or along which the unfolded ballots are fed one at a time, or in advance of each other, to and between upper and lower feeding-rollers, B B' and C C', and between India-rubber or other suitable feeding-belts, D D', made to connect, respectively, said upper and lower feeding-rollers, the one or upper pair, B B', of which are arranged within a doubling-trough, or, as it may be termed, doubler or folder E, while the other or lower pair C C', work through a slot, b, in the bottom of the doubler or folder, and which is covered by the belts D D'. These belts serve to guide and feed in a soft but positive manner, free from any liability to tear, each ballot or blank in succession, and to pass it through the doubler or folder E, which is of a boat-like form to effect a longitudinal fold or doubling of the ballot as it is drawn or propelled by the feeding devices through the open front end c of the doubler.

Another doubler or folder, with feeding-rollers or devices, may be arranged in front of the doubler E to receive the ballot as it issues from the first doubler, and so on for any number of doublers with feeding devices in succession, the one in advance of the other, and each succeeding one turned to occupy right-angled positions to its preceding one, in the same general line or travel of the feed, for the purpose of forming a succession of "doubles" in the ballot; but a single doubler, E, will suffice to explain the action of the machine, it only being necessary to arrange the subsequent folding and packing devices, as hereinafter described, with reference to the position of the last doubler, which, so far as said devices are concerned, the doubler E may be supposed to be.

From said doubler E the doubled ballot is passed by the feeding devices to and between a presser, composed of belts F F', lying face to face and passing around pulleys d d, the same traveling as indicated by their respective arrows, and the doubled ballot passing in between and through said belts, that serve to gently but positively form the fold in the ballot in the line of its double.

Motion is communicated to said presser by pulleys and belt, e, from a main driving-shaft, G, and by a cross-belt, f.

The feeding devices in or connected with the doubler or folder E, are also suitably driven by belts g g and pulleys from or by the same main shaft.

From the pressing-belts F F', that likewise operate to continue the feed or travel of the folded ballots, each ballot in succession is caused, as it issues from the presser, to enter in between an endless traveling-belt, H, (driven to move as indicated by arrow in the drawing,) and a yielding follower, I, of a receiving or packing-receptacle, J, the folded ballots being piled in succession the one upon the other from, as it were, the bottom of the receiver and the follower I, which is kept up to its work by a spring, h, being forced backward as the folded and pressed ballots are entered in succession between the pile and the belt H, that serves not only as a soft bed for the ballots as forced outward by the follower, obviating all liability to tear, and admitting of the easy introduction of the ballots, but that serves also to feed or draw the ballots into the packing-receptacle or receiver J.

To insure the proper entrance of the folded ballots within the receiver, the pulleys i, j, and k, around which the belt H is made to travel, are so arranged relatively to the presser that each ballot as it issues from the latter strikes on an angular rim or in a gliding manner on said belt, so that it is prevented from striking on end the preceding ballot, and is caused to be safely deposited on the top or outer surface thereof.

The ballots as packed or piled are drawn out from

the receiver J at intervals without, of necessity, stopping the operation of the machine.

What is here claimed, and desired to be secured by Letters Patent, is—

1. The doubler or folder E, in combination with feeding-rollers and belt, arranged to work through the bottom of said folder, substantially as specified.

2. The presser, composed of endless traveling-belts F F', in combination with a doubler or folder, and the

feeding devices arranged as described and in front of said presser, essentially as described.

3. The combination and arrangement of the belt H and its pulleys *i j k* with the follower I of the packing-receptacle or receiver J, essentially as shown and described.

Witnesses: JOHN McADAMS.

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