

(No Model.)

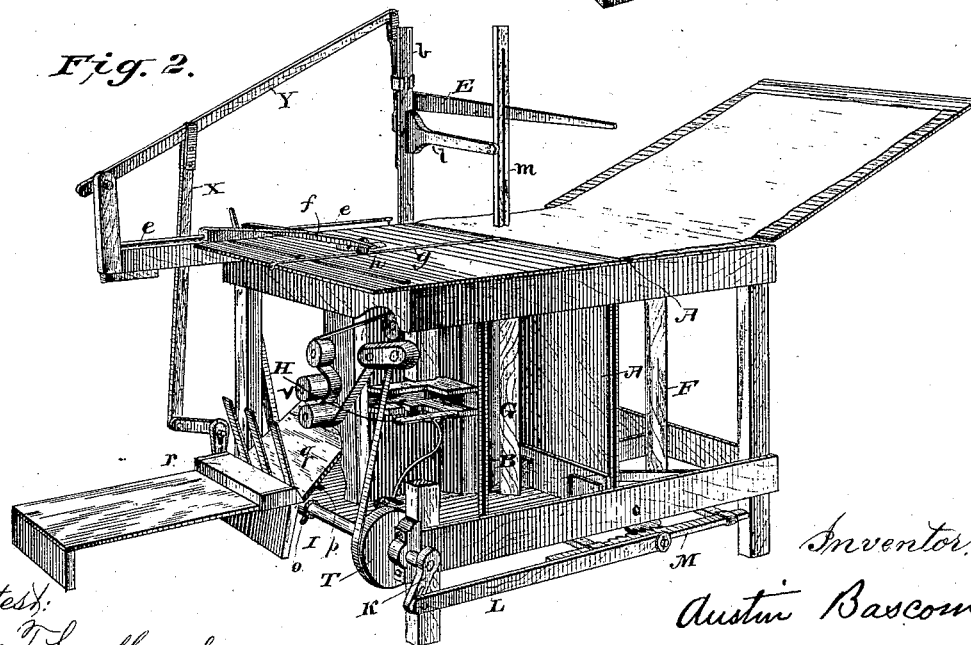
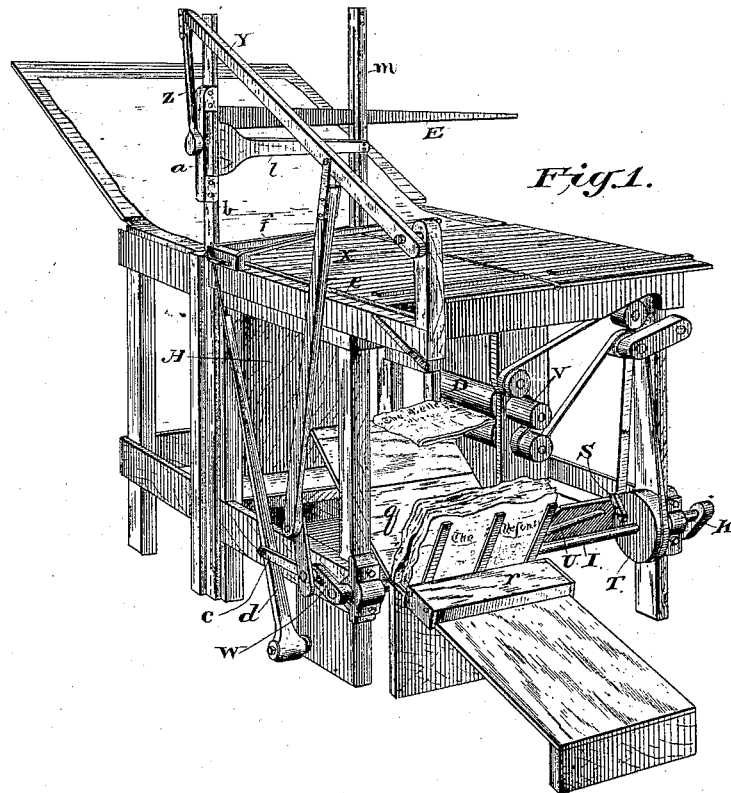
2 Sheets—Sheet 1.

A. BASCOM.

PAPER FOLDING MACHINE.

No. 302,228.

Patented July 22, 1884.



Attest:
Geo. T. Smallwood,
J. Henry Kaiser.

Inventor,
Austin Bascom.
Per C. H. Campbell
att'y.

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2 Sheets—Sheet 2.

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Fig. 3.

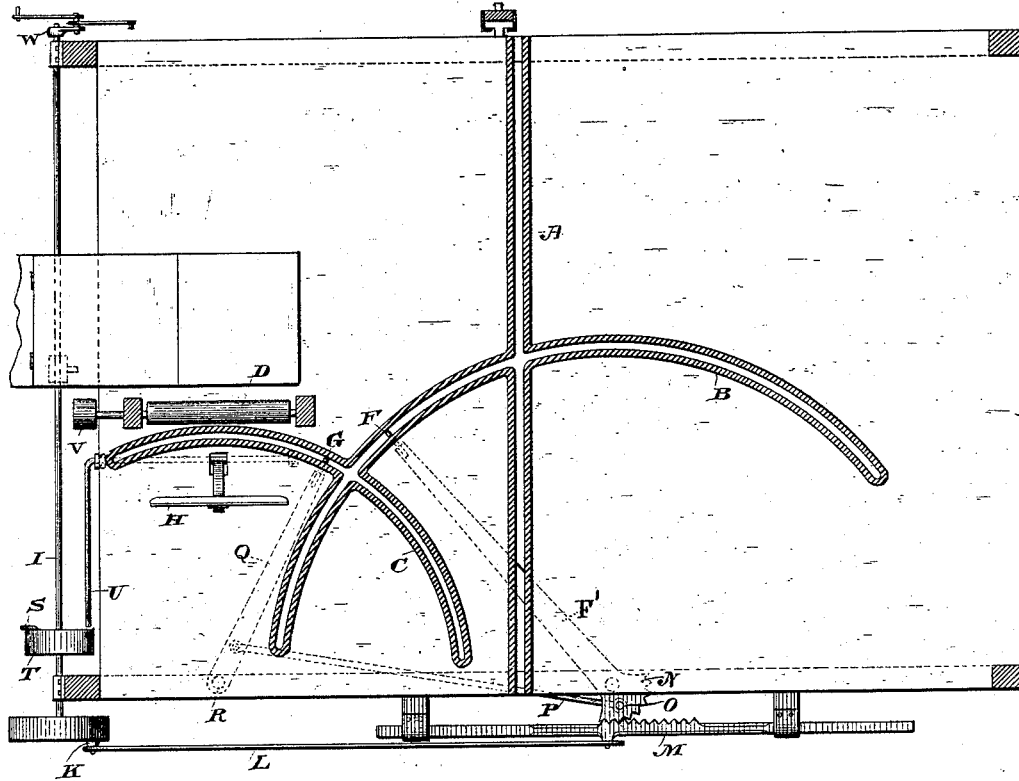
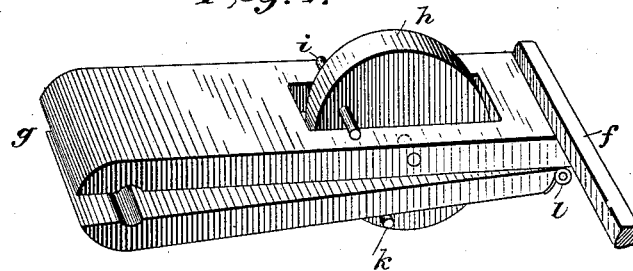


Fig. 4.



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UNITED STATES PATENT OFFICE.

AUSTIN BASCOM, OF BELLEFONTAINE, OHIO, ASSIGNOR OF ONE-HALF TO J. Q. A. CAMPBELL AND CHARLES D. CAMPBELL, BOTH OF SAME PLACE.

PAPER-FOLDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 302,228, dated July 22, 1884.

Application filed August 20, 1883. (No model.)

To all whom it may concern:

Be it known that I, AUSTIN BASCOM, a citizen of the United States, and a resident of Bellefontaine, in the county of Logan and State of Ohio, have invented a new and useful Improvement in Paper-Folding Machines, of which the following is a specification.

My invention consists of an improvement in paper-folding machines, and is briefly described as follows, reference being had to accompanying drawings.

Figure 1 is a perspective view of my invention, showing my crank, the levers operating my feed-grippers, first-fold finger, delivery-rollers and belt operating the same, the lug on the pulley, which operates the blade that feeds the papers to the delivery-rollers, and the paper-receiver. Fig. 2 is a perspective view showing the feed-grippers, the three folding-fingers, the ways in which the papers are folded, the rack and segment-gear that operate the second-folding finger, the pulleys and belt operating the delivery-rollers, and the cam-tappet which raises the fly to pile the papers on the receiving-table. Fig. 3 is a top sectional view showing the main shaft, the rack and segment that operates the second-folding finger and, through the connecting-rod and pivoted arm, the third-folding finger, the lug that operates the blade to feed the paper into the rollers for the last fold, the delivery and pressing rollers, and the cam-tappet which raises the fly of the receiving-table to pile the papers on the table. Fig. 4 is an enlarged view of my feed-grippers.

A, Fig. 3, are the first ways, down which the paper is doubled for the first fold; B, the second ways, for the second fold; C, the third ways; D, the delivering and pressing rollers; E, first-fold finger; F, second-fold finger on arm F', having segment N on the other end; G, third-fold finger; H, blade, which makes fourth fold and presents it to the pressing and delivery rollers; I, main shaft; K, crank on main shaft; L, connecting-rod; M, rack; N, segment-gear; P, connecting-arm, pivoted at O to segment N and to the pivoted arm Q, to give the necessary movement to finger G; R, pivoted point of arm Q; S, lug on pulley T, which strikes the bent arm U on the under

side at the proper time to cause blade H to force the paper between the delivery-rollers. The arm U is retracted by a spring. V, belt-pulley on axis of rollers D; W, crank on main shaft, operating the levers which actuate the first-fold finger and the feed-grippers; X Y Z, arms, which, through crank W, operate the slide *a*, carrying fold-finger E, and playing on standard *b*; *c*, connecting-rod from crank W, to operate lever *d*, which actuates the gripper-carrier *f*; *e*, rod on which gripper-carrier plays; *g*, the feed-grippers; *h*, roller on which grippers rest, and which has a partial revolution; *i k*, stops to limit the amount of revolution of roller *h*; *l*, projecting arm on standard *b*, carrying steady-ways *m*, in which the first-fold finger plays when above the table; *o*, tappet on main shaft, which strikes the lug *p* to raise the fly *q* of the receiving-table and pile the papers against the sliding rack *r*.

The operation is as follows: The paper is fed to the grippers supported on roller *h*, which has a partial revolution limited by stops *i* and *k*. In the forward movement the revolution of the roller opens the grippers, which close on the paper as the roller revolves on its backward movement, and carry it back until the middle of the paper is immediately over the way A. The first finger, E, descending, doubles the paper and carries it down the proper depth, across the path of finger F, and returns. As finger E leaves the ways in its ascent the finger F, moving in the arc of a circle, strikes the paper in the middle of its length and carries it across the path of finger G, so that the middle of the paper will be immediately across said path. As finger F in its return crosses the path of finger G, the finger G moves forward also in the arc of a circle, striking the paper in the middle, carrying it between the ways C and across the path of blade H, making the third fold. As finger C returns on its path, the blade H strikes the paper in the middle of its length, doubles it, and presents it to the delivery and pressing rollers D, that drop it on the fly of the receiving-table. The tappet *o* on the fly, main shaft then strikes the lug *p* of the raising the fly to a standing position, and piling the papers against the sliding rack *r*, which

recedes as the papers are piled against it, being clasped on the table and held by a spring. As the third-folding finger strikes one paper in folding, the first finger is making the first
 5 fold of another, and the rollers are delivering another on the receiving-table, each finger having barely time to reach its starting-point before starting forward again. My ways are lined or wound with listing or similar material, to prevent the papers tearing against the
 10 edges, and to prevent their being drawn out with the fingers on their return.

One of the crank-arms W and the arm K (both of them on the main shaft) are slotted,
 15 so that by varying the position of the bolt or crank-pin, thus shortening or lengthening the crank-arm, the movements of the machine are adapted to different-sized papers.

The fly *q* of the receiving-table is simply a
 20 hinged leaf whose normal position is at an angle of about forty-five degrees just in front of and beneath the rolls D. The paper as it passes from the rolls drops upon the inclined table and slides onto the fly, which is raised to
 25 pile the papers by the tappet *o* on the main shaft striking under the lug *p* on the fly. As soon as the tappet *o* passes the lug, the fly falls back into position to receive another paper.

The slots in cranks K and W are for the purpose of regulating the amount of throw or play
 30 of the folding-fingers to suit different-sized papers.

What I claim is—

1. The combination, with the ways A B C, (the ways B C being in the arc of a circle,) of
 35 the fingers E F G, the path of the fingers F G being in the arc of a circle, as and for the purpose set forth.

2. In combination with the folding-fingers and operating devices of a folding-machine,
 40 the slotted cranks K and W, by which the amount of throw of all the folding-fingers is regulated.

3. The combination, with the folding devices of a folding-machine, of feed-grippers *g*, hav-
 45 ing roller *h*, stops *i k*, and the carrier *f*, substantially as set forth.

4. The combination, with the folding-fingers F G, of the crank K, rod L, rack M, segment
 50 N, and arms F' P Q, as and for the purpose set forth.

AUSTIN BASCOM.

Witnesses:

P. W. CARTER,
 JOHN A. COULTER.