

W. H. COOK.
PAPER FOLDING MACHINE.
APPLICATION FILED DEC. 3, 1910.

1,006,911.

Patented Oct. 24, 1911.

Fig. 1.

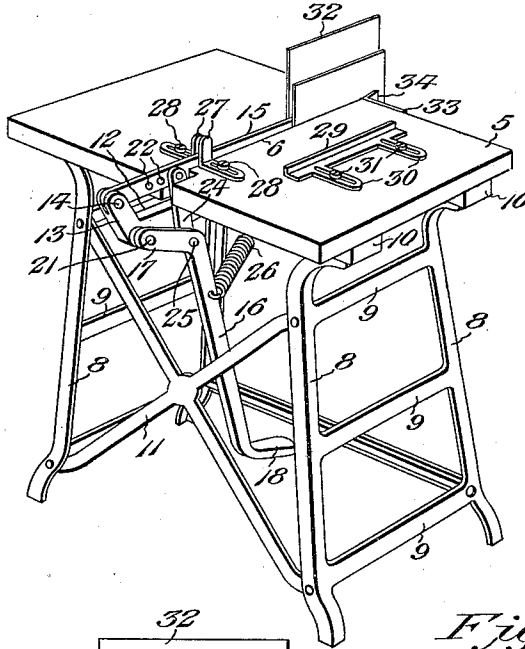


Fig. 2.

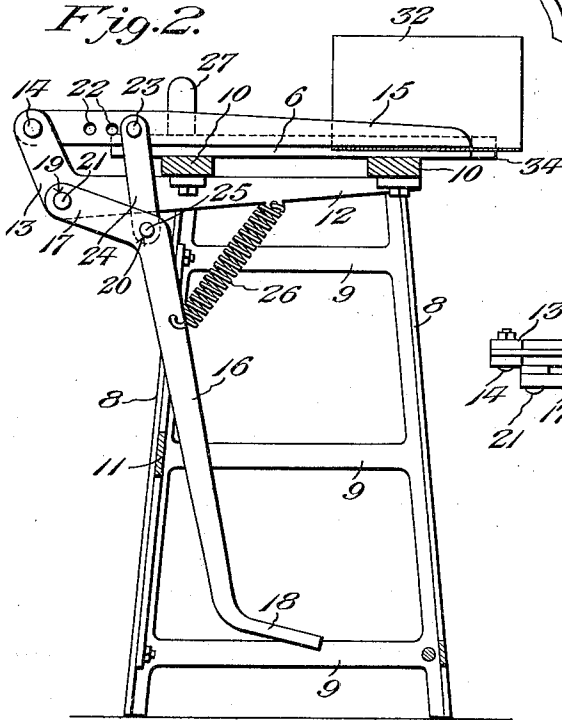
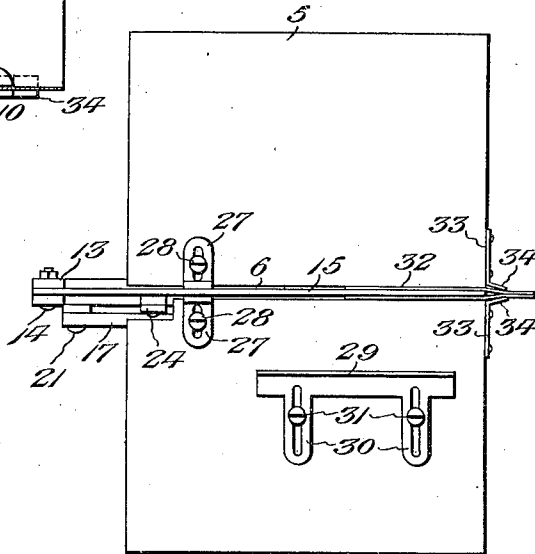


Fig. 3.



Witnesses

Edwin L. McKee
H. O. Kauder,

Inventor
William H. Cook

By Victor J. Evans
Attorney

UNITED STATES PATENT OFFICE.

WILLIAM H. COOK, OF DENVER, COLORADO.

PAPER-FOLDING MACHINE.

1,006,911.

Specification of Letters Patent.

Patented Oct. 24, 1911.

Application filed December 3, 1910. Serial No. 595,418.

To all whom it may concern:

Be it known that I, WILLIAM H. COOK, a citizen of the United States, residing at Denver, in the county of Denver and State of Colorado, have invented new and useful Improvements in Paper-Folding Machines, of which the following is a specification.

The invention relates to a folding machine, and more particularly to the class of paper folding machines.

The primary object of the invention is the provision of a machine in which sheets of paper may be successively folded into the desired shapes, thus obviating the necessity of the folding of the sheets by hand, as is ordinarily done.

Another object of the invention is the provision of a machine in which sheets of paper when fed thereon will be automatically folded or creased in a simple and unique manner, without necessitating the hand creasing of the sheets.

A still further object of the invention is the provision of a machine of this character in which small circulars and sheets of paper, such as bills, letters, notes and the like may be readily and conveniently folded on the operation of the machine, thereby minimizing the cost of labor required for this purpose.

A still further object of the invention is the provision of a machine of this character which is simple in construction, reliable and efficient in operation, and inexpensive in manufacture.

With these and other objects in view, the invention consists in the construction, combination and arrangement of parts, as will be hereinafter more fully described, illustrated in the accompanying drawings, and pointed out in the appended claim.

In the drawings: Figure 1 is a perspective view of a machine constructed in accordance with the invention, showing a sheet being folded thereby. Fig. 2 is an enlarged vertical transverse sectional view through the machine. Fig. 3 is a top plan view thereof.

Similar reference characters indicate corresponding parts through the several views of the drawings.

Referring to the drawings by numerals, the machine comprises a deck or work table 5, the same being transversely slit medially thereof to provide a slot or groove 6, for the folding of a sheet of paper in a manner as

will be hereinafter more fully described.

The table or deck 5 is supported upon a frame comprising legs or uprights 8, the same being connected by cross bars 9, spaced from their upper and lower ends, the upper ends of the said legs 8 being suitably secured to the cross reinforcing strips 10 secured in spaced relation to each other to the under face of the deck or table 5. Secured to the said legs 8 at the rear of the frame are braces 11, the latter serving to sustain the frame rigid.

In alinement with the folding groove or slot 6 in the table 5 and secured to the cross strips 10 beneath the said table 5 is a rearwardly extending bracket or arm 12, the latter being provided with an upturned forwardly inclined nose or extension 13, to which latter is connected by means of a pivot 14 a folding blade 15, the same being adapted to move into and out of the folding groove or slot in the table, in a manner as will be hereinafter more fully described.

Beneath the table or deck 5 is a depressible lever 16, the same being formed with a forwardly inclined upper end 17, while at its lower end is provided a foot rest or treadle 18. This lever 16 at its inclined upper end is provided with suitable bearings 19 and 20. Through the bearing 19 is passed a pivot 21 connecting the said lever 16 to the bracket. The folding blade 15 at its rear portion is provided with spaced openings 22, in any one of which is detachably connected a pivot pin 23, which latter attaches a pull link 24 thereto, the same being also pivotally connected, by means of a pin 25, to the lever 16 which pin 25 is passed through the bearing 20 in the latter. It is obvious that the openings 22 are designed to permit the adjustment of the link 24, thus increasing or decreasing the throw of the folding blade 15, as may be required.

Connected near the forward end of the bracket 12 is a coiled retractile spring 26, the same being also connected with the lever 16, the said spring serving to elevate the folding blade 15 on releasing pressure upon the foot treadle 18, thus sustaining the said blade 15 in a raised position with respect to the table 5 of the machine.

Mounted upon the table 5 at opposite sides of the folding groove or slot 6 therein, near the rear edge of the said table, are guides or gages, each comprising an L-shaped plate 27, the same being fastened to

the table 5 by means of a binding screw 28, the latter permitting the adjustment of the guide or gage. These guides or gages 27 serve to aline the folding blade 15 with respect to the slot or groove 6 in the table, when moving toward the said slot therein. At one side of the folding slot or groove 6 in the table 5 is a gage bar 29, the latter being provided with slotted ears 30, through the slots of which are passed binding or adjusting screws 31, the latter being engaged in the table top, whereby the said gage bar 29 may be adjusted toward or away from the folding slot or groove 6 in the table, so that the sheet of paper 32 positioned upon the table 5 will have one of its edges abutting against the gage bar 29, thus sustaining the said sheet 32 in proper position across the folding slot or groove 6 for the folding of the sheet by the folding blade 15, the latter being adapted, upon depressing the treadle 18, to approach and enter the folding slot 6 in the said table, thereby carrying the paper with the same into the slot and folding it.

At the front edge of the table 5 and secured thereto at opposite sides of the slot or groove 6 are creasing fingers, each comprising a strip 33 suitably secured to the table, and these strips are formed with forwardly converging resilient lips 34, so that on pulling forwardly upon the sheet of paper 32 subsequent to the folding thereof by the blade 15, the resilient fingers 34 will act upon the fold in the paper for closely creasing the latter when the folded sheet is being pulled forwardly out of the folding slot or groove 6 in the table.

In operating the machine, an attendant places the sheet of paper 32 upon the table 5, so that one edge thereof will abut against the gage bar 29, thus positioning the sheet of paper 32 across the folding slot or groove 6 in the table 5, whereupon downward pressure is applied to the foot treadle 18, causing the lever 16 to move in a direction for effecting a pull upon the link 24, thereby lowering the folding blade 15, which will

approach and enter the folding groove 6 in the table, carrying with it the sheet of paper 32 into the groove 6, thus folding the same at the point of contact of the blade 15 therewith. Now, upon releasing pressure upon the treadle 18, the folding blade 15 will be automatically elevated, whereupon the attendant pulls forwardly upon the folded sheet of paper 32 in the folding slot or groove 6 in the table, causing the said sheet to slide between the resilient creasing fingers 34 at the forward edge of the table 5, thereby closely creasing the fold in the sheet of paper 32 made by the folding blade 15, as the sheet of paper is withdrawn from the folding groove or slot. This operation is successively repeated for the folding of the sheets of paper during the feeding of the same onto the table.

From the foregoing, it is thought that the construction and operation of the invention will be clearly understood without requiring a more extended explanation, and therefore the same has been omitted.

What is claimed is:

In a paper folding machine, a supporting frame, a table carried thereby, an arm fixed to the frame beneath the table and having an upturned angular extension, the said table being provided with a folding groove disposed transversely therein, a folding blade pivoted to said extension and movable into and out of the said groove, a foot treadle pivoted to said arm, a spring connected with said arm and said foot treadle to hold the same normally elevated, a link pivoted to the foot treadle and adjustably connected to the folding blade, and forwardly converging spring fingers fixed to the front edge of the table at opposite sides of the said folding groove to crease a folded sheet of paper when pulled therebetween.

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

WILLIAM H. COOK.

Witnesses:

A. W. LIGGITT,
MARY E. MILLER.