

No. 702,085.

Patented June 10, 1902.

L. E. BARNES.
FOLDING MACHINE.

(Application filed Feb. 1, 1902.)

(No Model.)

3 Sheets—Sheet 1.

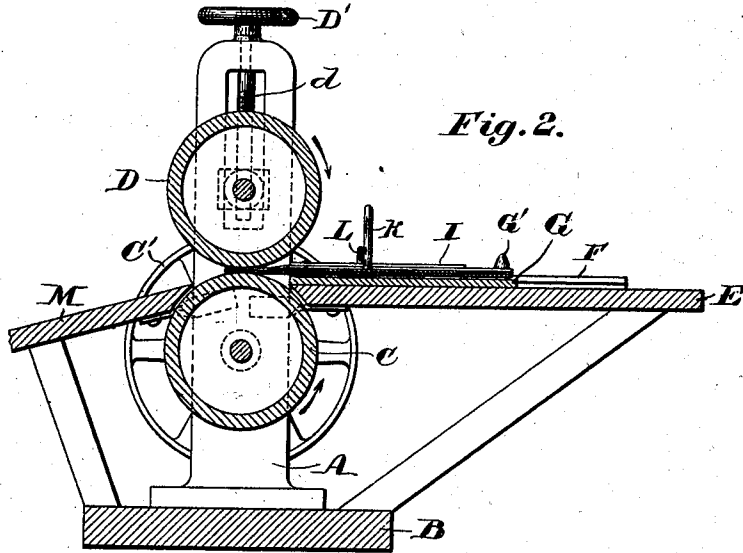


Fig. 2.

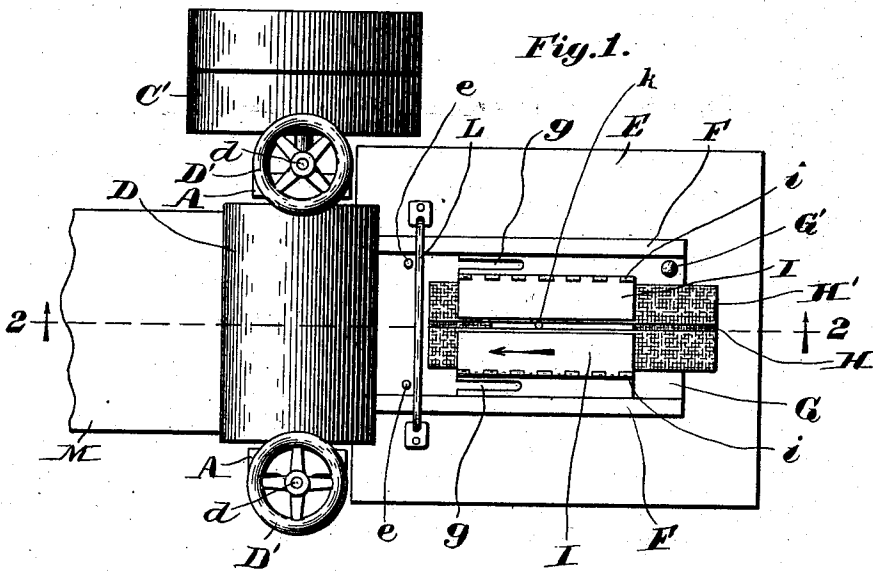


Fig. 1.

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Inventor:

Lewis E. Barnes.

by

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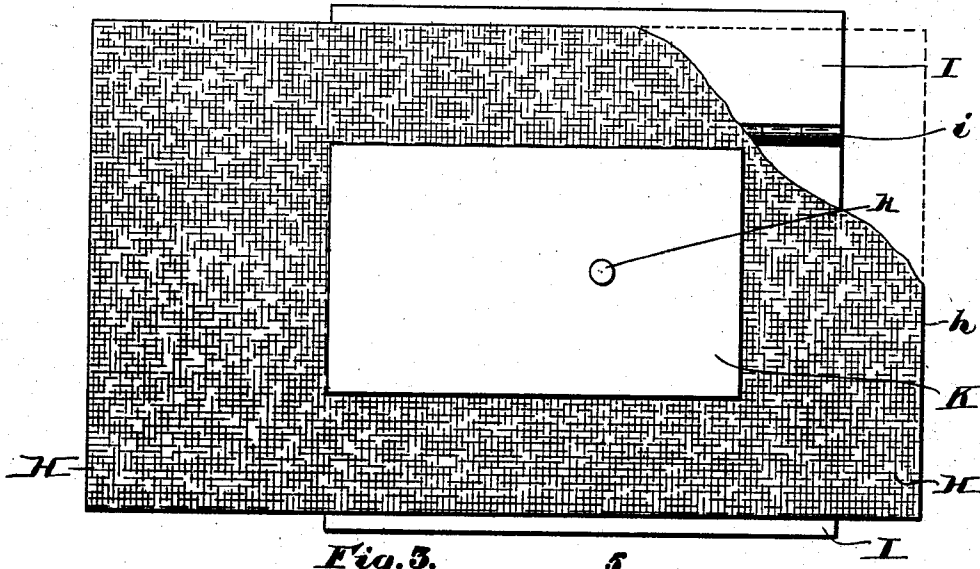


Fig. 3.

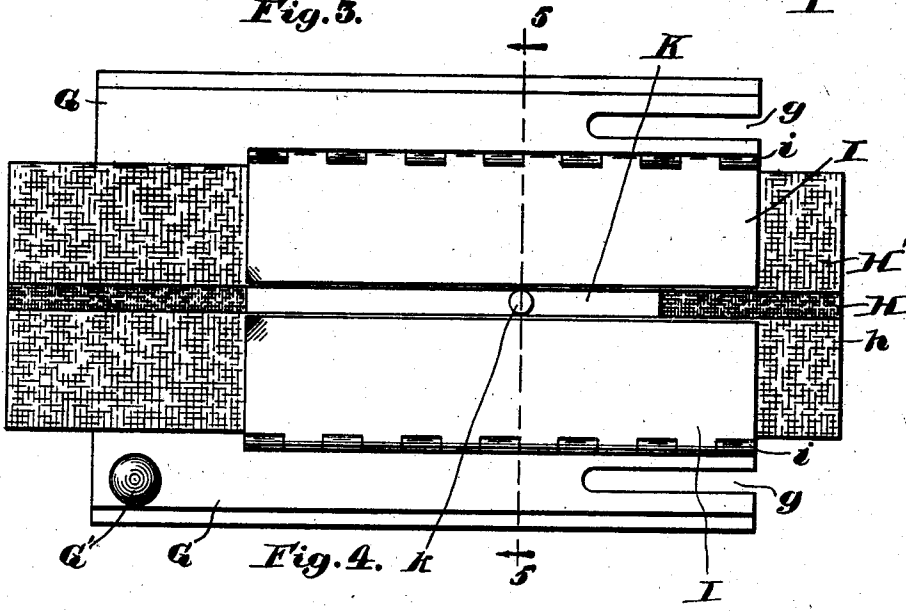


Fig. 4.

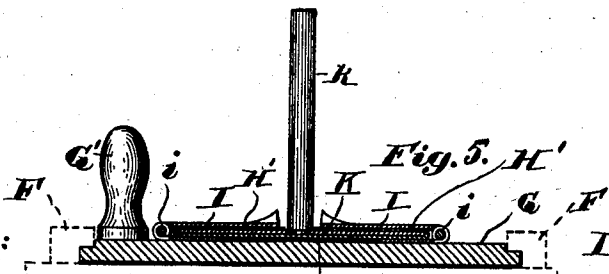


Fig. 5.

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3 Sheets—Sheet 3.

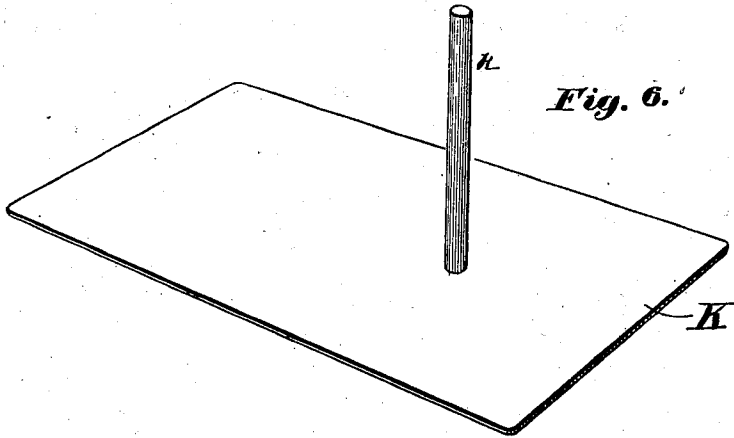


Fig. 6.

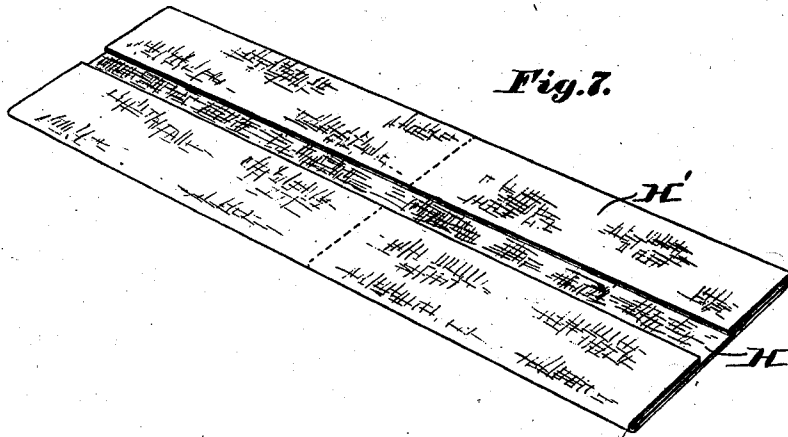


Fig. 7.

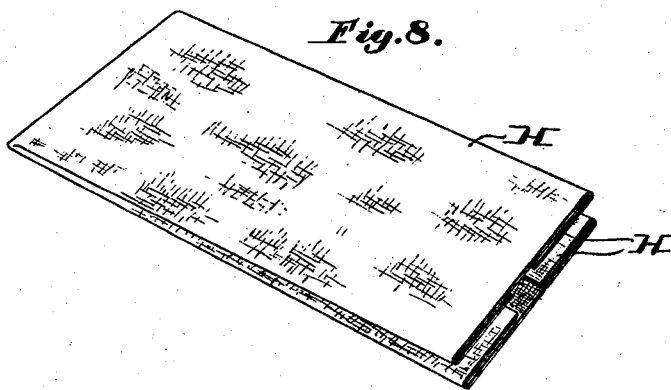


Fig. 8.

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UNITED STATES PATENT OFFICE.

LEWIS E. BARNES, OF METHUEN, MASSACHUSETTS.

FOLDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 702,085, dated June 10, 1902.

Application filed February 1, 1902. Serial No. 92,100. (No model.)

To all whom it may concern:

Be it known that I, LEWIS E. BARNES, a citizen of the United States, and a resident of Methuen, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Sample-Cloth-Folding Machines, of which the following is a specification.

This invention relates to an improved machine or device for folding sample cloths, which after being folded are usually attached to sample-books and used for showing the products of the mill to buyers or customers in taking orders or otherwise, as may be desired.

The invention consists, in combination with a pair of rotary cylindrical rollers, of a table or support upon which is longitudinally movable a carrier on which the sample cloth is placed previous to being folded. Upon said sample cloth is placed a former-plate, over the upper surface of which the side portions of the cloth are folded or doubled over by means of hinged folders pivotally connected to the carrier, and while the cloth is thus being held folded on the carrier the latter is guided toward the rotary rollers, causing a projecting portion of the folded sample cloth to enter between said rollers and causing the sample cloth to be drawn between said rollers and creased into the desired folded position, as will hereinafter be more fully shown and described, reference being had to the accompanying drawings, where—

Figure 1 is a top plan view of the folding-machine, showing the folding device in its rear position on the work-supporting table. Fig. 2 is a longitudinal section on the line 2 2 shown in Fig. 1, showing the folding device pushed forward to allow the end of the cloth to enter between the rollers. Fig. 3 is a detail top plan view of the carrier, showing the sample cloth placed in position thereon and the former-plate placed on top of said cloth. Fig. 4 is a similar view showing the cloth folded by means of the hinged folders. Fig. 5 is a cross-section on the line 5 5 shown in Fig. 4. Fig. 6 is a detail perspective view of the former-plate. Fig. 7 is a perspective view of the sample cloth shown as folded longitudinally by the action of the folding-machine,

and Fig. 8 is a perspective view of said sample cloth shown as folded transversely ready to be attached to a sample-book.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

In the drawings, Figs. 1 and 2, A A represent standards, preferably secured to a base B.

C is a roller the shaft of which is journaled in bearings in the standards A A. The said roller C is set in a rotary motion, preferably by means of belt-power applied to a pulley C', secured to the shaft of the roller C. Above the roller C is located a similar roller D, the shaft of which is vertically adjustable in said standards A A, preferably by means of screw-shafts *d d* and cranks or hand-wheels D' D', as is common in feed-roller devices. In front of the said rollers is located a stationary work-supporting table E, to the upper portion of which are secured suitable guides F F, between which is guided a reciprocating carrier G, upon which the sample cloth H is placed previous to being folded. To said carrier are hinged at *i i* the folder-plates I I, as shown in the drawings. In connection with said pivoted folder-plates I I use a detachable former-plate K, provided with an upwardly-extending handle or spindle *k*. (Shown in detail in Fig. 6.)

In practice I provide the carrier G with a knob or handle G', by means of which it may be manipulated by the operator. In using the machine it is essential that the carrier should be limited in its forward motion, so as to prevent it from entering between or touching the rollers C D when pushed forward by the operator, and for this purpose I make use of a suitable stop device, and I have for such purpose shown in Figs. 1 and 2 a pair of stop pins or projections *e e*, secured to the table E and adapted to come in contact with the rear ends of recesses *g g* in the carrier G when the latter is moved forward to the end of its stroke during the folding operation. It is also essential that the former-plate K should be limited in its forward motion, so as to prevent it from entering between or touching the said rollers C D, and for such purpose I secure to the table E a transverse stop-bar L, which serves as a stop

against the former-plate spindle or handle *k* when said former-plate is pushed forward to the limit of its stroke, as shown in Fig. 2.

In using the device I proceed as follows:
 5 I first turn the folder-plates I I outward, as shown in Fig. 3. I then place the carrier G in the position shown in Fig. 1, after which I place the cloth H upon said carrier in such a position that the forward end *h* of said
 10 cloth shall project about an inch or so in advance of the forward end of the carrier, as shown in Figs. 1, 3, and 4. I then place the former-plate K on top of the cloth and turn the side portions H' H' of the cloth over and
 15 upon the former-plate K by means of the folder-plates I I, which are swung inward to the closed projections shown in Figs. 1, 4, and 5. The carrier, with the folded cloth held upon it, is then pushed forward toward the
 20 rollers C D in the direction of the arrow shown in Figs. 1 and 4 to the position shown in Fig. 2, causing the forward end *h* of the folded cloth to enter between the said rollers, by which the cloth is drawn between the roll-
 25 ers, and after the edges of the folded cloth have thus been creased by passing between the rollers, as represented in Fig. 7, the folded sample cloth falls on a suitable table or support M back of the rollers C D, as shown in
 30 Figs. 1 and 2, after which it may be doubled up transversely, as represented in Fig. 8, ready to be attached to a book or cover suitable to hold a series of the folded sample
 35 cloths in position for the purpose hereinabove stated.

Instead of having the former-plate K entirely detachable from the carrier G it may be hinged to the same, so as to permit the cloth to be placed on the carrier previous to
 40 the folding operation, as above set forth.

After the cloth has been run through the rollers the operator moves the carrier to the original position, (shown in Fig. 1,) turns the pivoted folders outward to their open position, removes the former-plate, and places a
 45

new piece of cloth upon the carrier and repeats the folding operation, as hereinabove set forth and described.

Having thus fully described the nature, construction, and operation of my invention, 50 I wish to secure by Letters Patent and claim—

1. The herein-described sample-cloth-folding machine, consisting in combination with a pair of rotary creasing-rollers, of a work-supporting table, a carrier adjustable on the
 55 latter relative to the rollers, folders pivotally connected to the carrier and a former-plate K, substantially as and for the purpose set forth.

2. The cloth-folding device, as described, 60 consisting of a longitudinally-movable carrier G, combined with folders I, I, pivotally connected to said carrier and a detachable former-plate K, adapted to be placed on the top of the sample-cloth before closing the hinged
 65 folders substantially as and for the purpose set forth.

3. In a sample-cloth-folding machine, in combination a pair of rotary creasing-rollers, a longitudinally-movable carrier, a pair of
 70 folders hinged to said carrier, a detachable former-plate adapted to be placed on top of the cloth previous to closing said folders and a stop device for limiting the motion of the carrier and its former-plate relative to the
 75 creasing-rollers substantially as and for the purpose set forth.

4. A cloth-folding machine, consisting in combination a pair of rotary creasing-rollers, a reciprocating carrier, hinged folders on the
 80 latter, a detachable former-plate and stop devices for limiting the forward motion of the carrier and former-plate substantially as and for the purpose set forth.

In testimony whereof I affix my signature 85 in presence of two witnesses.

LEWIS E. BARNES.

Witnesses:

CHARLES E. COLLINS,
 ALBERT B. GORDON.