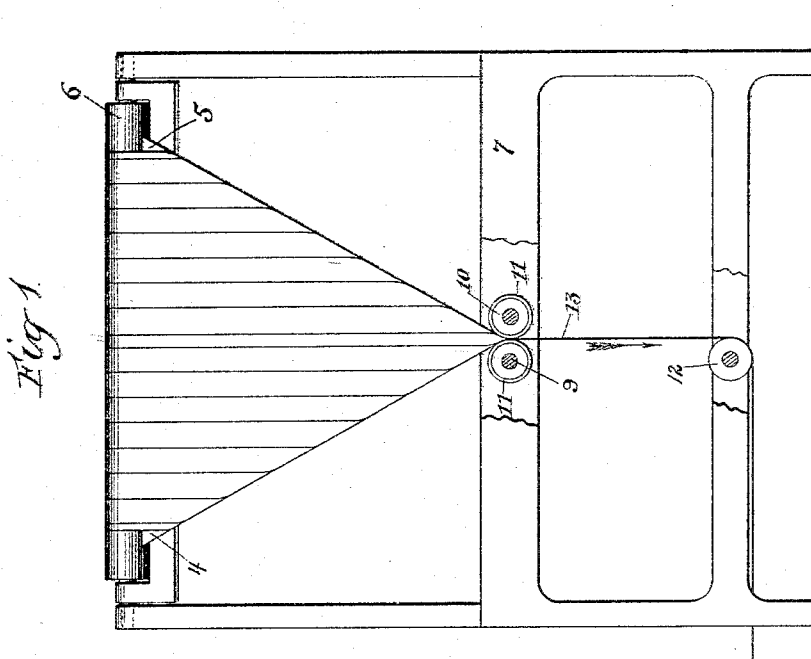
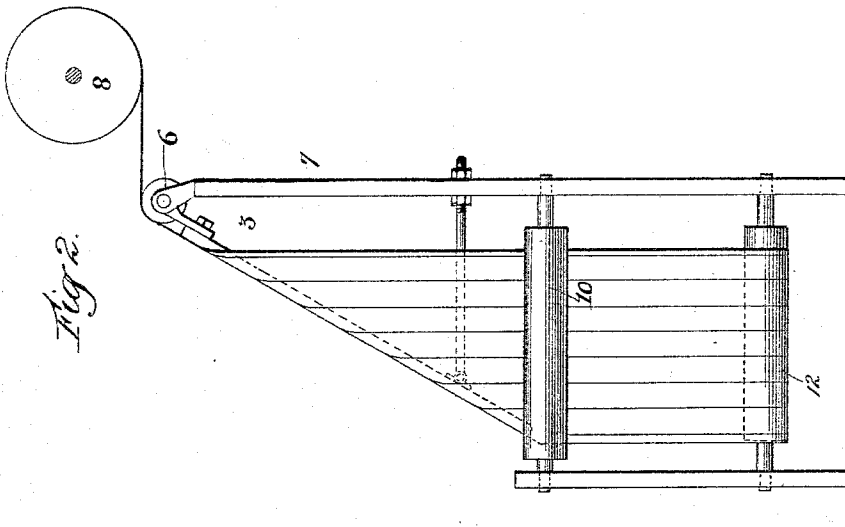


(No Model.)

S. G. GOSS.
FOLDING MACHINE.

No. 531,794.

Patented Jan. 1, 1895.



Witnesses
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Julia M Bristol.

Inventor
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UNITED STATES PATENT OFFICE.

SAMUEL G. GOSS, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE GOSS PRINTING PRESS COMPANY, OF SAME PLACE.

FOLDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 531,794, dated January 1, 1895.

Application filed May 1, 1893. Serial No. 472,482. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL G. GOSS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Folding-Machines, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a front elevation; and Fig. 2 is a side elevation.

My invention relates to machines designed to be used to impart a longitudinal fold to a web of paper or other fabric, and more particularly to that class of machines in which the folding is done by an internal guide or former co-operating with external guide and fold laying rollers.

The object of my invention is to provide certain improvements in folding machines of this class, by means of which their construction will be simplified by dispensing with external guides operating above the apex or point of the internal guide, and the danger of wrinkling or breaking the web by the use of a single pair of contact rollers will be avoided. I accomplish this object as hereinafter specified and as illustrated in the drawings.

That which I regard as new will be set forth in the claims.

As is well known, in folding machines of this class the fabric to be folded is passed in a continuous web over a V shaped internal guide or former, generally consisting of two converging bars. The converging ends of the bars in some cases, are directly united, forming a point at the apex of the former, and in other cases, terminating a short distance from each other and being connected by an intermediate piece, the sides of which are curved, and form continuations of the bars which constitute the former. In the latter case it has been customary to use two external rollers or turners placed at opposite sides of the former above its apex, which turners serve to guide the web during the process of folding, and are intended to keep the web taut and to prevent it from wrinkling. In some cases such rollers have been placed below the apex of the former, but in all cases they have been placed a distance apart, so that they did not perform the

function of creasing or pressing the web along the folded line. In the former case, where the former is of regular V shape, being provided with a sharp apex, it has heretofore been attempted to use a pair of fixed metallic fold laying and guide rollers, located at the apex of the former, and placed in contact with each other in position to receive and crease the folded web as it passes from the former. The use of metallic rollers of this description has, however, been found to be unsatisfactory, in that the web as it passes over the former is not held sufficiently taut, and is thereby caused to wrinkle as it passes between such rollers.

I have discovered that the inoperativeness of the construction last referred to arises from the fact that rollers heretofore used have been inelastic or unyielding, and that by substituting for inelastic metallic rollers, rollers covered with felt, or composition rollers, or in fact rollers of any kind which are so constructed as to be inherently elastic or yielding, the defects arising from the former construction are remedied, and the web may be then guided and creased by the same rollers in a perfectly satisfactory manner.

In the accompanying drawings,—3 indicates a former, composed of bars 4—5, arranged in any suitable manner.

6 indicates a roller at the base of the former, supported by a frame 7.

8 indicates a roll of the fabric to be folded.

9—10 indicate rollers mounted in the frame 7, at the apex of the former, which rollers are normally in contact with each other, and are arranged to receive the folded web from the former, as shown in Fig. 1. Each roller 9—10 is provided with an outer covering 11, of felt or any other elastic or yielding material.

12 indicates a roller located under the roller 9, and parallel therewith, as shown in Fig. 1.

13 indicates the web to be folded. As the web passes over the former 3 it is conducted between the rollers 9—10, where it is creased or pressed along the line of the fold, and thence around the roller 12, which serves as a turning bar to permit of changing the direction of motion of the web. In order to prevent wrinkling of the web at its folded edge as it passes around the roller 12, such roller

is so placed that the folded edge of the web will project slightly beyond one end of the roller, as shown in Fig. 2.

It is obvious that the specific construction of the former or internal guide may be varied, so long as its mode of operation is not materially varied, the principal invention herein residing broadly in a single pair of inherently elastic or yielding rollers acting to draw the paper from the guide, and arranged in close proximity to and receiving the web directly from the said guide, and in a single pair of elastic surfaced rollers acting solely to draw the paper from the guide and to lay the fold, and arranged in close proximity to and receiving the web directly from said guide, thereby dispensing with the use of additional external turners.

I am aware that a pair of rollers has been arranged in close proximity to an internal guide for the purpose of longitudinally folding printed sheets. In the prior construction the rollers are not inherently elastic, but, on the contrary, both rollers are of inelastic material, and one of them is mounted in a yielding bearing. Such rollers will not accomplish the result attained by my invention, and are not claimed by me.

That which I regard as my invention, and desire to secure by Letters Patent, is—

1. A folding device, consisting of an internal guide, and a single pair of inherently elastic or yielding rollers acting to draw the paper from the guide, and arranged in close prox-

imity to and receiving the web directly from said guide, substantially as described.

2. A folding device, consisting of an internal guide, and a single pair of rollers having elastic or yielding surfaces acting solely to draw the paper from the guide and to lay the fold, and arranged in close proximity to and receiving the web directly from said guide, substantially as described.

3. A folding device, consisting of an internal guide, and a single pair of felt covered rollers acting solely to grip and draw the paper from the guide and to lay the fold, and arranged in close proximity to and receiving the web directly from said guide, substantially as described.

4. The combination in a longitudinal folding device, of a V-shaped internal guide, and fold-laying rollers having elastic surfaces normally in contact and arranged in close proximity to and receiving the web directly from the said guide, substantially as described.

5. The combination with longitudinal folding devices, of a turning roller around which the folded web is adapted to pass for changing its line of travel, said turning roller being so arranged that the folded edge of the web will project beyond one end of said roller, substantially as and for the purposes described.

SAMUEL G. GOSS.

Witnesses:

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