

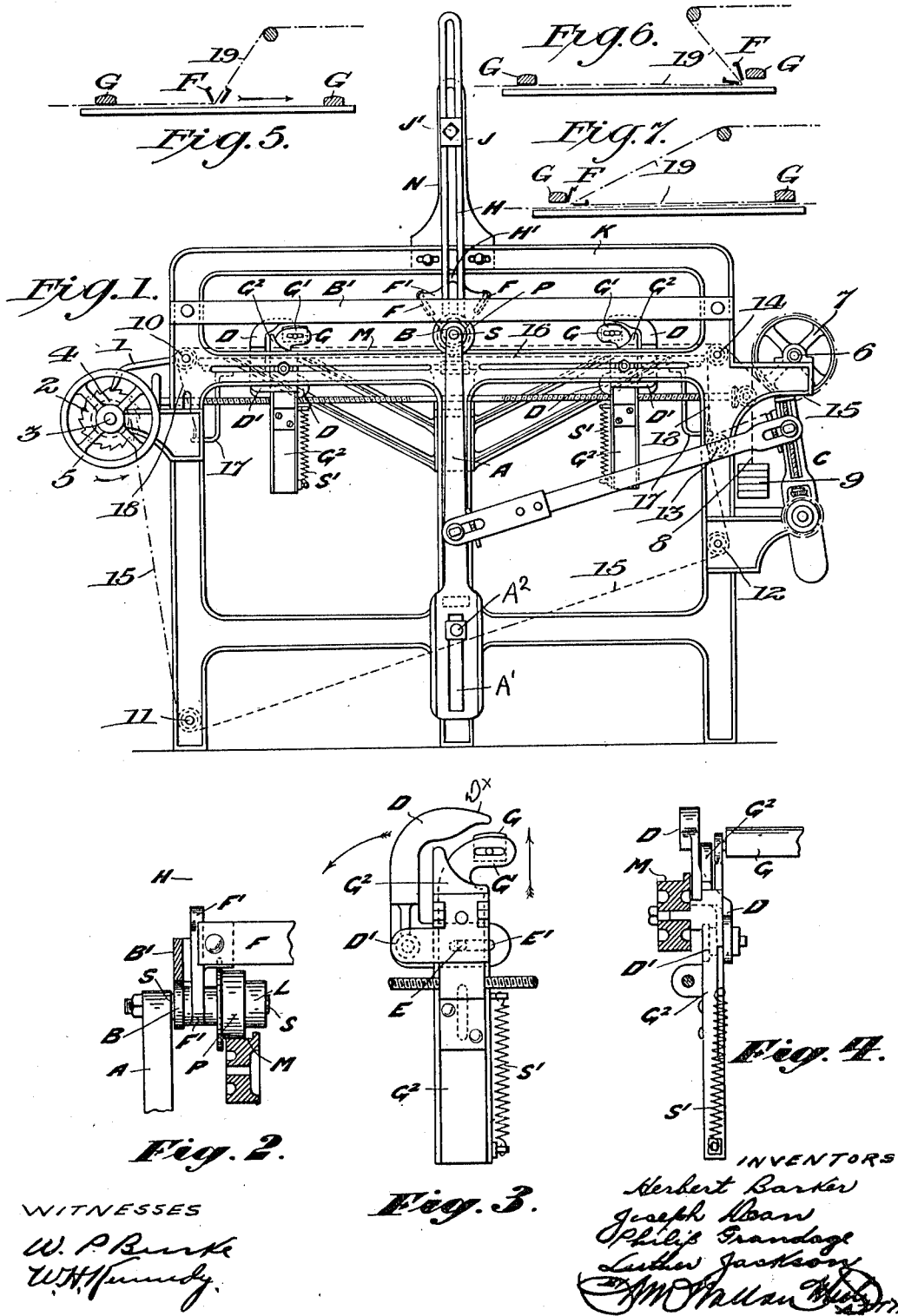
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MACHINE FOR FOLDING FABRIC.

APPLICATION FILED FEB. 11, 1908.

1,001,604.

Patented Aug. 29, 1911.



UNITED STATES PATENT OFFICE.

HERBERT BARKER, JOSEPH DEAN, PHILIP GRANDAGE, AND LUTHER JACKSON, OF
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MACHINE FOR FOLDING FABRIC.

1,001,604.

Specification of Letters Patent. Patented Aug. 29, 1911.

Application filed February 11, 1908. Serial No. 415,453.

To all whom it may concern:

Be it known that we, HERBERT BARKER, JOSEPH DEAN, and PHILIP GRANDAGE, subjects of the King of Great Britain and Ireland, and residing at Globe Works, Manningham, Bradford, in the county of York, England, and LUTHER JACKSON, a subject of the King of Great Britain and Ireland, and residing at 44 Fairbank road, Manningham, Bradford, in the county of York, England, have invented a certain new and useful Machine for Folding Fabric, of which the following is a specification.

This invention relates to improvements in "plaiting" or folding machines, used for folding cloth and the like, and consists in improvements in that class of machine described and illustrated in British specification, No. 10350 of the 3rd of May, 1906, and has for its object the arrangement and construction of a simple and efficient machine, whereby the cloth or the like may be readily folded and one adjustment of the machine be sufficient for varying lengths of folds of cloth.

In describing our invention in detail, reference is made to the accompanying sheet of drawings, similar letters indicating similar parts, in which,

Figure 1 represents a general view of the machine fitted with our improvement. Figs. 2, 3, and 4, are details of the grippers and operating device hereinafter referred to. Figs. 5, 6 and 7 represent diagrammatically the path followed by the cloth during the folding operation.

In carrying out our invention, the "folding blades" F are carried at one extremity of an operating arm A, which is pivoted toward its other extremity by means of a slot A¹ and pin A² in such a manner that the arm may rise and fall in order to insure a parallel motion of the folding blades. The operating arm A is given the desired motion by means of a suitable crank C, or other convenient means.

The "folding blades" F are preferably carried on a stud or small shaft S passing into or toward one extremity of the operating arm A, and adjacent to the said arm and mounted on the stud is a guide bowl B.

Mounted on the machine frame and in contact with the guide bowl is a guide bar B¹, such bar being placed above the before mentioned stud or shaft. At the other end

of the stud or shaft is mounted a small flanged or like pulley P which bears on a machined face M of the machine frame, and between the said bowl and pulley is mounted the bracket F¹ carrying the "folding blades." The extreme end of the shaft or stud S carries a leather or like covered roller L, (Fig. 2), which serves to operate the grippers G, the sliding portion G¹ of the grippers having attached thereto by means of slot E¹ and pin E, one end of a bell crank lever D, such lever being pivoted to an extension D¹ of the fixed part G² of the grippers, or in any other convenient manner. The other end D² of the lever D is turned toward the operating arm, and such end is formed with a suitable taper, (Figs. 1, 3, and 4). As will be seen from Fig. 4 the lever D is bent so that its upper end lies beyond the end of the gripper G so that the roller L may contact with the upper end of the lever D without interfering with the gripper G. As the covered roller L comes in contact with this lever, the upper end thereof is forced back and the lower end raised, and the grippers raised by means of the stud E and slot E¹, (Fig. 3). The construction of the grippers G is otherwise substantially the same as that described in the before mentioned specification, a spring or springs S¹ returning the gripper to its down position as soon as the covered roller has released the bell crank lever D. The grippers are adjustable as to distance apart.

In order to turn first one "folding blade" F and then the other toward their respective grippers G, as the folding arm A travels backward and forward, the bracket F¹ carrying the blades F is provided with an arm or extension H, provided with a slot H¹, and mounted on the top bar K or frame of the machine is another slotted arm N. In the slot H¹ in the first mentioned slotted arm or extension H, is placed a sliding bush J, and a pin or stud J¹ passes from this bush into the slot of the other slotted arm N, and thus the motion of the operating arm causes the "folding blades" to turn first toward one gripper and then toward the other.

The path taken by the cloth during the folding operation is shown in Figs. 5, 6 and 7, in which 19 represents the cloth, F the folding blades, and G the grippers. Fig. 5 shows the path of the cloth when com-

mening to fold, the folding blades F traveling in the direction indicated by the arrow. Fig. 6 represents the folding blades F delivering the cloth to the right hand set of grippers which are being raised in the manner described in the specification, for the purpose of gripping the cloth. As the blades travel in the opposite direction the cloth will be retained in position by the falling of the grippers, as indicated in Fig. 7, the folding blades traveling across the machine and delivering the cloth to the grippers shown at the left of the drawing.

The "folding table" instead of being carried centrally on one arm, may be carried from all four corners, and operated to rise and fall as desired, by means of counterpoised weights or the like.

The operation of the table is as follows:
 A pawl 1 is attached to the machine frame and engages a ratchet wheel 2, mounted upon a shaft 3, which also carries a pulley 4 and a hand wheel 5, the shaft 6 carrying a series of pulleys 7 is also secured to the machine frame. Attached to one or more of the pulleys 7 are chains, cords or the like 8, to which weights 9 are attached. Mounted upon the frame in suitable positions are pulleys 10, 11, 12, 13 and 14. A chain, cord or the like 15 is secured to a pulley 4 which passes around pulleys 11, 12 and 13 and is finally secured to one of the balanced pulleys 7. Attached to the table 16, preferably at each corner thereof, are downwardly extending brackets 17 to which are attached chains,

cords or the like 18 which pass over pulleys 10 and 14 and are secured to the balanced pulleys 7, there being, of course, a chain and pulley for each bracket. If it is required to bring the table into contact with the grippers G, to commence folding, the pawl 1 is removed from engagement with the ratchet wheel 2, thereby allowing the weights 9 to revolve the pulleys 7 in a direction which will raise the table. If it is desired to lower the table, the hand wheel 5 is turned in the direction of the arrow, which operation takes the weight from off the pulleys so that the table will fall slowly by its own weight.

What we claim as our invention is:—

A cloth folding machine comprising a folding blade carrier, a vertical arm connected to said carrier at its upper end, means for moving the upper end of the said arm in a horizontal plane, a guide bar B¹ on the machine frame, a track M on said frame, a guide bowl B connected to the vertical arm and engaging the bar B¹, a pulley P connected to the vertical arm and engaging the track M, a roller L connected to said vertical arm, and grippers operated by said roller L.

In witness whereof we have hereunto set our hands in the presence of two witnesses.

HERBERT BARKER.
 JOSEPH DEAN.
 PHILIP GRANDAGE.
 LUTHER JACKSON.

Witnesses:

JOSEPH P. KIRBY,
 A. W. PLATT.