

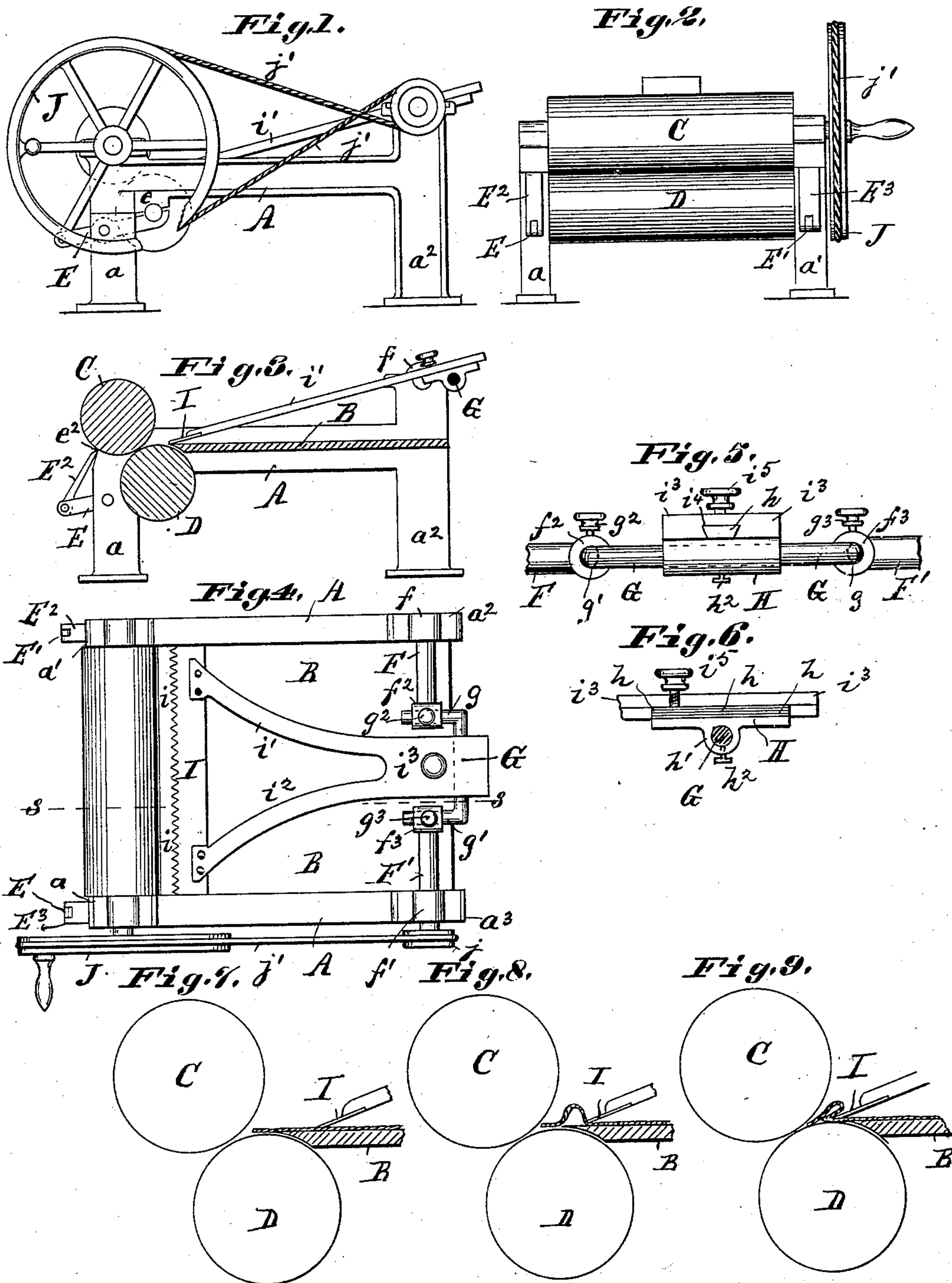
(No Model.)

W. R. HALLETT.

PLAITING MACHINE.

No. 285,030.

Patented Sept. 18, 1883.



Attest,
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UNITED STATES PATENT OFFICE.

WILLIAM R. HALLETT, OF BATCHTOWN, ILLINOIS, ASSIGNOR OF ONE-HALF
TO WILLIAM HEFFINGTON, OF SAME PLACE.

PLAITING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 285,030, dated September 18, 1883.

Application filed May 8, 1883. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM R. HALLETT, a citizen of the United States, residing at Batchtown, in the county of Calhoun and State of Illinois, have invented a new and useful Improved Apparatus for Plaiting Cloth, of which the following is a specification.

My invention specially relates to an improved apparatus for plaiting cloth, but is generally serviceable for ironing, smoothing, and folding cloth and similar uses, and laundry purposes.

I will first fully describe the construction and operation of my improvements, and hereinafter point out the novel features thereof in the claims.

In the accompanying drawings, Figure 1 is a side elevation. Fig. 2 is a front elevation. Fig. 3 is a longitudinal sectional elevation. Fig. 4 is a top or plan view. Fig. 5 is an enlarged detail rear elevation of the crank or central shaft connection to the ends of the end shafts, also showing the shank of the pressure-gage plate engaging by its groove the lug on the bearing-block. Fig. 6 is an enlarged detail sectional elevation of the shank, its set-screw, and bearing-block on the central shaft. Figs. 7, 8, 9 are respective detail views, showing the formation of a plait or fold in the cloth by the action of the pressure-gage plate and feeding the plait in the direction of the cylinders.

A represents a suitable table-frame on legs a a' a^2 a^3 .

B is the table proper, the upper face thereof made smooth and even for the ready passage over same of the cloth or material to be plaited. (See Figs. 3, 4.)

C and D are two rollers or cylinders for purposes of ironing, smoothing, and pressing the plaited cloth as same is fed between and delivered from the cylinders. The upper cylinder is simply mounted to turn in proper journal-boxes top of the legs a a' , as shown in Figs. 1, 2, 3, 4. The lower cylinder, D, for ironing, &c., is mounted, so that at any time the operator can readily remove the said cylinder for purposes of heating same, or replace the said cyl-

inder for operation in the machine. Therefore in the slots of the legs a a' , I have pivoted the respective levers E E', the inner end of each of which forms one half of a bearing-box, in which the journal ends of the cylinder D can turn, the other half of the bearing-box being shown at e as forming part of the under face of the table-frame. (See Fig. 1.) Further, E² E³ are two supporting-arms, the lower end of each being pivoted, respectively, to the outer end of the levers E E', while the upper end of each supporting-arm is made to engage a notch at e^2 in the face of the standards or legs a a' , as indicated in Figs. 1, 2, 4. It is by simply disengaging the arms E² E³ out of their notches that the levers E E' can be made to turn sufficiently on their fulcrum to lower the cylinder D until it is free from contact with the upper half of the bearing-blocks e , and can then be lifted out of the levers E E' and taken to one side, or heated, &c.; also, by means of the levers E E', carrying the cylinder D, the same can be readily replaced or lifted against the bearing-blocks e , and kept in operative position by replacing the ends of the supporting-arms E² E³ in their notches.

F F' are two similar shafts, each having their outer end turning in suitable journal-boxes, f f' , top of the main standards a^2 a^3 . (See Figs. 1, 2, 3.) Both the shafts F F' have their enlarged inner ends provided with a circular opening at f^2 f^3 . (See Figs. 4, 5.)

G is a center or crank shaft carrying the respective pins g g' . (See Figs. 4, 5.) The pins g g' are passed, respectively, through the openings at f^2 f^3 , and by means of set-screws g^2 g^3 can be rigidly secured to the shafts F F', as indicated in Figs. 4, 5.

H is a bearing-block, consisting of the block or lug h , and at right angle thereto of the sleeve portion h' . (See Figs. 5 and 6.) By its sleeve h' this bearing-block is rigidly secured on the central shaft, G, and operates with same, a set-screw, h^2 , fastening the block on the shaft, as shown.

I is the pressure-gage plate for gaging and folding the cloth and forming the required plaiting. This pressure-gage plate extends

the entire width of the table, and its front edge, i , is made serrated, to better feed or take hold of the cloth. (See Figs. 4, 7, 8, 9.) I attach or rivet this pressure-gage plate to the end of two forked or branching arms, $i' i^2$, that have for their junction the shank or head i^3 . (See Figs. 1, 3, 4, 5, 6.) The under face of the shank i^3 has a longitudinal groove, i^4 , to correspond with and fit over the like-shaped lug h of the bearing-block H. (Shown more clearly in Figs. 5, 6.)

i^5 is the set-screw to fasten the shank top of the bearing-block. Therefore the pressure-gage plate proper rests upon the table, and is, by means of its arms and shank, connected to the bearing-block on the central shaft to operate with same.

It will be noted that the parts that can be adjustably secured are, first, the pressure-gage plate by its grooved shank along the length of the lug of the bearing-block; secondly, the central shaft (carrying shank of pressure-gage plate) can be adjustably secured along the length of the crank-pins. In the former case, the adjustment of the pressure-gage plate is to suit narrow or wider formations of folds or plaits in the cloth. Thus, for narrow folds or plaits, the pressure-gage plate, by its shank, is adjustably secured on the lug to a point nearer to the cylinders; but for wider plaiting the adjustment is on a point farther away from the cylinders. In either case the adjustment of the central shaft is along the crank-pins, to suit the feed motion of the pressure-gage plate, to be such as to bring it up to the meeting edges of the cylinders.

j is a small belt-pulley on the end of one of the shafts F or F'. j' is the belt connecting the pulley j to the driving-wheel J, which turns the upper cylinder. (See Figs. 1, 2, 4.) The power is applied to the driving-wheel and revolves the two cylinders, and at same time, by the belting, revolves the transverse line of shafts F, F', and G, the latter imparting an ordinary crank or reciprocating motion to the pressure-gage plate.

The parts thus arranged and constructed, the operation of the machine is as follows:

In Figs. 7, 8, 9 the cloth to be plaited is represented as lying on the table, and said figures represent the action of the pressure-gage plate to first take hold of and feed the cloth, (see Fig. 7;) secondly, forming the fold or plait, (see Fig. 8;) and, thirdly, delivering the plait between the revolving cylinders. When, therefore, the pressure-gage plate, by its shank, also crank or central shaft, have been adjustably secured to suit the desired width of the plaiting to be made, the power set in motion revolves both cylinders at the same time, but in opposite directions, so that the cloth fed between the said cylinders is taken hold of and passed out between same. At the same time the pressure-gage plate takes hold of the cloth, as indicated in Fig. 7, and in feeding it forward to the cyl-

inders gathers the cloth into the fold or plaiting, as shown in Fig. 8, and when the full feed-stroke of the pressure-gage plate is completed the plait is formed complete and delivered to the cylinders, as shown in Fig. 9. As the plait or folded cloth passes between the cylinders, the lower one, being heated, irons and smooths the plaited cloth, and can be collected or taken from the machine. The return-stroke or backward motion of the central or crank shaft simply causes the pressure-gage plate to slide backward over the cloth the previously-determined distance or width of the plait. This done, then the parts renew the same operation to form and complete a second plait or gathering of the cloth into a fold, and so on. The pressure-gage plate and its arms $i' i^2$ and shank i^3 can be easily removed from the table or machine, and the cylinders alone can be used for purposes of ironing and smoothing the cloth.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In combination with the table-frame A, its standards $a a'$, and the pivoted levers $E E'$, their inner ends supporting a cylinder, D, the supporting-arms $E^2 E^3$, having their lower ends pivoted to the said levers, the upper ends of the arms engaging a notch on the face of the standards, by means whereof the said cylinder can be lowered or raised, in the manner and for the purposes set forth.

2. The combination of the table-frame A, table B, the upper and lower revolving cylinders, C, D, the pivoted levers $E E'$, and the supporting-arms $E^2 E^3$, all said parts constructed to operate as and for the purposes set forth.

3. In an apparatus for automatically plaiting or folding cloth, the combination of the crank-shaft G, carrying the bearing-block H, having lug h and sleeve h' , the pressure-gage plate I, its shank i^3 , having a groove on its under face to engage the lug or bearing-block, and the set-screw i^5 , by means whereof the said pressure-gage plate can be adjustably secured, as and for the purposes set forth.

4. In an apparatus for plaiting or folding cloth, the combination of the pressure-gage plate I, its shank i^3 , adjustably secured by its groove on the bearing-block H, the crank-shaft G, having pins $g g'$, the set-screws $g^2 g^3$, and the transverse shafts F F', by means whereof the said crank-shaft can be adjustably secured, as and for the purposes set forth.

5. The combination of the pressure-gage plate I, its shank i^3 , having groove i^4 , the bearing-block H, having lug h , sleeve h' , crank-shaft G, its pins $g g'$, and set-screws $g^2 g^3 i^5 i^6$, by means whereof the said pressure-gage plate and crank-shaft can be adjustably secured, and said pressure-gage plate be made to reciprocate by the revolution of the said shafts, in the manner and for the purposes set forth.

6. The combination essentially consisting

of the table-frame A, table B, revolving cylinders C and D, the pressure-gage plate I, its shank i^3 , adjustably secured to a bearing-block, H, on crank-shaft G, the latter adjustably secured by its pins $g g'$ to shafts F F', the pulley-wheels, belting, and driving-wheel, all operating in the manner and for the purposes set forth.

In testimony of said invention I have hereunto set my hand in presence of witnesses.

WILLIAM R. HALLETT.

Witnesses:

WILLIAM HEFFINGTON,
WILLIAM H. GRIGSBY.