



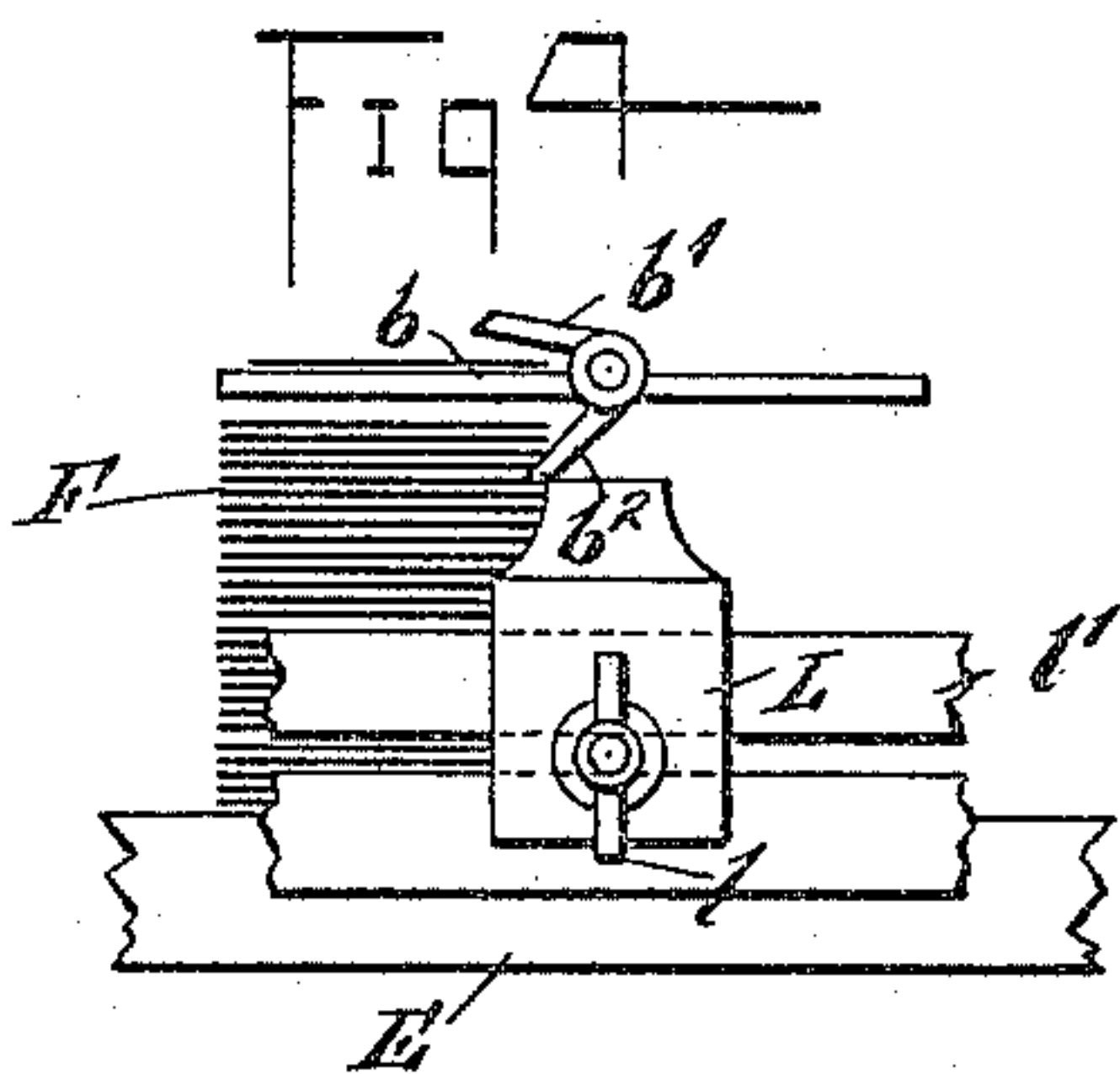
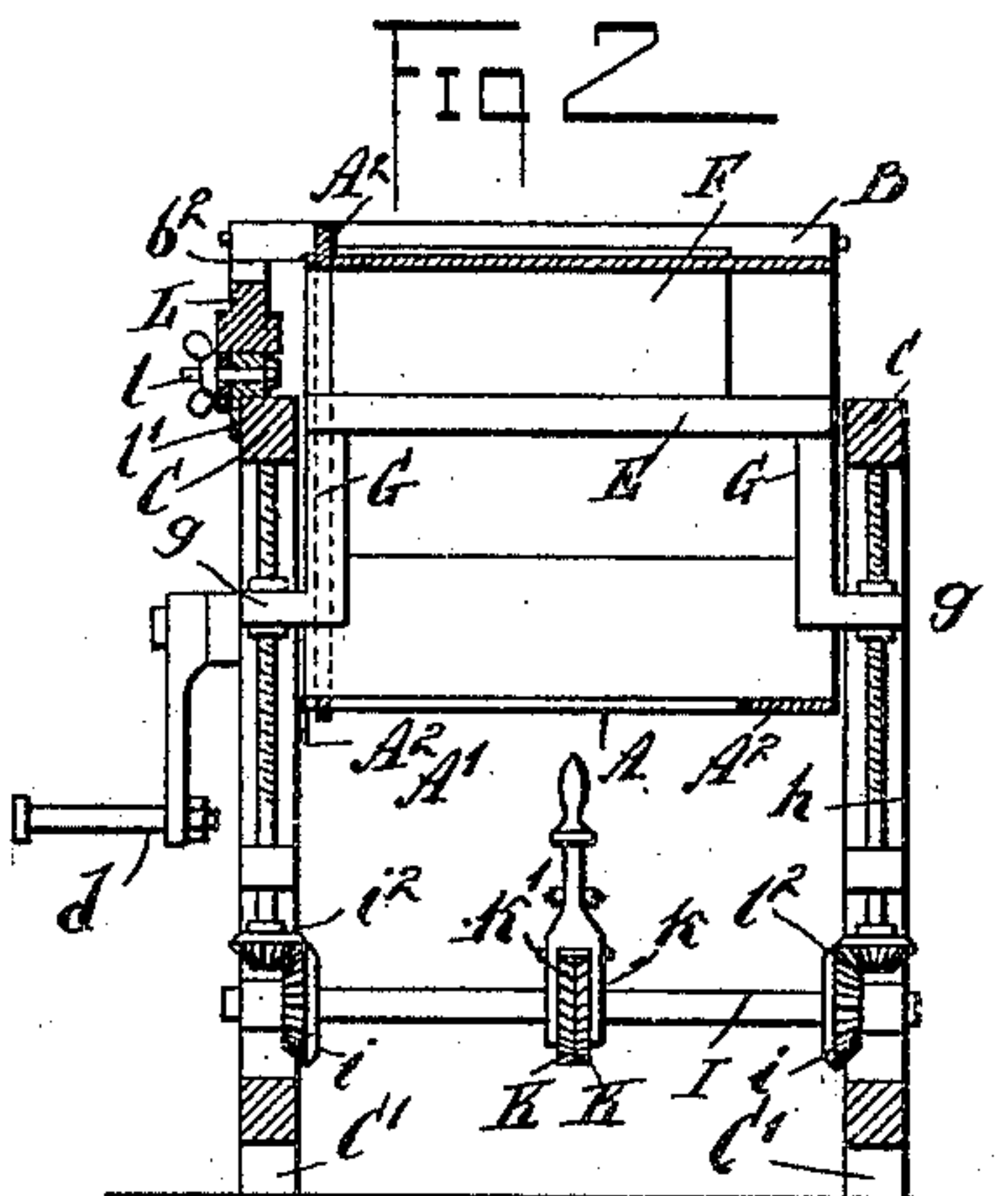
(No Model.)

2 Sheets—Sheet 2.

H. E. COUZINEAU.  
MACHINE FOR SUPERPOSING CLOTH.

No. 604,605.

Patented May 24, 1898.



**WITNESSES :**

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# UNITED STATES PATENT OFFICE.

HENRI EDOUARD COUZINEAU, OF LILLE, FRANCE.

## MACHINE FOR SUPERPOSING CLOTHS.

SPECIFICATION forming part of Letters Patent No. 604,605, dated May 24, 1898.

Application filed May 21, 1897. Serial No. 637,640. (No model.) Patented in Belgium February 15, 1897, No. 126,008, and in France May 3, 1897, No. 263,439.

*To all whom it may concern:*

Be it known that I, HENRI EDOUARD COUZINEAU, a citizen of the French Republic, and a resident of Lille, France, have invented new and useful Improvements in Machines for Superposing Cloths or other Materials, (which have been patented in France, No. 263,439, dated May 3, 1897, and in Belgium, No. 126,008, dated February 15, 1897,) of which the following is a specification.

My invention relates to a machine for placing on top of one another several layers of cloth or other material to be cut together in making garments.

The object of my invention is to produce a machine of the above-indicated class which will be capable of doing efficient, rapid, and economical work.

The novel features of the invention will appear from the description following hereinafter and from the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a longitudinal section of my improved machine. Fig. 2 is a transverse section thereof. Fig. 3 is a plan, and Fig. 4 is a separate view of a clamp or holder for the free end of the cloth.

The machine, briefly described, comprises an endless carrier or apron mounted to travel over a table or other support, said apron being partly solid and partly open. The apron is provided with a clamp or other suitable holder for the free edge of the cloth or other material, and an abutment secured to the table or frame is adapted to engage said holder to open it. The material is first seized by the holder and drawn on the solid portion of the apron. Then the holder or clamp opens to release the material, which remains stationary. The apron continues to move, and gradually its open portion comes under the material, finally allowing the latter to drop through the opening of the apron on the lower layers or folds of the material. The material is then cut, and this operation may be repeated indefinitely.

In detail the machine represented in the drawings is constructed as follows:

A is the endless apron, having an opening, whose front and rear edges are indicated by the letters *a* and *a'*, respectively. The length of this opening may be about equal to that of one run of the apron. The remaining portion of the apron is solid—that is, capable of supporting cloth or like material.

B is the clamp or holder, more fully described hereinafter.

The apron passes around four pulleys  $D^1 D^2 D^3 D^4$ , one of which may be the driving-pulley, as  $D^1$ , being provided for this purpose with a handle *d* or with a transmission-pulley or other equivalent part. The apron thus receives a longitudinal traveling motion. The pulleys are arranged in pairs at the ends of a suitable frame C, having legs *C'*.

Within the frame C is located a horizontal table E, capable of being gradually raised or lowered, according to the aggregate thickness of the layers of material F supported on said table. To this end the table rests on angle-irons G, having female-threaded openings in their horizontal members, the angle-irons being engaged at the said openings by screw-threaded shafts *h*. Each two screw-shafts *h* are connected by means of transverse shafts I, carrying bevel-wheels *i*, which mesh into bevel-wheels  $i^2$  on the screw-shafts. Each cross-shaft I carries two ratchet-wheels K K', whose teeth face in opposite directions, (see Fig. 2,) and on one of the shafts I is loosely mounted a handled lever H', carrying pawls *k* and *k'*, adapted to engage the ratchet-wheels K and K', respectively, it being understood that only one pawl is in engagement at a time, the other pawl being thrown back. The other shaft I has a similar arrangement, but the lever H<sup>2</sup> has no handle. The two levers H' and H<sup>2</sup> are connected by a rod H, so as to move in unison.

The apron A preferably consists of two belts A', carrying oil-cloth or other smooth material, which constitutes the apron proper. In order to produce the opening between the points *a* and *a'*, as hereinbefore referred to, the oil-cloth terminates at the said points, and only the belts A' are continued between said points. On one side of the apron I provide a flange A<sup>2</sup>, forming an abutment for the edge of the fabric, so as to secure perfect registry



of the edges of the superposed material. The main feature of my apron is its construction with a solid portion and an open portion.

The clamp or holder B may consist of a fixed jaw *b*, connecting the two belts A' and carried by them, and a movable jaw *b'*, hinged to the fixed jaw and pressed toward it by means of a spring or its equivalent. On one side the movable jaw has a tailpiece *b*<sup>2</sup>, which serves to open the clamp, being adapted to engage an abutment L, secured by means of a winged screw *l* to a graduated bar *l'*, secured to the frame C. The bar has a longitudinal slot, as shown, to receive the screw and permit the same and the clamp to be adjusted longitudinally according to the length of layers or folds it is desired to superpose.

The cutter for severing the material at the proper place is also carried by the frame C, and consists of a blade N', secured to and projecting from a lever N, pivoted at *n* to swing transversely of the apron A. The movable blade N' coöperates with a fixed blade N<sup>2</sup>, located under the apron A and secured to the frame C. The movable blade may be normally held in an elevated position by means of a spring or its equivalent.

The material may be fed to the machine in any suitable manner. In the drawings I have shown, by way of example, a rotary stand or receptacle for a number of pieces of fabric either in rolls or folded on boards. This stand M has two, three, four, or more vertical series of compartments *m'* *m*<sup>2</sup> *m*<sup>3</sup> *m*<sup>4</sup>, adapted to receive the cloth or other fabric. For fabrics in rolls it is sufficient to pass centrally through the roll an axle adapted to turn in the socket or bearings S. The stand M is located adjacent to the cutter N' N<sup>2</sup> and is mounted to rotate on a central pivot P, the stand being preferably mounted on rollers R. In order to secure an exact alinement of the compartments with the apron A, a suitable stop or holder may be employed for arresting the movement of the stand after each partial revolution. This stop may consist of a vertically-movable plate Q, having a depression to successively receive the rollers R, the plate being pressed upward by a spring Q' and yielding when a roller R rides up or down the inclined marginal portion of the plate. The cloth or other material passes over guide-rollers *r* *r'* where it enters the machine for superposing the cloth.

The machine is operated as follows: The apron A is turned until the holder B is adjacent to the guide-rollers *r* *r'*. The edge or edges of the piece or pieces of cloth being clamped in the holder, the handle *d* is turned, causing the apron and the fabric to advance until the tailpiece *b*<sup>2</sup> of the holder collides with the abutment, which has been adjusted according to the desired length of folds to be superposed. The holder then opens automatically and releases the material, which remains stationary upon the apron, while the latter continues to move. Gradually the open

portion of the apron gets under the stationary material, and the latter drops through the opening upon the table E or upon the previously-deposited piece of material. An automatic bell—for instance, similar to that used on type-writers for indicating the end of a line—may indicate to the operator the exact moment when the fabric is in position to be cut by the cutter N' N<sup>2</sup> or its equivalent. After the material has been cut the apron is again moved forward until the holder B is just in front of the guide-rollers *r* *r'*, the free end of the next piece of fabric is inserted in the holder, and the operation is repeated, as above described.

From time to time the lever H' is actuated to lower the table E, according to the thickness of the material thereon.

The fabrics may be superposed in any succession desired, as the rotary stand M permits of bringing any one of the pieces in the compartments *m'* *m*<sup>2</sup> *m*<sup>3</sup> *m*<sup>4</sup> into alinement with the apron A. It is also easy to remove pieces of fabric from the said compartments and to replace them with others without interrupting the operation of the machine. Thus fabrics may be removed and exchanged whenever desired.

I desire it to be understood that various modifications may be made without departing from the nature of my invention. The cutter might be operated automatically by being operatively connected with the mechanism for moving the apron. The apron may have more than one solid portion and one open portion in alternation. By "solid" portion I mean a portion adapted to support the fabric. Instead of moving the table E up and down the frame carrying the pulleys supporting the apron may be movable with the releasing-abutment L and the cutter, while the table would be stationary. The holder B might be operated automatically for receiving the fabric as well as for releasing it.

The stand M may be employed in conjunction with various constructions of machines for superposing fabrics, or it may even be employed where the superposing is done entirely by hand. Similarly the particular superposing-machine hereinbefore described can be employed with any kind of feeding or distributing mechanism or even without such mechanism.

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

1. A machine for superposing fabrics, comprising a traveling apron having a solid or supporting portion and an open portion to allow the fabric to pass therethrough, a holder carried by the apron and adapted to engage the fabric, means for opening the holder to release the fabric, means for operating the apron and means for cutting the fabric, substantially as described.

2. A machine for superposing fabrics, comprising a traveling apron having a solid or



supporting portion and an open portion to allow the fabric to pass therethrough, a holder carried by the apron and adapted to engage the fabric, a stationary abutment  
5 adapted to collide with the holder for the purpose of opening the same and releasing the fabric, means for operating the apron, and means for cutting the fabric, substantially as described.

10 3. A machine for superposing fabrics, comprising a traveling apron having a solid or supporting portion and an open portion to allow the fabric to pass therethrough, a holder carried by the apron and adapted to  
15 engage the fabric, a normally stationary abutment adjustable longitudinally of the apron and adapted to collide with the holder for the purpose of opening the same and releasing the fabric, means for operating the  
20 apron, and means for cutting the fabric, substantially as described.

4. A machine for superposing fabrics, comprising a traveling apron having a solid or supporting portion and an open portion to  
25 allow the fabric to pass therethrough, a holder carried by the apron and adapted to

engage the fabric, means for opening the holder to release the fabric, means for operating the apron, means for cutting the fabric, a table serving as a support for the fabric, and arranged adjacent to the apron, said  
30 table and apron being movable relatively to one another, and means for varying the distance between the table and the apron, substantially as described.

5. The herein-described stand for fabrics, the said stand being mounted to turn and having a series of circumferential compartments adapted to receive the fabrics, in combination with a movable spring-pressed stop  
40 or locking plate having a depression adapted to receive a projection on the stand proper, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 26th day of January, 1897.

HENRI EDOUARD COUZINEAU.

Witnesses:

DAVID OGILVIE,

HENRI RAYMEL.