

1,055,183.

J. E. JUFE.
CLOTH LAYING MACHINE.
APPLICATION FILED JUNE 3, 1912.

Patented Mar. 4, 1913.

2 SHEETS-SHEET 1.

Fig. 1

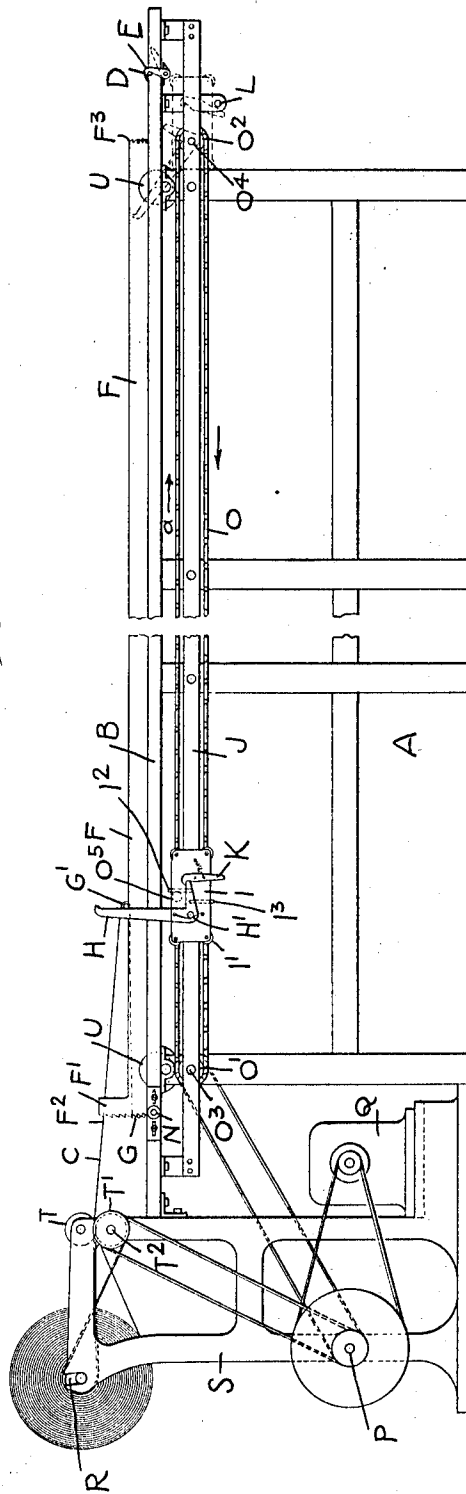


Fig. 6

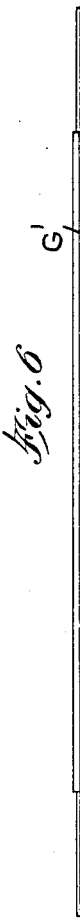
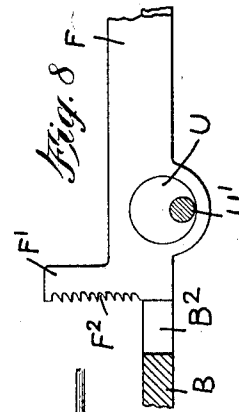


Fig. 7



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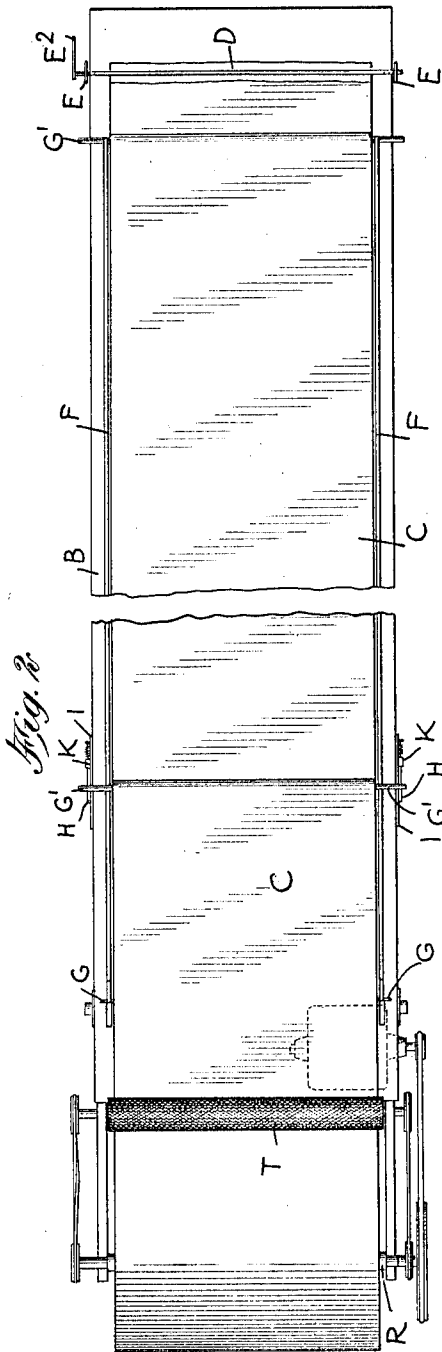
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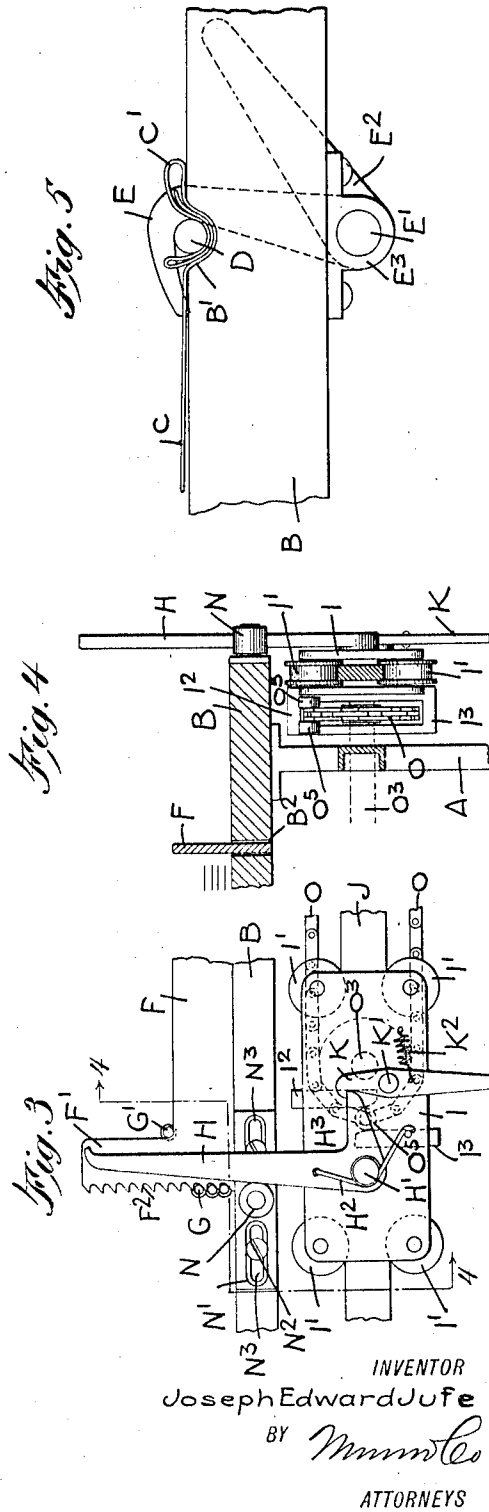
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2 SHEETS-SHEET 2.

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JOSEPH EDWARD JUFÉ, OF NEW YORK, N. Y.

CLOTH-LAYING MACHINE.

1,055,183.

Specification of Letters Patent.

Patented Mar. 4, 1913.

Application filed June 3, 1912. Serial No. 701,378.

To all whom it may concern:

Be it known that I, JOSEPH EDWARD JUFÉ, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Cloth-Laying Machine, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved cloth laying machine arranged to lay the cloth in any desired number of superimposed layers on a cutting table, and to hold the same thereon.

For the purpose mentioned use is made of a table provided with longitudinal runways having retaining means at the front and rear ends for holding transverse rods, around which the cloth is passed, the rear rods being adapted to travel over the runways from the front ends thereof to the rear ends thereof to lay the cloth, and means for moving the rear rods over the said runways from the front ends thereof to the rear ends.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the cloth laying machine; Fig. 2 is a plan view of the same; Fig. 3 is an enlarged side elevation of the head end of the machine; Fig. 4 is a transverse section of the same on the line 4-4 of Fig. 3; Fig. 5 is an enlarged side elevation of the rear end of the table and showing more particularly the means for holding the beginning end of the cloth in place on the table; Fig. 6 is a plan view of one of the long rods for carrying the cloth rearwardly; Fig. 7 is a similar view of one of the short rods for holding the cloth in position at the head of the table; and Fig. 8 is a side elevation of the front end of one of the runways and the means employed for raising and lowering the same on the table, the latter and the eccentric shaft being shown in section.

On a suitably constructed frame A is held a table B over which the cloth C is to be laid in superimposed layers, the beginning end C' of the cloth being doubled up and clamped in position in transverse recesses B' formed near the rear end of the table B, as plainly indicated in Figs. 2 and 5. In order to hold the end C' of the cloth in the recesses

B' use is made of a transverse clamping bar D held in clamping position by hooks E secured on a transverse shaft E' provided with a handle E² and journaled in suitable bearings E³ attached to the under side of the table B. By the operator pressing the handle E² downward the hooks E are swung rearwardly out of engagement with the clamping rod D to unclamp the end C' after all the cloth has been laid in superimposed layers, as hereinafter more fully explained.

The table B is provided near the sides thereof with longitudinally-extending slots B² (see Fig. 4) in which extend longitudinal runways F projecting a distance above the table B and terminating at their forward ends in upwardly-extending arms F' provided at their outer edges with notches F² for the reception of transverse retaining rods G around which pass the front ends of the layers of cloth, as indicated in Fig. 3. The rear ends of the runways F are provided with notches F³ (see Fig. 1), adapted to be engaged by long transverse rods G' employed for carrying the cloth rearwardly and for holding the rear ends of the layers in position at the time, the said long rods G' being seated in the notches F³. The rods G' are made sufficiently long to project beyond the sides of the table B for engagement by levers H fulcrumed at H' on carriages I provided with wheels I', mounted to travel rearwardly and forwardly on rails J attached to the sides of the frame A. Each lever H is pressed on by a spring H² to hold the lever in an inclined position, as shown in dotted lines in Fig. 1, during the return movement of the carriages from the rear end to the head end of the table. The levers H are provided with angular arms H³ adapted to be engaged by catches K fulcrumed at K' on the carriages I and pressed on by springs K² to hold the catches in engagement with the arms H³ with a view to lock the levers H in upright position against the tension of their springs H² (see Figs. 1 and 3). The catches K are adapted to engage transverse tripping pins L held on the rear end of the frame A so that when the carriages I move into rearmost positions the catches K engage the said pins L and swing the same out of engagement with the arms H³ to allow the springs H² to swing the levers H into inclined position as shown in dotted lines in Fig. 1. When the carriages

I near the end of their forward travel the levers H engage friction rollers N journaled on plates N' adjustably secured by screws N² to the table B at the head end thereof, it being understood that when the levers H move in engagement with the rollers N they are swung upward into vertical position and are re-engaged by the catches K to lock the levers H in vertical position. The screws N² pass through elongated slots N³ in the plates N' to permit of adjusting the plates lengthwise of the table B to insure proper upward swinging movement of the levers H by coming in contact with the rollers N.

In order to impart a rearward and forward traveling movement to the carriage I, use is made of endless sprocket chains O arranged on the sides of the frame A and passing over sprocket wheels O', O² secured on shafts O³, O⁴ journaled in suitable bearings arranged on the main frame A. The forward shaft O³ is connected by pulleys and belt with a countershaft P driven by a suitable motor Q to impart a continuous rotary motion to the shaft O³ and a continuous traveling motion to the chains O in the direction of the arrows indicated in Fig. 1. On the chains O are journaled friction rollers O⁵ (see Figs. 1, 3 and 4) adapted to alternately engage lugs I², I³ attached to or forming part of the carriage I, it being understood that said lugs I² and I³ are so arranged that when the friction rollers O⁵ are on the upper run of the chains O then they engage the lugs I² to move the carriages I from the head end of the machine to the rear end thereof, and when the friction rollers O⁵ travel with their chains O around the wheels O² then they move out of engagement with the lugs I² and into engagement with the lugs I³ to move the carriages I backward from the rear end of the machine to the head thereof.

The cloth C unwinds from a roll R journaled in a frame S which also supports the countershaft P and the motor Q and is arranged on the head of the frame A. The cloth after unwinding from the roll R passes between two feed rollers T and T', of which the shaft T² of the rollers T' is driven by pulleys and belt from the countershaft P, and the roll R is driven by pulleys and belt from the shaft T².

When it is desired to use the table without the runways F and the rods G, G', then the said runways F can be lowered in the slots B² until the top edges of the runways are below the upper surface of the table B. For the purpose mentioned the runways F are engaged near their front and rear ends by eccentrics U mounted on shafts U' journaled in suitable bearings arranged on the under side of the table B, and the said shafts U' are adapted to be turned by the use of a wrench or other tool so as to either

raise the runways F when using the machine for laying the cloth, or for lowering the said runways below the top surface of the table B whenever the laying device is not to be used.

The operation is as follows: When the runways F are in raised position and the end C' of the cloth is attached to the rear end of the table by the clamping rod D and the cloth is drawn forward over the table then a short rod G is placed on top of the cloth and is engaged with the bottom notches F² so as to hold the first layer of cloth in position on top of the table B. The operator now takes a long rod G' and passes the same under the cloth a short distance ahead of the short rod G in position in the lower notches, and then the operator lifts this rod over the ends F' and rests the arms of the rod G' on the top of the runways F, with the ends of the rod projecting into the path of the levers H. The motor Q is now started so that the carriages I travel from the head end of the machine toward the rear end thereof, and in doing so the levers H engage the ends of the rod G' and move the same along over the runways F thus carrying the cloth C along, as indicated in Fig. 1. When the carriages I reach a rearmost position the rod G' is engaged with the lowermost set of notches F³ and at the same time the levers H are released by the catches K engaging the tripping pins L as previously explained, and the carriages I now return to position on the head end of the machine. In the meantime, the operator has placed another short rod G onto the top of the third layer and engages this rod G with the next notches F², and then the operator passes a long rod G' under the cloth C and shifts the rod over the arms F' and engages this rod G' with the runways F. As the levers H return they readily pass under the end of the rod G in position at the front ends of the runways F, but then the levers immediately engage the rollers N and are swung into vertical position and locked therein by the catches K, after which the carriages I start on their next movement from the head of the machine to the rear end thereof. When this takes place the levers H carry a second long rod G' and the above described operation is repeated.

From the foregoing it will be seen that by the arrangement described layers of cloth are drawn over the previous ones during the movement of the carriages I from the head end of the machine to the rear end thereof, and this operation is repeated as often as desired until the desired number of layers are superimposed one upon the other.

The machine is simple and durable in construction and is composed of comparatively few parts, not liable easily to get out of order.

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

1. A cloth laying machine, comprising a table over which the cloth is to be laid, carriages on opposite sides of the table and adapted to travel rearward and forward, runways lengthwise of the table and provided at the head and rear ends with retaining devices for holding head and rear transverse rods, levers fulcrumed on the carriages and adapted to engage the rear rods at the head ends of the runways and move the same rearward thereon for final engagement with the rear retaining devices on the runways, locking means for automatically locking the levers in raised position, and means for tripping the levers at the end of their rearward travel.

2. A cloth laying machine, comprising a table over which the cloth is to be laid, carriages on opposite sides of the table and adapted to travel rearward and forward, runways lengthwise of the table and provided at the head and rear ends with retaining devices for holding head and rear transverse rods, levers fulcrumed on the carriages and adapted to engage the rear rods at the head ends of the runways and move the same rearward thereon for final engagement with the rear retaining devices on the runways, locking means for automatically locking the levers in raised position, means for tripping the levers at the end of their rearward travel, and means on the head end of the table for raising the levers to vertical position and reengaging the locking means with the levers.

3. A cloth laying machine, comprising a table over which the cloth is to be laid, carriages on opposite sides of the cloth and adapted to travel rearward and forward, runways lengthwise of the table and provided at the head and rear ends with retaining devices for holding head and rear transverse rods, levers fulcrumed on the carriages and adapted to engage the rear rods at the head ends of the runways and move the same rearward thereon for final engagement with the rear retaining devices on the runways, locking means for automatically locking the levers in raised position, means for tripping the levers at the end of their rearward travel, and manually-controlled means for raising the said runways above the table or lowering the same below the table.

4. A cloth laying machine, comprising a table over which the cloth is to be laid, carriages on opposite sides of the table and adapted to travel rearward and forward, rails at the sides of the table for the carriages to travel on, endless driven chains on the sides of the machine and provided with rollers, lugs on the frames of the carriages and adapted to be engaged by the said chain

rollers to move the carriage rearward and forward on the said rails, runways lengthwise of the table and provided at the head and rear ends with retaining devices for holding head and rear transverse rods, levers fulcrumed on the carriages and adapted to engage the rear rods at the head ends of the runways and move the same rearward thereon for final engagement with the rear retaining devices on the runways, locking means for automatically locking the levers in raised position, and means for tripping the levers at the end of their rearward travel.

5. A cloth laying machine, comprising a frame having a table over which the cloth is to be laid, a clamping device at the rear end of the table for clamping the end of the cloth to the table, lengthwise-extending runways extending above the top of the table adjacent the sides thereof, the said runways being provided with notches at the ends, short transverse rods adapted to engage the notches at the front ends of the runways, long transverse rods adapted to travel on the said runways and adapted to be engaged with the notches at the rear ends of the said runways, and means for moving the said long rods rearwardly over the said runways.

6. A cloth laying machine, comprising a frame having a table over which the cloth is to be laid, a clamping device at the rear end of the table for clamping the end of the cloth to the table, lengthwise-extending runways extending above the top of the table adjacent the sides thereof, the said runways being provided with notches at the ends, short transverse rods adapted to engage the notches at the front ends of the runways, long transverse rods adapted to travel on the said runways, and adapted to be engaged with the notches at the rear ends of the said runways, rails on the sides of the frame, carriages mounted to travel on the said rails, spring-pressed levers fulcrumed on the said carriages and each having a locking arm, the levers being adapted to engage a long rod at the front end of the runways and carry it rearward on the same to the rear notched ends thereof, spring catches fulcrumed on the carriages and adapted to engage the said lever-locking arms to lock the levers in vertical position during their rearward travel, fixed tripping means on the rear end of the frame and adapted to be engaged by the said spring catches to release the levers, and raising means at the front end of the frame and adapted to engage the said levers to return the same to upright position and to reengage the spring catches with the said levers, and means for moving the carriages backward and forward over the said rails.

7. A cloth laying machine, comprising a frame having a table over which the cloth

is to be laid, a clamping device at the rear
end of the table for clamping the end of
the cloth to the table, lengthwise-extending
runways extending above the top of the
5 table adjacent the sides thereof, the said
runways being provided with notches at the
ends, short transverse rods adapted to en-
gage the notches at the front ends of the
runways, long transverse rods adapted to
10 travel on the said runways and adapted to
be engaged with the notches at the rear ends
of the said runways, rails on the sides of the
frame, carriages mounted to travel on the
said rails, spring-pressed levers fulcrumed
15 on the said carriages each having a locking
arm, the levers being adapted to engage a
long rod at the front end of the runways
and carry it rearward on the same to the
rear notched ends thereof, spring catches
20 fulcrumed on the carriages and adapted to
engage the said lever locking arms to lock

the levers in vertical position during their
rearward travel, fixed tripping means on
the rear end of the frame and adapted to
be engaged by the said spring catches to 25
release the levers and raising means at the
front end of the frame and adapted to en-
gage the said levers to return the same to
upright position and to reengage the
spring catches with the said levers, endless 30
traveling chains on the sides of the frame
and provided with rollers and lugs on the
carriages adapted to be engaged by the said
rollers to move the carriage alternately
rearward and forward. 35

In testimony whereof I have signed my
name to this specification in the presence of
two subscribing witnesses.

JOSEPH EDWARD JUFFE.

Witnesses:

IRVING GORDON,
REUBEN TALLY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."