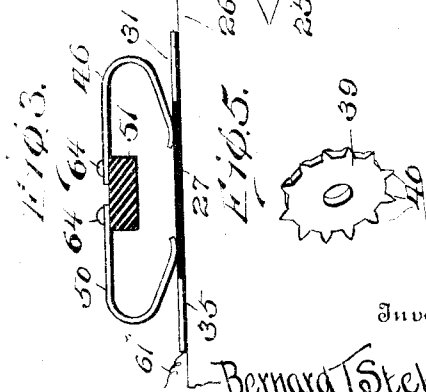
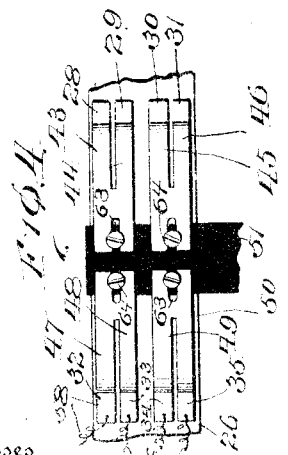
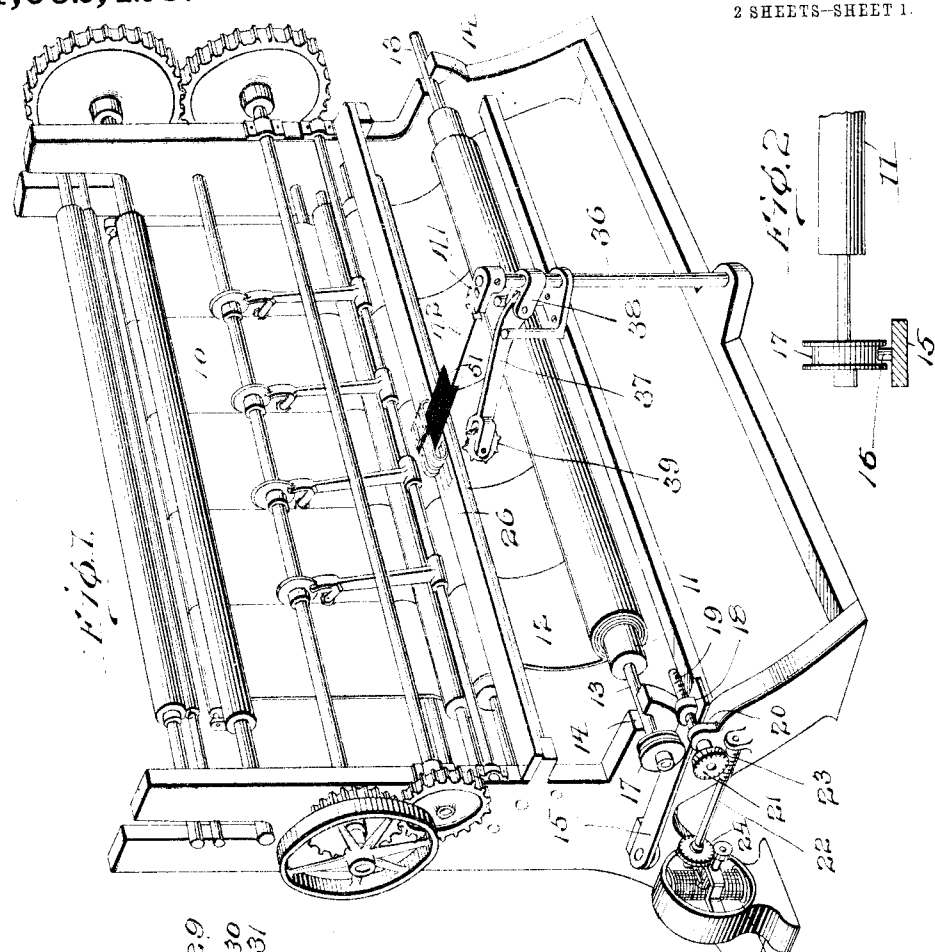


E. T. STEBER.
CLOTH GUIDING MACHINE.
APPLICATION FILED NOV. 9, 1912.

1,062,423.

Patented May 20, 1913.

2 SHEETS-SHEET 1.



Witnesses

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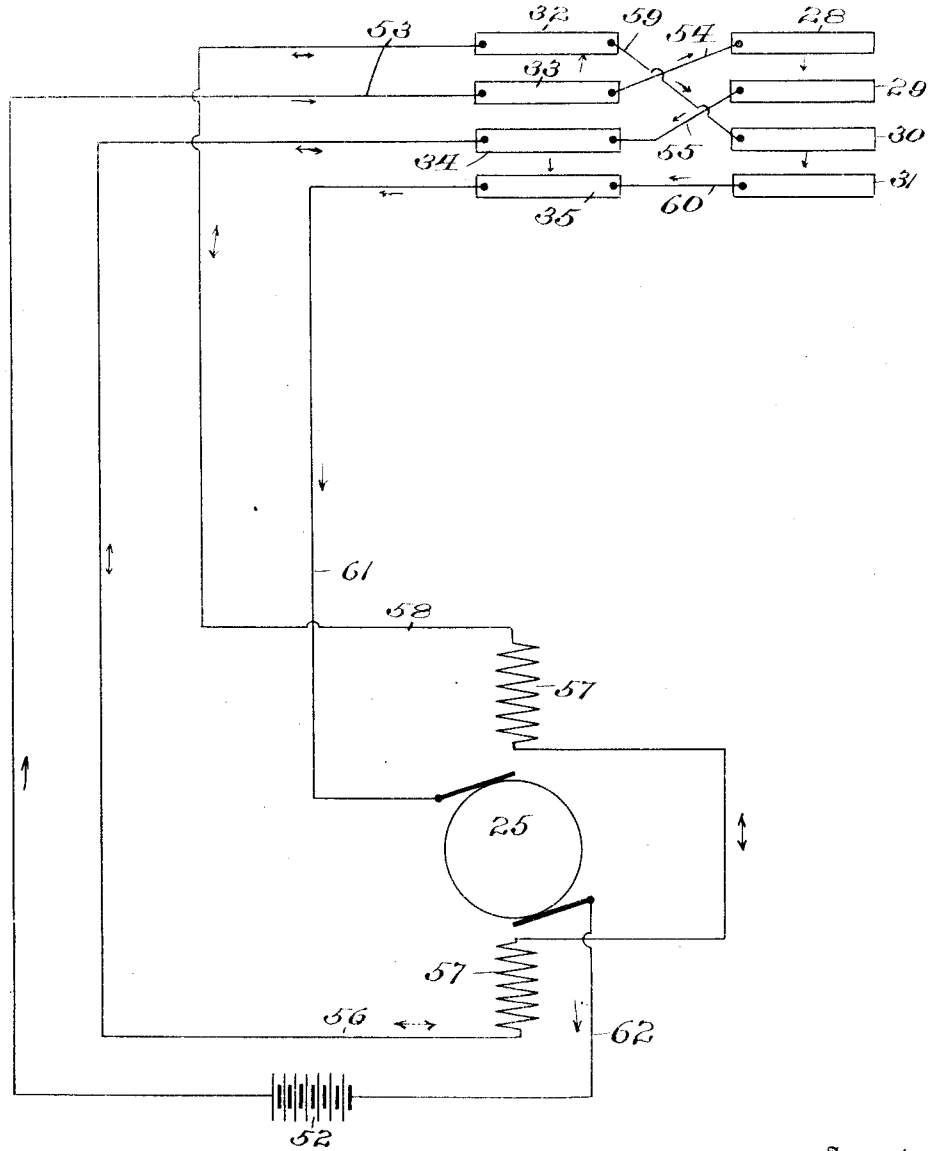
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FIG. 6.



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UNITED STATES PATENT OFFICE.

BERNARD T. STEBER, OF UTICA, NEW YORK, ASSIGNOR TO NEW HARTFORD COTTON MANUFACTURING COMPANY, OF NEW HARTFORD, NEW YORK, A CORPORATION OF NEW YORK.

CLOTH-GUIDING MACHINE.

1,062,423.

Specification of Letters Patent.

Patented May 20, 1913.

Application filed November 9, 1912. Serial No. 730,519.

To all whom it may concern:

Be it known that I, BERNARD T. STEBER, a citizen of the United States, residing at Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Cloth-Guiding Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to cloth guiding machines and has for an object to provide an electrically actuated cloth guiding apparatus especially adapted for use in conjunction with the cloth slitting machine disclosed in Patent No. 1,025,931, reissued Feb. 11th, 1913, No. 13,528.

A further object of the invention is to provide electrically actuated mechanism for moving a beam longitudinally from which the cloth is unrolled and with means actuated by the position of the cloth web for energizing the motor of the controlling mechanism.

A further object of the invention is to provide in conjunction with means for moving a web of cloth a star wheel proportioned to follow between two given warp threads and to move an arm carrying an electrical contact whereby a motor controlling the position of the beam is rotated in either direction necessary to move such beam.

A further object of the invention is to provide a longitudinally slidable beam with means for moving such beam longitudinally, and an electric motor adapted to actuate the controlling means.

A further object of the invention is to provide spaced contacts with an arm movable between the contacts, in circuit with a motor and improved wiring whereby the movement of the arm into engagement with different contacts reverses the motor.

With these and other objects in view the invention comprises certain novel constructions, combinations and arrangement of parts as will be hereinafter more fully described and claimed.

In the drawings: Figure 1 is a perspective view of a conventional cloth slitting machine with the improved cloth guiding mechanism attached thereto. Fig. 2 is a view in side elevation of a fragment of the beam with the controlling lever in section. Fig.

3 is a view in side elevation of the contact brushes with the operating arm seen in section. Fig. 4 is a plan view of the contact brushes, contacts and a fragment of the arm. Fig. 5 is a perspective view of the star wheel employed to control the movement of the brush carrying arm. Fig. 6 is a diagrammatic view of the wiring. Like characters of reference designate corresponding parts throughout the several views.

The improved cloth guiding mechanism which forms the subject matter of this application is adapted for a multitude of uses but is shown in connection with a cloth slitting machine similar to that disclosed in the aforesaid patent and pending reissue application, such machine being shown as a whole at 10. The beam 11 upon which the cloth fabric 12 is wound is mounted upon a shaft 13 rotatable and longitudinally slidable in bearings 14.

At one end of the frame a lever 15 is fulcrumed provided with a pintle 16 seen especially at Fig. 2 engaging in a furrow in a disk 17 carried upon the shaft 13 so that as the lever 15 is moved upon its pivot it moves therewith the shaft 13 and beam 11.

To move the lever 15 such lever is provided with a nut 18 with a screw 19 inserted therethrough which also finds a bearing at 20 in the frame and carries a gear wheel 21. Journaled adjacent such gear wheel 21 is a shaft 22 carrying a worm 23 and rotated through the medium of gears 24 from a motor 25. It will be apparent, therefore, that as the motor 25 is rotated the beam 11 will be moved longitudinally the direction of movement depending upon the direction of rotation of the motor 25.

To control the rotation of the motor 25 a cleat 26 is mounted upon the frame and at some point intermediate its ends provided with eight contacts spaced in groups of four upon each side of a neutral indicated at 27. The eight contacts are grouped 28, 29, 30 and 31 upon one side of the neutral and 32, 33, 34 and 35 upon the opposite side of the neutral. Mounted also adjacent the beam 11 is a vertical rod 36 adapted to swing upon its axis and carrying an arm 37 pivoted to a collar 38 in such manner as to permit vertical movement upon its pivot but to prevent angular movement in its plane of movement without moving the shaft 36.

The arm 37 is provided with a star wheel 39 similar to the star wheel in said patent shown at 67 and in the reissue application as 40. The star wheel 39 is provided with teeth 40 of such width and contiguity that when one of the teeth is inserted between the warp threads of a web of cloth it spreads such threads a distance upon each side sufficient to insure the next tooth being inserted into such space and between the same threads so that the star wheel 39 will at all times follow between the same warp threads throughout the length of the cloth and if the position of such warp threads to the cleat 26 varies they will move the star wheel 39, the arm 37 and rod 36. Carried also by the rod 36 is a collar 41 to which is pivoted an arm 42 moved therewith the same as the arm 37 and carrying contact brushes normally resting upon the neutral 27. The contact brushes comprise four spring members each bifurcated to form fingers 43, 44, 45 and 46 upon one side of the arm and 47, 48, 49 and 50 upon the opposite side of the arm 42. The spring fingers of the contact brushes are bent as shown particularly at Fig. 3 and the extremity of the arm carrying such brushes is insulated from the remainder of the arm as indicated at 51. It will be apparent, therefore, that as the arm 42 is moved in response to the movement of the star wheel 39 the contact brushes will be moved from the neutral 27 in either direction and the groups of contact fingers will engage the groups of contacts upon either side of the neutral 27. Referring now more particularly to Fig. 6, it will be apparent that when the arm and contact fingers are moved to the right the fingers 43, 44, 45 and 46 will respectively engage the contacts 28, 29, 30 and 31 and the current will flow from the battery 52, through the wire 53 as indicated by the feathered arrows to the contact 33, through the wire 54 to the contact 28, and through the connected fingers 43 and 44 to the contact 29, returning through the wire 55, contact 34, wire 56 to the field 57 energizing such field, then through the wire 58 to the contact 32, through the wire 59 to the contact 30, then through the connected fingers 45 and 46 to the contact 31, then through the wire 60 to the contact 35, through the wire 61 to the motor 25 and through the wire 62 back to the battery all as indicated by the feathered arrows and to rotate the motor in the direction indicated by the feathered arrows thereon. When the arm 42 is moved in the opposite direction the fingers 47 to 50 inclusive will engage the contacts 32 to 35 inclusive and the current will flow as indicated by the single arrow from the battery 52 through the wire 53 to the contact 33, through the connected fingers 47 and 48 to the contact 32, through the wire 55 to the field 57 reversing the field, through

the wire 56 to the contact 34, through the connected fingers 49 and 50 to the contact 35, through the wire 61 to the motor 25, which by reason of the reversal of the field will rotate in the opposite direction and through the wire 62 to the battery. It will thus be apparent that as the arm 42 oscillates under the control of the star wheel 39 the beam 11 will be longitudinally moved to move the web of cloth in the direction opposite to that of the movement of the star wheel whereby the irregularity of the web of cloth will be overcome by the movement of the beam.

The brushes are provided with slots 63 engaged by screws 64 by which the brushes may be adjusted relative to the insulated extremity 51 to permit a greater or less throw of the arm 42 so that the beam 11 will be moved to guide the web of cloth to compensate for greater or less inequalities or unevenness of wind.

I claim:

1. The combination with a cloth slitting machine embodying means for moving a web of cloth, of a longitudinally movable beam carrying the web of cloth, movable means to follow between two predetermined warp threads throughout the length of the web of cloth, and means to move the beam longitudinally in the direction opposite to the movement of the warp following means.
2. The combination with a cloth slitting machine, of a beam carrying a web of cloth, movable means to take the cloth from the beam, a motor adapted to move the beam longitudinally, means to follow predetermined warp threads throughout the length of the web, and means controlled by the following means for actuating the motor selectively in opposite direction.
3. The combination with a cloth handling mechanism embodying a longitudinally movable beam carrying the web of cloth, of a motor adapted to move the beam longitudinally, means capable of following between predetermined warp threads throughout the length of the web, an electric circuit including the motor, and means controlled by the following means for energizing the motor selectively in opposite directions.
4. The combination with a cloth handling machine, of a beam mounted to rotate and move longitudinally, an electric motor capable of moving the beam longitudinally, said motor being provided with a field, means to follow between predetermined warp threads throughout the length of the cloth web, an electric circuit including the motor and field and means carried by the following means to reverse the field as said following means is moved in opposite directions.

5. The combination with a rotatable and longitudinally slidable beam, of a motor mounted adjacent the beam, a screw adapted to be actuated by the motor, means whereby the rotation of the screw in either direction moves the beam longitudinally, means mounted adjacent the beam adapted to follow a given line of a web wound from the beam, spaced contact members in circuit with the motor, and means carried by the following means to selectively engage either of said spaced contacts.
6. The combination with a beam, of a star wheel mounted to oscillate upon an axis at right angles to the beam, a contact arm carried by the star wheel, a motor mounted adjacent the beam, a lever pivoted adjacent the motor, means carried by the lever engaging the beam, a screw engaging the lever, a shaft rotated by the motor and transmitting motion to the screw, spaced contacts mounted adjacent the contact arm and independent circuits connected with the spaced contacts and the motor.

In testimony whereof I affix my signature in presence of two witnesses.

BERNARD T. STEBER.

Witnesses:

F. H. PRESTON,
MILDRED PRESTON.