(No Model.)

H. N. ELLIOTT.

CLOTH CUTTING MACHINE.

No. 457,899. Patented Aug. 18, 1891.

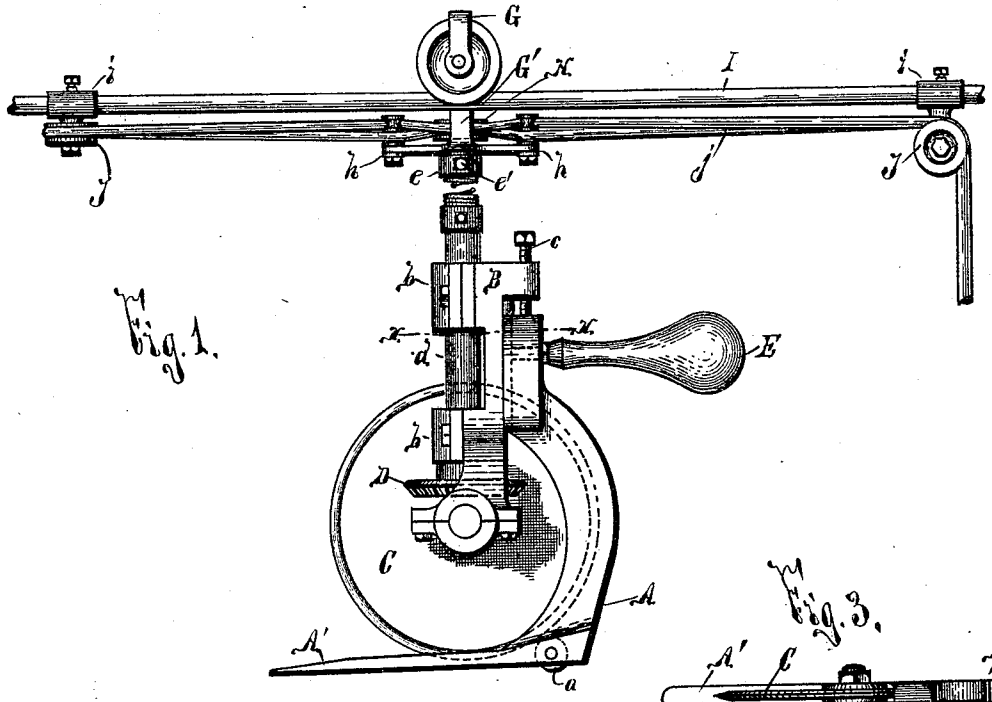


Fig. 1.

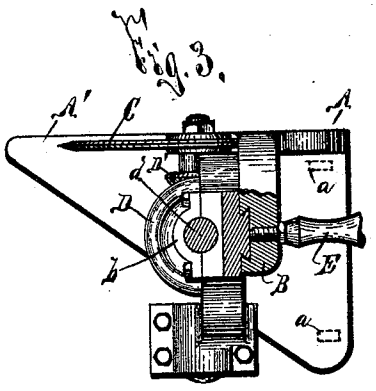


Fig. 3.

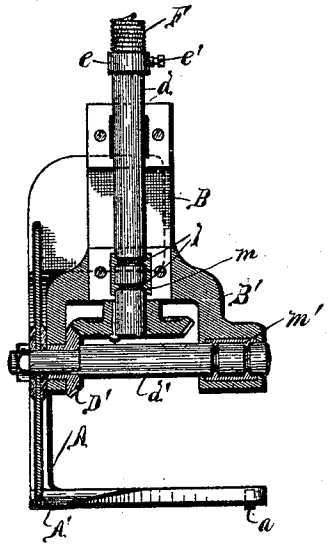


Fig. 2.

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UNITED STATES PATENT OFFICE.

HIRAM N. ELLIOTT, OF SYRACUSE, NEW YORK, ASSIGNOR OF ONE-HALF TO MARTIN L. YANN AND JOHN GARNETT, OF SAME PLACE.

CLOTH-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 457,899, dated August 18, 1891.

Application filed October 10, 1890. Serial No. 367,676. (No model.)

To all whom it may concern:

Be it known that I, HIRAM N. ELLIOTT, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Cloth-Cutting Machines, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to improvements in cloth-cutting apparatus designed for cutting several layers of cloth at one operation; and it consists in peculiarities of arrangement and detail construction of parts, all as hereinafter more particularly set forth, and specifically pointed out in the claim.

In the annexed drawings like letters of reference indicate corresponding parts in all the views, in which—

Figure 1 is a side elevation of my improved cutting-machine, showing the overhead trackway and actuating means. Fig. 2 is a front elevation, partly in section; and Fig. 3 is a sectional view taken on line *x x*, Fig. 1.

In this class of devices it is highly important that the cutter shall be run at a high rate of speed and be free to travel in any direction over the table on which the cloth to be cut is resting, so as to follow closely the lines marked out from the pattern. To accomplish these desired ends, the cutting mechanism and actuating devices should be as simple and compact as possible, and to that end I have devised the invention herein referred to.

Suspended at a convenient distance above the operating-table I provide the track-rail I, which may be secured to the table or otherwise supported, as best adapted to circumstances. This track-rail is provided with adjustable hangers *i i*, from which hang pulleys J J, over which runs the driving belt or cord. (Shown in the drawings.) Running on the track-rail I is a hanger G, provided with a bracket G′, in which is journaled the grooved pulley H. The belt *j* is held in frictional contact with said pulley H by means of the idlers *h h*, over which runs said belt *j* for actuating the pulley H.

Power is communicated from the pulley H to the cutting-machine by means of the flexible shafting F, which is secured to the journal of the driving-pulley H at one end and to the vertical solid shaft *d* at the other end by means of the collars *e e*. At the lower end of the shaft *d* I provide a bevel-gear D, which meshes in a pinion D′ on the horizontal shaft *d′*, and on one end of said shaft *d′* I secure the rotatory cutting-disk C. The vertical shaft *d* is held in the standard B in boxes *b b*, which are removable at will for purposes obvious to one skilled in the art. The shaft *d* is provided near its lower end with the circumferential channels *l*, and an "anti-friction" bearing is provided there by the use of the well-known Babbitt-metal filling, (shown at *m*,) which is caused to conform to the contour of said shaft within the lower box *b*, (shown removed in Fig. 2,) while the horizontal shaft *d′* is treated in the same manner, as shown at *m′*.

Projecting downward from the standard B are the supporting-standard A and shoe or runner A′, which rests at the forward end on the cutting-table and at the rear end on the rollers *a*, which run on said table. This latter is adjustable vertically in its relation to the axis of the disk C by means of the set-screw *c* passing down through the rearward extension of the standard B, to which the supporting-standard is secured by an ordinary dovetail joint, so as to be free to move vertically into the required position, in which it is held by the screw-threaded projection of the handle E.

In practice, my invention is operated much as are the cutting-machines now in use, but I find that by substituting the overhead track-rail and flexible shafting for the propelling devices now in use I am enabled to manipulate my machine with greater ease and to a more exact pattern than the devices referred to are capable of, on account of the source of power being removed from the table on which the machine travels and the ease with which the flexible shafting may be adjusted to any desirable position for the successful operation of a cutting-machine of this class. Again, the track-rail I may be suspended from the ceiling or held above the floor at the proper distance, and the cutting-table may be changed in its relation to any fixed point on said track-rail, and the hangers *i i* and sheave G may be advanced along said rail to accommo-

date themselves to the changed position of the table. Furthermore, as the cutting-disk C wears away in use the shoe A′ may be raised by means of the set-screw *c* aforesaid to compensate for such wear.

Attached to the rear face of the standard A is a handle E, which is provided with a screw-threaded extension fitting into a screw-threaded opening in said standard and bearing at the extreme inner end against the tenon of the standard B, so that the parts A B may be held against accidental displacement vertically, and said handle is used to guide the machine in operation.

Having described my invention, what I claim as new is—

In a cloth-cutting machine, an overhead track, a hanger on said track carrying a driving-pulley, a flexible shaft connecting said driving-pulley with a vertical shaft held in a suitable standard in the cutting-machine, a revoluble cutting-disk on a horizontal shaft driven from said vertical shaft by means of suitable gearing, and a shoe or runner supporting the same in convenient proximity to the surface of the cutting-table, all constructed and combined substantially as specified and shown.

In testimony whereof I have hereunto signed my name, in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York, this 4th day of October, 1890.

HIRAM N. ELLIOTT.

Witnesses:
FREDERICK H. GIBBS,
JOHN GARNETT.