

No. 748,853.

PATENTED JAN. 5, 1904.

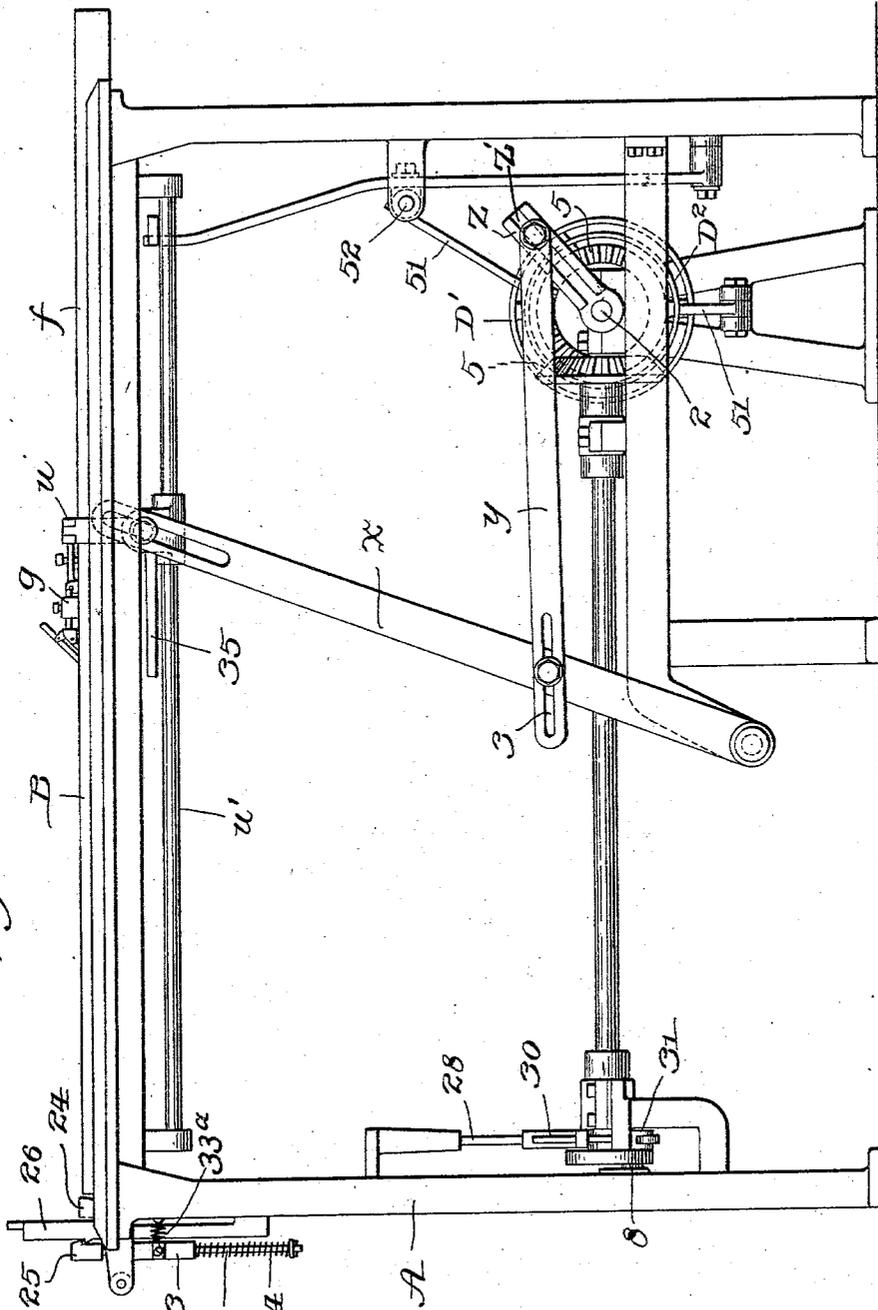
H. FALTERMAYER.  
FABRIC CUTTING MACHINE.

APPLICATION FILED JUNE 26, 1901.

NO MODEL.

4 SHEETS—SHEET 1.

Fig. 1.



WITNESSES:

*W. V. Grouse*  
*J. Nolan*

INVENTOR  
*Harry Faltermayer*  
 BY *John T. Nolan*  
 ATTORNEY

No. 748,853.

PATENTED JAN. 5, 1904.

H. FALTERMAYER.  
FABRIC CUTTING MACHINE.  
APPLICATION FILED JUNE 26, 1901.

NO MODEL.

4 SHEETS—SHEET 2.

Fig. 2a

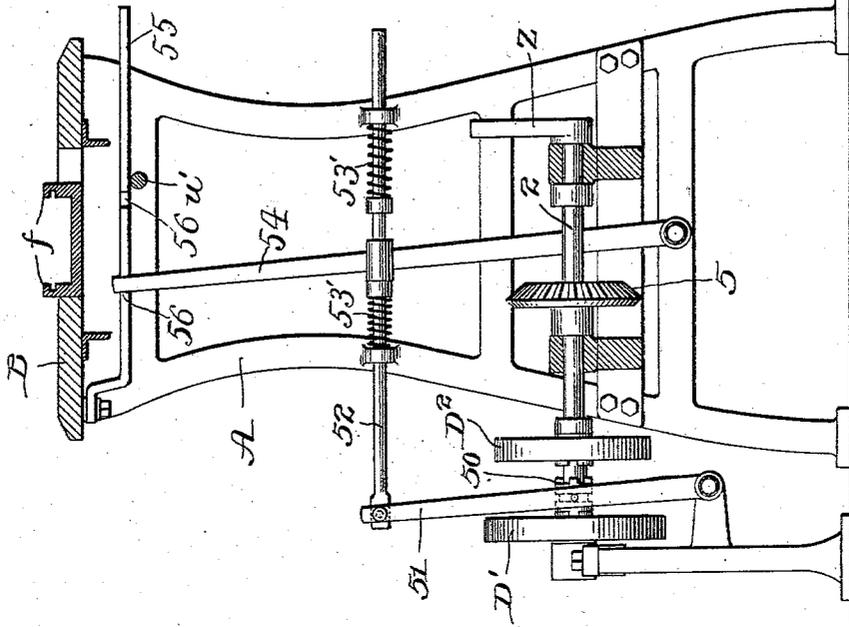
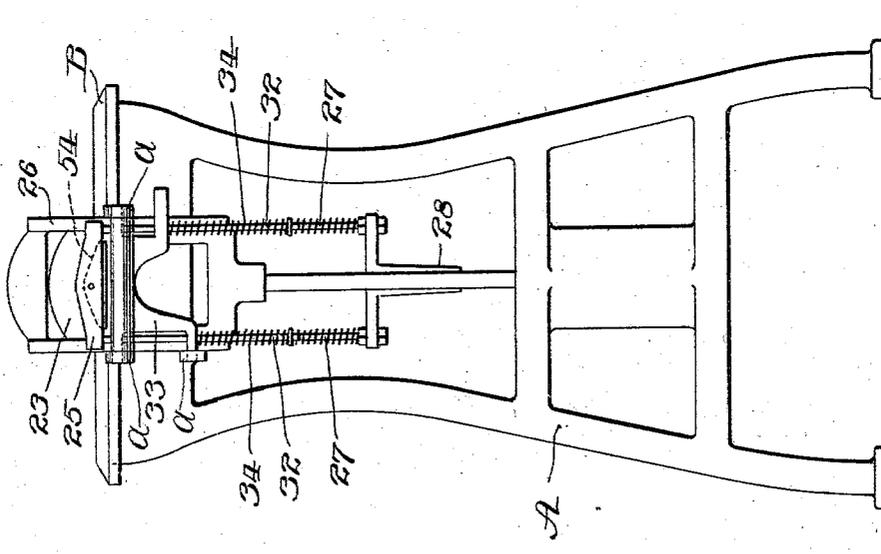


Fig. 2.



WITNESSES:

A. V. Group  
L. Nolan

INVENTOR

Harry Faltermayer  
BY John T. Nolan  
ATTORNEY.

H. FALTERMAYER.  
FABRIC CUTTING MACHINE.  
APPLICATION FILED JUNE 26, 1901.

NO MODEL.

4 SHEETS—SHEET 3.

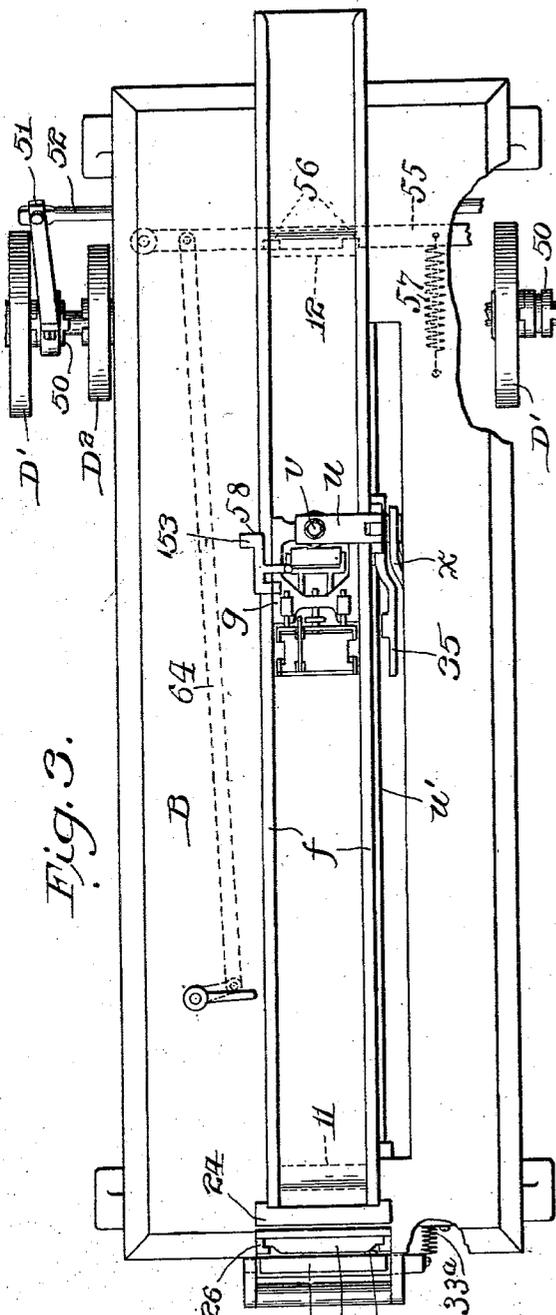


Fig. 3.

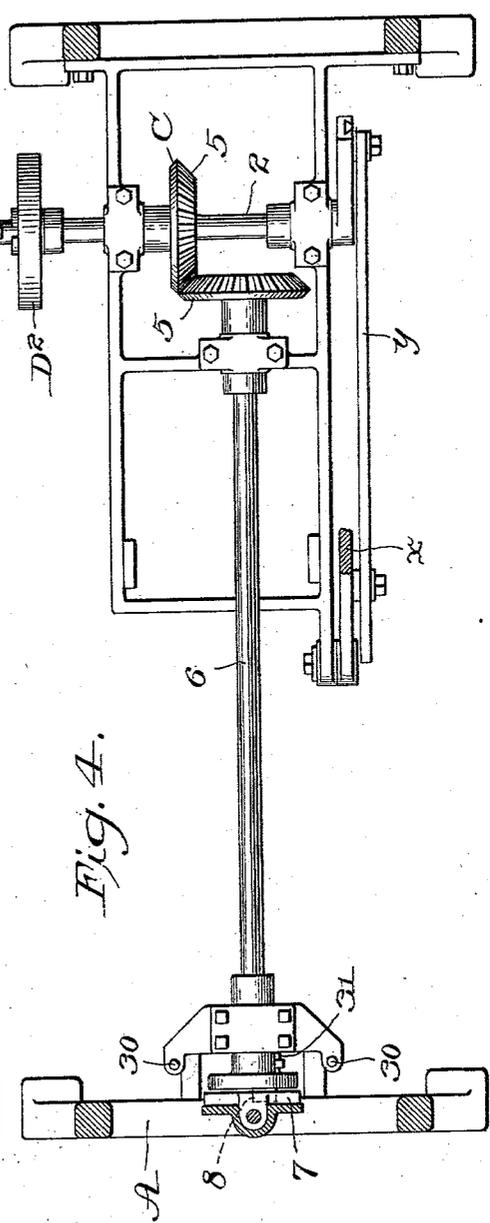


Fig. 4.

WITNESSES:

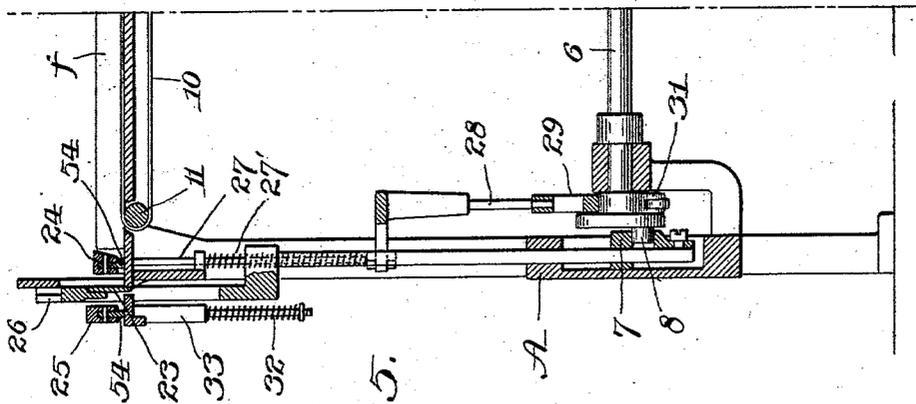
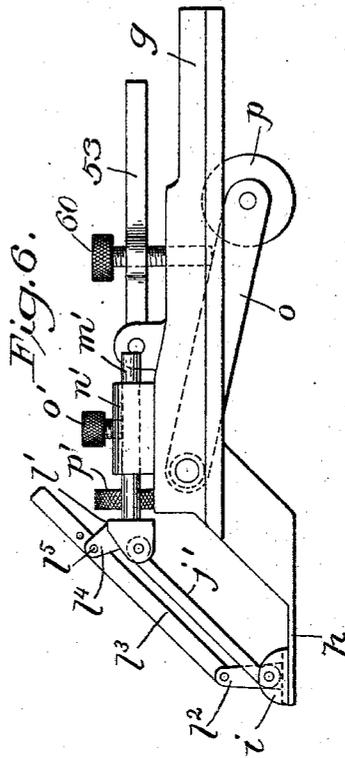
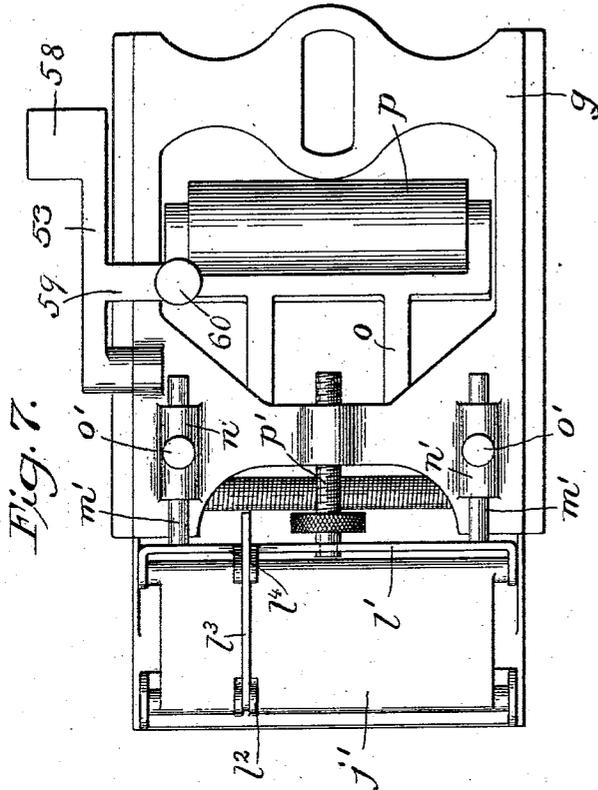
A. V. Groupy  
S. Nolan

INVENTOR  
Harry Faltermayer  
BY  
John P. Nolan  
ATTORNEY

H. FALTERMAYER.  
FABRIC CUTTING MACHINE.  
APPLICATION FILED JUNE 28, 1901.

NO MODEL.

4 SHEETS—SHEET 4.



WITNESSES:

*A. V. Group*  
*S. Nolan*

*Fig. 5.*

INVENTOR

*Harry Faltermayer*

BY *John F. Nolan*

ATTORNEY

# UNITED STATES PATENT OFFICE.

HARRY FALTERMAYER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO  
ADAMS TOP CUTTING MACHINE COMPANY, OF EAST ORANGE, NEW  
JERSEY, A CORPORATION OF NEW JERSEY.

## FABRIC-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 748,853, dated January 5, 1904.

Application filed June 26, 1901. Serial No. 86,054. (No model.)

*To all whom it may concern:*

Be it known that I, HARRY FALTERMAYER, a citizen of the United States, residing at the city and county of Philadelphia and State of Pennsylvania, have invented new and useful Improvements in Fabric-Cutting Machines, of which the following is a specification.

The present invention relates generally to fabric-cutting machines adapted to sever, for instance, a flat tubular webbing or ribbed fabric into predetermined lengths for a number of purposes not necessary to mention. It has for its object to improve the construction and increase the efficiency of machines of the character set forth in United States Letters Patent to Charles F. and Henry F. Adams, No. 572,094, dated December 1, 1896, and No. 616,280, dated December 20, 1898.

To these ends the improvements consist in the novel features and combinations of parts hereinafter set forth.

In the accompanying drawings, Figure 1 is a side elevation of the improved machine. Fig. 2 is an end view thereof. Fig. 2<sup>a</sup> is a transverse section of the machine on a plane adjacent the driving mechanism. Fig. 3 is a plan view thereof. Fig. 4 is a plan view of the driving mechanism. Fig. 5 is a vertical section of the means for actuating the knife and clamps. Fig. 6 is an enlarged side elevation of the fabric-feeder. Fig. 7 is a plan of said feeder.

The improved machine consists of a suitable fabric support or table, a reciprocated fabric carrier or feeder adapted to feed predetermined lengths of the fabric over or along said support, a knife or severing device to which the fabric is fed or presented by the feeder, and a clamp or clamping device arranged on opposite sides of the knife to hold the fabric while being severed.

The machine also includes, among other things, knife and clamp actuating devices, by which simplicity of construction is provided, a novel fabric-feeder and its adjusting devices, obtaining accuracy of feed for varying qualities and thicknesses of fabric, and a driving mechanism and connections for varying the feed of predetermined lengths of the

fabric being severed and also for varying the speed of the machine.

The operative parts of the machine are supported by a suitable framework A, carrying a table B and providing bearings for a driving mechanism C, which includes a pair of different-sized driving-pulleys D' D<sup>2</sup> with an interposed clutch for clutching either of the pulleys to the driving mechanism. The table or upper portion of the framework has suitable longitudinally-arranged guides *f*, in and between which is supported a longitudinally-reciprocated fabric-feeder *g*, formed by a skeleton frame providing a forward lower and fixed plate or jaw *h* and bearings for a coacting movable jaw *i*. This movable jaw is loosely pivoted to one end of a plate *j*, that is in turn pivoted at its upper end to the ears of a cross-bar *l'*, having rearward-projecting guide-rods *m'*, which enter bearings *n'* on the feeder-frame, suitable thumb-cramping screws *o'* being arranged to hold the cross-bar with the upper jaw in any adjusted position. Proper variation of position of the upper jaw with respect to the front edge of the lower jaw or plate *h* may be had by turning the head of an adjusting-screw *p'*, carried by the carrier-frame and bearing against the center of the cross-bar *l'*. By adjusting the position of the upper jaw longitudinally toward or from the front edge of the lower plate it has been demonstrated that different qualities and thicknesses of fabric may be fed with accuracy and equal facility by the one feeder. Rising from the upper jaw is a bifurcated lug *l<sup>2</sup>*, to which is pivoted the lower end of a bar *l<sup>3</sup>*, whose upper end is adjustably connected with a forward projection *l<sup>4</sup>* on the cross-bar *l'*, whereby the bar may be moved up or down to tip to an effective biting-angle the forward or acting edge of said jaw. In the present instance the bar is held adjustably in place by means of a detachable pin *l<sup>5</sup>*, inserted through alining apertures in the projection and bar, respectively. The feeder-frame also supports in rear of the jaws a pivoted arm *o*, between the bifurcated ends of which is carried a fabric-pressure roll or other tension device *p*, which may be raised by hand

when a leading end of a piece of fabric is to be entered between the jaws.

To lessen the friction to the feeding movement of the fabric over the table B, there may be provided an endless freely-movable carrier-band 10, stretched around rolls 11 12, mounted one at the forward and rearward end of the table, the ends of the band being connected to the feeder, allowing the pressure-roll to hold the fabric against the surface of the table.

The fabric-feeder *g* is connected to an arm *u* (longitudinally guided by a fixed rod *u'*), through a screw-bolt *v*, engaging a slot in the feeder-frame for short longitudinal, forward, or rearward adjustment of the feeder with respect to said arm. This longitudinally-guided arm *u* in turn is connected to the slotted upper end of a vibrating lever *x*, the lower end being pivoted to a cross-piece of the framework, and is vibrated by a connecting-rod *y*, connected to a rotating crank-arm *z* on one end of a driving cross-shaft 2 of the driving mechanism C. The connecting-rod is slotted at 3 for adjustable connection with the vibrating lever *x*, and the crank-arm has therein a radial slot *z'* for the reception of the wrist-pin of the rod, whereby radial adjustment of said pin on the crank may be secured. The adjustments of the connecting-rod with the crank-arm slot and with the vibrating lever will be in harmony with the length of the needed throw of the lever, whereby any extent of reciprocation of the fabric-feeder within the limit of the machine may be had, and any position of the feeder in its guides be obtained, according as long or short lengths of fabric are to be severed. The cross-shaft 2 is connected by bevel-gears 5 with a longitudinal shaft 6, both shafts being mounted in suitable bearings in the framework.

At the forward end of the machine-framework and the feeder-guides *f* there is provided a severing device in the form of a reciprocated knife 23 and inner and outer clamps 24 25. The knife is mounted in a carrier reciprocated in a vertical guide-frame 26 by suitable connections with the driving mechanism through a down-hanging rod, carrying at its lower end a suitably-shaped cam 7, engaged by a crank-stud 8, carried at the end of the longitudinal shaft 6, so that on each rotation of the shaft the knife will be moved down to sever the fabric and back to its raised position. The inner clamp 24 is carried by a pair of vertical rods 27, guided in the framework and connected with the arm of a rod 28, having at its lower end a head 29, guided by fixed pins 30 and engaged by the antifric-tion-roll of a crank-arm 31, fixed to the longitudinal shaft 6, so that on each rotation of the shaft the clamp will be lowered or allowed to fall to clamp the fabric just previous to being severed, and raised to allow the feeder to feed a further portion of the fabric be-

neath the clamps and in the path of the knife. A spring or springs 27', encircling one or both of the rods 27, is or are preferably provided to assist in the downward and clamping action of the clamp 24. The outer clamp 25 is carried by a pair of depending rods 32, which are guided in an oscillatory frame 33 and maintained normally depressed by the action of springs 34, encircling said rods. This frame is hingedly supported upon lugs or projections *a* of the framework, so as to have slight lateral movement toward and from the knife. The clamp is provided with a projection 9 and the knife-carrier is provided with a similar projection 9<sup>a</sup>, and these projections are so relatively arranged that when the frame 33 is contiguous to the knife-carrier the projection on the latter during the upward stroke engages the projection on the clamp, and thereby raises said clamp against the stress of the springs 34. The frame 33 is maintained normally in the inward position adjacent the knife-carrier by a spring 33<sup>a</sup>, Figs. 1 and 3, secured to said frame and the main framework. When the upper portion of the frame is moved outward, the projection of the clamp 25 is disengaged from that of the knife-carrier, and said clamp thereupon descends upon and clamps the underlying fabric. This clamp is caused to drop by a projecting finger 35, carried by the reciprocated arm *u*, meeting a portion of the frame 33 and rocking it outwardly just as the fabric-feeder reaches its forward position. To obtain the even clamping of the fabric, each of the clamps 24 25 is provided with a centrally-pivoted evener 54, adapted to accommodate itself to the fabric and the underlying clamping-surface.

The two pulleys *D'* *D*<sup>2</sup> on the shaft 2 are each provided with one member of a clutch device, and the interposed and cooperating clutch 50 is slidable on said shaft to clutch either pulley to the shaft, according to the speed desired, and also to be set at center to stop the operation of the machine while the pulleys are still rotating. Of course any other suitable form of driving mechanism can be used.

A simple and efficient power-controlling mechanism is as follows: The upper end of the pivoted clutch-lever 51 is connected to one end of a horizontally-movable rod 52, mounted in guide-lugs of the main frame. On this rod is a pair of oppositely-acting springs 53, which bear against the said lugs and respective opposing lugs on the rod in a manner to maintain the rod and clutch-lever, together with the clutch, normally in non-acting position. To the rod is connected a vertically-disposed lever 54, the upper end of which lies adjacent to a pivoted hand-lever 55 beneath the table. This bar is provided with two suitably-disposed notches 56 56', with either of which the upper end of the lever 54 may be engaged by hand manipulation of the rod 52, so as to maintain the clutch in engage-

ment with either of the pulleys, as desired. The bar 55 is held normally against the side of the lever 54 by a suitably-disposed spring 57, Fig. 3, and it is adapted to be shifted through the instrumentality of a trip-arm 53 on the fabric-feeder to release said lever, and thereby arrest the operation of the machine should the fabric be absent. This trip-arm is pivoted at one end to the side of the feeder-frame and is provided on the other or free end with a projecting lug 58. The arm is also provided near its pivotal connection with an inward extension 59, carrying a set-screw 60, that rests upon the pivoted arm O of the pressure device above described.

When the fabric is below the pressure-roller, the trip-arm is held in raised position; but when the fabric is absent said roller drops upon the surface of the table, and thus permits the trip-arm to descend.

On the table is an arm 61, which lies in the path of the lug 58 when the trip-arm is down. The arm 61 is fixed to the upper end of a rock-shaft 62, which carries at its lower end beneath the table an arm 63, that is connected by means of a link 64 with the bar 55, which controls the clutch-lever. (See Fig. 3.) The parts just described are so relatively arranged that when the lug 58, during the stroke of the feeder, abuts against the opposing arm 61 the bar 55 is shifted to release the lever 54, and thus effect the stoppage of the machine.

The general operation of the machine may be briefly described as follows: The fabric to be severed into predetermined lengths is applied to the table and introduced between the jaws of the feeder, whereupon power is applied and the clutch engaged with either of the pulleys as a fast or slow speed may be required. In the forward stroke of the feeder the fabric is advanced, thereby the knife and both clamps being raised. As the feeder nears the limit of its forward stroke it releases the outer clamp by impact with the oscillatory frame 33, which clamp thus descends upon and clamps the underlying fabric, and at the same time the inner clamp, under the influence of the crank-arm 31 and spring 27', also descends and clamps the fabric. Thereupon the knife is caused to descend by the timely position of the cam 7 and crank connection 8, thereby severing the portion of the fabric intermediate the clamps. During the return stroke of the feeder the outer clamp and the knife are raised through the coacting projections 9 and 9<sup>a</sup>, the inner clamp remaining down to hold the fabric as the jaws of the feeder slide freely along the web. Just prior to the succeeding forward stroke of the feeder, the inner clamp is raised and the operation above described is repeated. When the fabric terminates or is absent from the feeder the pressure device on the latter, dropping, permits the trip-arm to move into position to actuate the stop mechanism, as hereinbefore explained.

What is claimed is—

1. In a fabric-cutting machine, the combination with a severing device, of a fabric-feeder having a fixed lower jaw, a coacting pivoted upper jaw, an arm pivotally connected with said latter jaw, and means for longitudinally adjusting said arm to vary the angularity of the upper jaw in relation to the lower jaw.

2. In a fabric-cutting machine, the combination with a severing device, of a fabric-feeder having a fixed lower jaw, a coacting upper pivoted jaw, means for tilting the latter jaw and maintaining it in adjusted position, and means for longitudinally adjusting said upper jaw.

3. In a fabric-cutting machine, the combination with a severing device, of a fabric-feeder having a fixed lower jaw, a coacting upper jaw, a plate to which the latter jaw is pivoted, a support to which the plate is pivoted, means for adjusting said support longitudinally of the feeder, a bar pivotally connected with the upper jaw, and an adjustable connection between said bar and support.

4. In a fabric-cutting machine, the combination with a fabric-feeder, a severing device, and means for reciprocating said device, of a clamp adjacent to said device, a laterally-movable frame in which said clamp is guided, means to maintain said clamp normally in clamping position, coacting means on the severing device and clamp whereby the clamp is moved out of action during a stroke of the severing device, and means on the fabric-feeder for moving said frame to trip and release the clamp.

5. In a fabric-cutting machine, the combination with a fabric-feeder, a reciprocating knife-carrier, its knife, a shaft, and connections between said shaft and carrier, of clamps on opposite sides of said carrier, means to maintain said clamps normally in clamping position, connections between one of said clamps and the said shaft whereby such clamp is periodically moved to unclamping position, trip connections between the other clamp and the carrier, and means on the fabric-feeder for effecting the release of said connections.

6. In a fabric-cutting machine, the combination with driving mechanism, stopping mechanism therefor, a severing device, and means for operating said device, of a fabric-feeder, means for reciprocating said feeder, a vertically-movable pressure device on said feeder coacting with the fabric to be fed, an oscillatory trip-arm pivoted on the feeder, and a connection between said arm and the pressure device.

7. In a fabric-cutting machine, the combination with a severing device and a fabric-feeder, of drive mechanism including differential speed devices, a lever to control said devices, means to maintain said lever normally in idle position, locking means to main-

tain said lever in a position to render either of the speed devices active as desired, and mechanism on the fabric-feeder for automatically tripping said locking means upon  
5 the absence of fabric to be fed.

8. In a fabric-cutting machine, the combination with a severing device, and a fabric-feeder, of a driving-shaft, connections between the same and the severing device, a  
10 crank-arm on said shaft, a lever connected with the fabric-feeder, and a connecting-rod adjustably connected with said lever and crank.

9. In a fabric-cutting machine, the combi-

nation with a fabric-feeder, means for recip- 15  
rocating the same, a severing device, and means for actuating the same, a clamp, means for moving the same into and out of action, and an evener-bar centrally pivoted on said  
clamp. 20

Signed at Philadelphia, Pennsylvania, this 15th day of November, 1900, in the presence of two witnesses.

HARRY FALTERMAYER.

Witnesses:

EDWARD W. SAXIS,  
THOS. H. SMITH.