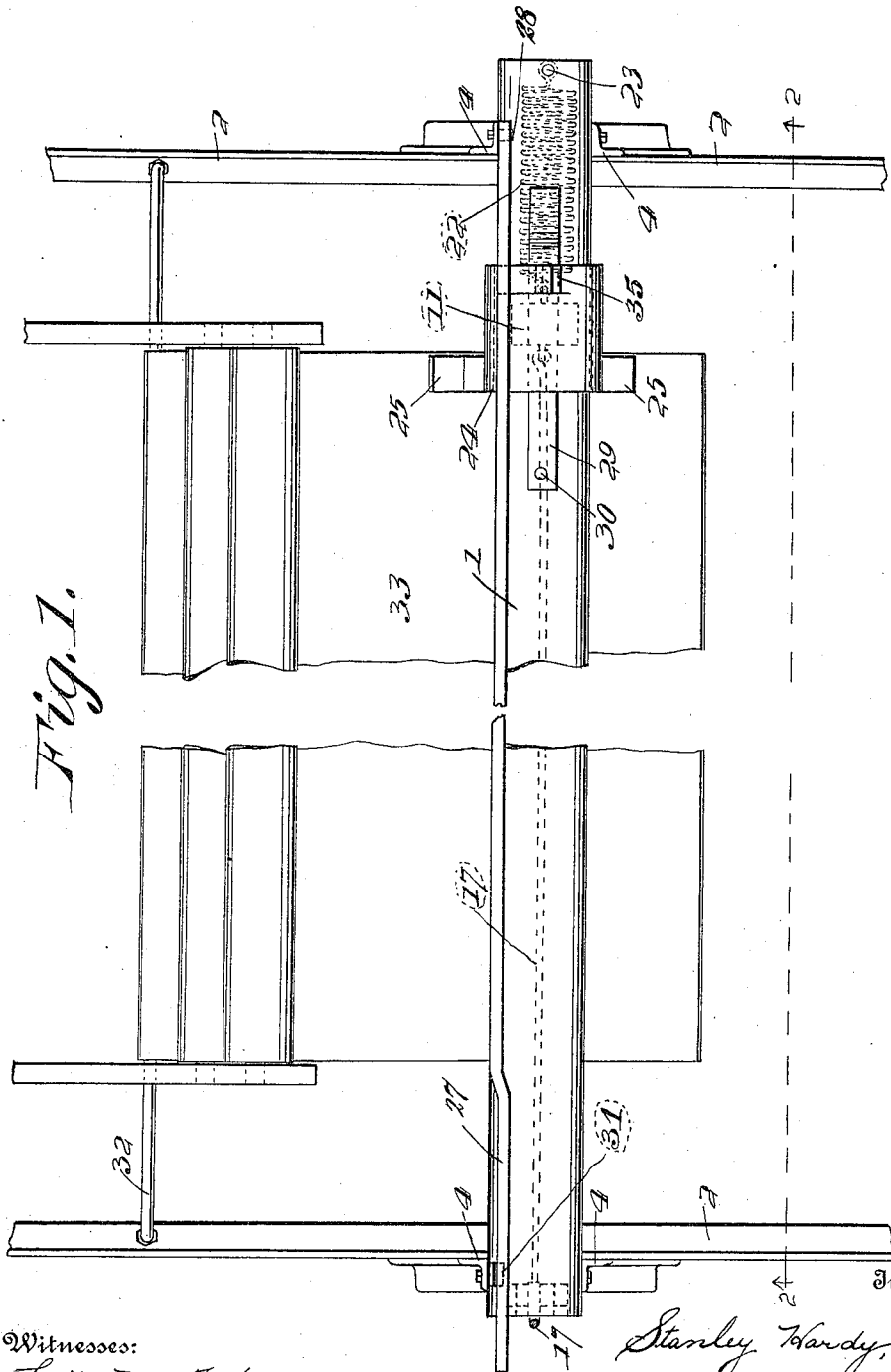


1,046,783.

S. HARDY.
CLOTH CUTTING DEVICE.
APPLICATION FILED SEPT. 7, 1911.

Patented Dec. 10, 1912.

4 SHEETS—SHEET 1.



Witnesses:
Lottie M. Fox.
Bertha von Behrens.

Inventor:
Stanley Hardy,
By Hugh K. Wagner,
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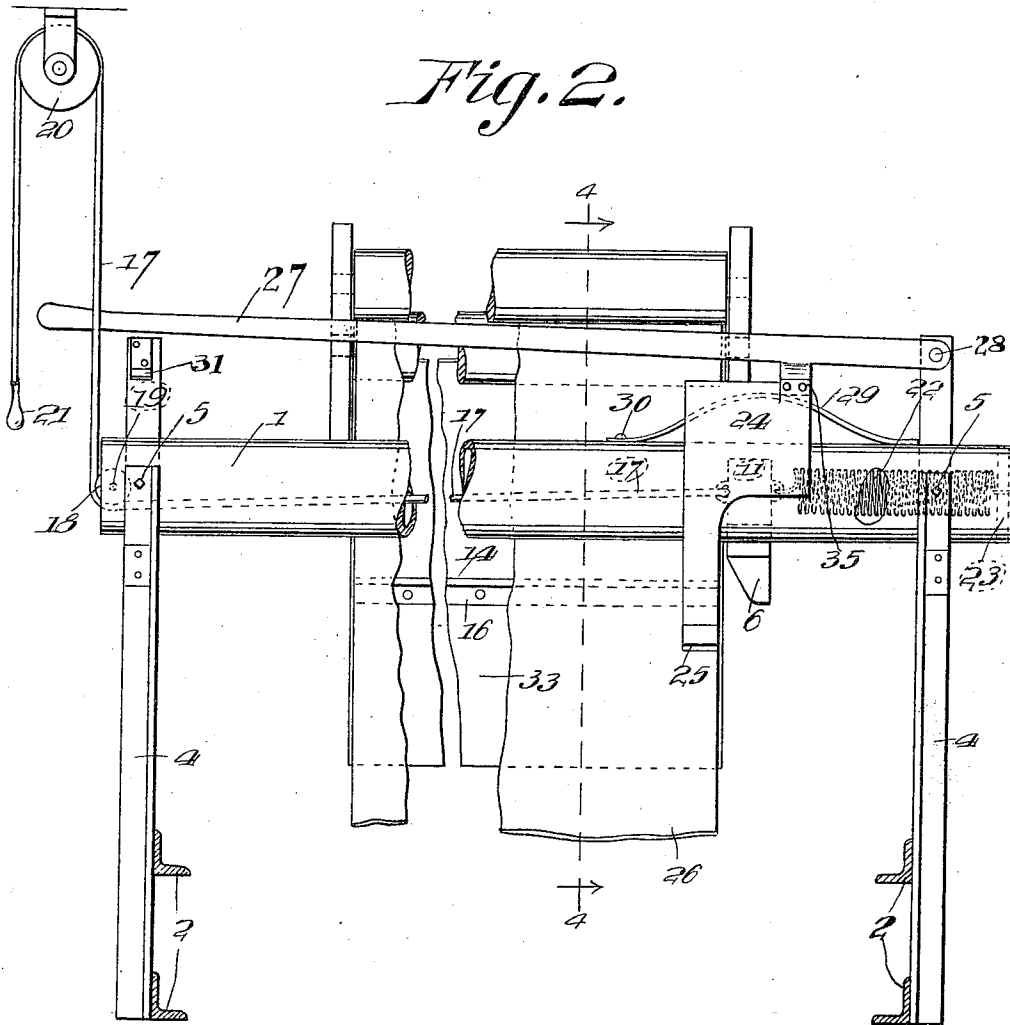
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4 SHEETS-SHEET 2.

Fig. 2.



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4 SHEETS-SHEET 3.

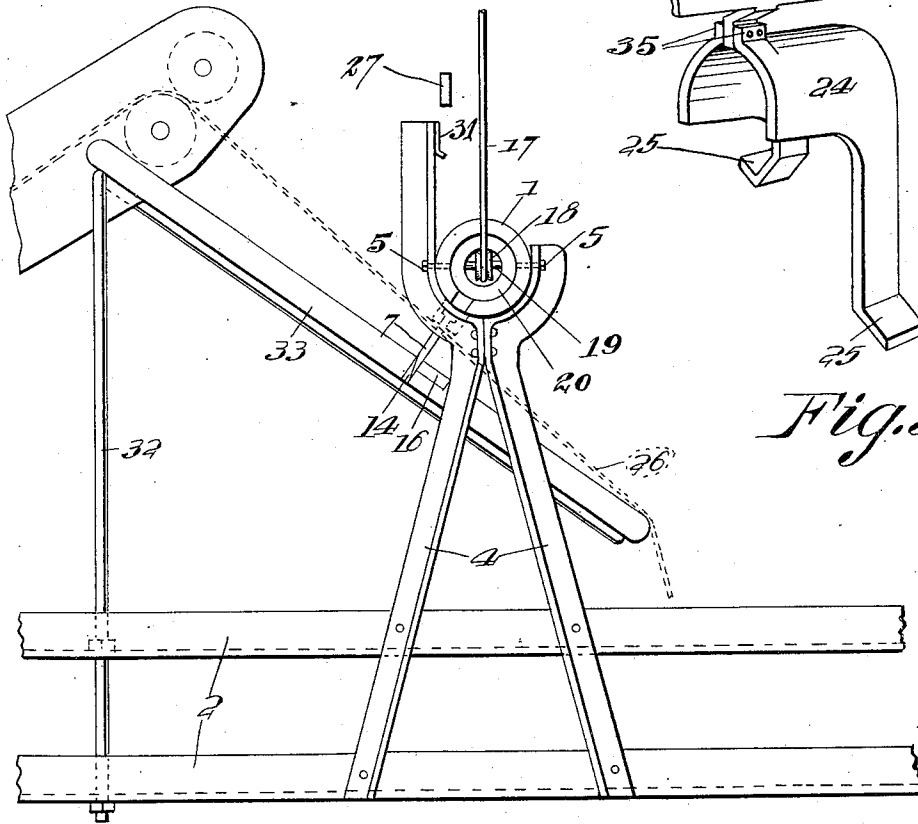


Fig. 3.

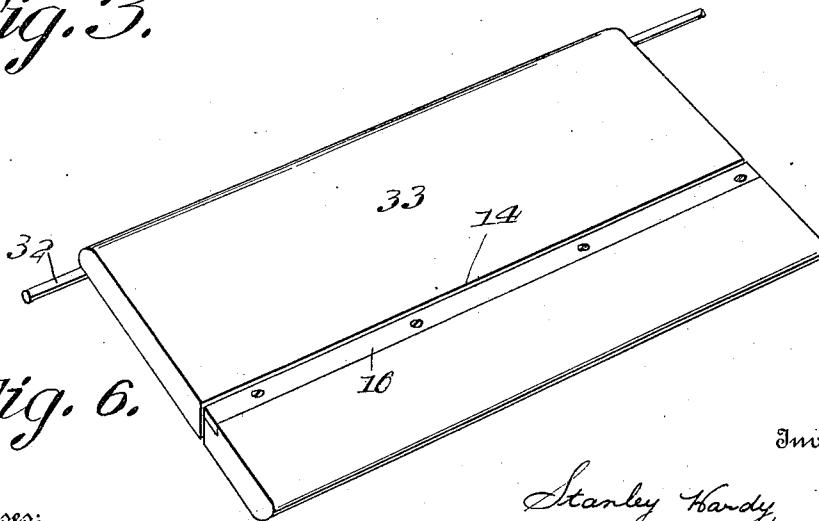


Fig. 6.

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4 SHEETS—SHEET 4.

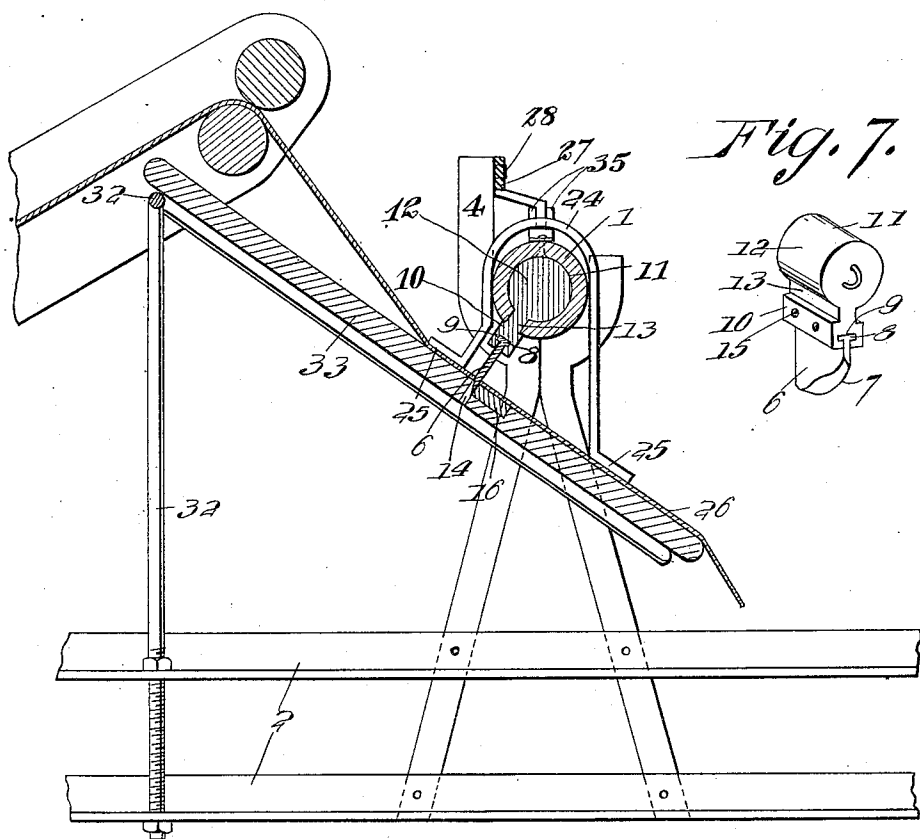


Fig. 4.

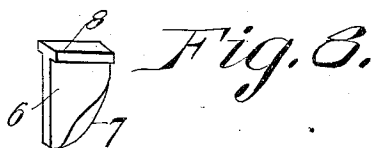


Fig. 8.

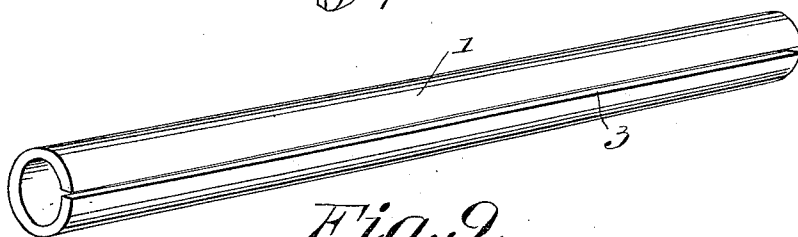


Fig. 9.

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UNITED STATES PATENT OFFICE.

STANLEY HARDY, OF ST. LOUIS, MISSOURI.

CLOTH-CUTTING DEVICE.

1,046,783.

Specification of Letters Patent.

Patented Dec. 10, 1912.

Application filed September 7, 1911. Serial No. 648,061.

To all whom it may concern:

Be it known that I, STANLEY HARDY, a citizen of the United States, residing at the city of St. Louis, State of Missouri, have invented certain new and useful Improvements in Cloth-Cutting Devices, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in cloth cutting devices, and is particularly adapted for use in connection with the cloth carrying machine for which I obtained Letters Patent No. 986,822, on March 14, 1911.

The objects of the invention are to provide an improved and simplified device for cutting cloth, particularly duck used in the making of awnings, tents and the like; to provide means for effecting the cutting action quickly, easily, and positively, and to provide means for positively clamping the cloth during the cutting thereof.

In the drawings, Figure 1, is a top plan view of the invention, Fig. 2, is a section taken on the line 2—2 of Fig. 1, Fig. 3, is an end elevation, Fig. 4, is a section taken on the line 4—4 of Fig. 2, Fig. 5 is a detail perspective view of the cloth clamp, Fig. 6, is a detail perspective view of the apron, Fig. 7, is a detail perspective view of the knife holder, Fig. 8, is a detail perspective view of the knife, and Fig. 9, is a detail perspective view of the guide for the knife holder.

The apron, designated 33 to agree with the designation of the corresponding element in the aforementioned patent, is supported in an inclined position, by means of a frame 32 that is carried by the angle-irons 2, which latter are secured to the main frame of the machine.

A tubular guide 1 is formed with a longitudinal slot 3 and is supported by vertical angle-irons 4 above and longitudinally of the apron 33, the upper ends of the angle-irons 4, being arc-shaped to receive the tube 1, which latter is fastened thereto by means of screws 5.

The knife 6 is provided with a curved cutting edge 7, and its upper end is formed with a flange 8, which extends outwardly on opposite sides thereof and is received in a T-shaped slot 9, formed in the enlarged lower end 10 of the knife holder 11, and is firmly held there by one or more set screws 15. The knife holder is provided with a

cylindrical head 12 which is slidably fitted in the bore of the tubular guide 1, and has a web 13, which connects the enlarged lower end 10 to the head 12 and projects through the slot 3 of the tubular guide 1. The apron 33 is formed with a slot or groove 14 which extends substantially parallel to the slot 3 of the tubular guide 1, in order to permit the knife 6 to travel therethrough, the cutting edge of the knife coöperating with a plate 16, which is countersunk and secured in the apron 33, in order that a shearing action between the knife or cutter and the plate 16 will be effected. The tubular guide 1 is located at a sufficient distance above the apron 33 to allow several thicknesses of cloth to pass across the apron beneath said guide.

A cord, rope, or cable 17 is fastened to one end of the knife holder 11, and passes under a pulley 18 that is mounted on a pin 19, which is carried by a small section of tubing 20, the latter being secured in the outer end of the guide 1, as clearly depicted in Fig. 3 of the drawings. The flexible element 17 passes up over a pulley 20, which may be attached to the ceiling or other suitable support, and has a hand grip 21 at its lower end to permit of manual manipulation thereof. The opposite end of the knife holder has one end of a coil spring 22 secured thereto, the spring being located on the interior of the tubular guide 1 and having its opposite end secured to the rear end of the guide 1 by means of a pin 23, which is attached to said guide, as shown in Figs. 1 and 2 of the drawings.

From the foregoing, it will be apparent that, when the hand grip 21 is drawn downwardly, the knife 6 and its holder will be moved through the guide 1, with the result that the coil spring 22 is extended, and upon release of the hand grip 21 the contraction of the spring 22 will automatically restore the knife and its holder to normal position, illustrated in Fig. 2 of the drawings.

For the purpose of holding the cloth flat on the apron during the cutting thereof, a clamp 24 is employed, same being shown in detail in Fig. 5. The cloth clamp is of approximately inverted U-shape and straddles the guide 1, being vertically movable with respect thereto. The lower ends of the cloth clamp are turned outwardly to form presser-feet 25, which exert pressure upon the

cloth 26 when the cloth clamp is operated in a manner now to be described. The end of the cloth clamp opposite to the end thereof, which bears the presser-feet 25, is formed with a pair of extensions 35, which are bent outwardly and attached to opposite sides of a hand lever 27 that is pivoted at 28 to an angle-iron 4 adjacent one side of the main frame of the machine. A bowed leaf spring 29 has one end thereof attached, as at 30, to the tubular guide 1, and has its central portion extending through the interior of the cloth-clamp 24 and its free end bearing on the guide 1 on the opposite side of the cloth-clamp, for the purpose of normally sustaining the cloth clamp in upper position with its presser-feet 25 out of engagement with the cloth. A plate 31, which is riveted or otherwise secured to an angle-iron 4 adjacent the other side of the main frame of the machine, has an end thereof bent outwardly to hold the hand lever 27 in a depressed position when said lever is lowered to clamp the cloth upon the apron 33.

The parts normally occupy the positions depicted in Fig. 2, being held in such positions by the springs 22 and 29. When it is desired to cut a piece or pieces of cloth the hand lever 27 is depressed and hooked under the projecting end of plate 31, thereby lowering the cloth clamp 24 until the presser-feet 25 thereof clamp the piece or pieces of cloth upon the apron 33 and on opposite sides of the knife. While the hand lever is held in its depressed position either by hand or by the plate 31, the hand grip 21 is pulled downwardly causing the flexible member 17 to pull the knife holder to the left of Fig. 2, with the result that the blade 6 travels through the slot 14, thereby cutting the piece or pieces of cloth on the apron 33, after which the hand lever and hand grip are released, permitting the springs to return or restore the parts to initial position.

It will be understood that instead of manually pulling the flexible member 17, the same may be operated by any suitable power driven device.

What is claimed is:—

1. In a cloth cutting device, in combination with a guide and a cutter movable therealong, a cloth clamp straddling the guide and having presser-feet arranged on opposite sides of said guide, and means to actuate said clamp.

2. In a cloth cutting device, in combination with a guide and a cutter movable therealong, a cloth clamp straddling the guide and having presser-feet arranged on opposite sides of said guide, a spring arranged between the guide and clamp to normally force the latter upwardly, and means to move said clamp downwardly against the action of said spring.

3. In a cloth cutting device, in combina-

tion with a guide and a cutter movable therealong, an inverted U-shape cloth clamp slidably mounted over said guide and having its ends turned outwardly to form presser-feet, and means to actuate said clamp.

4. In a cloth cutting device, in combination with a guide and a cutter movable therealong, an inverted U-shape cloth clamp slidably mounted over said guide and having its ends turned outwardly to form presser-feet, a spring interposed between the guide and clamp to normally force the latter upwardly, and means to depress the clamp against the action of said spring.

5. In a cloth cutting device, in combination with an apron having a longitudinal slot, a longitudinally slotted tubular guide located above said apron to have its slot aline with that of the apron, a cutter having its cutting edge extending in said slot of the apron and having a part thereof extending through said slot of said guide and slidably mounted on the interior of said tubular guide, and means to actuate said cutter.

6. In a cloth cutting device, in combination with cutting means, spring pressed clamping means relatively stationary thereto to clamp the cloth during the cutting thereof.

7. In a cloth cutting device, in combination with cutting means, unitary means engaging the cloth on opposite sides of said cutting means relatively stationary thereto to clamp the cloth during the cutting thereof.

8. In a cloth cutting device, in combination with an apron and a cutting mechanism coöperatively associated therewith, spring pressed cloth clamping means slidably supported by said cutting mechanism and being relatively stationary thereto during the operation of the cutter, and means to actuate said clamping means to clamp the cloth between the same and the apron.

9. In a cloth cutting device, in combination with a cloth supporting element, a tubular guide located thereabove, cutting means slidably carried on the interior of the guide and projecting without the same to cut the cloth on said element, and cloth clamping means borne by said guide and movable toward and away from said cloth supporting element.

10. In a cloth cutting device, in combination with a guide having a cutter, a cloth clamp consisting of an inverted U-shaped member straddling the guide and having its extremities at one end thereof turned outwardly to form presser-feet and having its extremities at the opposite end thereof bent outwardly from one another, a pivoted member secured between said last-named extremities for lowering said member, and a bowed leaf spring interposed between the

guide and the closed end of the U-shaped member.

5 11. In a cloth cutting device, in combination with cutting means, unitary means engaging the cloth on opposite sides of said cutting means relatively stationary thereto to clamp the cloth during the cutting thereof, and a pivoted member for actuating said clamping means.

10 12. In a cloth cutting device, in combination with cutting means, unitary means engaging the cloth on opposite sides of said cutting means relatively stationary thereto to clamp the cloth during the cutting thereof, a pivoted member for actuating said clamping means, and a latch for holding said pivoted member in a depressed position.

15 13. In a cloth cutting device, in combination with a slotted cloth supporting element, a tubular slotted guide located thereabove, a head slidably arranged in said tubular guide and having a knife secured thereto which projects through said slot of the guide and into said slot of the cloth supporting element, and means to operate said head.

20 14. In a cloth cutting device, in combination with a cloth supporting element, a tubular slotted guide located thereabove, a head slidably arranged in said tubular guide and having a web which extends through the slot thereof, the outer end of said web being enlarged and formed with a slot of T-shape in cross-section, a knife having a flange which extends outwardly on opposite sides

thereof received in said T-shaped slot, and means to actuate the head.

15. In a cloth cutting device, in combination with a frame having a guide and a cutter movable therealong, a cloth clamp arranged to have a part thereof overlie said guide, a spring disposed in the space between said guide and said part of the cloth clamp, and means to move said clamp downwardly against the action of said spring.

16. In combination with a supporting element, a guide located above said element, a cutter carried by the guide for coöperation with said element to cut the material, means to automatically restore the cutter to initial position upon completion of its cutting movement, and means to operate said cutter including a cable connected to the cutter and an overhead roller, the cable passing up over the roller and then extending vertically downward therefrom.

17. In a cloth cutting device, the combination of an apron having a longitudinal slot, a cutter movable through said slot, and means engaging the cloth on opposite sides of said slot to clamp the cloth during the cutting thereof.

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

STANLEY HARDY.

Witnesses:

LOTTIE M. FOX,
BERTHA VON BEHRENS.