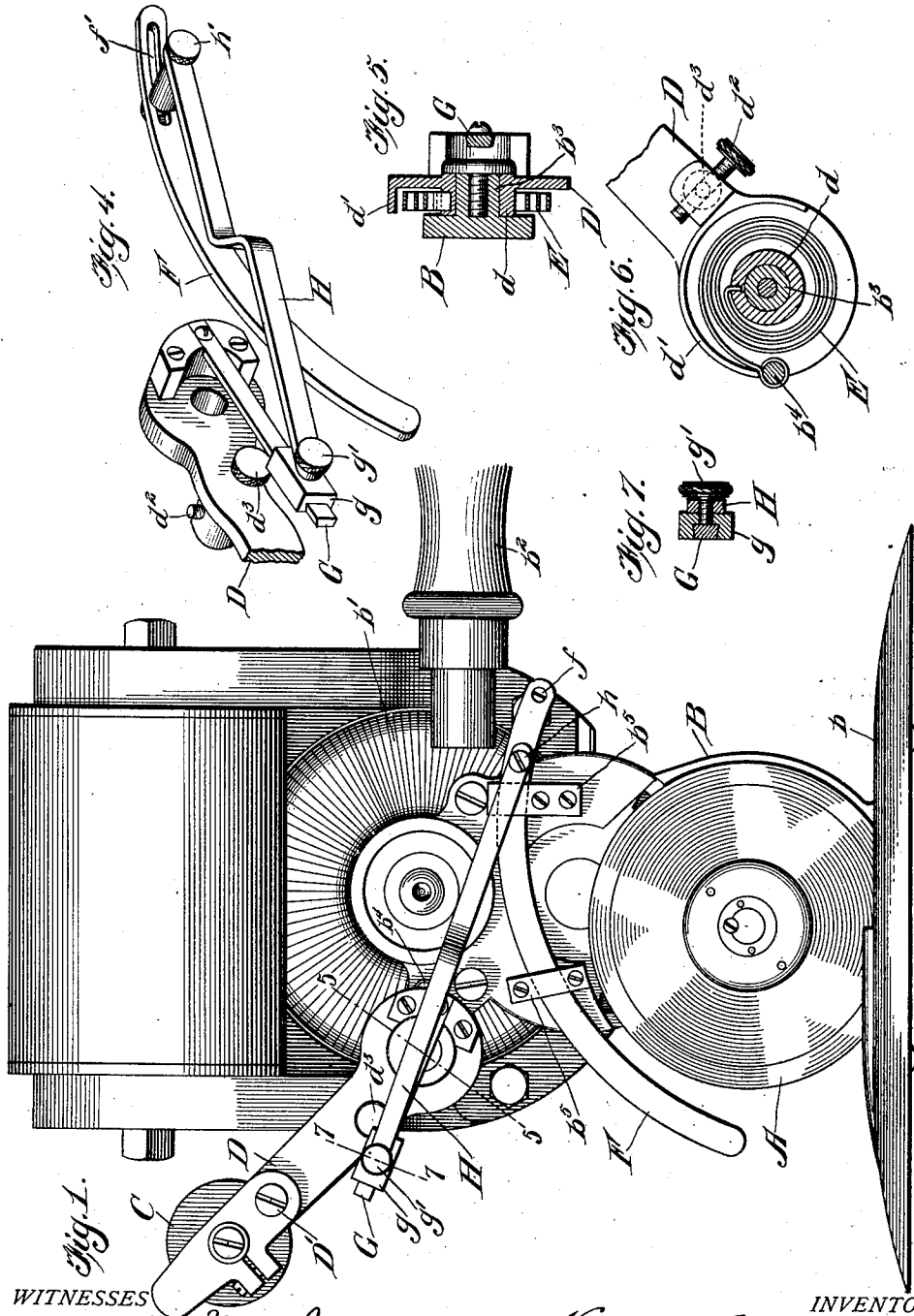


H. A. MEYER.
CLOTH CUTTER.
APPLICATION FILED AUG. 16, 1912.

1,059,190.

Patented Apr. 15, 1913.

2 SHEETS—SHEET 1.



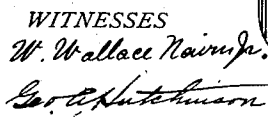
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CLOTH CUTTER.

1,059,190.

2 SHEETS—SHEET 2.



INVENTOR

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UNITED STATES PATENT OFFICE.

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CLOTH-CUTTER.

1,059,190.

Specification of Letters Patent.

Patented Apr. 15, 1913.

Application filed August 16, 1912. Serial No. 715,338.

To all whom it may concern:

Be it known that I, HENRY A. MEYER, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Cloth-Cutters; 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-cutters of the type in which a power-driven blade or knife is mounted on a hand-propelled carriage, and has particular reference to means for sharpening the blade or knife and means for preventing the latter from injuring the operator.

The chief object of the invention is to effect an automatic withdrawal of the guard as the grinder is advanced into contact with the blade and vice-versa.

Subsidiary objects are to simplify and generally improve the construction of the guard and the means of connection between it and the grinder.

The invention will be first hereinafter more particularly described with reference to the accompanying drawings, which form a part of this specification, and then pointed out in the claims at the end of the description.

In the drawings, Figure 1 is a side elevation of a cloth-cutter embodying my invention and showing the normal positions of the grinder and guard; Fig. 2 is a similar view illustrating the grinder in contact with the blade, and the guard in its withdrawn position; Fig. 3 is a front elevation of the cutter, the parts being arranged as in Fig. 1; Fig. 4 is a detail view of the guard and its actuating connections with the grinder, modified means being shown for varying the length of the guard; Fig. 5 is a sectional view through the pivotal axis of the grinder-carrying arm or lever, taken on the line 5—5 of Fig. 1; Fig. 6 is a vertical section taken on the line 6—6 of Fig. 3 looking in the direction of the arrow, illustrating more particularly the fixed stop for arresting the movement of the grinder away from the blade; and Fig. 7 is a detail section taken on the line 7—7 of Fig. 1 to more clearly illustrate the adjustable means for securing together the two members of the

operative connecting means between the grinder and guard.

The cloth-cutter, in connection with which it has been elected to illustrate the present improvements, comprises a rotary blade or knife A, suitably mounted upon a carriage B having a base *b* and carrying an electric motor *b'* for actuating said blade. The carriage is also provided with a rearwardly extending handle *b²* for guiding and propelling the same.

The grinder C may consist of a pair of confronting disks of emery or other suitable grinding material revolubly mounted on an arm D which is pivoted on the carriage to swing in a plane parallel to that of the blade. Said arm is normally held in its raised position out of contact with the blade by a spring E. As best illustrated in Figs. 5 and 6, the arm may be provided with a sleeve *d* fitting around the stud *b³*, and with an interrupted or segmental flange *d'* concentric with said sleeve. The flange and sleeve constitute a housing for the spring which is coiled about said sleeve and has its inner end fastened thereto, while the outer end of said spring projects beyond the flange and is secured to a fixed pin *b⁴* on the carriage. This pin *b⁴* is arranged in the path of the interrupted flange *d'* and is adapted to be engaged by one end of said flange for stopping the upward movement of the grinder away from the blade. The advance of the grinder toward the knife may be regulated by an adjustable stop-pin or screw *d²* carried by the arm D and adapted to come in contact with a portion of the casing above the blade, as illustrated in Fig. 2. The stop-pin or screw may be held in its desired adjustment by a set screw *d³* fitted in the arm transversely to said stop-pin or screw. The grinder may be moved down into engagement with the blade, when the latter requires sharpening, by means of a handle D' projecting from the arm near its free end. As already intimated, the spring E automatically raises or withdraws the grinder when the handle is released.

An arcuate rigid strip or bar F is movable endwise in guides *b⁵* on the carriage and is normally projected or extended forwardly and downwardly in front of the blade, where it serves as a guard to prevent the blade from injuring the operator's hand, which is generally pressed upon the cloth to guide

it below the blade. Obviously, the guard, when in its normal extended position, would interfere with the grinder coming in contact with the blade. Hence, it is necessary
 5 that the guard be withdrawn before the grinder can be used for sharpening the blade. The guard is, therefore, adapted to be moved rearwardly in its guides from its extended position, as illustrated in Fig. 1,
 10 to its retracted or withdrawn position, as shown in Fig. 2.

In order to avoid a separate adjustment of the guard before and after the grinder is to be used, said guard and grinder are connected in such a manner that the lowering or
 15 advancing of the grinder to operative position, automatically withdraws the guard, and the raising or withdrawing of said grinder to normal position by the spring E
 20 will automatically advance or project the guard into its normal position in front of the blade. This connecting means comprises two members, namely, a secondary arm G which may be rigidly secured at one
 25 end to the grinder-carrying arm D, and a connecting rod or link H having its opposite end portions attached to said secondary arm and guard, respectively. The secondary arm G may extend away from the end of
 30 the link which is attached to the guard, so that in the normal positions of the parts said link will overlap said secondary arm. The swinging of the grinder-carrying arm will consequently cause endwise movement
 35 of the connecting rod or link, which acting upon the guard moves the latter to withdraw the same when the grinder is advanced, and to project or advance the guard when the grinder is withdrawn.

40 The length of the guard, that is, the normally projecting portion of the strip F, may be regulated by an adjustable connection between the forward end of the link and the lever arm G. For this purpose, said lever
 45 arm may be made in dove-tail form, as illustrated in Fig. 7, and fitted with a block *g* having a dove-tail groove, whereby the block is adapted to slide upon the lever arm but is restricted to endwise movement thereon.
 50 The link is connected to the block by a set screw *g'* which passes through the latter and clamps it upon the lever arm at the desired point. By loosening the set screw, the block may be moved along the lever arm,
 55 simultaneously moving the guard through the connecting link until the desired adjustment is attained, whereupon the tightening of the set screw will maintain said adjustment. As illustrated in Fig. 1, the rear
 60 end of the link may also be adjustably connected to the guard-strip by means of a screw or stud *h* engaging one of a plurality of spaced sockets *f* in said strip, whereby
 65 the latter may be adjusted so that in its normal position it will extend nearer to or

farther from the base of the carriage, as occasion may require. The same result may be accomplished by the modified means of connection between the link and guard, as
 70 illustrated in Fig. 4. In this instance, the guard is provided with an elongated slot *f'* and the link is adjustably connected to the guard-strip by means of a set screw *h'* adapted to clamp at any point along the slot.

While the invention is shown as applied
 75 to a machine having a rotary cutter, it will be understood that it is also applicable to other types of machines and I do not desire to be limited in the application of the invention to the particular type of machine shown
 80 and described.

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

1. In a cloth-cutter of the character described, the combination with a movable
 85 guard having endwise sliding movement, of a movable grinder, and a link connecting said grinder and guard, whereby one is automatically retracted as the other is advanced.

2. In a cloth-cutter of the character described, the combination with a blade, of an arcuate endwise movable guard normally
 95 extending in front of the blade, a movable grinder adapted to engage the front of the blade but normally arranged out of engagement therewith, and a link connecting said grinder and guard, whereby the latter
 100 will be retracted when the grinder is advanced.

3. In a cloth-cutter of the character described, the combination with a blade, of a movable guard normally extending in front
 105 of the blade, a pivoted arm, a grinder mounted on said arm and adapted to engage said blade but normally arranged out of engagement therewith, a link connected to one end-portion of said guard, a secondary arm
 110 attached to the grinder-carrying arm, and means of connection between said link and the free end-portion of the secondary arm, whereby the guard will be retracted when the grinder is advanced.

4. In a cloth-cutter of the character described, the combination with a blade, of a movable guard normally extending in front
 115 of the blade, a pivoted arm, a grinder mounted on said arm and adapted to engage said blade but normally arranged out of engagement therewith, a link connected to one end-portion of said guard, a secondary arm attached to the grinder-carrying
 120 arm and extending away from the connection between the link and guard, and means of connection between said link and the free end-portion of the secondary arm, whereby
 125 the guard will be retracted when the grinder is advanced.

5. In a cloth-cutter of the character de- 130

scribed, the combination with a blade, of a movable guard normally extending in front of the blade, a pivoted arm, a grinder mounted on said arm and adapted to engage said blade but normally arranged out of engagement therewith, a link connected to one end-portion of said guard, a secondary arm attached to the grinder-carrying arm, means of connection between said link and the free end-portion of the secondary arm, whereby the guard will be retracted when the grinder is advanced, and adjustable means of connection between said link and guard for regulating the length of the guard.

6. In a cloth-cutter of the character described, the combination with a blade, of a movable guard normally extending in front of the blade, a pivoted arm, a grinder mounted on said arm and adapted to engage said blade but normally arranged out of engagement therewith, a link connected to one end-portion of said guard, a secondary arm attached to the grinder-carrying arm, means of connection between said link and the free end-portion of the secondary arm, whereby the guard will be retracted when the grinder is advanced, and adjustable means of connection between said link and secondary arm for regulating the length of the guard.

7. In a cloth-cutter of the character described, the combination with a blade, of a movable guard normally extending in front of the blade, a pivoted arm, a grinder mounted on said arm and adapted to engage said blade but normally arranged out of engagement therewith, a link connected to one end-portion of said guard, a secondary arm attached to the grinder-carrying arm, means of connection between said link and the free end-portion of the secondary arm, whereby the guard will be retracted when the grinder is advanced, a block having interlocking sliding connection with the secondary arm, and means of connection between said link and block which also clamps the latter upon said secondary arm.

8. In a cloth-cutter of the character described, the combination with a blade, of a pivoted arm extending forwardly at the front of the blade, a grinder mounted on said arm, an arcuate guard extending forwardly from above the blade, a secondary arm secured at its rear end to the grinder-carrying arm, and a link connecting the free end-portion of said secondary arm and said guard.

9. In a cloth-cutter, the combination with a carriage and a blade mounted thereon, of a stud on the carriage, an arm pivoted on said stud, said arm having a sleeve fitted around the stud and a segmental flange concentric with said sleeve, a spring housed between said flange and sleeve and secured at one end to the latter, a fixed pin to which the other end of the spring is secured, said pin being arranged in the path of the flange and adapted to be engaged by one end of said flange to limit the movement of the arm in the direction it is swung by the spring, and a grinder carried by said arm.

10. In a cloth-cutting machine, a grinder carried by an arm adapted to swing with said grinder to bring the latter into engagement with the knife, a knife-guard extending along the cutting edge of the knife and movable in the direction of its length, and a connecting link between said swinging arm and knife-guard, whereby the guard will be carried from the knife as the grinder is thrown into operative position, and vice versa.

11. In a cloth-cutter of the character described, the combination with a movable guard having endwise sliding movement, of a movable grinder, and a link connecting said grinder and guard, whereby one is automatically retracted as the other is advanced, said link being adjustably connected to said grinder.

12. In a cloth-cutter of the character described, the combination with a blade, of an arcuate endwise movable guard normally extending in front of the blade, a movable grinder adapted to engage the front of the blade but normally arranged out of engagement therewith, and a link connecting said grinder and guard, whereby the latter will be retracted when the grinder is advanced, said link being adjustably connected to said grinder.

13. In a cloth-cutter of the character described, the combination with a movable guard, of a movable grinder, and a link connecting said grinder and guard, whereby one is automatically retracted as the other is advanced.

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

HENRY A. MEYER.

Witnesses:

JOHN R. LEWIS,
FELIX ELSBACH.