L. BLUMENTHAL.

KNIFE SHARPENER FOR CLOTH CUTTING MACHINES.

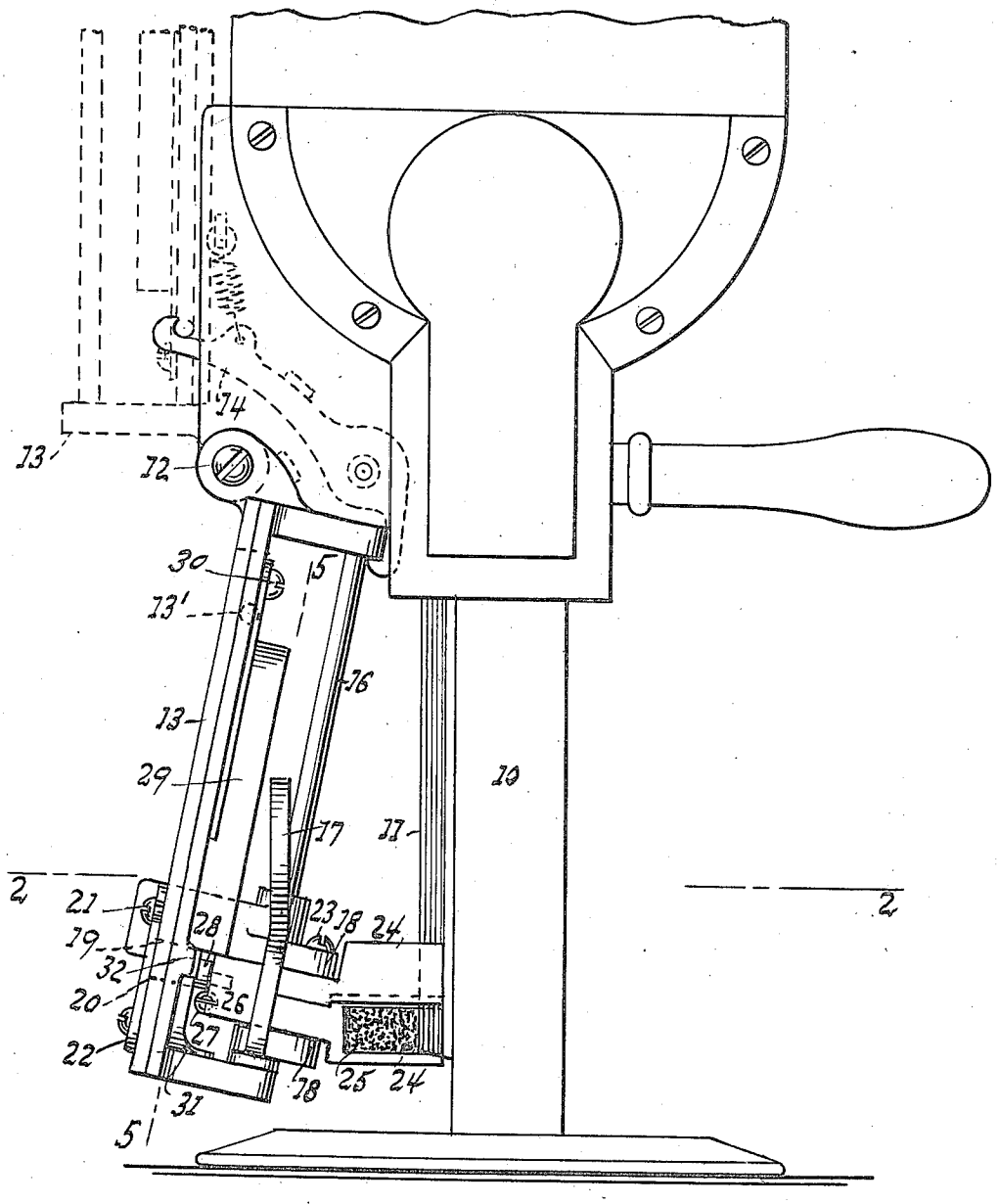
APPLICATION FILED MAY 6, 1918.

1,282,735.

Patented Oct. 29, 1918.

3 SHEETS—SHEET 1.

Fig. 1.



WITNESSES:

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3 SHEETS—SHEET 2.

Fig. 2.

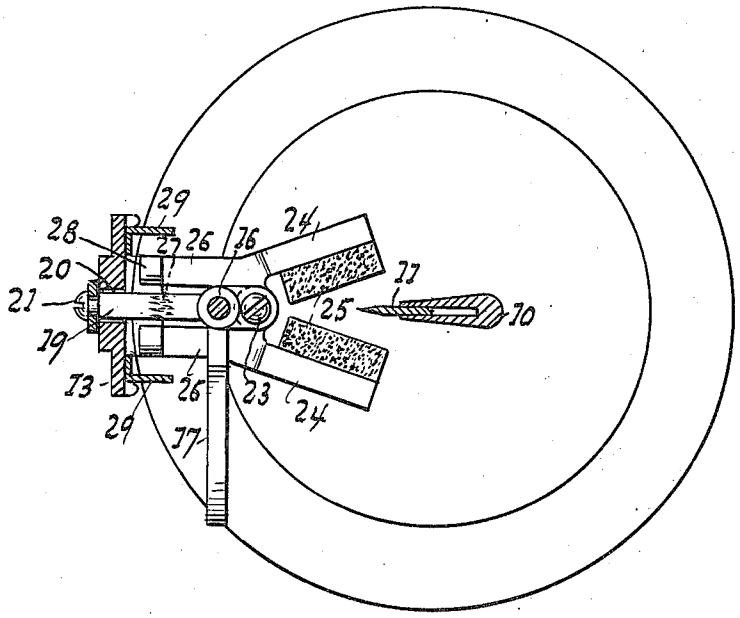
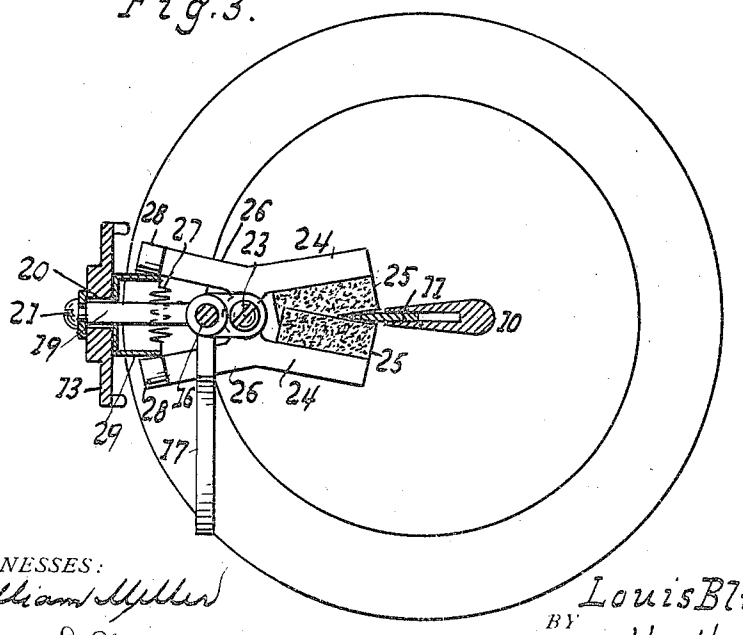


Fig. 3.



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3 SHEETS—SHEET 3.

Fig. 4.

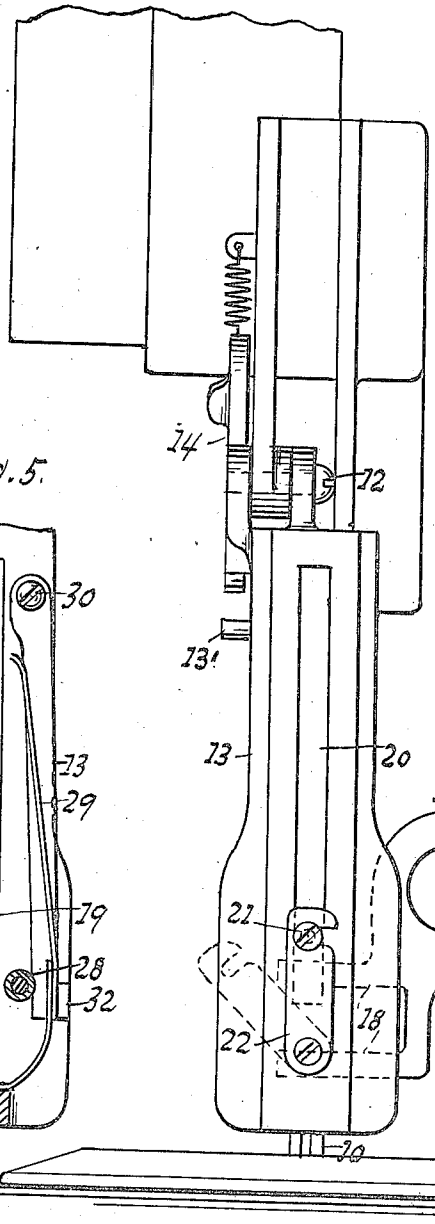


Fig. 7.

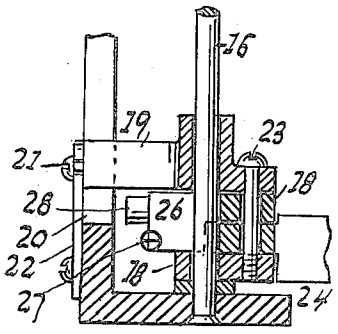


Fig. 5.

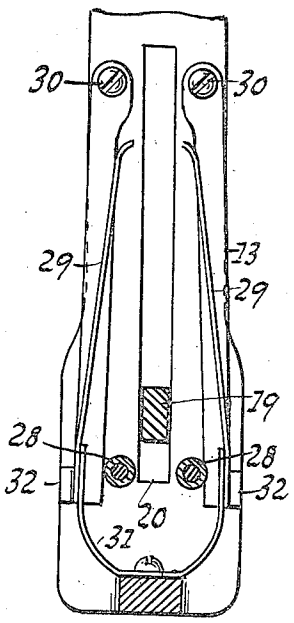
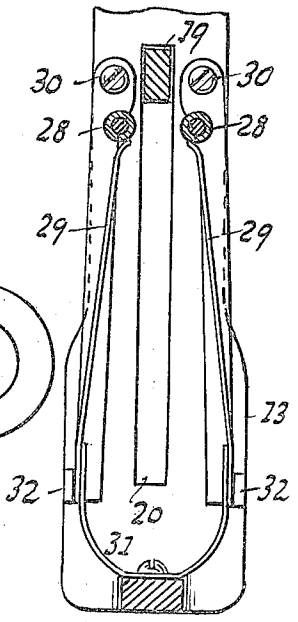


Fig. 6.



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UNITED STATES PATENT OFFICE.

LOUIS BLUMENTHAL, OF BROOKLYN, NEW YORK.

KNIFE-SHARPENER FOR CLOTH-CUTTING MACHINES.

1,282,735. Specification of Letters Patent. Patented Oct. 29, 1918.

Application filed May 6, 1918. Serial No. 232,727.

To all whom it may concern:

Be it known that I, LOUIS BLUMENTHAL, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented new and useful Improvements in Knife-Sharpeners for Cloth-Cutting Machines, of which the following is a specification.

This invention relates essentially to a device for sharpening the knife of a cutting machine and it includes a pair of jaws provided with an abrading substance to slidingly coact with the bevel front edge of the knife.

The object of the invention is to provide a sharpening machine in which the jaws are operated to move longitudinally and transversely relative to the edge of the knife.

Another object of the invention is to provide means for opening or closing the jaws at the end of the stroke, so as to either engage or move them free of the bevel knife edge.

The invention resides in the novel combinations hereinafter described and claimed and illustrated in the accompanying drawings in which:—

Figure 1 represents a side elevation of a device embodying this invention.

Fig. 2 is a horizontal section taken along the line 2 2 of the same.

Fig. 3 is a similar view showing the jaws closed.

Fig. 4 is a front elevation of Fig. 1.

Fig. 5 is a vertical section taken along the line 5 5 of Fig. 1.

Fig. 6 is a similar view showing the jaws in a different position.

Fig. 7 is a vertical detail section of the lower part of the swinging frame.

In these drawings the numeral 10 designates a channel standard made to guide the vertically arranged cloth cutting knife 11 in a rectangular reciprocating path as is well known.

On the front portion of this machine is swingingly mounted at 12 a frame member 13 which when in action, as indicated in Fig. 1, is held in an inclined position relative to the knife by means of a lever 14 swingingly mounted at 15 to the front portion of the frame. Both ends of the lever have hooks, one being adapted to snap into engagement with the upper part of the frame member 13 when in action and the other with a lug 13′ when the frame is swung out of action, as shown in dotted lines in Fig. 1.

A rod 16 is carried by the frame and a handle 17 having bifurcated members 18 are adapted to slidingly mount the handle on the rod. The handle has a forward extension 19 suitable for guiding the handle in a longitudinal slot 20 located in the swinging frame. A headed stud 21 projects from the front of the guide and a swinging latch 22, best seen in Fig. 4, when in engagement with the stud will prevent movement of the handle. In other words the latch will lock the sliding parts to the swinging frame and prevent movement thereof when the frame is out of action.

Between the rear extensions of the bifurcated members 18 on a bolt 23 is swingingly mounted a pair of jaws 24 having emery blocks 25 one above the other secured to the jaws. The forward portions of the jaws include legs 26 having a coil spring 27 for normally swinging the jaws apart or in their open positions, as indicated in Fig. 2. On the end of each arm is mounted an antifriction roller 28 to at times coact with switch members or tracks 29. These members are swingingly mounted at 30 to the frame 13 and a bow spring 31, best seen in Fig. 6, will spread the lower portion of the switch members. Stops 32 projecting from the sides of the frame limit the outward movement of the switches.

It will be noted, that when it is desired to sharpen the lateral edge of the knife the frame is locked in the position shown in Fig. 1. The handle 17 is then grasped and the jaws operated to move up or down along the knife. At the upward stroke of the handle the jaws are open and out of engagement with the knife, as indicated in Fig. 2, with the arms forced toward each other by the coil spring. When the handle reaches the extreme upper end of its stroke, the rollers will engage the upper end of the track, then travel downward outside of the same and at the same time swinging the arms outward to close the jaws, as indicated in Fig. 3. Both blocks of emery will then bevel the knife, thus sharpening its longitudinal edge to the proper degree. By reason of the inclination of the frame, the jaws will in conjunction with the downward sliding movement, receive a gradual lateral movement. In other words the jaws in their downward throw will constantly move back

horizontally from toe to heel in relation to the knife, thus bringing all portions of the emery block into grinding action with the knife.

I claim:—

1. A knife sharpening device comprising a frame, a pair of jaws slidingly mounted on the frame, means to normally open the jaws, and means carried by the frame independent of the operator for actuating the jaws to coact with the knife.

2. A knife sharpening device comprising a frame, a pair of jaws slidingly and swingingly mounted on the frame, means to normally open the jaws, and means carried by the frame independent of the operator for actuating the jaws to coact with a knife.

3. A knife sharpening device comprising a frame, a pair of jaws slidingly and swingingly mounted on the frame, a spring to normally open the jaws, and means carried by the frame for closing the jaws to coact with the cutting portion of a knife.

4. A knife sharpening device comprising a frame positioned at an inclination to a vertically arranged knife, a pair of jaws slidingly and swingingly mounted on the frame, a spring to normally open the jaws, and a switch swingingly mounted on the frame to close the jaws for coaction with the longitudinal bevel cutting portion of the knife.

5. A knife sharpening device comprising a frame positioned at an inclination to a vertically arranged knife, a pair of jaws slidingly and swingingly mounted on the frame, a spring to normally open the jaws, and a spring controlled switch swingingly mounted on the frame to close the jaws for coaction with the longitudinal bevel cutting portion of the knife.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

LOUIS BLUMENTHAL.

Witnesses:

JOHN A. BERGSTROM,

WILLIAM MILLER.