(No Model.)

G. McKAY.

Tension Mechanism for Sewing Machines.

No. 229,049. Patented June 22, 1880.

Fig: 1.

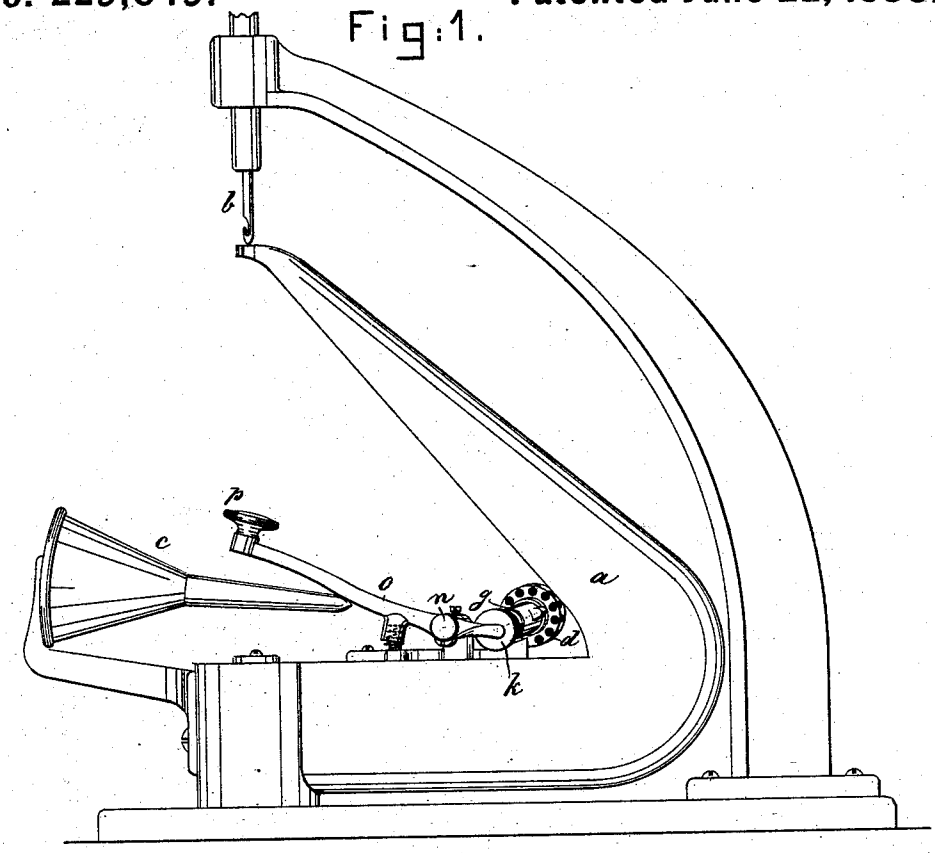


Fig: 2.

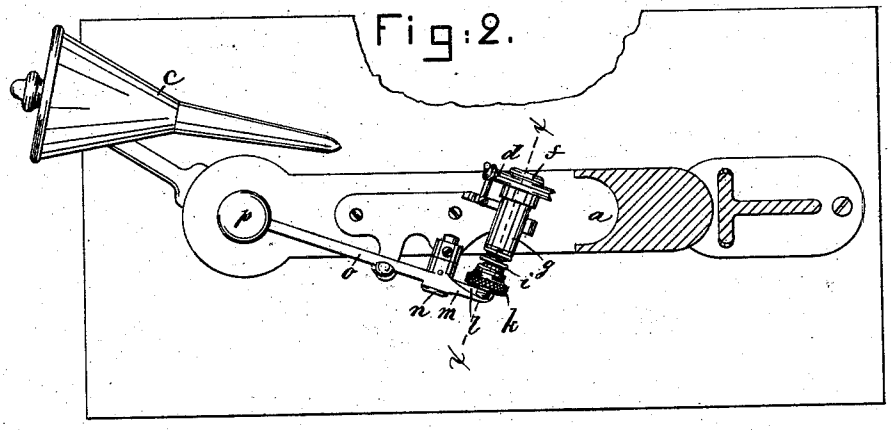
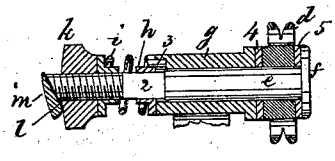


Fig: 3.



Witnesses:
L. F. Connor.
V. D. Dearborn.

Inventor.
Gordon McKay.
by Crosby Gregory Attys

ETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

GORDON McKAY, OF CAMBRIDGE, MASSACHUSETTS.

TENSION MECHANISM FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 229,049, dated June 22, 1880.

Application filed March 15, 1880. (No model.)

To all whom it may concern:

Be it known that I, GORDON McKAY, of Cambridge, county of Middlesex, State of Massachusetts, have invented an Improvement in Tension Mechanisms for Sewing-Machines, of which the following description, in connection with the accompanying drawings, is a specification.

This invention relates to tension devices for sewing-machines, and is especially adapted for use on the McKay sole-sewing machine, and to operate in connection with the horn and tension device thereon, as shown and described in United States Patent No. 224,063 to J. L. Withey.

The object of this invention is to readily release the tension device for the waxed thread which passes through the whirl, whenever it is desired that the thread be delivered freely, as is the case during the time the sewed shoe is to be removed from the horn. This I have accomplished by means of a hand-lever pivoted upon the horn. The short arm of the said lever has an inclined face that, when the long arm of the lever is lifted by a spring as it is in its normal condition, rests with the most of the said face below the rear end of the squared or other irregular-shaped spindle or rod, on which the tension-wheel turns. This rod is held in a bracket, has a head or enlargement at its outer end, passes through the tension-wheel, and, by the action of a spring on the rod, acts to clamp the tension-wheel between the said head and bracket with more or less force, as may be required.

When the long arm of the lever is depressed the inclined face thrown up by the short arm acts against the end of the said rod, moves it longitudinally in its bracket, and releases the tension-wheel and permits it to move freely on the round part of the said rod just at the rear of its head.

Figure 1 represents, in side view, the horn of a McKay sole-sewing machine with my improved device attached thereto; Fig. 2, a top view of the tension apparatus, the horn and frame-work being cut away; and Fig. 3, a longitudinal section taken through the rod, bearing, and tension device on the line *x x*, Fig. 2.

The horn *a*, hooked needle *b*, bobbin *c*, and tension wheel or device *d* are all as usual.

The spindle or rod *e*, provided with a head, *f*, and squared or otherwise irregularly shaped, as at 2, is extended through the wheel *d* and the bearing portion *g*, where it has applied to the part 2 the holding-washer *h*, having an opening to fit the part 2, so as to permit longitudinal movement of the rod but prevent its rotation. The holding-washer *h* is connected with the bearing *g* by the pin 3. (See Fig. 3.)

A spiral spring, *i*, seated at one end against the washer *h* and controlled at its other end by the nut *k*, acts to keep the tension-wheel clamped between the head *f* and bearing *g*, bolts or other washers 4 5 being preferably interposed, as in Fig. 3.

The rear end of the rod *e* is shown as beveled or inclined, to be operated upon by the inclined face *l* of the short arm *m* of the hand-lever *o*, pivoted at *n*. This hand-lever will preferably have a handle or striking part, *p*, by which to operate it, and the long end of the lever will be normally held up by a suitable spring, as at *r*.

Depressing the long end of the lever *o* lifts its short arm and causes the inclined face *l* to strike the end of the rod, and as the face rises the rod is moved longitudinally, thus releasing the tension-wheel and permitting it to turn freely on the rod. With this lever *o* and a longitudinally-movable spindle, *e*, as described, the tension device may be released at any time, as when removing a shoe, permitting the thread to be drawn freely from the usual whirl in the horn, thus obviating manipulating the nut commonly used in the McKay machine to produce friction on the spool and thread.

The tension, once adjusted for the work being done, does not need to be readjusted each time a shoe is removed and put in place to be sewed.

Beveling the end of the rod *e*, as shown at Fig. 3, enables the lever to rest almost in contact with it, and to slide the rod by a very slight movement of the face *l*.

I claim—

1. The tension device and the rod for supporting it and the spring to operate upon the rod to clamp the tension device, as described, combined with the lever *o*, having the inclined face *l*, adapted to act upon and move the rod

longitudinally to release the tension device as desired, substantially as described.

2. The bearing headed rod having its end beveled, as shown and described, tension-wheel, and spring and nut about the rod, combined with the lever *o*, having the beveled face *l*, as shown and described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GORDON McKAY.

Witnesses:

G. W. GREGORY,

N. E. C. WHITNEY.