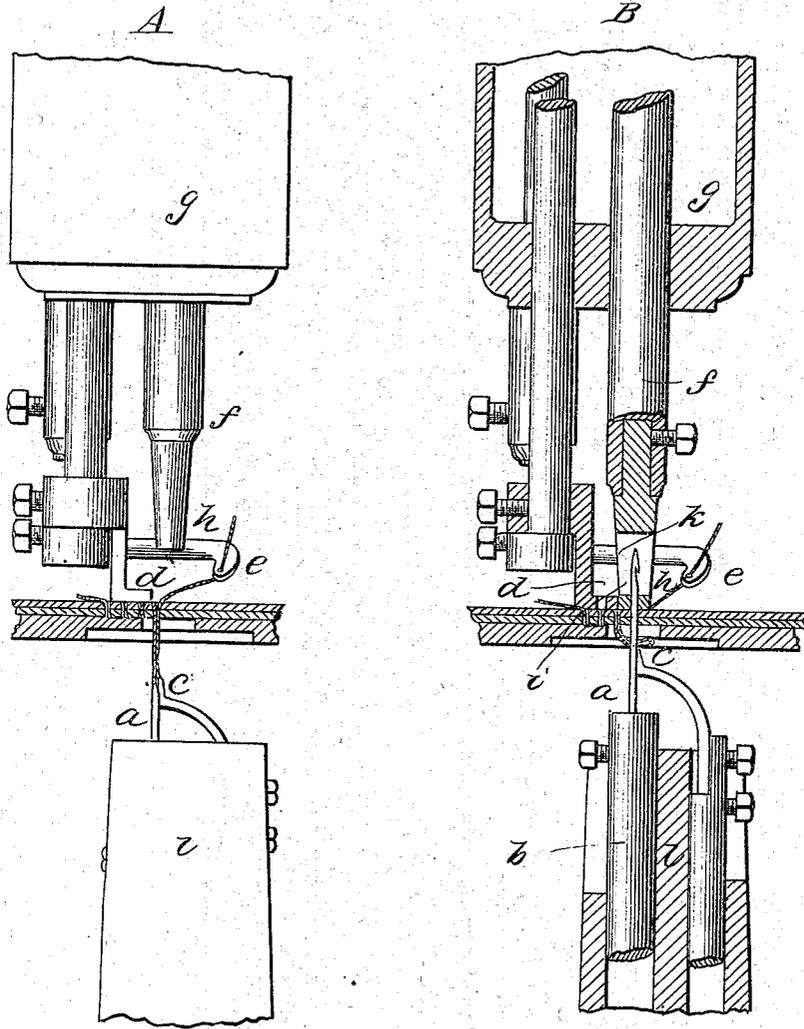


T. K. REED.
SEWING MACHINE.

No. 67,906.

Patented Aug. 20, 1867.



Witnesses

S. B. Bidder
No. W. Frothingham

Inventor:

T. K. Reed
by his Atty
Crosby & Gould

United States Patent Office.

T. K. REED, OF EAST BRIDGEWATER, ASSIGNOR TO DAVID WHITTEMORE,
OF NORTH BRIDGEWATER, MASSACHUSETTS.

Letters Patent No. 67,906, dated August 20, 1867.

IMPROVEMENT IN SEWING MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, T. K. REED, of East Bridgewater, in the county of Plymouth, and State of Massachusetts, have invented an Improvement in Sewing Machines; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practise it.

In that class of sewing machines in which a hook or crochet-needle is employed, such needle working up through the table or work-supporting surface, and drawing the thread (in its hook) down through the work, and through the loop last formed, (such machines being used particularly for sewing leather with waxed thread,) there is generally combined with the needle and other mechanism an awl or piercing instrument, this awl being in vertical line with the needle and above the table, and having a downward movement imparted to it to pierce the leather, the needle in its ascent passing through the hole so made by the awl. The object of such arrangement is this: The face side of the leather is uppermost, and where the needle in its rise pierces the leather, and forms the hole through which the thread is to pass, the leather displaced in making such hole is thrown up in the form of a burr, (the hole being made by displacement, and not by removal of the leather,) and this burr or ragged edge comes upon the upper side of the work and defaces it. But by piercing the leather in a downward direction, by an auxiliary instrument, this burr is formed, if formed at all, upon the under side of the leather, where its presence does not mar the appearance of the work. The use of an awl, however, as an auxiliary piercing instrument, is to some extent objectionable, and the object of my invention is to provide a means for preventing the formation of such protruding burr, when the needle is the primary piercing instrument, or is used in the double capacity of awl and thread-carrier. For this purpose I employ a tubular foot, arranged above the table, and in vertical line with the needle, and having a vertical movement to and away from the table, this foot after each feed movement of the leather, and before the needle enters the leather, coming down upon the leather, and pressing it firmly against the table, the tube in the foot being of size just sufficient to allow the needle to pass freely up into it, while the surrounding surface which bears upon the leather, supports the leather around the needle, and compels it to expand radially, as the point of the needle passes through, in contradistinction to being pressed up in the form of a burr or protrusion, as would be the case were the needle to act as the piercing instrument or awl without such foot. It is in such employment of this tubular foot in connection with the needle that the invention consists, and the drawings represent that part of a sewing-machine mechanism with which the invention is directly combined—

A, showing a front elevation of the stitch-forming mechanism, with the needle below the table, and the tubular presser-foot above and away from the work; B, a sectional elevation, showing the foot upon the work and surrounding the needle. *a* denotes the needle; *b*, the needle-bar; *c*, the cast-off; *d*, the presser-foot; *e*, the thread-guide, all shown as combined and arranged to operate in the ordinary manner. *f* is a spindle or rod, working vertically through the head *g*, and having at its lower end a foot, *h*, made tubular, as seen at *i*. This tube may be slotted out to the sides of the foot just above the lower end, as seen at *k*, but at its lower end its face is plain and flat, with only the tube or hole *i* opening out of it, in direct axial line with the needle. The rod or spindle *f* has vertical motion imparted to it, by any suitable connection, from the driving-shaft of the machine, the times and direction of such motions being as follows:

When the work has been fed by the needle, and the thread has then been drawn down by the needle, the parts are in position as seen at A. The carrier *l* then moves laterally, carrying the needle back into vertical and axial line with the tubular foot *h*, and during this lateral movement the foot *h* descends upon the work, as seen at B. The needle next ascends, its point piercing the hole in the leather, and entering the foot *h*, as seen at B, the presence and pressure of the foot upon the leather holding the leather in its plane, and preventing any movement of the pierced parts excepting in radially expanding directions, and thus preserving the face of the work in unmarred condition. After the needle has completed, or while completing its ascent, the foot *h* rises from the work and from the needle. The presser-foot *d* also rises from the work, and the needle then moves forward with the work in the usual manner. The presser-foot then descends, the guide *e* carries the thread against the needle in the path of its hook, and the needle again descends, as seen at A, the operation being continued, as will be readily understood.

I claim, in combination with the hook, needle, and a cast-off, the supplemental presser-foot, constructed and operating substantially as and for the purpose set forth.

T. K. REED.

Witnesses:

J. B. CROSSBY,
F. GOULD.