

W. A. McCool.
SEWING MACHINE.
APPLICATION FILED MAR. 10, 1909.

946,979.

Patented Jan. 18, 1910.

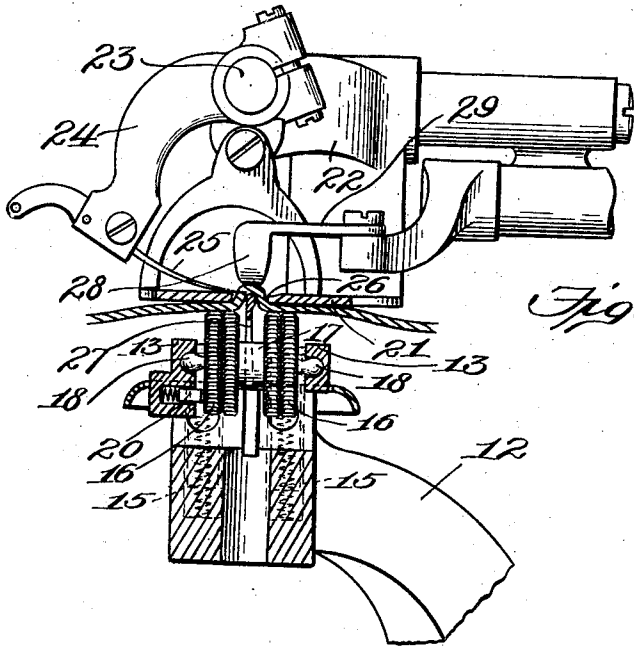


Fig. 1.

Fig. 2.

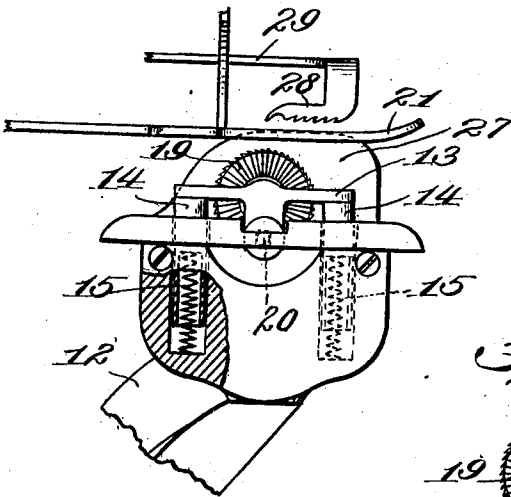


Fig. 3.

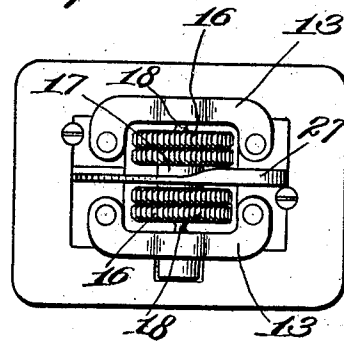


Fig. 4.

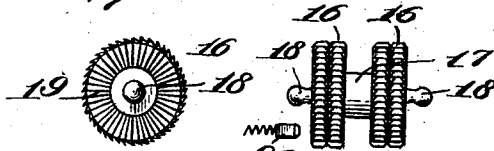
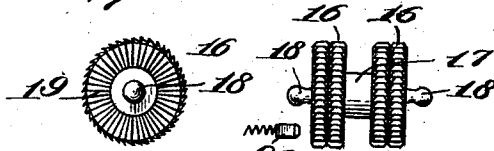


Fig. 5.



Witnesses:

C. M. Sweeney,
J. H. Kling.

Inventor:
William A. McCool,

By

Robert Robert

Attor.

UNITED STATES PATENT OFFICE.

WILLIAM A. McCOOL, OF BEAVER FALLS, PENNSYLVANIA, ASSIGNOR TO ACME-
KEYSTONE MFG. CO., A CORPORATION OF PENNSYLVANIA.

SEWING-MACHINE.

946,979.

Specification of Letters Patent.

Patented Jan. 18, 1910.

Application filed March 10, 1909. Serial No. 482,535.

To all whom it may concern:

Be it known that I, WILLIAM A. McCOOL, a citizen of the United States, residing at Beaver Falls, in the county of Beaver and State of Pennsylvania, have invented or discovered certain new and useful Improvements in Sewing-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to sewing machines, and is more particularly intended to be used with blind-stitch sewing machines of that class in which the work is fed by an upper feed dog or feeding device, the invention being more especially intended for use with the blind stitch sewing machine such as shown and described in my application Serial No. 318,480, filed May 22, 1906.

The present improvement relates to means for supporting the work beneath a normally stationary presser-foot, and in such a manner that the attendant may pull on the work in opposition to the feeding movement thereof in such a manner as to place the work under some tension without danger of interfering with the proper feed thereof to space the stitches. To this end the work is supported beneath the presser-foot, by one or more toothed wheels which are preferably yieldingly mounted, and which are free to rotate as the work is advanced, but are prevented from moving backward by means of one or more pawls engaging the same.

In the accompanying drawings, Figure 1 is an elevation partly in vertical section, of a portion of the sewing machine sufficient to illustrate the present invention. Fig. 2 is a partial elevation looking from the left of Fig. 1. Fig. 3 is a plan view showing the ratchet-wheels and cooperating parts. Fig. 4 is a detail front view of the ratchet wheels, and Fig. 5 is a side view thereof looking from the left in Fig. 4.

Referring to the drawings, 12 denotes a portion of a rigid arm or work-support rising from the base of the machine, and at the upper end of which are mounted two yielding supports 13 having depending pins 14 which are recessed for the reception of coil springs 15 resting in sockets formed in the upper part of said arm 12. Sustained by the supports 13 are two idly rotating or non-feeding toothed or ratchet wheels 16 which are rigidly mounted on or formed integral with a shaft 17 having projecting ball-like

ends 18 fitting in recesses formed for their reception in the yieldingly mounted supports 13. One of the wheels 16 is provided with a face ratchet 19 the teeth of which, facing oppositely to the teeth of the wheels 16, are engaged by a spring-pressed pawl 20 mounted upon one of the supports 13, and which prevents backward rotation of the rigidly connected ratchet wheels 16. The wheels 16 serve as yielding supports for the work which will be placed beneath a normally stationary presser-foot 21 rigid with the arm 22 in which is mounted the needle-operating rock-shaft 23 carrying the arm 24 to which the curved needle 25 is properly attached. The presser-foot 21 is provided with an opening 26 cooperating with a bridge or ridge-former 27 mounted in the upper end of the work-supporting arm 12, and serving to force a ridge or fold of the work up through the said opening 26 in the presser foot, and through which ridge in the work the curved needle passes in forming blind stitching. Arranged above the presser-foot is a feed-dog 28 carried by an arm 29, and which feed dog is, or may be, operated by mechanism such as is more fully shown and described in my said application No. 318,480.

In the operation of the machine herein partially illustrated the work is placed beneath the presser-foot 21 and rests on the ratchet wheels 16 and the ridge former 27, the presser-foot being rigidly attached to the pivotally mounted arm 22 which is in turn strongly pressed downward by a stiff spring, as in the machine shown and described in my said application No. 318,480. When the machine is in operation the work will be fed or advanced by the feed-dog 28, and as the work moves forward the ratchet wheels 16 will rotate idly by reason of their frictional contact with the work. It is desirable that some tension be placed upon the work in order to properly guide it to the stitching mechanism, and the attendant may pull backward on the work to an extent sufficient to place the work under proper tension without danger of interfering with the proper feed thereof, the pawl 20 engaging the face ratchet 19 on one of the ratchet wheels 16 preventing any backward rotation of the said wheels by reason of any tension which may be placed on the work by a backward pull by the attendant. As the

ratchet wheels are mounted in the yielding supports 13 they will readily accommodate themselves to inequalities in the work, or to different thicknesses of work, as will be readily understood.

The invention is not to be understood as being limited to the details herein shown as these may be varied, within the province of mechanical skill, without departing from the spirit of the invention.

Having thus described my invention I claim and desire to secure by Letters Patent:—

1. In a sewing machine, the combination with a presser-foot and an upper feeding device, of one or more yieldingly mounted and idly-rotating or non-feeding toothed wheels serving to support the work beneath the presser-foot, and means for preventing backward rotation of said wheel or wheels.

2. In a sewing machine for blind stitching, the combination with a presser-foot and an upper feeding device, of two yieldingly mounted and idly-rotating or non-feeding work-supporting toothed wheels beneath said presser-foot, means for preventing backward rotation of said wheels, and a ridge-forming device interposed between said wheels.

3. In a sewing machine for blind-stitching, the combination with a presser-foot provided with an opening, of an upper feeding device, two yieldingly mounted and idly-rotating or non-feeding work-supporting toothed wheels beneath said presser-foot,

means for preventing backward rotation of said wheels, and a ridge-forming device interposed between said wheels and serving to force a ridge of work upward in said opening.

4. In a sewing machine for blind-stitching, the combination with a presser-foot provided with an opening, of an upper feeding device, two yieldingly mounted and idly-rotating or non-feeding work-supporting toothed wheels beneath said presser-foot, a ridge-forming device interposed between said wheels and serving to force a ridge of work upward in said opening, one of said wheels being provided with a face ratchet, and a spring-pressed pawl cooperating with said face ratchet to prevent backward rotation of said wheels.

5. In a sewing machine for blind-stitching, the combination with a presser-foot and an upper feeding device, of two yieldingly mounted and idly-rotating or non-feeding work-supporting toothed wheels beneath said presser-foot, means for preventing backward rotation of said wheels, a ridge-forming device interposed between said wheels, and a shaft, having ball-like ends, by which said wheels are carried.

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

WILLIAM A. McCOOL.

Witnesses:

HENRY CALVER,
CHAS. S. HYER.