(No Model.)

A. H. WILLIAMS.

SEWING MACHINE ATTACHMENT.

No. 587,252. Patented July 27, 1897.

Fig. 5.

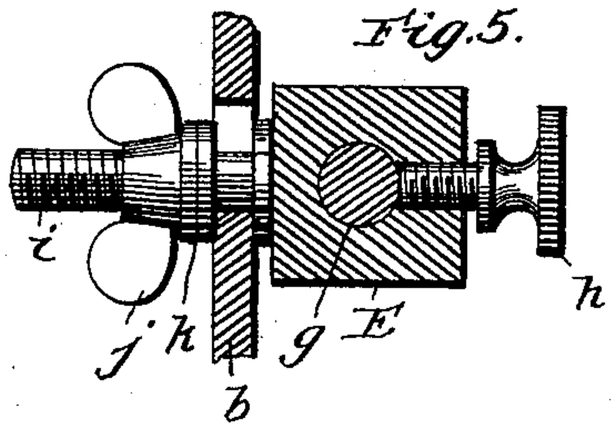


Fig. 2.

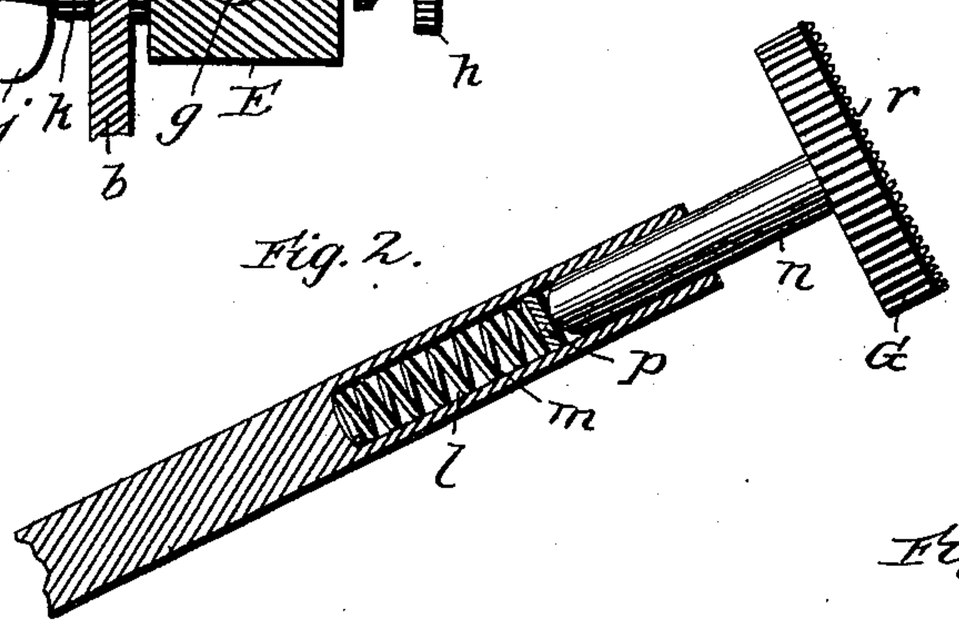
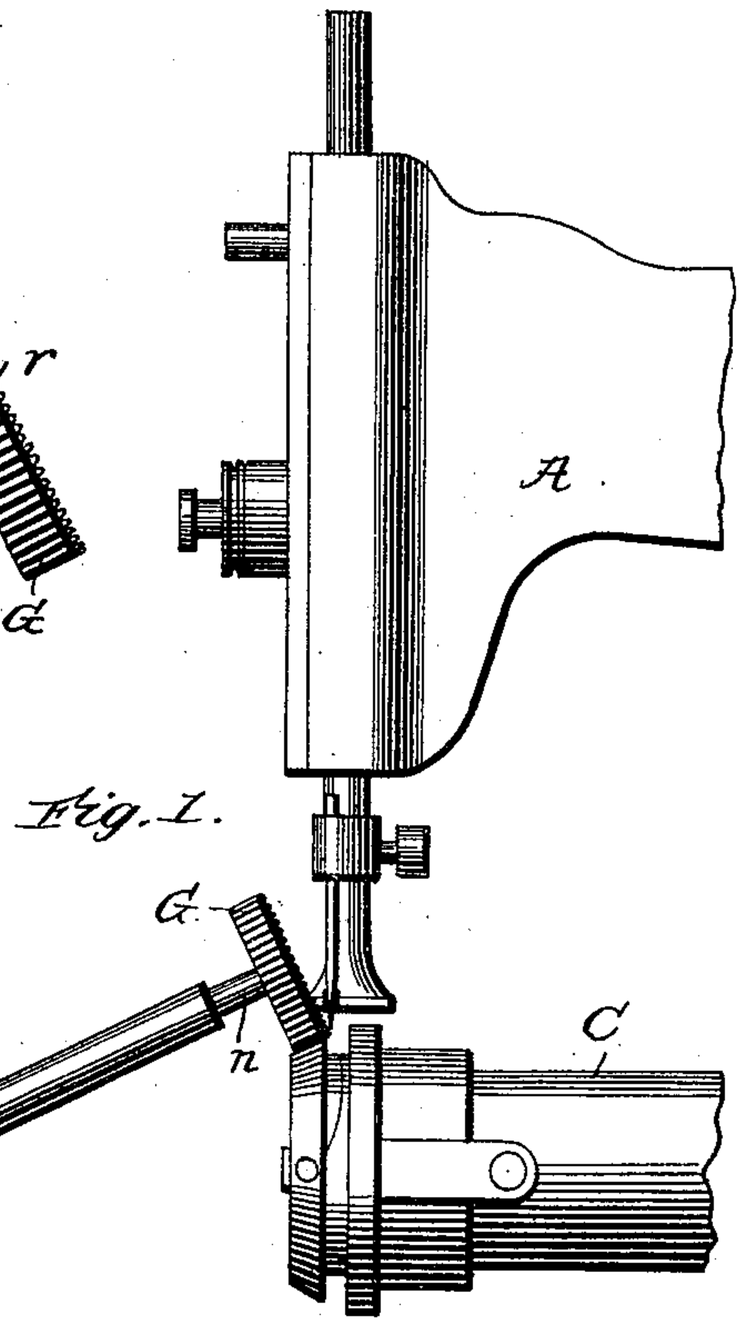


Fig. 1.



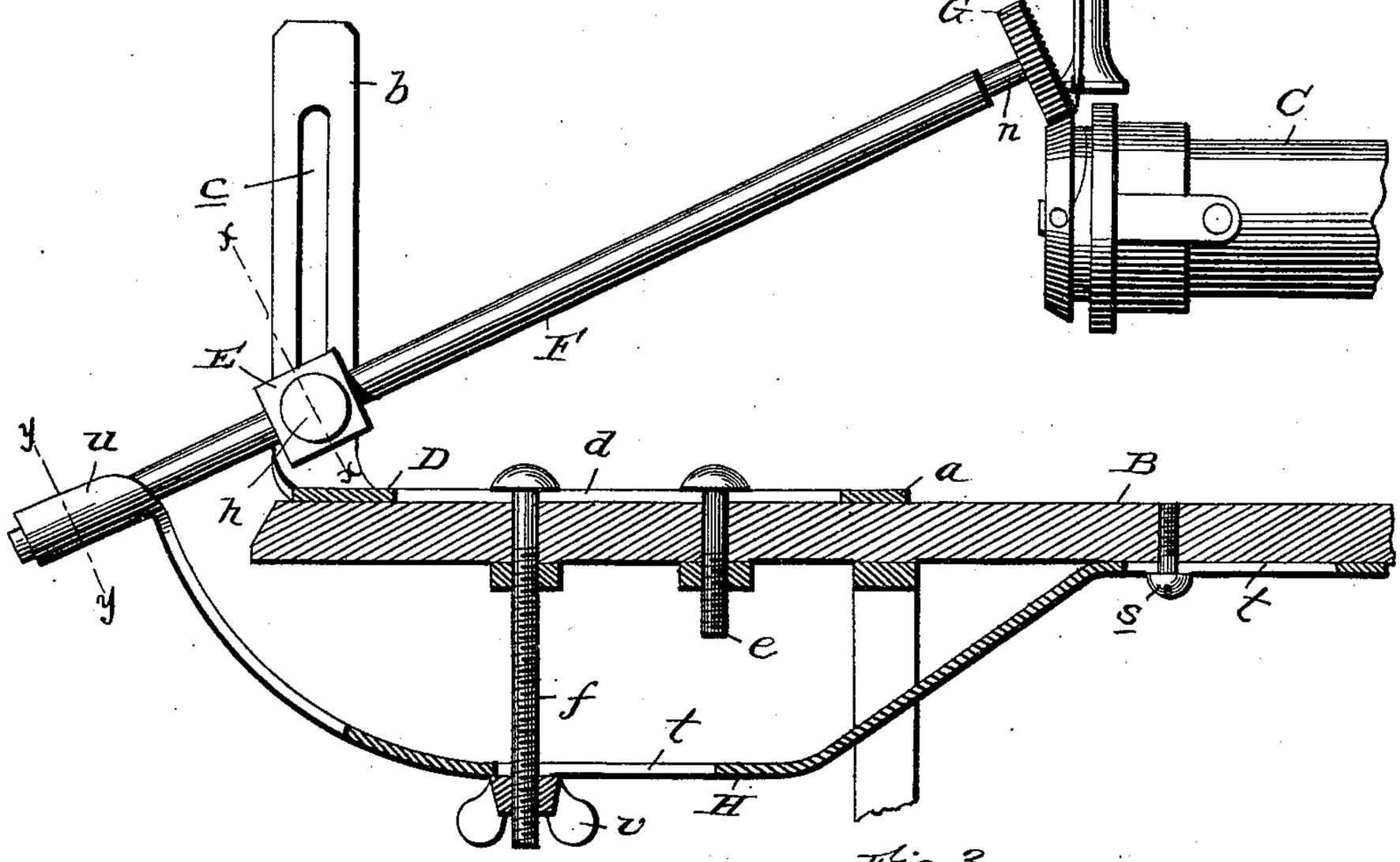


Fig. 3.

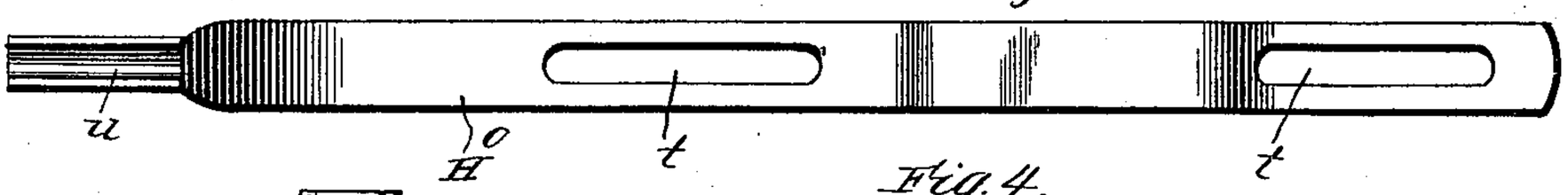


Fig. 4.

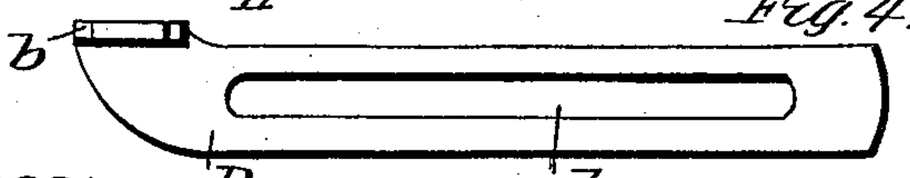
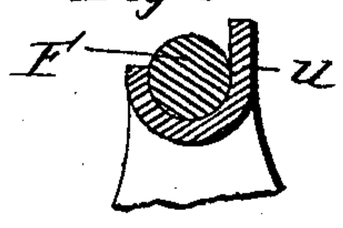


Fig. 6.



Witnesses:
C. C. Raeder
W. A. James.

Inventor
A. H. Williams
By James J. Shelby
Attorney

UNITED STATES PATENT OFFICE.

ARTHUR H. WILLIAMS, OF FORT PLAIN, NEW YORK.

SEWING-MACHINE ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 587,252, dated July 27, 1897.

Application filed August 28, 1896. Serial No. 604,199. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR H. WILLIAMS, a citizen of the United States, residing at Fort Plain, in the county of Montgomery and State of New York, have invented certain new and useful Improvements in Sewing-Machine Attachments; and I do 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.

My invention relates to sewing-machines, and more particularly to that class which are designed especially for sewing leather goods; and it has for its general object to provide an attachment for leather-sewing machines which will enable the same to sew the ends in the leather tool-bags in common use on bicycles or in other leather or stiff goods which have two straight sides and two curved or rounded sides or in the sewing of which it is necessary to sew a straight seam and a curved seam forming a continuation of the straight seam, and vice versa.

Other objects and advantages of the invention will be fully understood from the following description and claims, when taken in conjunction with the accompanying drawings, in which—

Figure 1 is a detail elevation with parts in section, illustrating a portion of a "Singer" leather-sewing machine equipped with my improved attachment. Fig. 2 is a detail sectional view illustrating the work-holding arm and the rotatable disk carried thereby. Fig. 3 is an enlarged plan view of the spring which is designed to exert a pressure against the work-holding arm, so as to overcome the friction of the needle, which ordinarily has a tendency to lift the work from the feed mechanism. Fig. 4 is a plan view of the adjustable bracket which supports the work-holding arm; and Figs. 5 and 6 are detail sections taken in the planes indicated by the dotted lines *x x* and *y y*, respectively, of Fig. 1.

In the said drawings similar letters designate corresponding parts in all of the several views, referring to which—

A indicates the head, B the bed, and C the shuttle and feed-mechanism carrying arm or cylinder of a Singer leather-sewing machine, and D indicates the bracket of my improved attachment. This bracket D, as better shown in Figs. 1 and 4, comprises the horizontal arm and the vertical or approximately vertical arm *b*, which rises from the outer end of the arm *a* and is provided with the longitudinal transversely-disposed slot *c* for a purpose presently described. The arm *a* is also provided with a longitudinal slot *d*, as shown, for the passage of the bolts *e f*, which adjustably connect the bracket to the machine-bed B, so as to permit of said bracket being adjusted and adjustably fixed with respect to the arm C or the stitch-forming mechanism to suit different lengths of work. I do not desire, however, to be understood as confining myself to the specific manner described of adjustably connecting the bracket to the machine-bed, as any suitable construction may be employed which will admit of the bracket being adjusted and adjustably fixed in the manner and for the purpose described.

E indicates the support for the work-holder or work-holding arm F. This support E has a bore *g* for the reception of the arm F, and a set-screw *h* to adjustably fix the arm in said bore, and it also has a shank *i*, which is threaded for a portion of its length, as shown. The said shank *i* extends through the slot *c* of the bracket-arm *b*, and it is provided at one side of said arm with a wing-nut *j* and is also provided upon opposite sides of the arm *b* with washers *k*, as shown in Fig. 5. This construction permits of the work-supporting arm F being adjusted so as to rest at various angles, according to the angle of stitch desired, and it also permits of the support E and the arm F being rocked, and further permits of the arm F being adjusted endwise to permit of a ready placement of the work thereon, as will be presently described.

The arm F is provided in its end contiguous to the stitch-forming mechanism with a socket *l*, in which is arranged a coiled spring *m* and also the stem *n* of the rotatable disk G, a disk *p* being loosely interposed between the spring and the stem, and the end of the stem being rounded, as shown, so as to reduce the friction and permit of free rotation of the disk G. The coiled spring *m* is designed and adapted to exert sufficient pressure against the disk G to overcome any uneven thickness

that there may be in the leather and thereby keep the seam at an equal distance from the edge of the article entirely around the same, which is an important advantage. The disk G is designed and adapted to hold the pieces of leather at all times in the proper position with respect to the organized stitch-forming and feed mechanism, and to do this with as little friction as possible it should turn with the article, to which end I mill or roughen the periphery of the disk and also preferably provide the face of the same with an annular raised milled portion *r*, as better shown in Fig. 2, so as to enable it to grip both portions of leather.

In order to overcome the friction of the needle, which on its upstroke has a tendency to lift the work from the feed mechanism, I provide the spring H, which is designed to exert an upward pressure against the outer end of the arm F and thereby clamp the work between the disk G and the arm C of the machine. This spring is adjustably connected to the machine-bed B by the screws *f s*, which take through the slots *t*, or in any other suitable manner that will permit of its being adjusted in conformity to the adjustment of the arm F, and it is provided at its free end with the concave portion *u*, which receives the outer portion of the arm F. Thus it will be seen that the spring H exerts a constant upward pressure against the outer end of the arm F and yet does not interfere with the said arm being moved endwise through the bore *g* of the support E when work is to be placed upon or removed from the said arm.

The tension of the spring H may be readily regulated by the wing-nut *v* on the bolt *f*.

It will be seen from the foregoing that in virtue of the employment of the disk G, arranged as described, the machine is enabled to sew the ends in bicycle tool-bags and in other articles of leather or other stiff material which have two straight sides and two curved or rounded sides, the body portion of the bags being placed upon the arm F and the end piece against the face of the disk G and within the edge of the body portion, and the bag being fed around the arm F until the attachment of the end to the body portion is completed entirely around the bag.

With a disk G of small diameter it will be observed that the operator is enabled to turn a sharp corner and sew a continuous seam, one portion of which is at right angles, or approximately so, to the other. For this reason I do not desire to be understood as confining myself to the employment of a disk of any particular diameter. I also do not desire to be understood as confining myself to using my improvements in conjunction with the Singer sewing-machine, as they may be used in conjunction with any leather or other sewing machine with which they are adapted to cooperate to effect the end desired.

Having described my invention, what I claim is—

1. In a sewing-machine for the purpose described the combination with an organized stitch-forming mechanism and feed mechanism; of a movable work-holder, a spring-pressed disk carried by said work-holder and arranged at the end of the same contiguous to the stitch-forming and feed mechanisms, and a spring exerting a pressure against the work-holder so as to press the periphery of the disk toward the feed mechanism, substantially as and for the purpose set forth.

2. In a sewing-machine for the purpose described, the combination with an organized stitch-forming mechanism and feed mechanism, of a movable work-holder, a spring-pressed disk carried by said work-holder and arranged at the end of the same contiguous to the stitch-forming and feed mechanisms and having its periphery milled and also having the annular milled portion on its face, and a spring exerting a pressure against the work-holder so as to press the periphery of the disk toward the feed mechanism, substantially as and for the purpose set forth.

3. In a sewing-machine for the purpose described, the combination of the bed, the organized stitch-forming mechanism and the feed mechanism; of the bracket or frame connected to the bed, the work-holding arm, the support connected to the bracket or frame and having a bore receiving the work-holding arm and the set-screw for engaging said arm, means by which the said support is adapted to be rocked and the spring connected to the bed and having the concave portion receiving the rear portion of the work-holding arm, substantially as and for the purpose set forth.

4. In a sewing-machine for the purpose described, the combination of the bed, the organized stitch-forming mechanism and the feed mechanism, the bracket or frame adjustably connected with the bed so as to permit of its adjustment toward or from the organized stitch-forming mechanism and the feed mechanism, the work-holding arm, the support adjustably connected to the bracket or frame so as to permit of its vertical adjustment thereon and adapted to be rocked and having a bore receiving the work-holding arm and the set-screw for engaging said arm, and the spring adjustably connected to the bed so as to permit of its adjustment in the same direction as the work-holding arm and having the concave portion receiving the rear portion of the work-holding arm, substantially as specified.

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

ARTHUR H. WILLIAMS.

Witnesses:
HARVEY DUNKEL,
WILLIAM H. RUSS.