

S. S. TURNER.
Sewing Machine.

No. 11,631.

Patented Aug. 29, 1854.

Fig. 3.

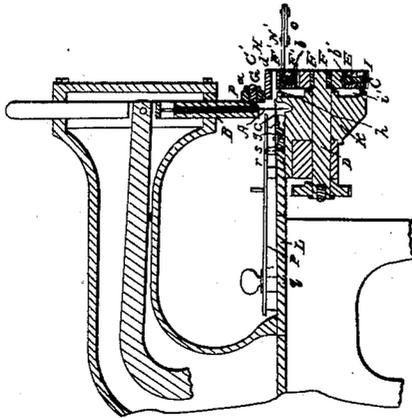


Fig. 2.

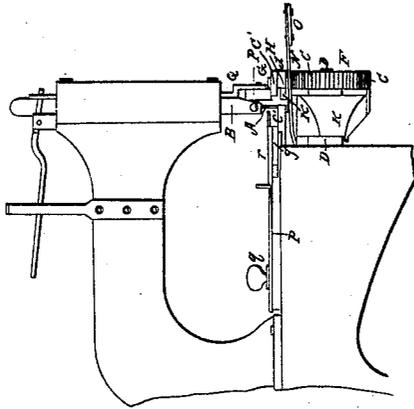
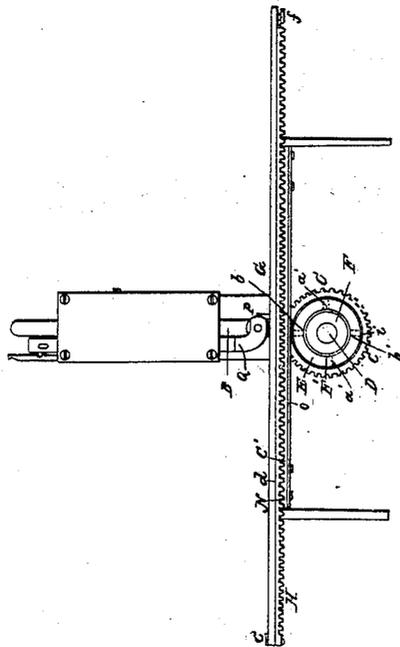


Fig. 1.



UNITED STATES PATENT OFFICE.

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ELMER TOWNSEND.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 11,631, dated August 29, 1854.

To all whom it may concern:

Be it known that I, SIDNEY STEVENS TURNER, of Westborough, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in the Sewing-Machine, which I declare are fully set forth and described in the following specification and the accompanying drawings, letters, and figures of references thereof.

Of the said drawings, Figure 1 denotes a front elevation, Fig. 2 a side elevation, and Fig. 3 a central and vertical section, of a sewing-machine fitted with my improvements.

As my improvements have reference more particularly to holding and guiding the article to be sewed, and are by no means on that part of the sewing-machine which performs the function of inserting the thread through the cloth, it will not be necessary for me to enter into any particular description of this latter part of the machine, my invention being applicable to most kinds of sewing-machines. In the drawings I have exhibited it as adapted to a well-known kind of sewing-machine or one constructed with the improvements patented on the 19th day of April, A. D. 1853, by William Wickersham. This machine being well understood, I shall therefore only refer to some of its principal members, and then proceed to the description of my invention.

In the drawings, A denotes the hooked needle fixed to the lower end of its carrier B.

C is the cloth-rest, the needle being made to work down through the same.

D is the feeding-shaft, which may be supposed to have mechanism applied to it, and so made to operate it as to impart to it a regular intermittent rotary motion sufficient to move the cloth along with the necessary intervals of rest, in order to the correct performance of a line of sewing under the action of the needle and thread-carrier.

To the outer end of the shaft D a ring, E, is arranged, it being made to encompass the shaft and be connected to it or a head, F, (fixed on the shaft,) by journals *a a'*, so that it can freely rock or tip on such journals, the internal diameter of the ring being made large enough to admit of the same. Concentric with this ring, and made with its internal diame-

ter about a quarter of an inch larger than the external diameter of the ring E, is another ring, F', which is connected to the ring E by two journals, *b b'*, so that it can rock or tip in a direction at right angles with that of the ring E.

The axis of the journals *aa'* is perpendicular with that of the journals *bb'*. From this it will be seen that the ring F is connected with the shaft D by a universal joint, or one similar to that by which a mariner's compass is attached to a vessel.

The periphery of the ring F' is provided with cogs or teeth, as seen at *c*, that engage with a long rack, H, that forms part of or is attached to the underside of the cloth-holder or seamer G, the said holder being made of two flat bars, *e d*, held together by screws *ef*. The cloth or leather to be sewed is placed between these bars and held by them, and made to project beyond them far enough for the reception of the needle, and to have its edges abut against the outer edge of the guide-block *g*.

The annulus-gear F' is supported by and made to rock against two curved rests, *h i'*, that extend from a piece of metal, K, that projects downward from the bed-plate L of the machine. The front edges of these rests *h i'* are curved semicircularly, or thereabout, in order to allow the annulus-gear F' to be turned laterally while in rotation. When the cloth-holder is in place, it rests on the annulus-gear or feed-wheel F' and two bars, N N', that extend horizontally from the base-plate, and are united at their outer ends by a cross-bar, O. The cloth-holder is held down by the action of a pressure-roller, P, that is carried by a bar, Q, which is forced downward by a spring properly applied to it, such being the contrivance generally adopted for holding the cloth down upon the bed-plate during the movements of the needle.

During the operation of sewing, the workman seizes the cloth-holder with his two hands and moves or turns it horizontally on the support-bars in any direction, at the same time preserving its rack in engagement with the teeth of the annulus-gear, such annulus-gear moving at the same time with the rack, notwithstanding it has an intermittent rotary mo-

tion, and by such creates an intermittent longitudinal motion of the rack or such a movement of it as shall carry the cloth along in order to enable the line of stitches to be formed by the needle.

The above-described mechanism for holding the cloth or leather to be sewed and directing the movements thereof affords a ready means of sewing curved seams, or those made either wholly of curves or of curves and straight lines, or such seams as are found in boot-legs, for the sewing of which my invention is particularly applicable, as whatever may be the curve of the seam it will not be necessary to lift the cloth proper before the cloth can be turned in the right direction, such being the case in ordinary sewing-machines.

A stationary bar, *p*, is fastened down upon the bed-plate by a screw, *q*. This bar carries a spring-presser, *r*, which consists of a strong spring resting on the top surface of and fastened to the bar by the screw *q*. Between the front portion of the bar and the presser-spring is an adjustable slide or guide block, *g*, which is so applied to the bar *p* as to be capable of being moved thereon either toward or away from the needle, and confined in position by a set-screw, *s*. While the slide *g* serves to regulate the distance of the seam from the edge of the material to be sewed, the spring of the presser

r allows the presser to readily adapt itself to any thickness or change of thickness of such material.

The combination of the bar *p*, the spring *r*, and the slide *g*, I term the "guide," as it serves not only to regulate the distance of the seam from the edge of the material to be sewed, but it is found very useful in the application of a strip of binding to the edges of the same. This apparatus can also be used with the common feeding mechanism.

What I claim as my invention is—

Constructing the feeding-wheel in the form of a toothed annulus or ring gear, or the equivalent thereof, and connecting it with the feeding-shaft by a universal joint or ring and two sets of journals applied together and made to operate substantially as specified, whereby the cloth or material to be sewed can be readily turned in any direction without the necessity of lifting the presser or presser-wheel, as would be required in the performance of such an operation on various sewing-machines.

In testimony whereof I have hereto set my signature this 27th day of July, A. D. 1853.

SIDNEY STEVENS TURNER.

Witnesses:

R. H. EDDY,
F. P. HALE, Jr.