(No Model.)

3 Sheets—Sheet 1.

E. H. TRIESLER.

SEWING MACHINE.

No. 385,973. Patented July 10, 1888.

Fig. 1.

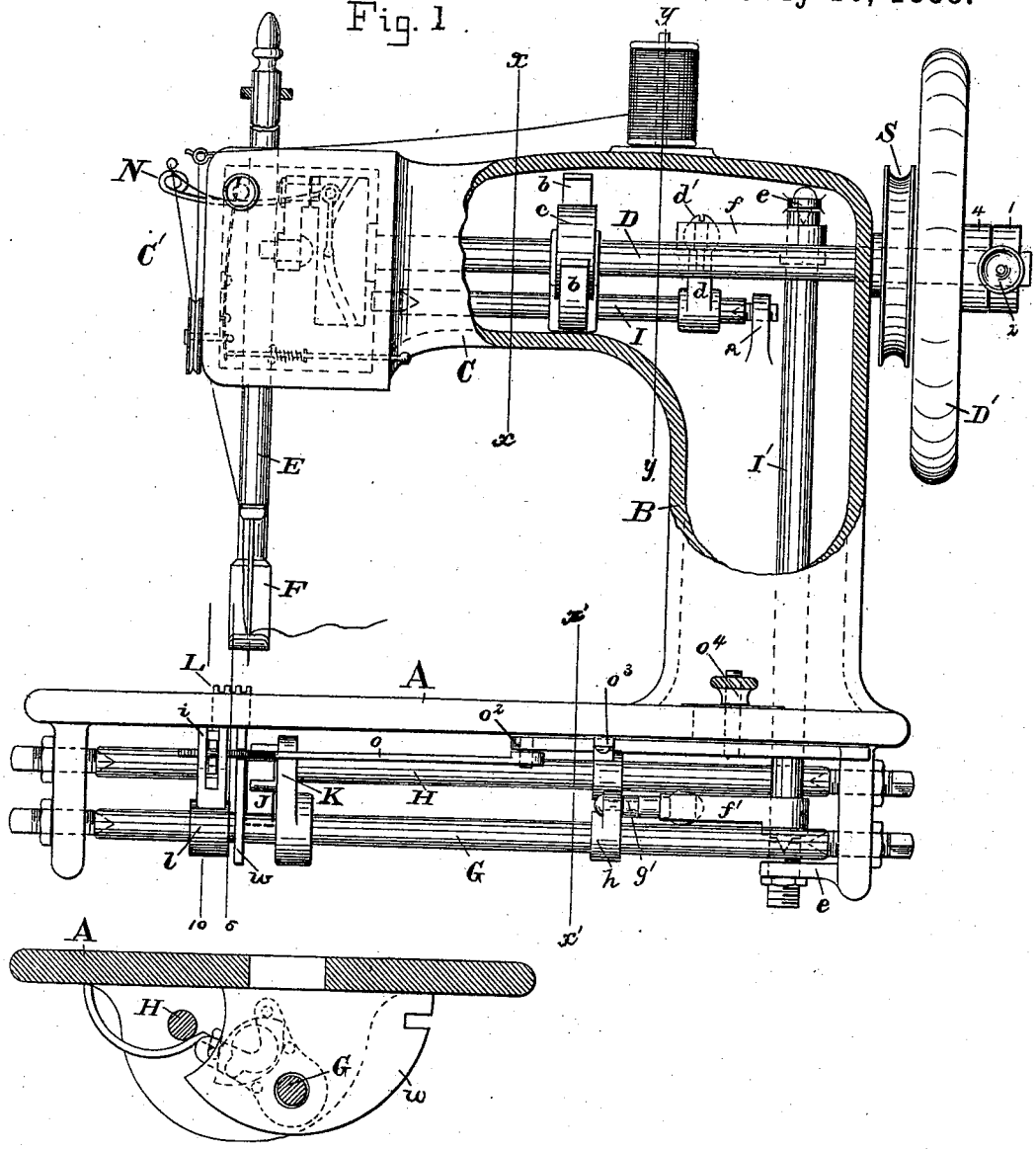

Fig. 2.

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(No Model.)

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Fig. 3.

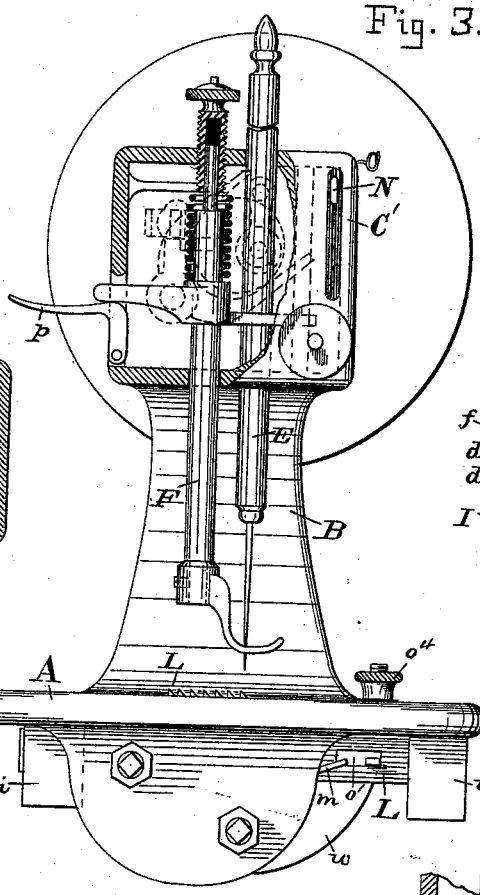

Fig. 4.

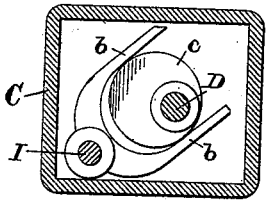

Fig. 5.

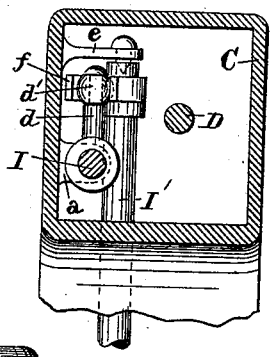

Fig. 6.

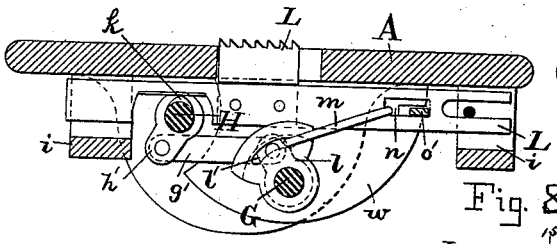

Fig. 7.

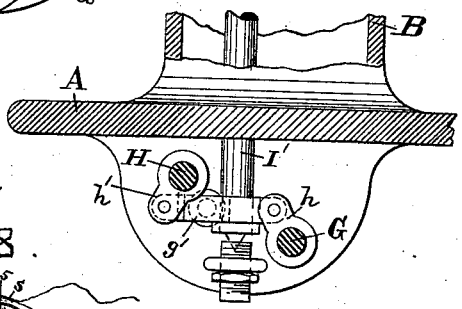

Fig. 8.

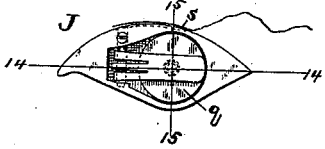

Fig. 10.

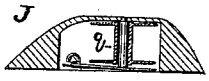

Fig. 11.

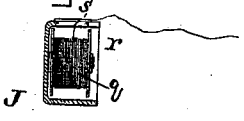

Fig. 9.

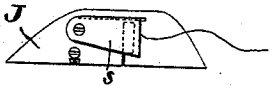

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Fig. 12.

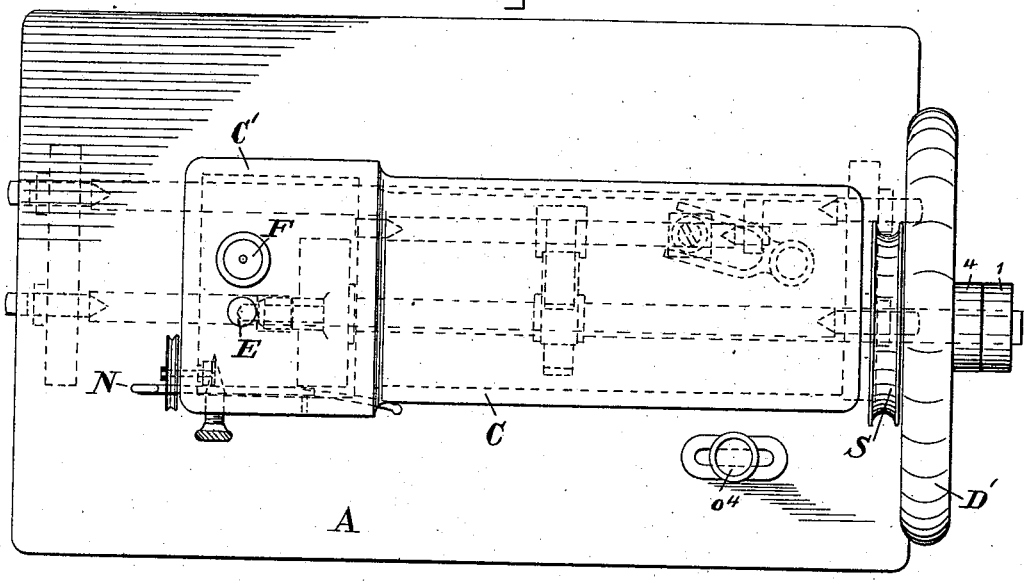
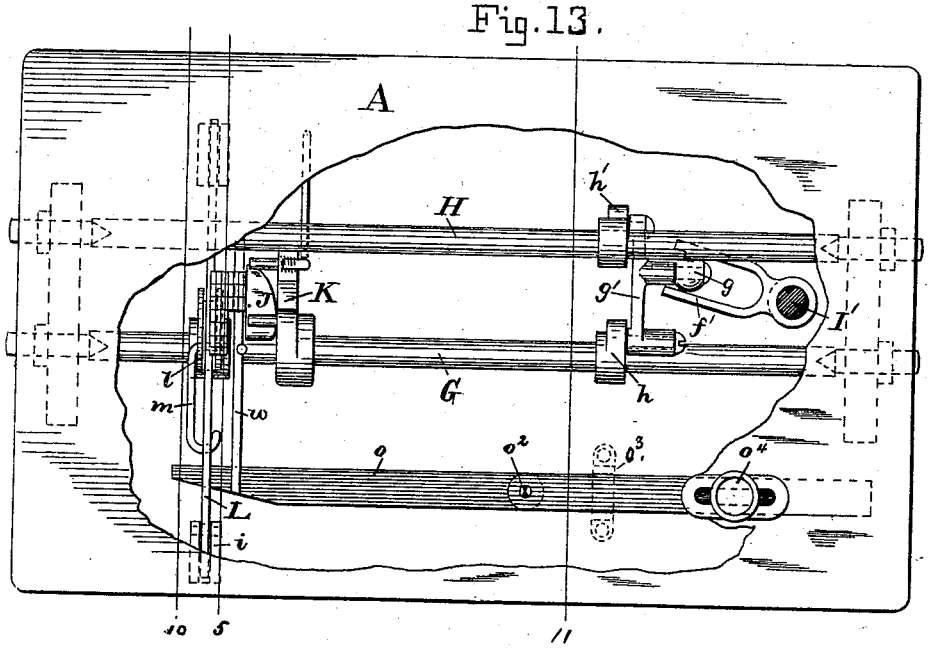


Fig. 13.



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UNITED STATES PATENT OFFICE.

ERNEST HENRY TRIESLER, OF BALTIMORE, MARYLAND.

SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 385,973, dated July 10, 1888.

Application filed September 19, 1887. Serial No. 250,041. (No model.)

To all whom it may concern:

Be it known that I, ERNEST HENRY TRIESLER, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Sewing-Machines, of which the following is a specification.

My invention relates to an improved sewing-machine, and is illustrated in the accompanying drawings, in which—

Figure 1 represents a front elevation having the standard partly broken away, showing my invention. Fig. 2 is a cross-section of the bed-plate. Fig. 3 is a side elevation, in which the front of the head is shown partly in section. Fig. 4 is a vertical cross-section of the head on line *x x* in Fig. 1. Fig. 5 is a vertical cross-section of the head on the line *y y*, Fig. 1. Fig. 6 is a cross-section of the bed-plate on the line *z z*, Fig. 1. Fig. 7 is a vertical section of the bed-plate on the line *x' x'*, Fig. 1. Figs. 8, 9, 10, and 11 are views of the shuttle. Fig. 12 is a top view of the machine. Fig. 13 is a top view of the bed-plate, partly broken away, showing the parts below.

Referring to the drawings, the letter A designates the bed-plate; B, the hollow standard rising therefrom; C, the overhanging arm supported by said standard; C', the head at the end of the overhanging arm; D, the upper main shaft revoluble in bearings in the overhanging arm; E, the needle-bar, and F the presser-bar. All of these parts are of usual form.

The upper main shaft, D, is connected with the needle-bar E by a crank-head and link, of well-known form in sewing-machines. Movement is imparted to the shuttle-shaft G and feed-lifting shaft H below the bed-plate by the oscillating shafts I I', which connect with the upper main shaft, D. The horizontal oscillating shaft I has bearings *a* in the overhanging arm C, and is provided with a forked arm, *b*, (see Figs. 1 and 4,) which takes astride of a cam, *c*, on the upper main shaft, D, the revolving of which will cause the said shaft I to oscillate or rock. This horizontal oscillating shaft has near its end an arm, *d*, provided with a friction-ball, *d'*. The vertical oscillating shaft I' has bearings *e*, and extends up and down through the hollow standard B. At its upper and lower end it has forked arms *f f'*, the upper one, *f*, of which takes astride of the friction-ball *d'* on the arm *d* of the horizontal oscillating shaft, and the lower one, *f'*, takes astride of a friction ball, *g*, projecting from a bar, *g'*, which connects the shuttle-shaft G and feed-lifting shaft H. It will thus be seen that one vertical shaft, I', only occupies the hollow standard B, and serves to communicate movement from the upper main shaft, D, to the lower shuttle-shaft, G, and feed-lifting shaft H.

The shuttle shaft G and feed-lifting shaft H are each provided with an arm, *h h'*, (see Figs. 7 and 13,) and the bar *g'* connects the two arms. As already stated, this connecting-bar has a friction-ball, *g*, which is between the two forks of the arm *f'*. The shafts G and H have a rocking movement.

The shuttle J may be of any of the various known oscillating forms, and is carried in the holder K, which is on the shaft G. The shuttle is more particularly described hereinafter.

The feed-bar L is of the "four-motion" kind. At each end it works in a guide, *i*, which is attached to the bed-plate. A cam, *k*, on the lifting-shaft H, serves to raise and lower the feed-bar L. Arm *l* is on the shaft G and has a segment-shaped slot, *l'*, curving concentric with the axis of shaft, and a link, *m*, (see Figs. 6 and 13,) has one end in the slot *l'* of the arm and the other end in a slot, *n*, in the feed-bar. This link *m* serves to move the feed-bar forward and back. The size of stitch is governed of course by the extent of movement forward or back of the feed-bar, and this latter is regulated by the bar *o*, which is movable endwise, and is also pivoted and has a tapered end, *o'*, (see Figs. 1, 6, and 13,) which occupies the slot *n* in the feed-bar. The stitch-regulating bar *o* is in two sections, which are united by a joint or pivot, o^2. One section of this bar fits in a slide-bearing or keeper, o^3, below the table-top, and has a set-screw, o^4, which projects up through a slot in the top. The stitch-regulating bar may be moved endwise as far as the slot in the top will permit, and by such movement its tapered end *o'* will be inserted farther into the slot *n* of the feed-bar, or will be partly withdrawn, according to the direction it is moved. When the feed-bar L moves forward and back, the tapered end of

the regulating-bar *o* also moves on its pivot o^2. The farther the tapered end *o'* of the regulating-bar is in the slot *n* of the feed-bar the longer the stitch will be, because the slot *n* will be more nearly filled by the broader part of the tapered end, and there will be less room in the slot *n* for play or lost motion of the link *m*, and consequently the said link will move the feed-bar L a greater distance. On the other hand, the more the tapered end *o'* is withdrawn from the slot *n* the greater will be the room therein for the play of the link *m*, and consequently the feed-bar will be moved by said link a less distance.

With this machine any suitable thread-take-up device, N, may be used.

The presser-bar F is held down by a spring and raised by a lever, *p*. The thread from the bobbin *q* passes out through a cross-slot, *r*, in the shuttle-case. This cross-slot *r* is shown in the cross-section of the shuttle, Fig. 11, and is indicated by broken lines in Fig. 9, where a tension-spring, *s*, covers the slot. As the bobbin-thread passes out of the cross-slot *r*, it may continually shift along the length of the said slot, because this slot extends in the same direction as the axis of the bobbin *q*. By means of the cross-slot in the shuttle-case, instead of a mere round hole for the bobbin-thread, the liability of the said thread to wear a notch in the shuttle case is obviated.

A shuttle-plate, *w*, has fixed vertical position crosswise of the machine, (see Figs. 1, 2, and 13,) and the flat side of the shuttle J is next to the plate. In oscillating, the shuttle moves close to the vertical surface of the plate and the latter confines the shuttle to its position in the holder K.

Having described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a sewing-machine, the hollow overhanging arm with driving-shaft D journaled therein and having cam *c* thereon, the horizontal oscillating shaft I, with forked arm *b*, the arm *d*, with friction-ball *d'*, the vertical oscillating shaft I', with arm *f* at upper end and forked arm *f'* at lower end, the feed-lifting shaft H and shuttle-shaft G, arms *h*, and bar *g*, the latter having friction-ball *g'*, said parts being combined substantially as shown and described.

2. In a sewing-machine, the bed-plate A, with guide *i*, the feed-bar L, with slot *n*, the shuttle-shaft G, the arm *l*, with segmental slot *l'*, and the link *m*, connecting said arm *l* and bar L, the lifting-bar H, with mechanism, substantially as described, connected to bars G and H, for imparting oscillating motion thereto, and the sliding bar *o*, with tapering end inserted in said slot *n*, and having a stud passing through the bed-plate for operating the same, substantially as and for the purpose set forth.

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

ERNEST HENRY TRIESLER.

Witnesses:

JOHN E. MORRIS,

JNO. T. MADDOX.