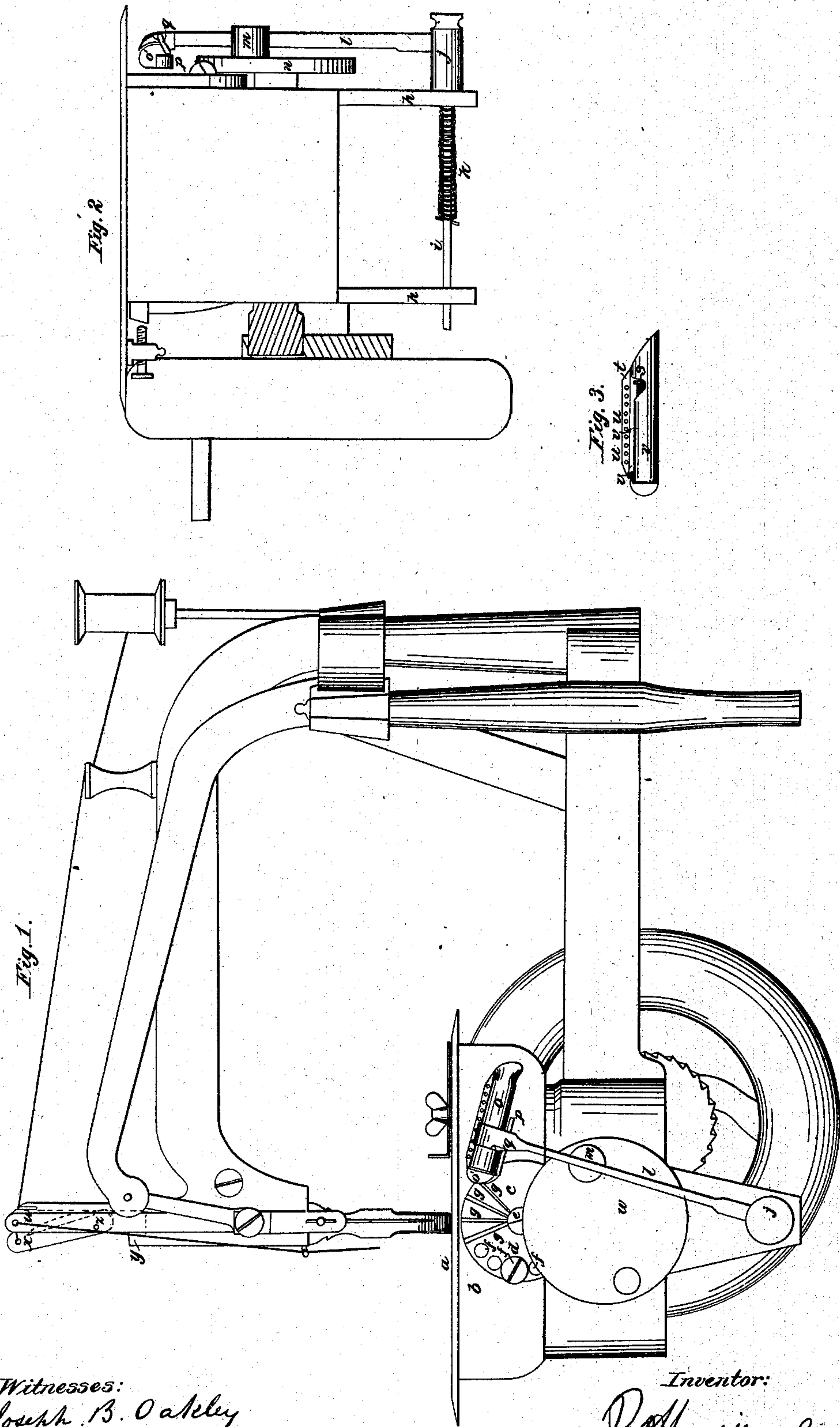


J. HARRISON, Jr.
SEWING MACHINE.

No. 26,586.

Patented Dec. 27, 1859.



Witnesses:
Joseph B. Oakley
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Inventor:
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UNITED STATES PATENT OFFICE.

JAMES HARRISON, JR., OF NEW YORK, N. Y.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 26,586, dated December 27, 1859.

To all whom it may concern:

Be it known that I, JAMES HARRISON, Jr., of the city of New York, in the county and State of New York, have invented certain new and useful Improvements in Sewing-Machines; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters and marks thereon.

The drawings forming part of this specification show, by Figure 1, a side view of a sewing-machine having my improvements; by Fig. 2, an end view of a part of a machine below the table; and by Fig. 3, a view of a shuttle with my improvements.

As the machine thus shown is in many respects like numerous machines where the eye-pointed needle with one thread and a shuttle with another thread form the stitch, I will limit the description of construction and operation to such parts as constitute my improvements and such other parts as are so intimately or immediately connected therewith as may be necessary to give description of in order to fully understand these improvements.

Underneath the table *a* there is attached to the side *b* of the frame of the machine a disk, *c*, which, by a screw, *d*, is held to the frame, and by another screw, *e*, is so attached to the frame that when the screw *d* is taken out the disk may be rotated on the screw *e*. Holes *f*, near the periphery of the disk, allow of the disk being held by the screw *d*, so that any one of the grooves or races *g* cut in from the edge to the center radially will be in line with the track of the needle. The drawings show four such tracks or races. The number may be increased until a considerable portion of the disk is marked by them. These races or tracks differ in width and depth, the design of them being to guide the needle, and hence they are of different size to accommodate the different-sized needles.

Passing through the legs *h* of the frame is a rod, *i*, having an elongated head, *j*, exterior to the one leg. This rod *i* may be moved through the holes. By seizing the head *j* it may be drawn out, the inner face of it being removed from against the leg. When so drawn out, a coiled spring, *k*, is compressed, which, when the head is let go, tends to bring the inner face of the head against and in contact with the leg. An arm, *l*, extends upward

from the head, passing through a slit in crank-pin *m* of disk *n*, which disk is rotated by power derived from the main shaft.

To the upper end of arm *l* is affixed the shuttle-case *h*, the inner face of which is open, so that when the shuttle is placed therein its inner face travels upon and over the face of the disk *c*, crossing the track of the needle. By this arrangement of means I dispense with the usual shuttle-case and lessen much the expense of constructing machines. It will readily be seen how the rotating of disk *n* gives to the arm *l* the vibratory motion necessary to carry the shuttle through its regular motions. It will also readily be seen how by drawing out the head *j* of rod *i* that the shuttle may be turned downward, and temporarily be put out of use. The heel *o* of the shuttle-case is not a continuation of the shell of the case proper, but is a distinct piece, and is connected to the body of the case by a bar or rod, *p*, which is hinged or pivoted to the body at the point where the letter *p* is placed on Fig. 1 of the drawings. When in place at the end of the case, a hinged rod or catch, *q*, holds it. By turning outward the catch *p* the heel can also be turned outward and the shuttle be taken out of or put into the case.

Fig. 3 shows the shuttle *r*, containing the spool *s*. A ridge, *t*, with several holes, *u*, extends up above the roof of the shuttle, which ridge strengthens the upper edge of the shuttle, gives to the shuttle's face an extended bearing-surface, and serves to form one side of the channel or space for the thread, as well as allows of holes for the passage of the thread. Between this ridge and the spool a part of the shuttle is removed to form a space, *v*, for the thread to traverse from either end of the spool or bobbin. This space allows the thread free play from the spool, while, by passing the thread through two or more of the holes in the ridge, more or less interruption may be given to the passage of the thread, and thus a greater or less degree of slack exists.

In the upper end of the needle-bar *w*, I insert a lever-bar, *x*, which is forced outward by a spring in the recess of the needle-bar, and is forced inward by its edge coming in contact with the guide-bar *y* on the descent of the needle-bar. The pin upon which this lever-bar plays is marked *z*. The thread, on its way from the spool to the needle, passes through a

hole on one side of the needle-bar, then through a hole in the lever-bar, and, lastly, through another hole in the needle-bar. The operation of this lever-bar will easily be seen to be to keep the thread taut until the eye of the needle enters the cloth, and then to leave the thread slack.

Having thus set out my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The rotary needle-guide disk *c*, constructed and operated in the manner and for the purpose above described.

2. The arrangement of the following devices

for holding and operating the shuttle, viz: the arm *l*, the revolving button *m*, slotted to receive the arm *l*, the shuttle-case *o*, rod *i*, and its head *j*, spring *k*, and legs *h*, all constructed and operating substantially as described.

3. Constructing the shuttle with the ridge and holes and thread-space, as described.

4. Inserting the lever-bar *x* in the needle-bar *w* and operating it, as described.

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Witnesses:

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