

G. JUENGST.
Sewing Machine Shuttle.

No. 28,869.

Patented June 26, 1860.

Fig. 1.

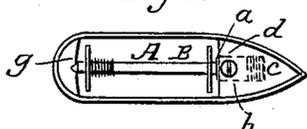


Fig. 2.

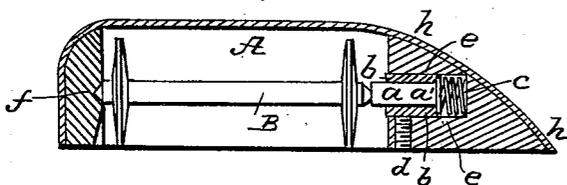
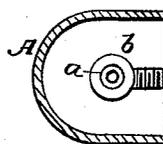


Fig. 3.



Witnesses:

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GEORGE JUENGST, OF NEW YORK, N. Y.

IMPROVEMENT IN SHUTTLES FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. 28,869, dated June 26, 1860.

To all whom it may concern:

Be it known that I, GEORGE JUENGST, of the city, county, and State of New York, have invented a new and useful Improvement in Sewing Machine Shuttles; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a face view of a shuttle with my improvement, natural size. Fig. 2 is a central longitudinal section of the same on a larger scale. Fig. 3 is a transverse section of the same with the bobbin omitted.

Similar letters of reference indicate corresponding parts in several figures.

In sewing-machine shuttles the bobbin is generally made with a male center at each end, and held in place between two female centers provided in the shell of the shuttle, and one of the latter is made movable for the purpose of permitting the introduction and removal of the bobbin, and held up to the bobbin by means of a spring. This movable center and its spring are generally introduced from the exterior of the shell through an opening which extends right through the heel thereof, but which, after the center and the spring are inserted, is closed by a plug inserted in from the exterior and secured by soldering. Shuttles have also been formed with the movable spring-center in the point; but the same was inserted when being manufactured, and no provision was made for introducing a new spring in case injury to that before inserted, or when one of a different strength was desired. My said invention consists in a movable bush, through which the center passes, and which bush fills up the parallel hole containing the spring, and is held in place by a clamping-screw.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A is the shell of the shuttle, made of the usual form, but with less solid metal at the heel, as the movable center *a* is applied in the head or pointed end, instead of in the heel, as has been heretofore generally the case.

B is the bobbin, made of the usual form.

b is the adjustable bush, of cylindrical form, and *c* is the spring, of spiral form.

The movable center *a* consists of a cylindrical pin with a broad head, *a'*, and it is fitted to work freely in the bush *b*, the head *a'* serving as a stop to prevent the spring pushing it too far out. The cylindrical cavity *e e*, in which the spring, the movable center, and the bush are inserted, is made without disfiguring the external surface of the shuttle. It may be made in two ways, according to the way in which the shuttle is made. When the internal portion of the head is made in a separate piece, *h h*, and soldered into the shell, as represented in the drawings, the said cavity is drilled in the said piece *h h* before it is put in place; but when the shell is made of a solid piece the said hole is drilled by a drill made to work from within the shell. The spring is first inserted in the cavity from the inside of the shuttle, and the center *a* and its bush are afterward inserted, together with the head of the pin, toward the spring, and the bush is then secured by a set-screw, which screws from the face or flat side of the shuttle into a tapped hole provided for it. The fixed female center is made in the inside of the heel of the shuttle, with a taper groove, *g*, leading to it from the opening in the face of the shuttle, in the same manner as it is usually made in the other end or head of the shuttle.

The advantages derived from this method of applying the movable center *a* are as follows: First, it permits the said center to be easily removed and reinserted whenever it is desired to change the spring for a stronger or a weaker one, or to replace a damaged spring, as by taking out the set-screw the bush, the center, and the spring are left free to drop out of the cavity. Second, it obviates the inconvenience which sometimes arises in the old plan of inserting it, from the solder which is used to secure the plug getting into the cavity and interfering with the operation of the spring. Third, it provides for the adjustment of the said center in such a manner that the spring may just force it up to such a position that, though it will hold the bobbin in place, it will exert no pressure on its centers, but leave it perfectly free, that all or the greater portion of the friction necessary to produce the tension of its thread in sewing may be produced by means specially provided for that purpose, in which adjustment the head *a'* will

rest against the inner end of the bush. It permits the said center to be applied in the head or pointed end of the shuttle, which cannot well be done where the said center is inserted from the exterior, as the plug, which is in that case necessary to close the exterior of the cavity, would produce an imperfection in that part in which the loop of the needle-thread would be very liable to catch; and in fact it enables the whole exterior of the shuttle to be made with an unbroken homogeneous surface, the whole of which will wear equally and remain perfectly smooth and even. By inserting the movable center in the head or pointed end the shuttle is enabled to be made shorter with the same length of bobbin, as the depth of solid metal at the point can always be made

sufficient without making the point larger than is necessary; but when the said center is introduced at the heel a greater depth of solid metal is required than would be otherwise necessary.

What I claim, and desire to secure by Letters Patent, is—

The bush *b*, in combination with the center *a*, spring *c*, and screw *d*, as specified, whereby the whole of the parts can be removed for changing the spring and the position of the center *a* can be adjusted, as set forth.

GEORGE JUENGST.

Witnesses:

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