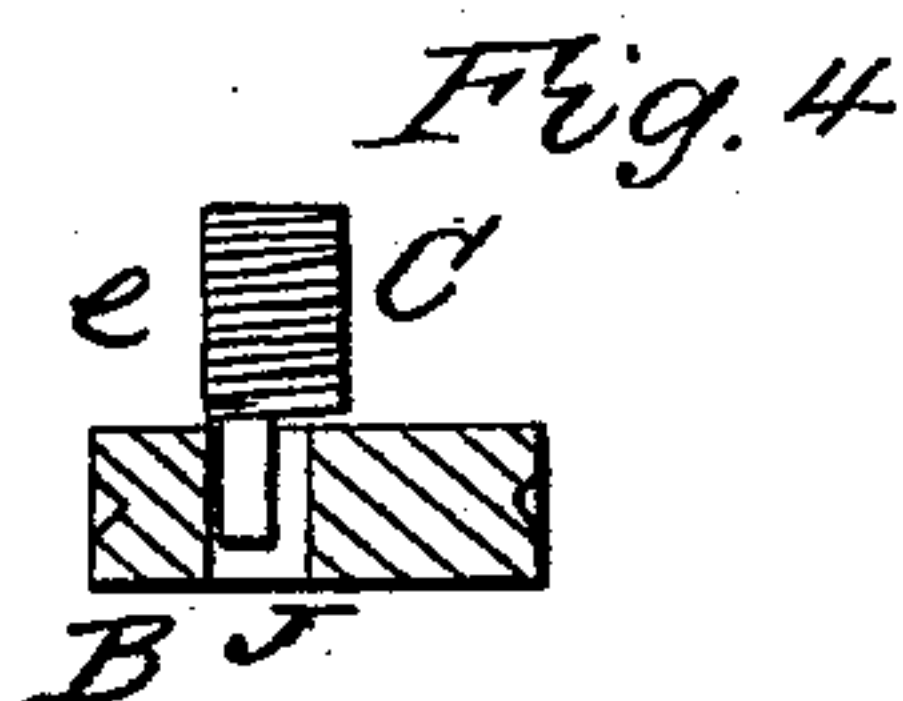
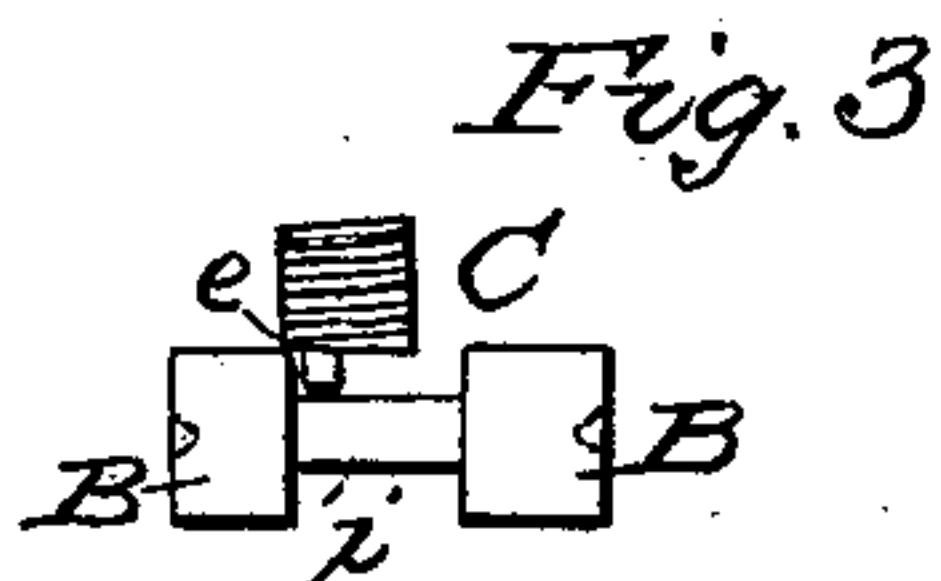
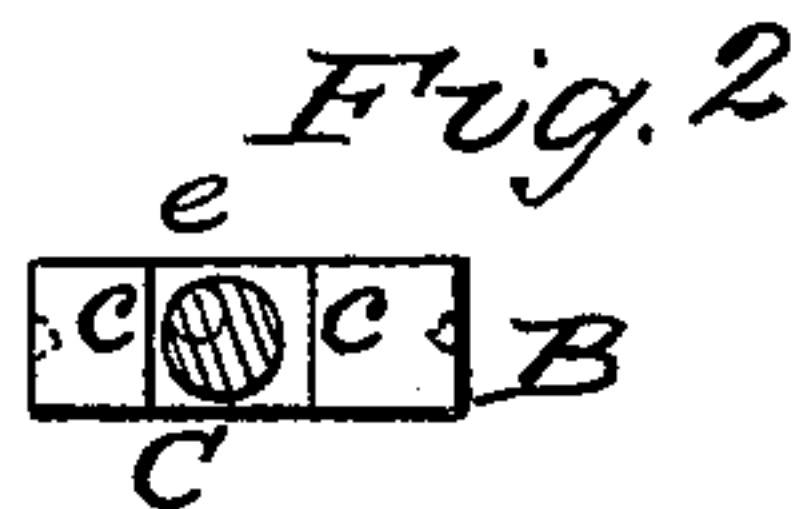
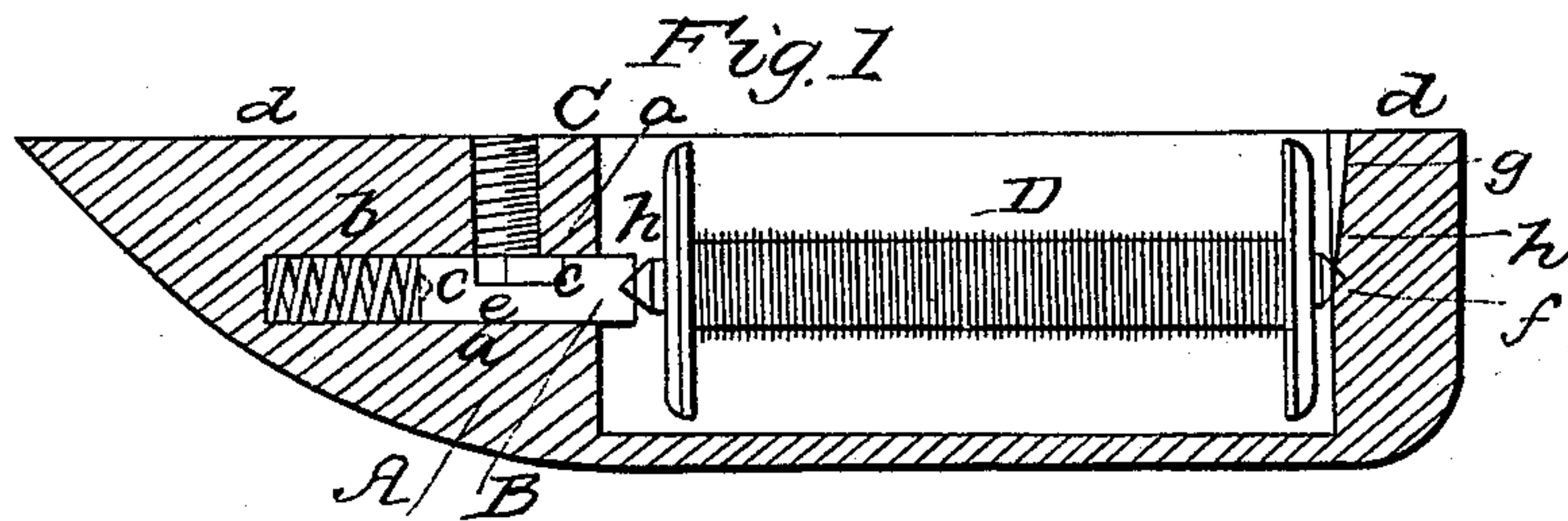


PLANER & SIEGEL.
Sewing Machine Shuttle.

No. 29,224.

Patented July 17, 1860.



Witness
Joseph S. Mathewz

Inventor
Louis Planer
John Siegel

UNITED STATES PATENT OFFICE.

LOUIS PLANER AND JOHN N. SIEGL, OF NEW YORK, N. Y., ASSIGNORS TO
LOUIS PLANER, OF SAME PLACE.

IMPROVEMENT IN SHUTTLES FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. 29,224, dated July 17, 1860.

To all whom it may concern:

Be it known that we, LOUIS PLANER and J. N. SIEGL, of the city, county, and State of New York, have invented a new and useful Improvement in Sewing-Machine Shuttles; and we 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 central longitudinal section of a shuttle with our improvement. Fig. 2 represents the movable center detached with its adjusting-screw and eccentric which is applied thereto, and which constitute part of our invention. Figs. 3 and 4 exhibit modifications in the construction of the movable center.

Similar letters of reference indicate corresponding parts in the several figures.

Our invention consists in a certain mode of securing the movable center of a sewing-machine shuttle in its place, and of providing for the adjustment of the said center for the purpose of relieving the bobbin of the pressure of the spring that is applied to hold up the said center to its place, but allowing the said center to be held up toward the bobbin by the said spring in such a manner as to prevent any longitudinal play of the bobbin, and to keep the same in its place in the shuttle.

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

A, Fig. 1, is the body of the shuttle, having a cylindrical cavity, *a*, formed in the solid metal, at the nose, to receive the movable female center B and the spiral spring *b*, which is employed to hold it up to its place. This cavity, when the shuttle is made of a solid piece of malleable cast-iron or other metal, is drilled from the interior with a drill suitably constructed, applied, and operated; or, when the solid portion of the nose is made of a separate piece soldered into the shell of the shuttle, the cavity is drilled into the said piece before it is put into the shell, by either of which modes the disfigurement of that portion of the exterior of the shuttle over which the needle-thread works is prevented.

The movable center B (represented in Figs. 1 and 2) consists of a cylindrical piece of metal

fitted easily into the cavity *a*, and having a square recess, *c c'*, filed in one side to receive the end of a screw, C, which is screwed from the flat side or face of the shuttle into a hole which is drilled and tapped from that side of the shuttle to meet the cavity *a a*, and tapped to receive the said screw. This screw is provided at its end with a small eccentric, *e*, which enters the recess *c c'* of the movable center, and it is of such length that when screwed into its place it does not project beyond the outside of the shuttle. The said screw has a notch in its head or outer end, to enable it to be turned by a screw-driver. The fixed center *f*, at the opposite end of the shuttle, consists of a simple conical recess made in the interior of the heel, with a taper groove, *g*, leading to it from the face *d d*, in the usual manner.

To insert the movable center B and spring *b*, the screw C must be unscrewed from its hole far enough to remove its point from the cavity *a*, and when first the spring and afterward the center have been inserted in the said cavity, the latter with its cavity *c c'* opposite the screw C, the said screw is screwed in, care being taken that its end does not press upon the bottom of the said cavity. The movable center being thus secured by its screw C against being forced out entirely or too far by its spring, the bobbin D, which is of the usual construction, with a male center, *h*, at each end, is inserted in the shuttle by placing one of its ends in the female center B, and pushed against the said center to allow its other end to be slipped into the groove *g*, and is then pushed down in the said groove till it is forced into the fixed center *f* by the pressure of the spring *b*. The screw C is then turned to bring its eccentric *e* to bear against the end *c'* of the recess in such a manner as to cause the pressure of the spring to hold the female center B against the said eccentric, and so to relieve the bobbin of the pressure of the spring and leave it free that the necessary friction or drag upon its thread may be produced by other means specially provided for that purpose, such means being of such well-known or suitable character as to allow the friction or drag to be graduated to create the desired tension. The female center, when thus adjusted, is still held up by the spring, so as to confine the bobbin properly in

its place, and its adjustment may be such that though it will enable the bobbin to work freely it will permit no longitudinal play thereof during its operation. This mode of applying and securing the movable center of the shuttle, while it admits of the adjustment of spring force or hold to the movable center B, leaves all the tension on the thread to be produced by properly-regulated means specially provided, prevents any injurious disfigurement of that part of the exterior of the shuttle over which the needle-thread works, and makes the construction of the shuttle as simple as when other less advantageous modes of applying and securing the movable center are used.

Fig. 3 represents as an equivalent substitute for the recess *c c'* a groove, *i*, turned in the movable center; and Fig. 4 represents as another equivalent substitute for the said recess a slot, *j*, cut in the movable center.

The movable center and its spring may be applied and secured in the same manner at the heel of the shuttle; but we prefer to apply it at the nose, as it enables the shuttle to be made shorter. We do not claim, broadly, so

applying and securing the movable center as to provide for the relief of the bobbin from the pressure of its spring, as we are aware that a movable bush has been used in combination with a shoulder on the said center by G. Juengst for the same purpose; but

What we claim as our invention, and desire to secure by Letters Patent, is—

The combination, with the shuttle A, bobbin D, movable center B, and spiral spring *b*, or its equivalent, of a transversely-arranged adjusting-screw, C, formed or provided with an eccentric, *e*, for operation within a recess made in the movable center, or for action against the latter in a direction contrary to that of the spring and away therefrom, the same forming an adjustable stop or locking pin to the movable center, substantially as and for the purposes herein set forth.

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JOHN N. SIEGL. [L. S.]

Witnesses:

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W. ESMANN.