H. S. BAUER.

WORK SUPPORT FOR SEWING MACHINES.

APPLICATION FILED MAY 4, 1918.

1,360,357. **Patented Nov. 30, 1920.**

Fig. 1.

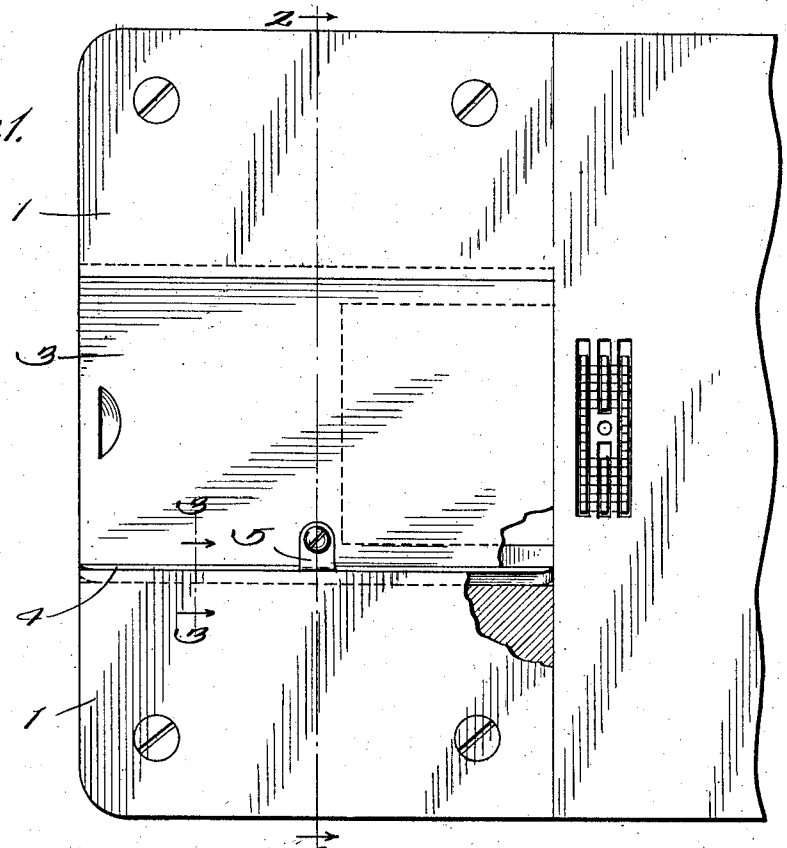


Fig. 2.

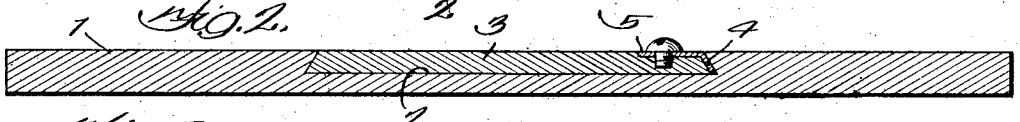


Fig. 3.

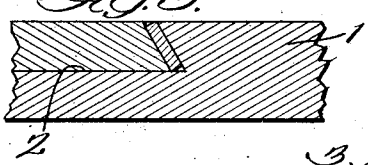


Fig. 4

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WORK-SUPPORT FOR SEWING-MACHINES.

1,360,357. Specification of Letters Patent. Patented Nov. 30, 1920.

Application filed May 4, 1918. Serial No. 232,591.

To all whom it may concern:

Be it known that I, HENRY S. BAUER, citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Work-Supports for Sewing-Machines, of which the following is a full, clear, concise, and exact description.

My invention relates to work support for sewing machines.

The cloth plate of any sewing machine generally includes a stationary plate-like body formed with a dovetail groove therein and a second but slidable plate-like body having opposite sides received in the sides of said groove and respectively beveled correspondingly to said groove sides. The stationary plate-like bodies of sewing machine cloth plates are usually in the form of castings produced by dies. The slide portions of the cloth plates are usually punched out of sheet metal. The sides of the grooves and the sides of the slidable plate portions are milled down and filed to fit, the filing operation being required because the grooves, in the die casting operation, are generally narrower at mid length than at the ends thereof, a distortion which is followed by the milling tools. Furthermore, hard spots are frequently encountered in the stationary body portions of the cloth plates which cause the milling tools to be deflected inwardly to narrow the grooves and at other times soft spots are encountered that influence the milling tools to be deflected outwardly to widen the grooves. Similarly, hard spots are frequently encountered in the slidable bodies of the cloth plates which influence the milling tools to produce sliding bodies that are too wide where the hard spots are encountered and at other times soft spots are encountered that influence the milling tools to make the slidable bodies of the cloth plates too narrow. Because of the deformities resulting from the machine work upon the component elements of cloth plates it is necessary to finish them by hand to produce proper fits. The finishing operation costs about three and one-half cents per cloth plate besides the losses due to plates spoiled in finishing.

It is the object of my invention so to form the dovetail joint as to eliminate the necessity for accurate hand work in fitting the bodies that form the joint. In carrying out my invention I add a third element to the dovetail joint, this added element being a spring secured to one of the bodies of the joint and disposed in the dovetail groove between one beveled side of the other body and the groove side faced by this beveled side, said spring exerting pressure against the groove side and beveled side between which it is interposed in a direction angular to the bottom of the groove to have the bottom of the groove firmly engaged by the body therein.

In the preferred embodiment of the invention the spring is a leaf spring that has an intermediate angular ear secured to one of said bodies, preferably the sliding body, to mount the spring thereon, the general plane of said spring being parallel with said beveled side of the second body and the groove side faced by this beveled side. This spring operates to force the slide laterally into fullest engagement with the other side of the groove and to force the slide downwardly to bottom it in the groove. The spring is overhung by the side of the groove engaged thereby so that in addition to bottoming the slide in the groove it functions as a portion proper of the dovetail joint.

I will explain my invention more fully by reference to the accompanying drawing showing the preferred embodiment of the invention and in which Figure 1 is a plan view of a cloth plate constructed in accordance with my invention with the side portion of the plate in position to close the throat in the cloth plate, a portion being broken away; Fig. 2 is a sectional view on line 2—2 of Fig. 1; Fig. 3 is an enlarged sectional view on line 3—3 of Fig. 1; and Fig. 4 is a perspective view illustrating a portion of the fixed element of the cloth plate and the slide element of the cloth plate in separated relation.

Like parts are indicated by similar characters of reference throughout the different figures.

The cloth plate illustrated includes a stationary plate-like body 1 formed with a dovetail groove 2 therein. A second plate-like body 3 is slidably received in said groove, opposite sides of this sliding body 3 being received in the sides of the groove and being respectively beveled to correspond to said groove sides. A leaf spring 4 is disposed in the dovetail groove between one beveled side of the second body 3 and the

groove side faced by this beveled side. This spring preferably has an intermediate angular ear 5 which is secured to one of the bodies 1, 3 and preferably to the body 3 to mount the spring thereon. The general plane of the spring is parallel with the beveled side of the body 3 opposite which the spring is placed and the beveled groove side faced by said beveled body side whereby said spring exerts pressure against these beveled groove and body sides angularly thereto and to the bottom of the groove whereby said body is firmly bottomed in said groove. The spring, in thus acting, not only pushes the plate 3 laterally of the dovetail groove against the other side of such groove but also keeps the plate 3 bottomed in the groove to prevent this plate from rising. The spring itself flexes outwardly sufficiently effectively to engage the groove side that is opposite it so that not only is the sliding plate 3 bottomed in the groove plate 1 but said groove is substantially filled by the sliding plate and the spring attached thereto to make the entire joint substantially as rigid as hitherto.

The ends of the springs are desirably rounded so that the plate may readily be introduced into the groove at either end of the groove and by disposing the ear 5 at an intermediate portion of the groove there is no tendency to rock the sliding plate to have it occupy a distorted position in the groove.

While I have herein shown and particularly described the preferred embodiment of my invention I do not wish to be limited to the precise details of construction shown as changes may readily be made without departing from the spirit of my invention, but having thus described my invention I claim as new and desire to secure by Letters Patent the following:—

In a work support for sewing machines, the combination with a body formed with a dovetail groove therein; of a plate having opposite sides received in the sides of said groove and respectively beveled correspondingly to said groove sides; and a spring disposed in the dovetail groove between one beveled side of the plate and the beveled groove side faced by this beveled plate side and pressing upon these beveled sides angularly thereto and to the bottom of the groove whereby said plate is firmly bottomed in said groove.

In witness whereof I hereunto subscribe my name this 29th day of April, A. D. 1918.

HENRY S. BAUER.