No. 744,747. PATENTED NOV. 24, 1903.

L. B. GOERES.

ATTACHMENT FOR RACEWAYS FOR SEWING MACHINE SHUTTLES.

APPLICATION FILED JAN. 5, 1903.

NO MODEL.

Fig. 1.

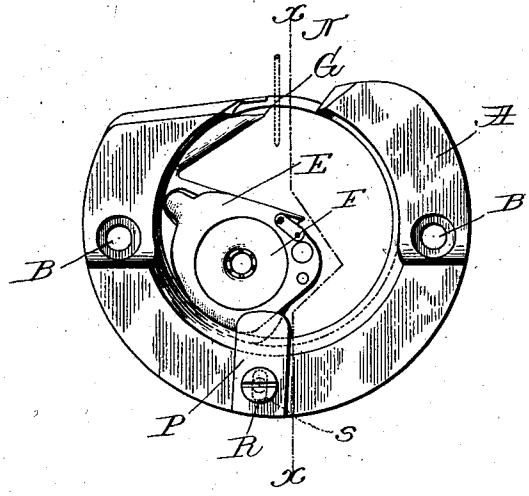
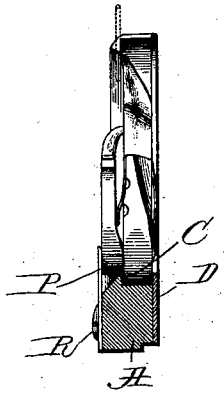


Fig. 2.



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No. 744,747. Patented November 24, 1903.

UNITED STATES PATENT OFFICE.

LOUIS B. GOERES, OF RANDOLPH, MASSACHUSETTS.

ATTACHMENT FOR RACEWAYS FOR SEWING-MACHINE SHUTTLES.

SPECIFICATION forming part of Letters Patent No. 744,747, dated November 24, 1903.

Application filed January 5, 1903. Serial No. 137,935. (No model.)

To all whom it may concern:

Be it known that I, LOUIS B. GOERES, a citizen of the United States, residing at Randolph, county of Norfolk, State of Massachusetts, have invented an Improvement in Sewing-Machine Attachments, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention relates to means for maintaining the beak or hook of the looper of a sewing-machine in proper position for taking the needle-loop of thread, notwithstanding any wear which may take place between the looper and its raceway, and cause the looper to press or strike against the needle.

The invention is herein shown as applied to the raceway of an oscillating rotary shuttle, such as commonly used in the Singer type of sewing-machines. It is adapted, however, to use with other forms of loopers than shuttles and to other types beside oscillating.

In the accompanying drawings, Figure 1 is a side view of a raceway of the well-known type. Fig. 2 is a cross-sectional view taken on the line *x x*, Fig. 1.

A represents the main casting of the shuttle-race, which is attached in the usual manner by screws passing through the holes B B to the frame of the sewing-machine. The raceway proper is partially formed in this main casting A, which is recessed out to form one side wall C. The other side wall of the raceway is formed from a separate piece D, fastened onto the main casting A. The shuttle is shown at E with its contained bobbin F, the beak or point of the shuttle being designated by G. The shuttle is oscillated in any usual manner and is shown in Fig. 1 in position when it is about to enter the loop of thread carried by the needle end.

The preferred form of the invention is illustrated as a small plate P, attached by a screw R to the shuttle-raceway at a point substantially diametrically opposite to the needle.

Shuttles of the character herein shown and of other types are used largely upon machines in factory and similar work, where the machine is run constantly or for long periods of time and where the wear even between the hardened surface of the shuttle and its raceway is considerable. This wear has been found to be a serious consideration, necessitating frequent replacement of the entire shuttle-raceway and shuttle, this necessitating considerable expense. Moreover, the wear between the parts early causes uncertainty in the taking of the loop of needle-thread by the shuttle and often causes the breaking of the needle and consequent damage to the work and stopping of the machines. To prevent the shuttle from striking against the needle when the parts become slightly worn, it has been customary to file away the beak of the shuttle, and this operation materially reduces the life of the shuttle and necessitates frequent replacement of the same.

I have found that by placing a small plate, such as shown at P, in a position so as to touch and slightly press the shuttle at the time it is about to enter the loop of needle-thread the shuttle will be held in proper position for taking the loop of needle-thread, that it will not strike, and consequently break the needle, and that is true notwithstanding considerable wear between the shuttle and its raceway. By means of the addition of this plate the objectionable results due to wear between the shuttle and its raceway are practically removed and the shuttle held in proper coöperative position with the needle at the time of taking the loop, notwithstanding whatever wear may have taken place between the shuttle and its raceway. It is therefore evident that the effective life of the shuttle and its raceway is increased and the accuracy of the work insured. The plate P should be placed so as simply to touch one portion of the shuttle, preferably at a point substantially diametrically opposite to the needle. The surface of the plate P where it touches the shuttle is preferably slightly curved or convexed, so as to insure the simple touching of the shuttle over as small a surface as possible at the desired time. It should also be placed upon the same side of the shuttle as the needle, so as to press and hold the shuttle so that it will not strike against and break the needle. Thus there is little, if any, wear between the plate P and the shuttle, and if any occurs, which I have not found to be the case after many months of constant usage, it can be obviated by bending the plate P slightly.

until it holds the shuttle with the requisite firmness, or the end of the plate may be made slightly wedge shape and the plate itself provided with a longitudinal slot S, whereby it may be adjusted radially with respect to the shuttle-race, so as to be kept in contact with the shuttle.

As already stated, it is obvious that this invention is equally applicable to any other form of looper than an oscillating shuttle where the wear takes place between the raceway and the looper and there is consequent inaccuracy in the coöperation of the beak of the looper and the needle.

It will thus be seen that the invention is extremely simple and yet thoroughly effective. It can be readily attached to any machine by simply drilling a hole in the raceway for the screw R.

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

1. A circular looper-race, a looper guided in said race, means independent of and located on the looper-race on the same side of the looper as the needle passes and adapted to touch the looper at a point substantially opposite the beak of the looper whereby the beak of the looper is held in its proper needle-loop-taking position and prevented from striking the needle.

2. A circular looper-race, a looper guided in said race, a device independent of and located on the looper-race on the same side of the looper as the needle passes and adapted to touch the looper at a point substantially opposite the beak of the looper whereby the beak of the looper is held in its proper loop-taking position and prevented from striking the needle, means for adjusting said device with respect to the looper-race whereby in case of any wear between said device and the looper such adjustment may compensate therefor.

3. A circular looper-race, a looper guided in said race, a plate attached to said raceway and radially adjustable with respect thereto, said plate being so located that it will touch the looper at a point substantially opposite its beak, and being provided with an inclined surface, whereby the beak of the looper will be held in its proper needle-loop-taking position, and whereby in case of any wear between the plate and the looper the plate may be adjusted to compensate for such wear.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LOUIS B. GOERES.

Witnesses:
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