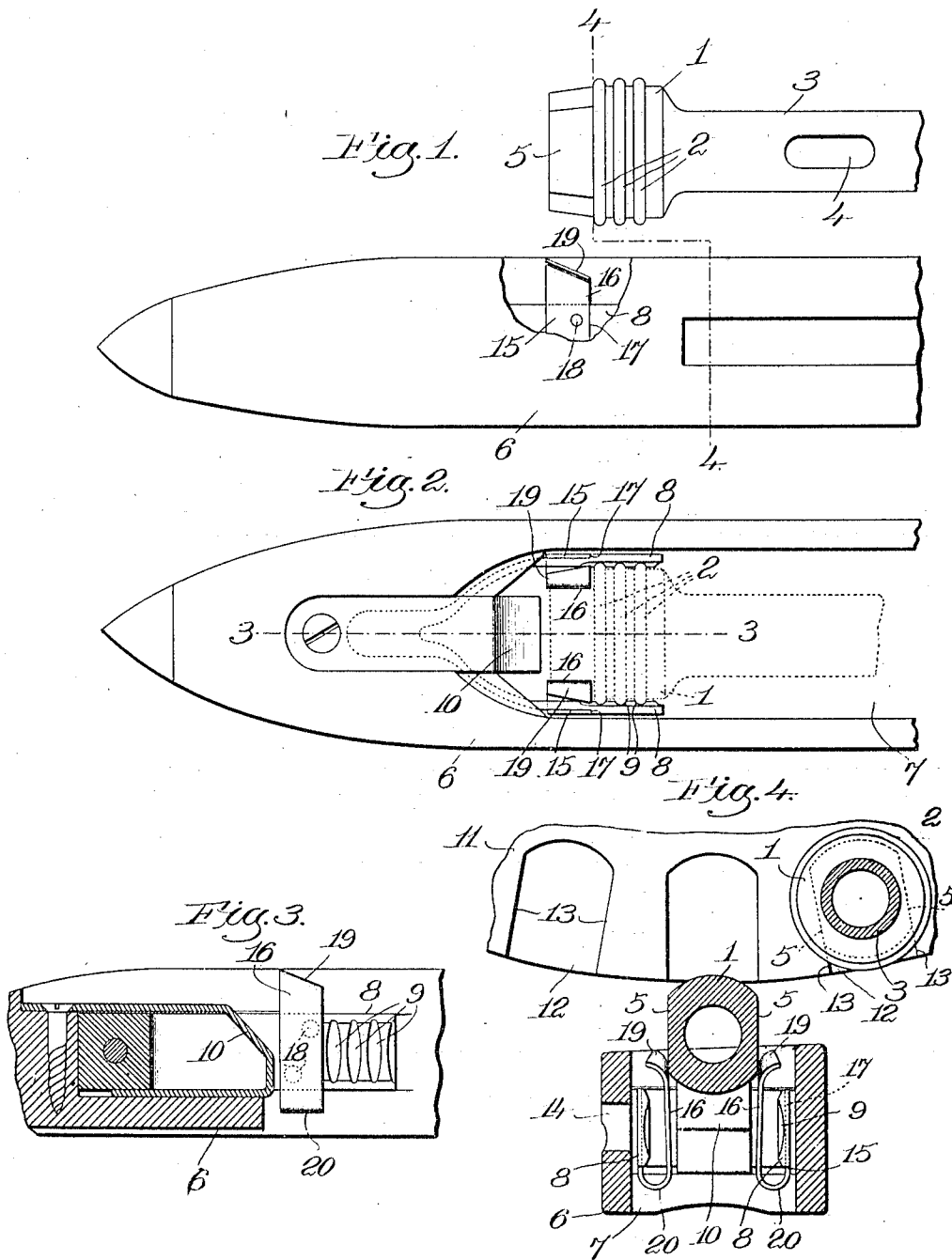


W. P. STRAW.
 LOOM SHUTTLE AND BOBBIN THEREFOR.
 APPLICATION FILED MAY 13, 1912.

1,053,673.

Patented Feb. 18, 1913.



Witnesses.
 Thomas Drummond
 Warren Neil

Inventor.
 William Parker Straw,
 by Edward Ward Smith
 attys.

UNITED STATES PATENT OFFICE.

WILLIAM PARKER STRAW, OF MANCHESTER, NEW HAMPSHIRE

LOOM-SHUTTLE AND BOBBIN THEREFOR.

1,053,673.

Specification of Letters Patent.

Patented Feb. 18, 1913.

Application filed May 12, 1912. Serial No. 692,021.

To all whom it may concern:

Be it known that I, WILLIAM PARKER STRAW, a citizen of the United States, and resident of Manchester, county of Hillsboro, State of New Hampshire, have invented an Improvement in Loom-Shuttles and Bobbins Therefor, of which the following description, in connection with the accompanying drawing, is a specification, like characters on the drawing representing like parts.

This invention is an improvement on United States Patent No. 906,748 granted to me December 15, 1908 wherein a bobbin of the type used in shuttles for automatic filling-replenishing looms is arranged to be positioned properly when inserted in the shuttle at the time of filling replenishment.

As stated in said patent, one form of bobbin used in the shuttles of so-called "feeler" looms is provided with a longitudinal recess or slot in its barrel, over which the filling is wound until predetermined exhaustion is attained. When the recess or slot is then uncovered the feeling device or a part thereof enters it and the desired change in the operation of the loom is effected. Manifestly the recess or slot must be so positioned in the shuttle that it will be directly opposite the feeling device, to insure the proper operation of the mechanism, and in my patent I have shown guiding means to cooperate with opposite parallel faces on the bobbin base, to insure the correct angular position of the bobbin when presented to the holding jaws of the shuttle. In my present invention I mount the guide members on the jaws in such manner that they exert an improved action on the incoming bobbin, and possess greater resiliency, and they are more easily and cheaply constructed.

The novel features of the invention will be fully described in the subjoined specification and particularly pointed out in the following claims.

Figure 1 is a side elevation of a portion of a shuttle and a bobbin embodying my present invention, the shuttle wall being partly broken out and the bobbin being shown as about to be transferred to the shuttle; Fig. 2 is a top plan view of the part of the shuttle shown in Fig. 1, the base of the bobbin being shown by dotted lines in the shuttle jaws; Fig. 3 is a longitudinal sectional detail on the line 3-3, Fig. 2; Fig. 4 is a transverse section on the irregular line 4-4, Fig. 1, looking toward

the left, and showing a portion of the hopper, but I have shown the base of the incoming bobbin as just about to enter between the guides therefor.

In the drawing 1 is the base of the filling-carrier or bobbin, 2 the usual rings thereon, and 3 is the barrel having a longitudinal recess 4, preferably a slot extended through the barrel to properly cooperate with the feeler, which is not shown and may be of any usual construction. The base is shaped to present two opposite, flat and parallel faces 5 beyond the rings and located on the same sides of the bobbin as are the openings of the slot 4.

The filling is so wound as to cover the slot until it is woven off to a predetermined extent, to permit the feeler or a part thereof to enter the slot, so that it will be obvious the bobbin must be properly positioned axially when inserted in the shuttle.

The body 6 of the shuttle has a usual opening 7 for the reception of the bobbin, in one end of which opening are located usual spring-jaws 8 having grooves 9 in their inner faces to engage and hold the rings 2 when the bobbin is transferred from the hopper to the shuttle, a usual inclined guide portion 10 being located between the bases of the jaws, all substantially as in my patent.

In Fig. 4 the inner plate 11 of the hopper is shown, provided with peripheral pockets 12 having parallel sides 13 to cooperate with the faces 5 and properly position the bobbins prior to transfer to the shuttle.

To correct any accidental turning of a bobbin during transfer I have provided the shuttle with guides, now to be described, to insure the positioning of the bobbin, when held by the jaws, with the slot 4 opposite the feeler-opening 14 in the side wall of the shuttle. Each guide is herein shown as substantially U-shaped, made preferably of a strip of spring metal, having legs 15, 16 of unequal length, the shorter leg 15 of each guide being seated in an upright recess 17 formed in the outer face of a jaw 8 back of the grooves 9, and fixed securely in place, by rivets 18. The bent portion between the legs 16 extends upward near the inner face of the jaw, as clearly shown in Fig. 4, the guide legs 16 being opposite each other and in substantial parallelism. These guide portions 16, which are the guides proper, are carried well above the jaws and their upper ends are

curved and outwardly flared, at 19, and also inclined downward toward the free ends of the jaws, as shown in Figs. 1 and 3. Said guides are at such a distance apart that the faces 5 on the bobbin base will enter between them when the bobbin is transferred from the hopper, as shown in Fig. 4, and obviously the guides will prevent any rotative movement of the bobbin as it passes into position between the jaws. The convex, flared ends 19 form cam surfaces which cooperate with the faces 5 of the bobbin and turn it into proper angular position should it be accidentally turned therefrom during transfer, so that even if the faces 5 are not properly presented when brought into engagement with the guides the latter will operate to correct such improper positioning before the rings 2 are brought into engagement with the jaws. Thus the slot 4 will always be brought into proper position opposite the feeler-opening 14 of the shuttle.

By inclining as well as flaring the upper ends 19 of the guides I improve the corrective action of the latter upon the bobbin, while at the same time I provide for an easier and smoother entrance of the flat-faced portion of the bobbin base between the guides.

The guides herein shown are very easily and cheaply made, as they can be cut or stamped out of resilient plate metal and easily and quickly bent to the proper shape, and as the guides proper 16 are quite long and sustained wholly at their lower ends by the bends 20 a very desirable lateral resiliency or yielding is assured whenever necessary.

When the rings 2 are entering the grooves 9 in the jaws the latter are pressed apart, as is usual, and so separate the guides temporarily and very slightly, but the closing action of the jaws again brings said guides into proper position with relation to the flat faces on the base of the bobbin.

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

1. In a loom shuttle having spring jaws adapted to engage and hold the rings on the base of a bobbin provided with opposite parallel and flat faces beyond the rings, each jaw having an upright recess in its outer face, a U-shaped resilient guide carried by each jaw and having legs of unequal length, the shorter leg being seated and fixedly held in the recess of the jaw, the guide passing under the jaw and having its longer leg upturned near the inner face of and extended above the jaw, the upturned guide legs being opposite each other and substantially parallel, to cooperate with and receive between them the flat faces of the bobbin and position it when inserted in the shuttle.

2. In a loom shuttle provided with spring-jaws adapted to engage and hold the rings on the base of a bobbin having beyond the rings a non-cylindrical portion, oppositely located resilient guides, each substantially U-shaped and having legs of unequal length, the shorter leg of each guide being attached fixedly to a jaw at its outer face and the longer leg being extended upward adjacent the inner face of and above the jaw, said longer legs being shaped to fit against and position the interposed non-cylindrical portion of the bobbin and having their upper ends flared outwardly and inclined toward the tips of the jaws, to direct the specified portion of the bobbin into proper position between the guide legs when the bobbin is inserted in the shuttle.

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

WILLIAM PARKER STRAW.

Witnesses:

EDWARD B. WOODBURY,
JOHN W. ROWLEY.