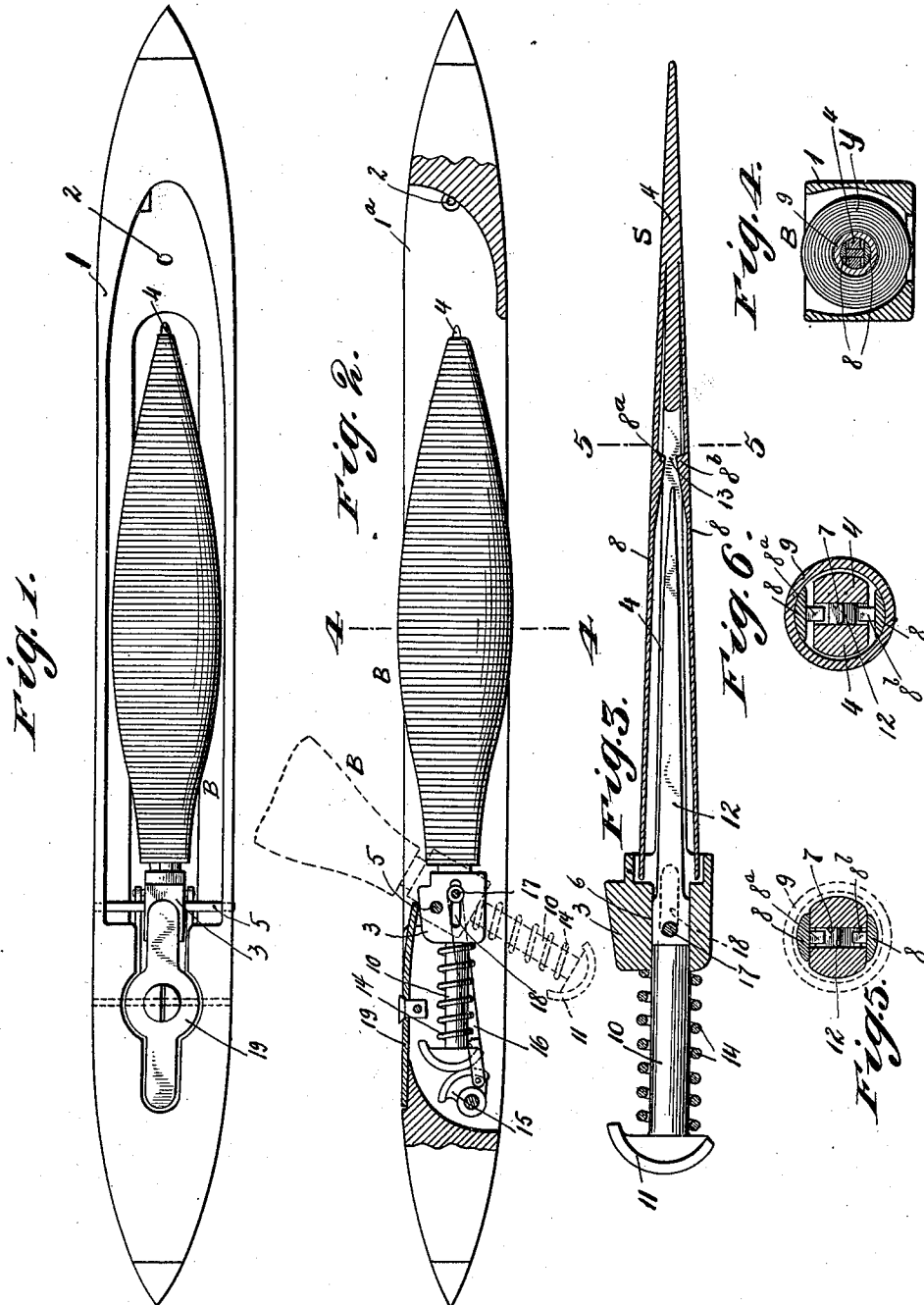


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SHUTTLE.

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1,000,625.

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CHARLES POMMIER, OF PASSAIC, NEW JERSEY.

SHUTTLE.

1,000,625.

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To all whom it may concern:

Be it known that I, CHARLES POMMIER, a subject of the German Emperor, residing at Passaic, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Shuttles, of which the following is a specification.

The present invention relates to shuttles used in weaving looms or the like for shooting the yarn of the weft from one side of the web to the other between the yarn of the warp and the object thereof is to provide certain means whereby the bobbin can at first be slipped over the pin or spindle in the shuttle without any pressure at all, and after it is properly adjusted in position, its frictional engagement with said spindle is automatically effected.

With this and other objects in view, my invention consists in the construction, arrangement and combination of parts as hereinafter fully specified.

In the accompanying drawing, similar reference numerals denote corresponding parts and Figure 1 is a plan view, Fig. 2 a longitudinal section, Fig. 3 a longitudinal section of the spindle of the shuttle carrying the bobbin with my new means, Fig. 4 a cross section on line 4—4 of Fig. 2, Figs. 5 and 6 cross sections on line 5—5 of Fig. 3 illustrating the operation of my new means.

In the drawing, which forms a part of this specification, 1 denotes the tapered hollowed carriage or shuttle, and 2 the eye through which the yarn is passed out. Pivotaly secured in the hollow of the shuttle is the longitudinally extending spindle S, on which the bobbin B is to be secured. Hitherto, this spindle has been made as a solid conical body and the conical tubular sleeve constituting the bobbin and on which the yarn is wound, had to be forced onto it, owing to which circumstance the drawbacks mentioned above have resulted. To obviate these drawbacks, the novelty of my invention resides in the improved construction of this spindle and in the provision of certain means in connection therewith.

The spindle consists of the boss 3, and the conically tapered extension 4. The boss which by a pin 5 or the like is pivotally secured in the side walls 1^a of the shuttle 1 is provided with a longitudinal bore 6 and the conical extension 4 with a longitudinal recess or slot 7, which extends from the bore 6 to the reduced end of the extension 4. Inte-

gral with or suitably secured to the said reduced end of the extension are cylindrically curved flaps or strips 8, which extend longitudinally toward the boss 3 and over the outer margins of the recess or slot 7. On their inner surfaces and at a point near the forward end of the recess 7 the strips are formed with opposite cam-shaped or tapered projections or noses 8^a, 8^b, which engage into the recess 7. The strips are resilient and have the tendency to expand outward beyond the margins of the recess 7, being however capable of contraction by the slightest pressure. When in compressed state, these strips will cover the recessed portion of the extension or spindle 4 (Fig. 5). The conical tube or sleeve 9 forming the bobbin B is adapted to be slipped over the said extension and its longitudinal flaps or strips 8.

Slidably mounted in the bore 6 of the boss 3 is a rod 10, the rear end of which is formed with a rounded head 11. Integral with or suitably secured to the forward end of said rod is a forwardly tapered bar 12, which extends longitudinally through the recess 7 of the spindle 4. The length of this bar is such that as the rod 10 is pushed forward, as will be presently described, the forward end of the bar 12 will enter the space 13 between the two cam-shaped or tapered noses 8^a, 8^b and in acting thereon will expand the flaps or strips 8. By this expansion the conical tube or sleeve of the bobbin, which has been previously slipped over the extension 7 and loosely sits on it, becomes tightened on the spindle and cannot be removed therefrom until the bar 12 is again withdrawn. The rod 10 is actuated by a spring 14, which has the tendency to withdraw it, so as to release the flaps or strips 8.

Within the hollow of the shuttle at the rear of the rounded head 11 is rotatively mounted a cam body 15, which by lateral arms 16 is connected to a cross pin 17 guided in longitudinal lateral grooves 18 in the boss 3. By these arms the cam body 15 is always held in operative position relative to the rounded head 11.

As the spindle S is swung downward, so as to be brought in proper position (Fig. 2) within the shuttle, the cam body 15 engages the rounded head 11 at the rear of the rod 10 and pushes the latter inward against the tension of the spring 14, thereby causing the expansion of the flaps or strips 8 as de-

scribed above. The bobbin B on which the yarn Y is wound (Figs. 1, 2 and 3) is slipped onto the spindle S, while the latter is held in a somewhat raised position, as indicated by dotted lines in Fig. 2. After the adjustment of the bobbin, which now rests loosely on the spindle, the latter is returned into the shuttle, by grasping the rear end of the rod 10 and swinging it rearwardly and upwardly and forcing it inwardly to contact with the cam body 15. The latter by friction is caused then to swing around whereby it pushes the rod 10 inwardly, and causes the resilient flaps or strips to frictionally engage the bobbin B, securing it in position (Figs. 4 and 6).

19 denotes a spring plate, whereby the spindle S is held in position within the shuttle.

It will be seen that in this manner no force need be exerted on the weft or bobbin and the latter is thus well preserved.

It is understood that various modifications may be made in the construction and arrangement of the different parts, without deviating from the principle of my inven-

tion and I, therefore, do not restrict myself to the particular construction described and shown.

What I claim and desire to secure by Letters Patent is:

In a shuttle, a longitudinally recessed spindle pivotally supported in said shuttle, resilient members extending from the free end of said spindle longitudinally to and over the recessed portion of the latter and having projections engaging the said recessed portion, a spring actuated bar longitudinally slidable within the said recessed spindle and adapted to operate said resilient members, a cam pivotally secured in the shuttle and members connecting said cam to said sliding bar, said cam being adapted to automatically operate the sliding bar on the lowering of the said spindle into the shuttle.

In testimony whereof I affix my signature in presence of two witnesses.

CHS. POMMIER.

Witnesses:

JOHN T. CARMODY,
MAX D. ORDMANN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."