

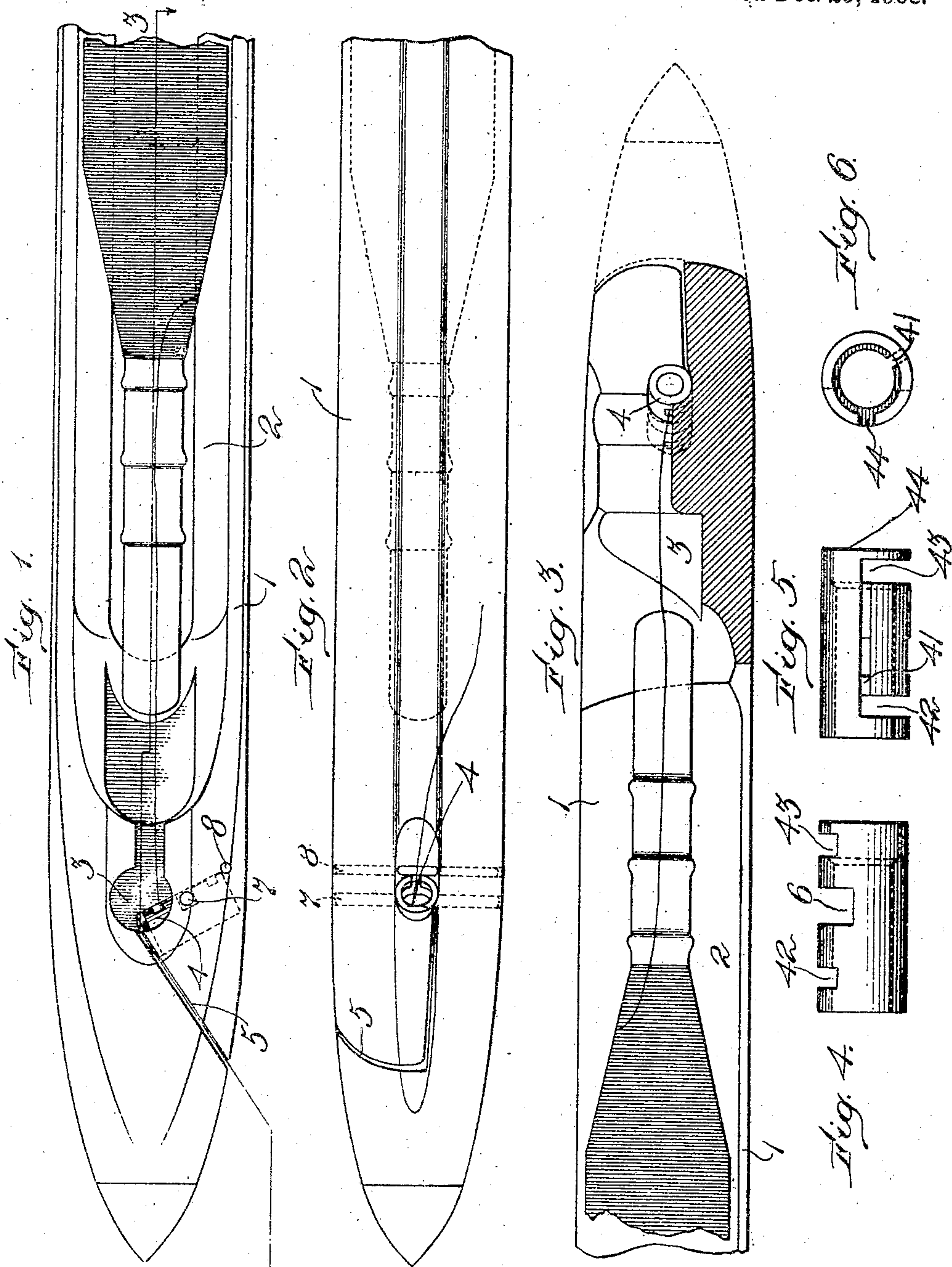
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SHUTTLE.

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Patented Dec. 29, 1908.



Witnesses:

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UNITED STATES PATENT OFFICE.

JEAN BAPTISTE DAUDELIN, OF FALL RIVER, MASSACHUSETTS.

SHUTTLE.

No. 908,211.

Specification of Letters Patent.

Patented Dec. 29, 1908.

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To all whom it may concern:

Be it known that I, JEAN BAPTISTE DAUDELIN, a citizen of the United States, residing at Fall River, county of Bristol, and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Shuttles, of which the following is a specification.

This invention relates to shuttles and particularly to that class of shuttles known as automatic or hand-threading. In shuttles of this sort the thread is drawn into the eye through a threading slot and it is desired to retain the thread within the eye against the tendency exerted by the ballooning effect in the unwinding of the thread from the bobbin to work back through the threading passages, thus leaving the shuttle in an unthreaded condition. In my former patent No. 858,443 I described a shuttle of this sort in which the thread was drawn around a bushing located in the shuttle eye and lodged within the same. In my present invention I contemplate the construction of a somewhat similar shuttle in which the passages and bushings shall be so relatively constructed and disposed as to give greater assurance in the completeness of the threading and security against any dethreading effect which may be exerted while the shuttle is running in the loom. To this end I have constructed and disposed various passages so combined and correlated as to insure the effect desired in the specification which follows in which I have set forth an embodiment of my invention as illustrative thereof, and which will be more fully described therein. This embodiment is illustrated in the drawings which form a part of said specification, throughout both of which like numerals indicate corresponding parts.

In the drawings; Figure 1 is a plan view of one end of the shuttle. Fig. 2 a side view of the same. Fig. 3 a longitudinal section along the lines indicated as 3 3 in Fig. 1. Figs. 4 and 5 are side elevations. Fig. 6 an end view of my bushing removed from the shuttle.

1 is a shuttle having a bobbin chamber 2 and a transfer threading eye with which the chamber communicates by a passage 3. This passage may be omitted if desired and the chamber proper continued as such.

5 is a threading slot leading into the eye and into the bushing 4 located in said eye through the slot 41 cut from the bottom of

the bushing. The bushing 4 is preferably a tube open at both ends and provided with the longitudinal slot 41 extending throughout substantially its entire length but terminating just short of its ends, terminating in lateral branches 42 and 43. The slot 42 extends circumferentially and is adapted to be located at the inner end of the threading eye while the slot 43 is disposed about the bushing preferably in the same direction with the slot 42, the same being in most cases rearwardly of the shuttle and on the opposite side of the bushing from the shuttle point at the end in which the eye is located.

44 is a longitudinal slot parallel with the slot 41 but connecting a lateral or circumferential slot 43 with the outer end of the bushing. As will be seen by referring to Fig. 6, the internal bore of the bushing 4 is slightly enlarged at its outer end back to the inner edge of the slot 43. This exposes the upper edge of the slot 41, which appears partly in elevation and partly indicated by dotted lines in Fig. 6. By thus exposing the slot 41, a tool with a fin may be entered to engage said slot 41, so that the bushing may be adjusted.

6 is a slot or groove in the side of the bushing adapted to receive a pin 7 driven through the shuttle body to prevent the dislodgment of the bushing in the eye.

8 is a guard pin or deflecting bar also set in the body of the shuttle and passing through the outer portion of the shuttle-eye perpendicularly thereto. The slot 44 emerges just behind this bar 8 and is covered thereby so that a thread having once risen through the slots 41, 42, 43, 44 will be held out of contact with the walls of the bushing and be consequently prevented from again entering these slots, and particularly the slot 44, and thus prevented from becoming unthreaded.

The operation of my device will therefore be as follows: When the thread is drawn down through the slot 5 it will pass under and rise in the slot 42. As the thread is drawn back beneath the eye it will work up through the slot 41 until it reaches the slot 43 under which it will be again deflected until it emerges through the slot 44 behind the bar 8 which causes it to be lifted clear of the walls of the bushing. In this position, the thread will be suitably and evenly delivered without the possibility of its working back through the threading passages.

Various modifications may obviously be made in the extent and position of the slots and the length of the bushing and in other details of structure, all without departing from the spirit of my invention.

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

1. In a shuttle, a bobbin chamber, a transverse threading eye, a bushing in said eye and having a longitudinal slot throughout a part of its length terminating just short of the ends thereof, and a circumferential slot at both ends of said longitudinal slot, the slot at the outer end connecting with a second longitudinal slot out of line with said first named longitudinal slot, and threading slots in said shuttle leading to said bushing slots.

2. In a shuttle, a bobbin chamber, a threading eye, a bushing in said eye and having a longitudinal slot throughout a part of its length terminating just short of the ends thereof, and a circumferential slot at both ends of said longitudinal slot, the slot at the outer end connecting with a second longitudinal slot out of line with said first named longitudinal slot and threading slots leading below said bushing and around its inner end to communicate with said bushing slots.

3. In a shuttle, a bobbin chamber, a threading eye, a tubular bushing in said eye open at both ends and having a longitudinal slot throughout a part of its length and circumferential slots at its ends, one of said

circumferential slots connecting with the end of the bushing, and threading slots in said shuttle.

4. A bushing for a self threading shuttle having a longitudinal slot throughout a part of its length and terminating just short of its ends, and a circumferential slot connecting with said longitudinal slot at the inner and outer end thereof, said slot at the outer end terminating in a passage through to the bushing end.

5. A tubular bushing open at both ends for a self threading shuttle having a longitudinal slot throughout a part of its length but terminating short of its ends in a pair of circumferential slots, that at the outer end connecting with the end of the bushing by a second longitudinal slot staggered relatively to said first named longitudinal slot, and an enlargement in the opening of the outer end to permit the insertion of a setting tool having an engaging fin for the first named longitudinal slot.

6. A tubular bushing for a self threading shuttle open at both ends and having a longitudinal slot throughout a part of its length and circumferential slots at its ends, one of said circumferential slots connecting with the end of the bushing.

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

JEAN BAPTISTE DAUDELIN.

Witnesses:

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