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E. F. CRAWSHAW.

TENSION DEVICE FOR LOOM SHUTTLES.

APPLICATION FILED JULY 6, 1904.

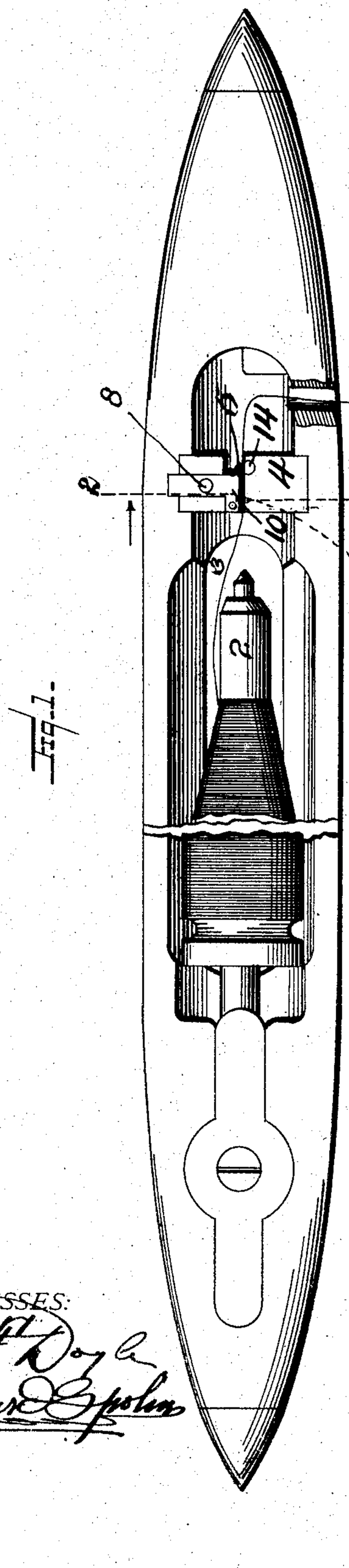

Fig. 1.

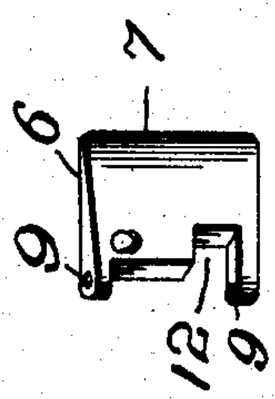

Fig. 3.

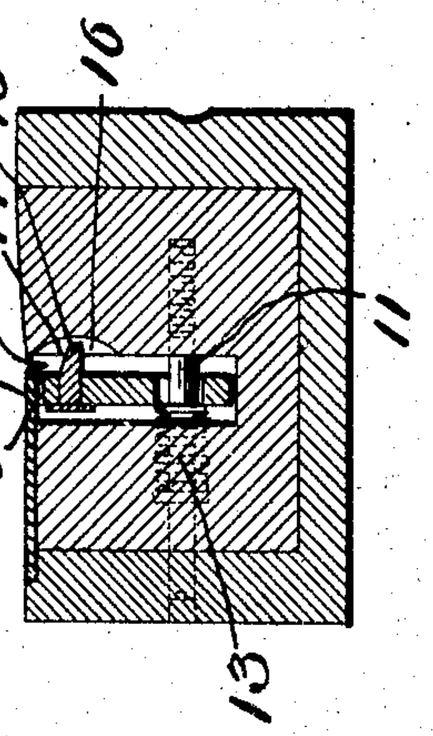

Fig. 2.

WITNESSES:

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No. 780,865. Patented January 24, 1905.

UNITED STATES PATENT OFFICE.

EDWARD F. CRAWSHAW, OF PHILADELPHIA, PENNSYLVANIA.

TENSION DEVICE FOR LOOM-SHUTTLES.

SPECIFICATION forming part of Letters Patent No. 780,865, dated January 24, 1905.

Application filed July 6, 1904. Serial No. 215,475.

To all whom it may concern:

Be it known that I, EDWARD F. CRAWSHAW, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Tension Devices for Loom-Shuttles, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to tension devices for loom-shuttles, one of the objects being to provide a device of the character described that shall be simple in construction and effective in operation and that will keep the filling-yarn from kinking or looping while at the same time furnishing a more even and uniform tension of the yarn as it passes from the bobbin to the delivery-eye of the shuttle.

In accordance with my invention the yarn or thread leaves the bobbin and goes through a passage-way in a partition constructed within the bobbin-chamber between the bobbin and the delivery-eye and engages with a spring-controlled door or pivotal member so arranged in said passage-way as to press the yarn or thread gently but firmly against a friction member arranged in said passage-way opposite the pivotal member, thus imparting to the yarn an equal tension.

I am aware that attempts have been made to remedy the evil of kinks, loops, knots, float, &c., passing from the bobbin to the cloth and rendering it defective; but thus far such attempts have been attended by indifferent success, owing to the ineffective and unsatisfactory arrangement of parts.

The details of construction by means of which I accomplish the desired results are set out in full in the specification and claims and are illustrated in the accompanying drawings, in which—

Figure 1 is a top plan view of a loom-shuttle, showing my invention therein. Fig. 2 is a sectional view on line 2 2 of Fig. 1. Fig. 3 is a detail of the spring-controlled door or pivotal member.

Like numerals of reference designate similar parts in all the figures of the drawings.

1 designates the loom-shuttle, 2 the bobbin, and 3 the yarn or thread leading therefrom past the tension device, which is set in the bobbin-chamber directly opposite the end of the bobbin and between it and the delivery-eye, through which the thread passes from the bobbin-chamber to the loom.

4 designates a partition constructed in the bobbin-chamber between the bobbin and the inner terminal of the delivery-eye and having a passage-way 5 in the center thereof. 6 designates a door or pivotal member, which is provided with an outer rounded edge 7. This pivotal member is secured in the passage-way 5 by means of a rod or pin 8 passing through the holes 9, said pin being secured in the partition by the lower end passing into a hole in the floor of the passage-way 5 and the upper end passing into a hole in the overhanging top plate 10. A rod 11 passes across the passage-way 5, near the bottom thereof, and through an aperture 12, made in the door or pivotal member 6, as shown. A helical or other suitable spring 13 is held in place by said rod 11 and presses against said pivotal member 6, holding the rounded or free end 7 gently but firmly against the thread or yarn 3, which passes from the bobbin between the rounded edge of said pivotal member and a friction member 14, arranged in the passage-way opposite the pivotal member. The pivotal member 6 is also provided with a projecting lug 15, which prevents the escape of the yarn or thread 3 from the passage-way as it goes from the bobbin to the delivery-eye. A niche 16 is cut in the perpendicular edge of said passage-way, as shown, to admit said lug 15.

In operation the yarn 3 leaves the bobbin 2 and on its way to the loom goes through the passage-way 5, where it engages with the pivotal member 6, which exerts sufficient force against it to secure the required tension. If a kink or loop occurs in the yarn, the pressure of said pivotal member removes that obstruction, which would otherwise pass to the cloth, causing defective weaving.

While I have described and illustrated a preferred embodiment of my invention, it will be apparent that changes may be made in the

form and arrangement of parts without departing from the principle or sacrificing any of the advantages of the invention.

Having thus described my said invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a tension device for loom-shuttles, a partition in the bobbin-chamber having a passage-way therethrough, a pivotal member secured at one side of the passage-way, a lug on said pivotal member, a friction member arranged at the side of the passage-way opposite the pivotal member, and a spring arranged to engage with and operate the pivotal member, substantially as described.

2. In a tension device for loom-shuttles, a partition arranged in the bobbin-chamber between the bobbin and the delivery-eye, and having a passage-way therethrough, a top plate overhanging the passage-way, a pivotal member arranged in the passage-way, a lug secured to the pivotal member near the top thereof, a spring engaging with the pivotal member, and a friction member arranged at the side of the passage-way opposite the pivotal member, substantially as described.

3. In a tension device for loom-shuttles, a partition constructed in the bobbin-chamber between the bobbin and the delivery-eye, and having a passage-way therethrough, a pivotal member arranged in the passage-way, a lug secured to the pivotal member near the top thereof, a spring engaging with the pivotal member, a rod crossing the passage-way near the bottom thereof and arranged to hold the spring in place, and a friction member arranged in the passage-way opposite the pivotal member, substantially as described.

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

EDWARD F. CRAWSHAW.

Witnesses:

JOSEPH LEWIS,

FRED A. LANDER.