(No Model.)

H. BARDSLEY.

LOOM SHUTTLE.

No. 325,721. Patented Sept. 8, 1885.

Fig. 1.

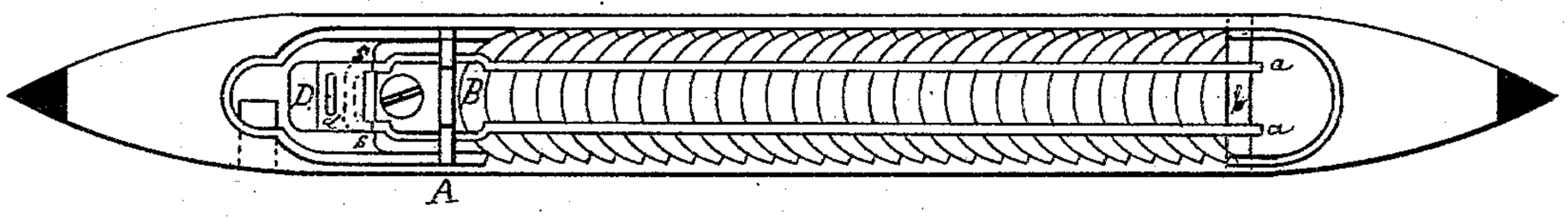

Fig. 2.

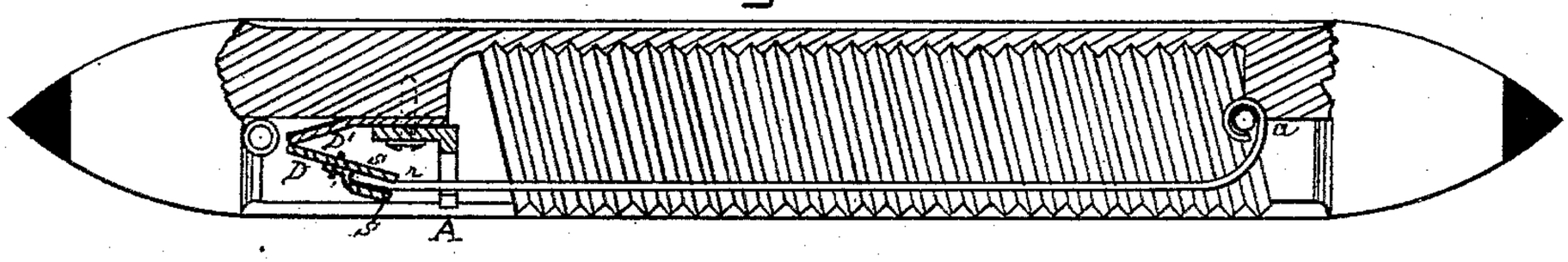

Fig. 3.

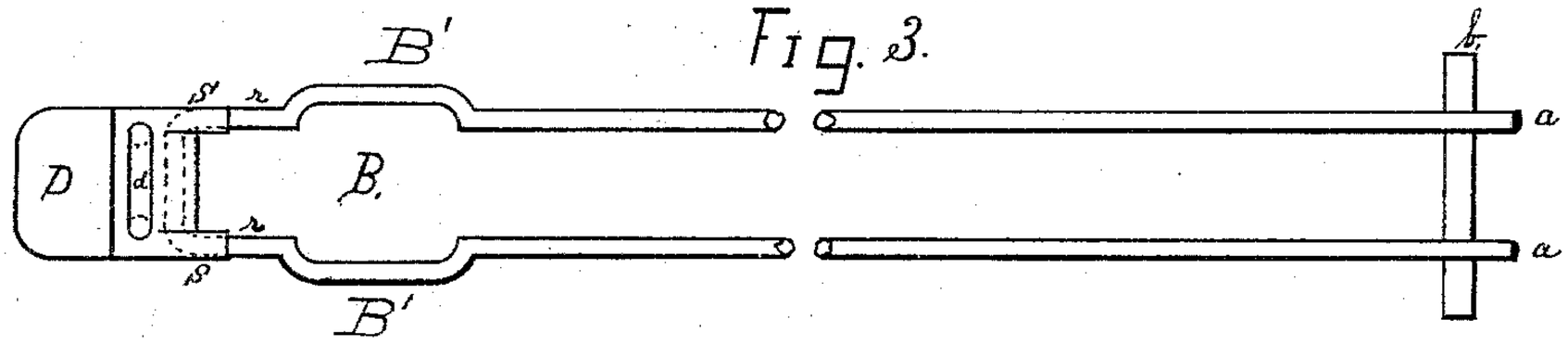

Fig. 4.

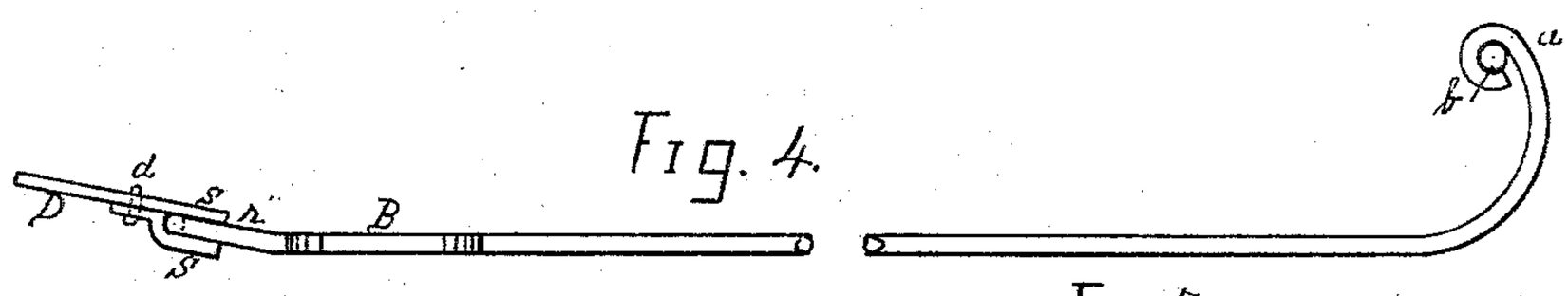

Fig. 5.

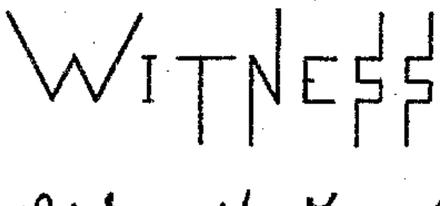

Fig. 6.

Fig. 7.

WITNESSES.

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HENRY BARDSLEY, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO GEORGE BROOKS & SON, OF SAME PLACE.

LOOM-SHUTTLE.

SPECIFICATION forming part of Letters Patent No. 325,721, dated September 8, 1885.

Application filed December 4, 1884. (No model.)

To all whom it may concern:

Be it known that I, HENRY BARDSLEY, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Loom-Shuttles, of which the following is a specification.

My invention relates to a class of loom-shuttles in which the weft used in them is wound in form of a cop, and said weft or cop is placed in the shuttle without a skewer or spindle, the inner sides of the shuttle being corrugated and the cop being held in place by a "binder."

The first part of my improvement relates to the binders; and it consists in forming a binder out of spring-wire in such form and shape that it may be readily used in combination with a catch or lock to securely hold the cop in the shuttle while "picking" through the warp-yarns.

The second part of my invention relates to the tension or friction regulating devices for regulating the friction on the weft-yarn as it is run out of the shuttle; and it consists in the combination, with the spring-wire binder, of a yielding piece of gum, leather, or other suitable yielding substance, as will be hereinafter described, and illustrated in the accompanying drawings, in which—

Figure 1 is a top view of a loom-shuttle with my improvements. Fig. 2 is a side view of the same, partly in section. Fig. 3 is a top view of the cop-binder. Fig. 4 is an edge view of the cop-binder. Fig. 5 shows views of that part of the friction or tension regulating device which is fixed on the wire binder. Fig. 6 shows views of that part of the friction or tension regulating device which is fastened to the shuttle-body. Fig. 7 shows views of the lock or catch for holding down the wire cop-binder.

Similar letters refer to similar parts throughout the several views.

Previous to my invention the cop in this class of shuttles has been held in the shuttle by a gum strap or a strip of spring-steel.

My improvements are constructed as follows: The binder B is made from spring-wire—say about No. 12—which is bent to form two prongs. These prongs are bent out at B', so as to make the binder wider at B than the other part, and the end of each prong is bent to curve from the straight line of the binder. On each end is turned an eye, *a a*. The binder is connected to the body of the shuttle by pin *b*, passing through the eyes *a a*, on which pin the binder is made to hinge. The holding-catch A is made from plate-iron—say hoop-iron about one-sixteenth of an inch thick—which is cut so as to form two inward catches. A small hole is punched or drilled in the plate, and the plate is then bent to form a right angle. The catch-plate A is fastened to the body of the shuttle by a small wood-screw. The friction-plates D and D' are made of thin sheet-gum—such as is used for steam-packing—say about one-sixteenth of an inch thick. The plate D is cut and slitted, as shown in Fig 5, at its middle, so that when it is bent over the loop end of the binding-wire B, to which it is fastened by a small staple, *d*, the parts S S will rest on the binder-wire at *r r* and prevent the plate D from turning on the loop end of the binder-wire B. The plate D' is made from the same material as plate D. It is first cut nearly square. Then two of the corners are cut to make it round on that end. A small hole is punched in it, and through this hole passes the wood-screw that holds the catch A to the body of the shuttle, and by this screw and catch the plate D' is connected to the shuttle-body.

The plates D and D' may be made of stiff leather, paper, or other suitable material, and in some cases a small bunch of bristles may be fastened on the loop, or a bunch of worsted yarn may be used.

The method of using my improvements is as follows: The cop is pressed into the shuttle, the weft-thread put through the weft-eye, and the binder is closed down on the cop, the wires at B being pressed together and forced under the catches of the plate A. This brings the plates D and D' together, and they give the proper friction to the weft-yarn as it passes to the shuttle-eye from the cop. By bending and setting the wire of the binder at *r r* any amount of friction may be given that will be required to make a good selvage, and at the same

time the friction-plates D and D′ will permit knots and lumps on the yarn to pass without breaking the yarn.

I claim—

1. The combination of a cop-binder, B, formed of wire with the pin *b*, catch A, and the body of a loom-shuttle, as shown, described, and for the purpose specified.

2. The combination of the wire cop-binder B with the pin *b*, catch A, friction-plates D and D′, and the body of a loom-shuttle, as shown, described, and for the purpose specified.

HENRY BARDSLEY.

Witnesses:
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LINTON H. FISH.