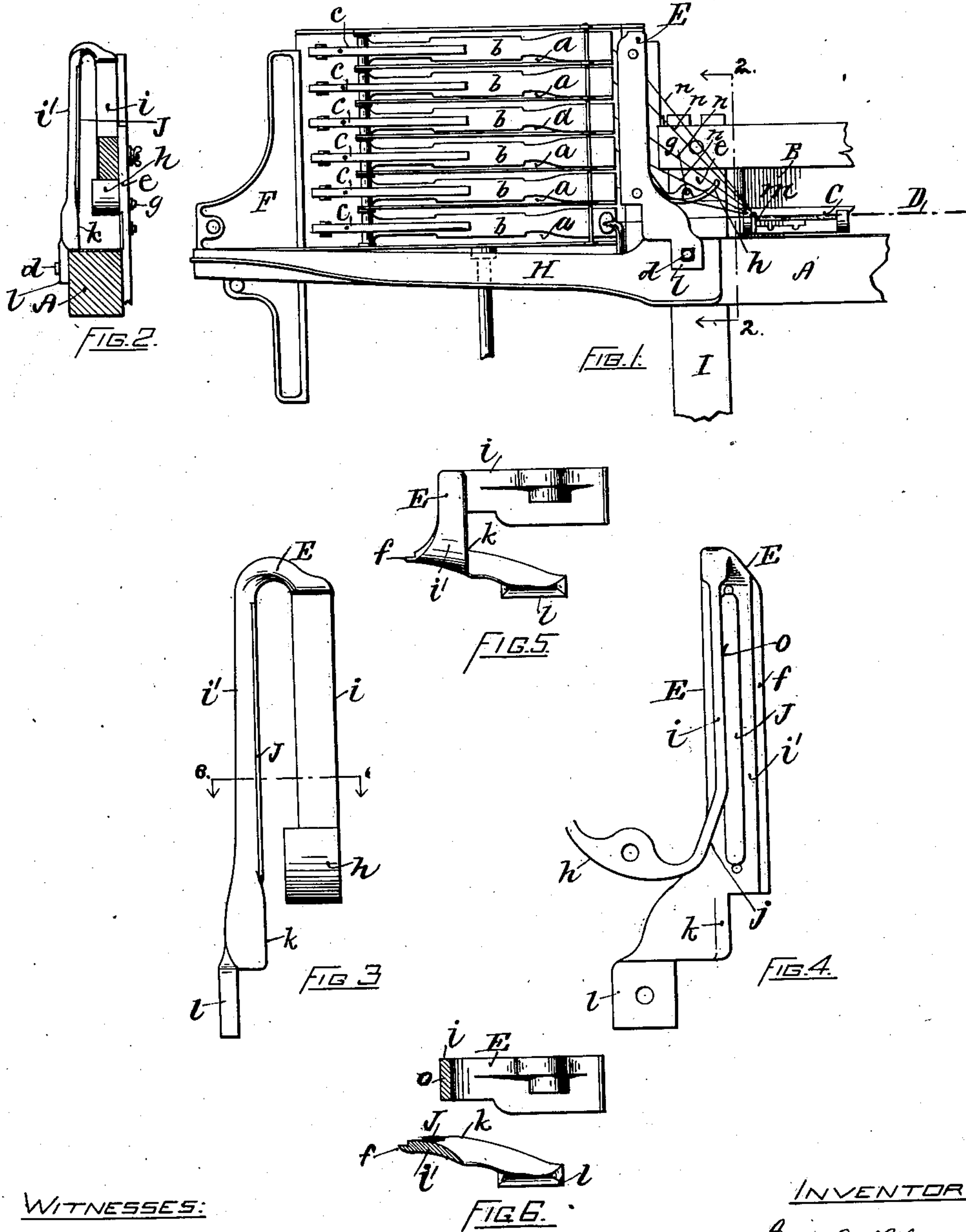


(No Model.)

J. J. NOLAN & J. H. WILKIE.
MOUTHPIECE FOR LOOM SHUTTLE BOXES.

No. 543,629.

Patented July 30, 1895.



WITNESSES:

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MOUTHPIECE FOR LOOM SHUTTLE-BOXES.

SPECIFICATION forming part of Letters Patent No. 543,629, dated July 30, 1895.

Application filed July 24, 1894. Serial No. 518,454. (No model.)

To all whom it may concern:

Be it known that we, JOHN J. NOLAN and JAMES H. WILKIE, citizens of the United States, and residents of Pawtucket, in the State of Rhode Island, have invented a new and useful Improvement in Mouthpieces for Loom Shuttle-Boxes, of which the following is a specification.

The object of our invention is to provide means for preventing the yarn of the shuttles in the raised shuttle-boxes from being drawn into the shed with the yarn of the outgoing shuttle; to prevent the straining or breaking of the yarn by engagement between the side of the traveling shuttle and the side of the shuttle-box mouthpiece and to force the shuttle into the box if it does not fully enter the same; and our invention consists in the improved construction of the mouthpiece, and in the combination therewith of a friction-cushion for holding the yarn of the raised shuttles away from the yarn of the traveling shuttle, as hereinafter fully set forth.

In the accompanying drawings, Figure 1 represents a front side view of the shuttle-boxes and the mouthpiece with a portion of the lay-beam. Fig. 2 represents a vertical section taken in the line 2 2 of Fig. 1, showing a front edge view of the mouthpiece. Fig. 3 represents an enlarged front edge view of the mouthpiece. Fig. 4 represents an enlarged rear side view of the same. Fig. 5 represents an enlarged top view. Fig. 6 represents a horizontal section taken in the line 6 6 of Fig. 3.

In the drawings, A represents the lay-beam; B, the reed; C, the loom-temple, and D the line of the web. The mouthpiece E is provided with a recessed lip *f*, which serves to guide the up-and-down movement of the forward edge of the drop-shuttle boxes *a a*, in which the shuttles are held by the shuttle-binders *b b*, the said shuttle-binders being actuated by means of the springs *cc*. The rear edge of the shuttle-boxes is guided in its up-and-down movement by the plate F, which is secured to the arm H extending outward from the lay-beam A. The mouthpiece E is secured to the lay-beam A by means of the bolt *d* and to the upward extension *e* of the lay-sword I by means of the bolt *g*, the curved surface *h*

of the rear arm *i* of the mouthpiece serving to guide the nose of the shuttle into its shuttle-box, and the inclined surface *j* of the said arm serving upon the upward movement of the shuttle-boxes to force the shuttle completely into its box, in case it has not fully entered the same from the shed, thus preventing the liability of accident to the shuttle-box mechanism, and the upright plane surface *o* of the said arm *i* serves to prevent the endwise forward movement of the shuttles from the raised boxes.

The arm *i'* of the mouthpiece E is offset backward from the attaching-ear *l* in the direction of the line of the lay-beam, so that the extreme inner surface *k* at the lower portion of the offset-arm *i'* will only bear against the shuttle when the shuttle is close up to the shuttle-box, and the backward position of the said bearing-surface serves to prevent the yarn from the shuttles in the raised shuttle-boxes from being caught and broken between the inner surface of the mouthpiece and the side of the traveling shuttle, and the yarn is prevented from being discolored by contact with the outside of the shuttle, as in the mouthpieces heretofore employed. Another advantage of this construction consists in the saving effected in the wear of the shuttles. The striking side of the end of the shuttle when passing through the ordinary shuttle-box mouthpiece is liable to engage with the forward edge of the shuttle-box, whereby the end of the shuttle becomes worn and splintered, so that in a few months it becomes useless, whereas when the bearing-surface of the shuttle-box mouthpiece is offset from the attaching-ear *l*, so as to carry the bearing-surface farther than heretofore toward the mouth of the acting shuttle-box, the shuttle is prevented from coming in contact with the forward end of the shuttle-box and the lasting qualities of the shuttle are increased.

To the inner side of the upright arm *i''* of the mouthpiece E, which extends above the line of the acting shuttle-box, is secured the friction-cushion J, preferably made of a strip of felt or woollen cloth, serving to support the threads of yarn *n*, which extend from the selvage *m* of the woven web D at the loom.

temple C to the several shuttles in the raised shuttle-boxes *a a*, and when the yarn is so supported by the cushion J it will not be drawn into the shed by entanglement with the yarn of the out-going shuttle.

By the use of our improvement the selvages of the web may be woven in a perfect manner, so that the trouble and expense of repairing the selvages as heretofore is avoided.

10 We claim as our invention—

1. The combination of the lay, and the drop shuttle-boxes, with the shuttle box mouth piece having an extension above the line of the top of the acting shuttle-box, and the friction cushion arranged in the upward extension of the mouth piece, to prevent the yarn in the shuttle boxes from being drawn into the shed, substantially as described.

2. The combination of the lay, and the drop shuttle-boxes, with the shuttle box mouth-piece having an extension above the line of the top of the acting shuttle-box, the said upward extension being provided with the inclined surface *j*, adapted to force the shuttle completely into the shuttle box, and the upright surface *o*, adapted to retain the raised

shuttles in the shuttle boxes, substantially as described.

3. The combination of the lay, and the drop shuttle-boxes, with the shuttle-box mouth-piece provided with the attaching ear *l*, the offset upright arm *i'*, adapted to guide the forward end of the shuttle boxes, and having an inner bearing surface *k* at the lower portion of the offset arm, near the mouth of the acting shuttle-box, substantially as described.

4. The combination of the lay, and the drop shuttle-boxes, with the shuttle-box mouth-piece provided with the attaching ear *l*, the upright arm *i'*, offset toward the boxes in the direction of the line of the lay beam, the inner bearing surface *k* at the lower portion of the offset arm near the mouth of the acting shuttle-box, and the friction cushion J arranged above the line of the top of the acting shuttle-box, substantially as described.

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