(No Model.)

T. J. BENSON.

SHUTTLE GUARD FOR LOOMS.

No. 432,357. Patented July 15, 1890.

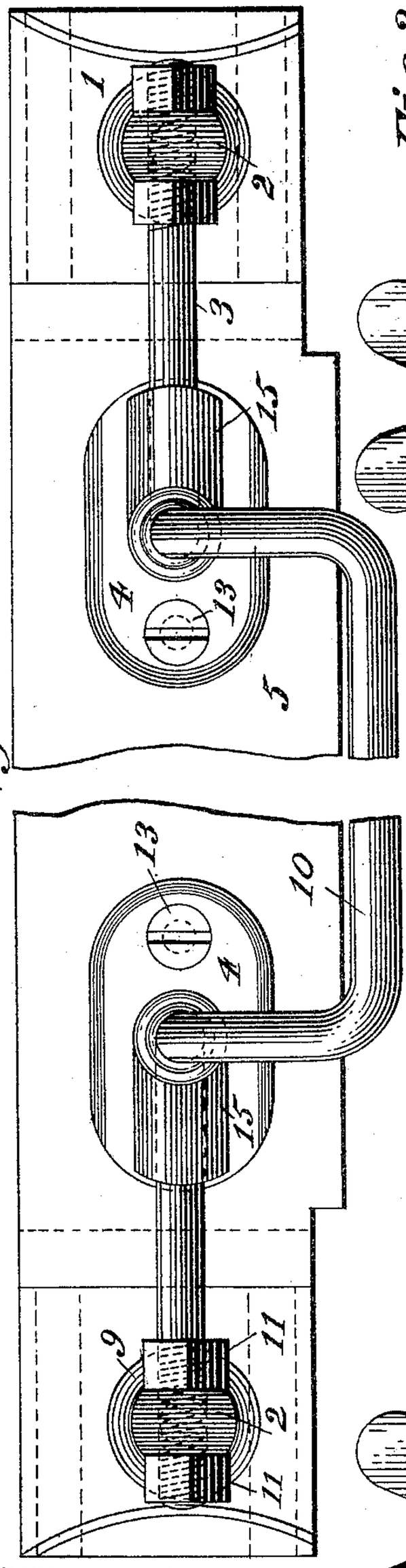

Fig. 1.

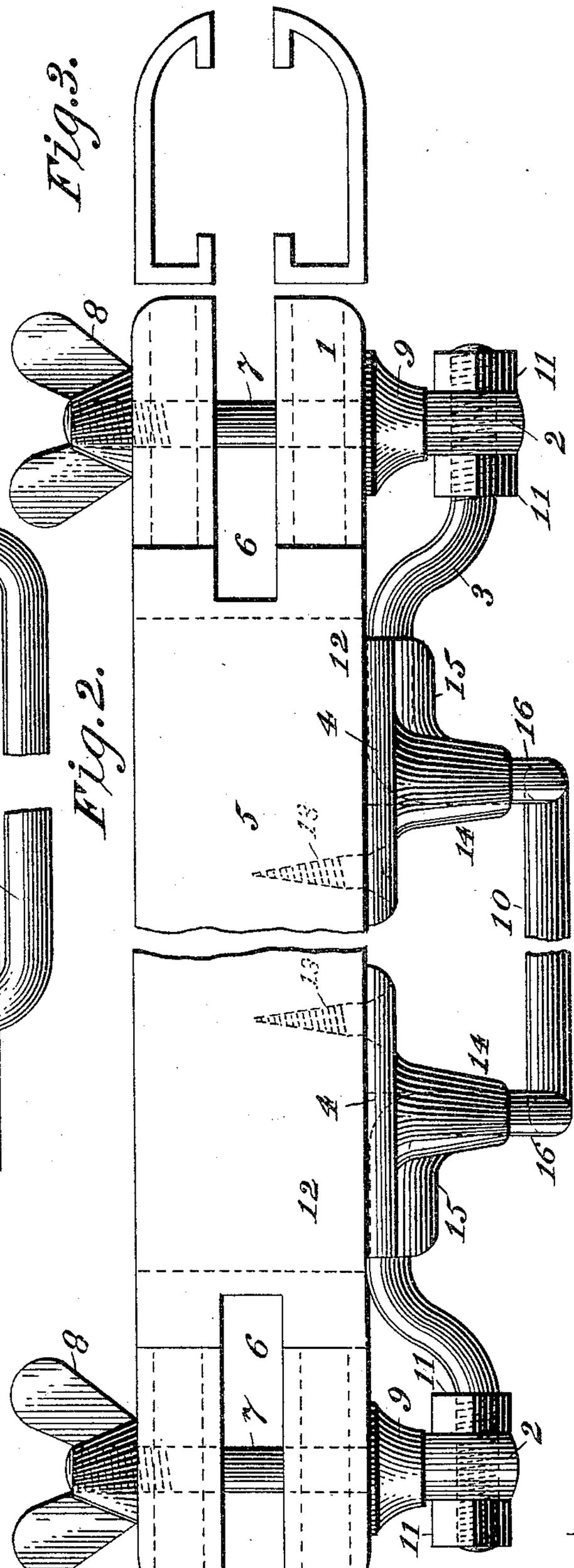

Fig. 2.

Fig. 3.

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SHUTTLE-GUARD FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 432,357, dated July 15, 1890.

Application filed January 17, 1890. Serial No. 337,267. (No model.)

To all whom it may concern:

Be it known that I, THOMAS JEFFERSON BENSON, a citizen of the United States, residing at Augusta, in the county of Richmond and State of Georgia, have invented certain new and useful Improvements in Shuttle-Guards for Looms, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a front view of the hand-rail or reed-cap of the lay of a loom with my invention applied thereto. Fig. 2 is a top view thereof. Fig. 3 shows views of the shell-washers, hereinafter described.

In the drawings, 5 is the hand-rail or reed-cap of the lay of a loom, slotted vertically at its ends at 6 6 to permit it to be placed over the upper ends of the swords of the lay, and 7 7 are the bolts passing through the ends of the hand-rail and the lay-sword to hold the hand-rail in place, wing-nuts 8 being applied to the rear ends of the said bolts to clamp the parts together.

Heretofore shuttle-guards of looms for weaving have ordinarily been constructed of bent rods formed with eyes at the ends thereof, through which screws have been passed into the wood of the hand-rails. The constant jarring and vibration occasioned in the working of the loom soon shakes the screws loose, rendering it necessary to withdraw them and drive them into a new portion of the hand-rail. To overcome this difficulty and dispose of the necessity for frequently repairing and reapplying the shuttle-guards, they have been combined with the bolts by which the hand-rail is clamped to the lay-swords. I adopt this latter mode of securing the shuttle-guard in position as the preferable one, and in practice form the bolts 7 with eyes 2 outside of the flanges 9, through which eyes I pass the threaded ends of the guard-rod 10, securing the same to the bolts by nuts 11 11, applied to said threaded ends on opposite sides of the said eyes.

To protect the ends of the hand-rail, I apply thereto shell-washers or protecting cap-pieces, suitable forms of which are represented in Fig. 3, these pieces being shaped to inclose or partially inclose the end portions of the hand-rail.

In Fig. 3 the washers are shown formed with straight portions to fit the flat sides of the projecting tongues at the ends of the hand-rail, with the upper and lower sides shaped to conform to the upper and lower edges of the said tongues, and with lips or flanges to fit against the inner sides of the tongues. Before the washers or cap-pieces are applied the tongue portions preferably are cut away, so that the cap-pieces or shell-washers shall lie flush with the rest of the surface of the hand-rail.

In order to insure steadiness, I form the guard-rod by bending the same, with rests 12 near the opposite ends thereof, which, when the guard is applied to the hand-rail, lie against the front surface thereof. At these points the rod has applied to it steadying-sockets 4, secured to the hand-rail by screws 13. Each of these sockets is formed with a tubular portion 14, extending forward from the base-piece of the socket and from the front face of the hand-rail and receiving the portions 16 of the guard-rod, which connect the rests 12 with the front part of the guard. The sockets have lateral clamping portions 15, which overlie the rests 12 and hold the same to the front face of the hand-rail.

Having thus described my invention and the best manner in which I contemplate reducing the same to practice, I claim—

1. The combination, with the hand-rail and the shell-washers applied to opposite sides of each end thereof, of a shuttle-guard rod, its holding-bolts, and the nuts applied to the said bolts.

2. The combination, with the hand-rail and the shell-washers applied to opposite sides of each end thereof, of a shuttle-guard rod, the eyebolts having flanges, as described, the nuts on the guard-rod on opposite sides of the eyes of the bolts, and the nuts on the bolts.

3. The combination, with the hand-rail and clamping-bolts, of the guard-rod formed with rests at the ends thereof, as described, and the steadying-sockets applied to the said rod at such rests.

4. The combination, with the hand-rail and clamping-bolts, of the guard-rod formed with rests at the ends thereof, as described, and the steadying-sockets formed with the tubu-

lar portions extending out from the face of the hand-rail and with the lateral clamping portions receiving the said rests.

5. The combination, with the hand-rail and the eyebolts and their nuts, of the guard-rod bent to form rests at the ends thereof, as described, the nuts for holding the said rods to the eyebolts, and the steadying-sockets formed with the tubular portions extending out from the hand-rail, and with the lateral clamping portions receiving the said rests.

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