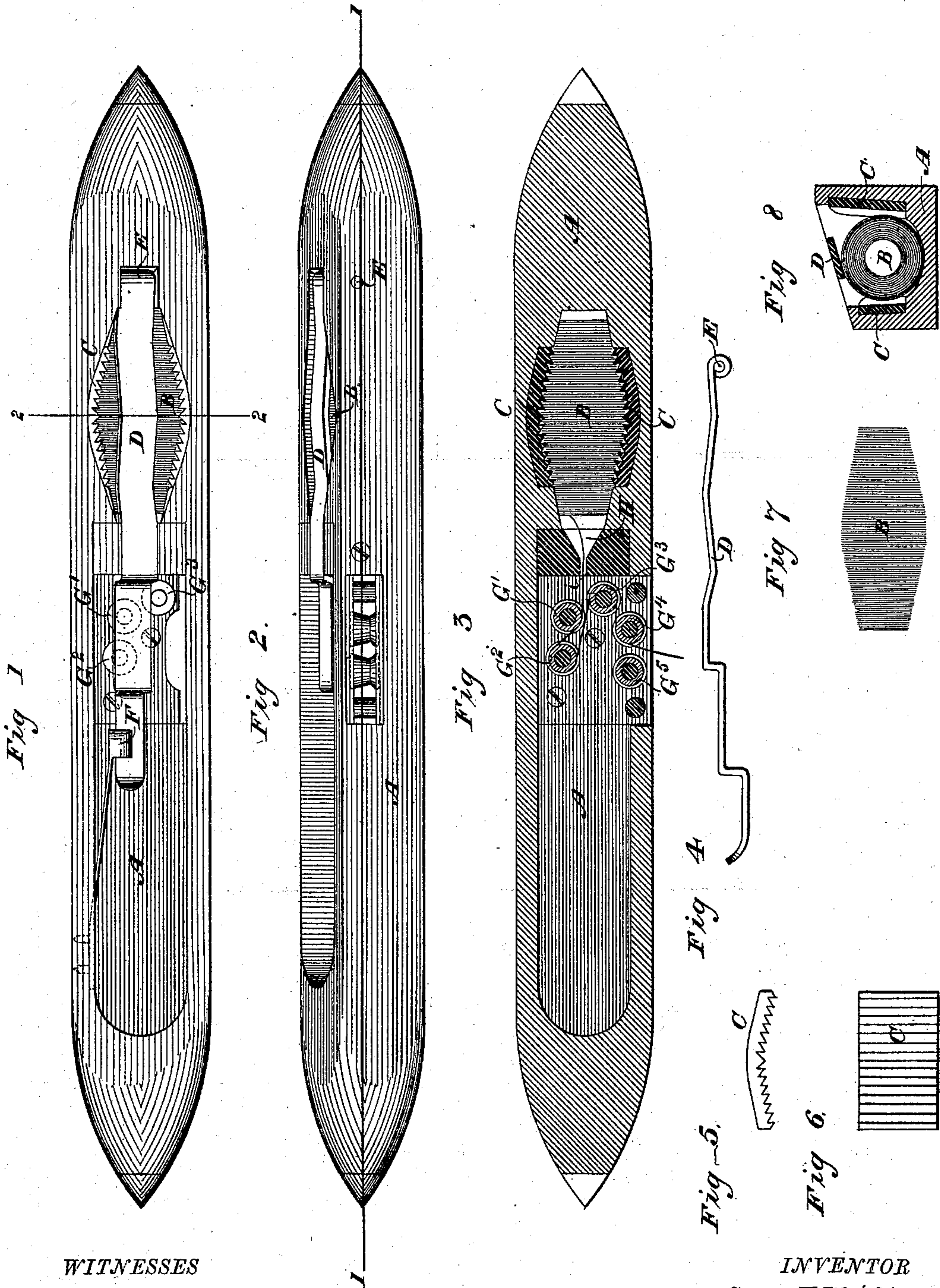


G. F. WRIGHT.
Shuttle for Weaving Wire Cloth.

No. 239,011.

Patented March 15, 1881.



WITNESSES

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GEORGE F. WRIGHT, OF CLINTON, MASSACHUSETTS.

SHUTTLE FOR WEAVING WIRE-CLOTH.

SPECIFICATION forming part of Letters Patent No. 239,011, dated March 15, 1881.

Application filed May 13, 1874.

To all whom it may concern:

Be it known that I, GEORGE F. WRIGHT, of Clinton, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Shuttles for Weaving Wire-Cloth, of which the following is a specification.

In weaving wire-cloth by means of a shuttle carrying a cop of wire the coils of which lie substantially at right angles to the axial line of the shuttle, each turn or coil of the wire necessarily acquires or takes unto itself, in being paid out from the cop, a turn of twist, by reason of which the wire tends to resume the spiral form in which it exists on the cop, instead of remaining in the straight line in which it should properly pass from the shuttle and lie in the shed, and will kink the wire and spoil the cloth.

My invention is based upon the discovery that this twist can be effectually disposed of for all practical purposes by swaging it directly into the body of the wire as it passes from the cop and before leaving the shuttle; and this end I attain by the use of a shuttle provided with a cop-case to contain the wire, and with swaging-rolls, around which the wire passes as it leaves the shuttle, whereby the twists of the wire are swaged into the body thereof as it is fed from the cop.

The subject-matter claimed is hereinafter specially designated.

In the accompanying drawings, Figure 1 is a plan or top view of a shuttle embodying my invention in the best way now known to me. Fig. 2 is a side elevation thereof; Fig. 3, a horizontal longitudinal section therethrough on the line 1 1 of Fig. 2. Fig. 4 is an edge view of the cover of the cop-case. Fig. 5 is an edge view, and Fig. 6 a face view, of one of the jaws of the cop-case. Fig. 7 is a side view of the cop of wire; and Fig. 8 is a horizontal transverse section through the shuttle and cop on the line 2 2 of Fig. 1.

The body A of the shuttle is hollowed out to form a chamber or case for the reception of the wire cop B, which is, by preference, made of a barrel or buoy shape, for a purpose hereinafter described, and so as to unwind from within.

The side walls of the cop-case are lined with jaws C, having perpendicular ratchet-shaped

serrations on each side of their central line, with the teeth pointing inward. The contour of the longitudinal section of these jaws corresponds with that of the wire cop, as shown in the drawings, so that they clasp the cop on a longitudinal central line. The bottom of the cop-case is likewise hollowed out to conform to the contour of the cop, which is held in its case by a spring-cover, D, hung at one end on a pin, E, and locked in position by a spring-latch, F, at its opposite end.

The cop, it will be observed, is wound from end to end in coils decreasing in diameter as they recede from the middle of the cop toward its ends, so that its exterior has the contour of two frustums of cones placed base to base. As the bottom, the side jaws, and the cover of the cop-case all conform to the shape of the cop, and as the teeth of the serrated jaws are in close contact with the exterior of the cop, and as the wire is unwound from the interior thereof, the cop is securely held in a fixed position as long as any portion of it remains unwound, and the liability of the wire to entanglement is prevented, as its very elasticity or resilience tends to prevent it from unwinding too rapidly from the cop, as would be the tendency were it unwound from the exterior. The wire passes from the cop through a conical guide or funnel, H, of rawhide, (having a small outlet, i,) by the roll G', to the outer side of the roll G², around which it passes, back to the roll G³, around which it passes, and is led out between the usual delivery-rolls G⁴ G⁵. During the operation of weaving the wire is permanently strained over the rolls G' G² G³, by which means its turns or twists are swaged into the body of the wire and its spiral coils transformed into a straight line, which I have found essential to the proper weaving of wire-cloth. The rolls G' G² G³ swage and straighten the wire, no matter which way the shuttle is moving in the loom, the rolls G⁴ G⁵ being merely for the purpose of delivering the wire during the passage of the shuttle, and as such delivery-rolls are shown in the Letters Patent granted to Waters and Orr, December 12, 1871, I make no claim to them.

It will be obvious that the number and position of the swaging-rolls may be varied to suit the size and character of the wire employed, and yet retain the substantial con-

struction and operation herein described, and the swaging-rolls may be arranged to serve also as delivery-rolls.

What I claim as my invention is—

5 1. The combination of a shuttle-body for weaving wire with a cop-case or chamber to contain the wire, and with swaging-rolls, around which the wire passes after leaving the cop and before leaving the shuttle, whereby the
10 twists of the wire are swaged into its body and smooth weaving insured, substantially as described.

2. The combination, substantially as hereinbefore set forth, of the cop-case, the delivery-

rolls, and the swaging-rolls interposed between 15 the delivery-rolls and the cop, for the purposes set forth.

3. The shuttle, provided with the cop-case, constructed, substantially as hereinbefore set forth, with a concave bottom, vertically-ser- 20 rated side walls or jaws, and a hinged latched cover, all conforming to the contour of the longitudinal section of the wire cop, for the purposes set forth.

GEORGE F. WRIGHT.

Witnesses:

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C. H. WATERS.