C. K. SAWYER.

Shuttle for Weaving Wire Cloth.

No. 238,972. Patented March 15, 1881.

Fig 1

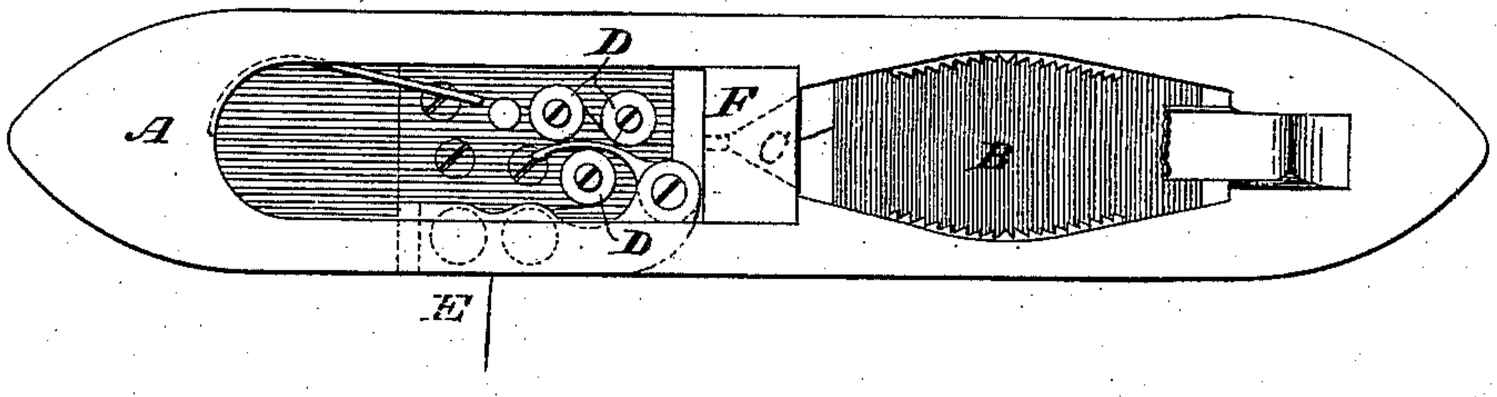


Fig 4

Fig 2

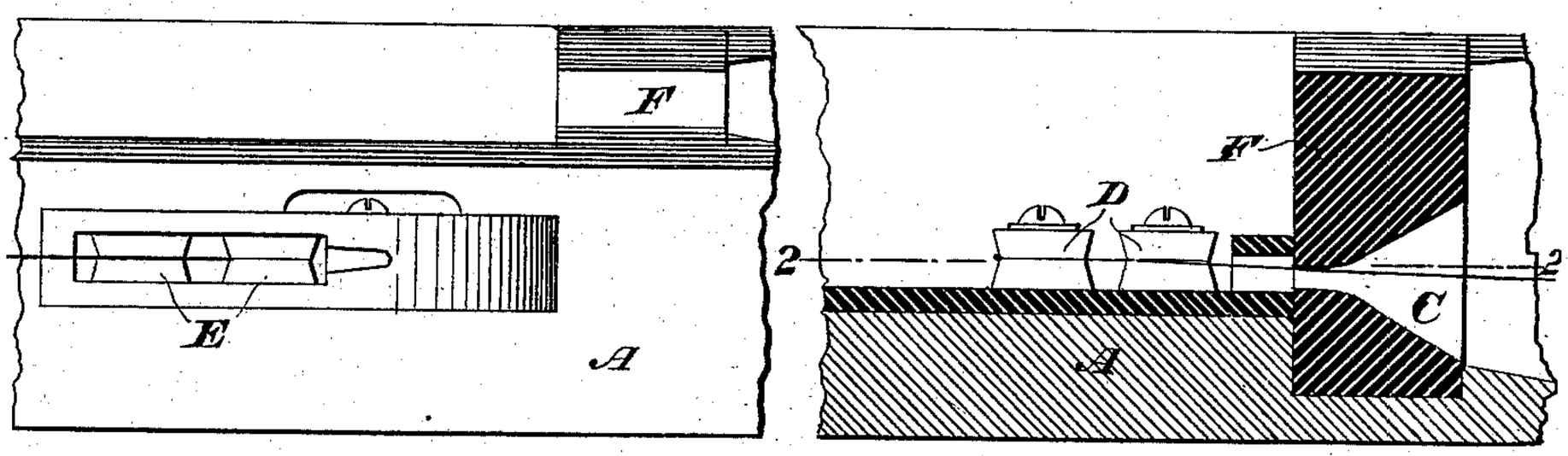
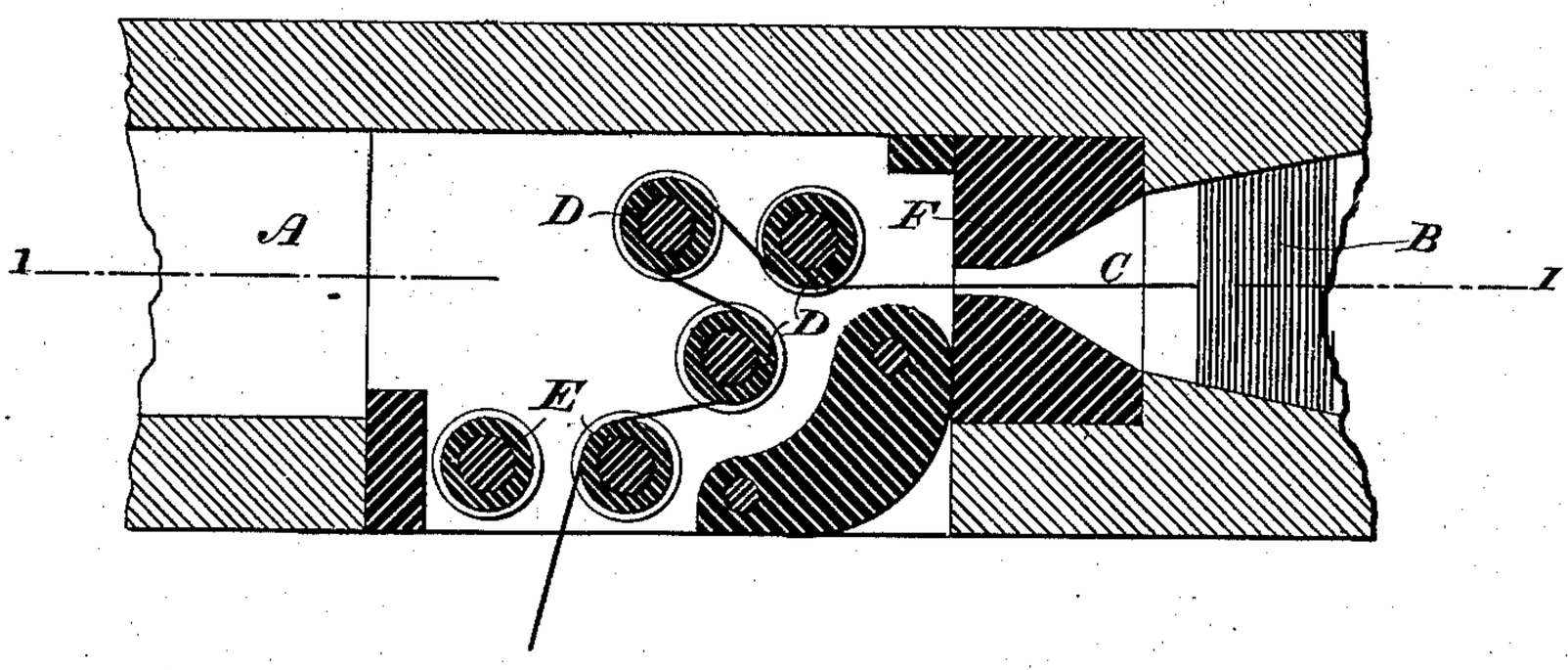


Fig 3.



WITNESSES

Wm. A. Skinkle.

John F. Dare

INVENTOR

Caleb. K. Sawyer.

By his Attorneys

Baldwin, Hopkins, & Peyton.

UNITED STATES PATENT OFFICE.

CALEB K. SAWYER, OF CLINTON, MASSACHUSETTS, ASSIGNOR TO THE CLINTON WIRE CLOTH COMPANY, OF SAME PLACE.

SHUTTLE FOR WEAVING WIRE-CLOTH.

SPECIFICATION forming part of Letters Patent No. 238,972, dated March 15, 1881.

Application filed May 22, 1877.

To all whom it may concern:

Be it known that I, CALEB K. SAWYER, 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.

My invention more especially relates to that class of shuttles in which the wire is drawn from the interior of the cop, around the axis of which it is wound helically or spirally and passed between swaging-rolls which swage the kink into the wire, and thus insure smooth weaving by obviating the tendency of the wire to resume the spiral form it occupied in the cop. If the wire between the time it left the cop and the time it reached the swaging-rolls was uncontrolled, it would, in being suddenly forced to assume a straight line, in order to pass from the cop between the swaging-rolls, be liable to get turns taken in it in the direction of its length, which would spoil the uniformity of the wire and make it liable to cut itself in two at that point.

The object of my invention is to remedy this difficulty, which end I attain by interposing between the cop and the swaging-rolls a funnel or trumpet shaped passage or conical guide, having its mouth directed toward the cop, and an opening in its smaller end of a size just sufficient to allow the wire to pass freely. By compelling the wire to pass through such a conical guide the turns of the spiral are gradually diminished in diameter, and the twist put safely into the wire as it passes finally through the guide to be "set" in the wire by the swaging operation above referred to.

In the accompanying drawings, Figure 1 represents a plan view of a wire-weaving shuttle with a holding-down bar and its spring-catch partly broken away more clearly to show the parts beneath; Fig. 2, a vertical longitudinal section through the funnel and swaging-roll plates on the line 1 1 of Fig. 3; Fig. 3, a horizontal longitudinal section therethrough on the line 2 2 of Fig. 2, and Fig. 4 is a side view of that portion of the shuttle shown in Figs. 2 and 3.

The body A of the shuttle is hollowed out to form a chamber or case for the insertion of the wire-cop B, which is, by preference, made of a barrel or buoy shape, with its spirals substantially at right angles to its axis. The wire passes from the interior of the cop through a conical guide or funnel, C, having a small outlet around the swaging-rolls D, and is led out between the delivery-rolls E, as usual. During the operation of weaving the wire is permanently strained over the rolls, 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 has been found essential to the proper weaving of wire-cloth.

The stay-block F, in which the conical guide or trumpet-shaped funnel is formed, is, by preference, made of rawhide.

The advantages of my improvements have been demonstrated by experiment, and its operation will be readily understood from the foregoing description.

I do not claim in this application the cop or the swaging-rolls *per se*, as the former constitute the subject-matter of a separate application for Letters Patent, filed by me May 9, 1877, and the swaging-rolls are not of my invention.

What I claim as my invention is—

1. In a shuttle for weaving wire-cloth, the combination, with the shuttle-body and the swaging-rolls, of a conical guide interposed between the cop and the swaging-rolls, substantially as hereinbefore set forth.

2. The combination, substantially as hereinbefore set forth, in a shuttle for weaving wire-cloth with a shuttle-body, of the conical guide through which the wire passes to straighten its spirals, swaging-rolls to swage the kink in the wire into the body thereof, and the delivery-rolls, between which the wire passes from the shuttle.

In testimony whereof I have hereunto subscribed my name.

CALEB K. SAWYER.

Witnesses:

C. M. ALLEY,

H. J. BROWN.