(No Model.) 2 Sheets—Sheet 1.

H. K. SWINSCOE.

LOOM SHUTTLE.

No. 473,677. Patented Apr. 26, 1892.

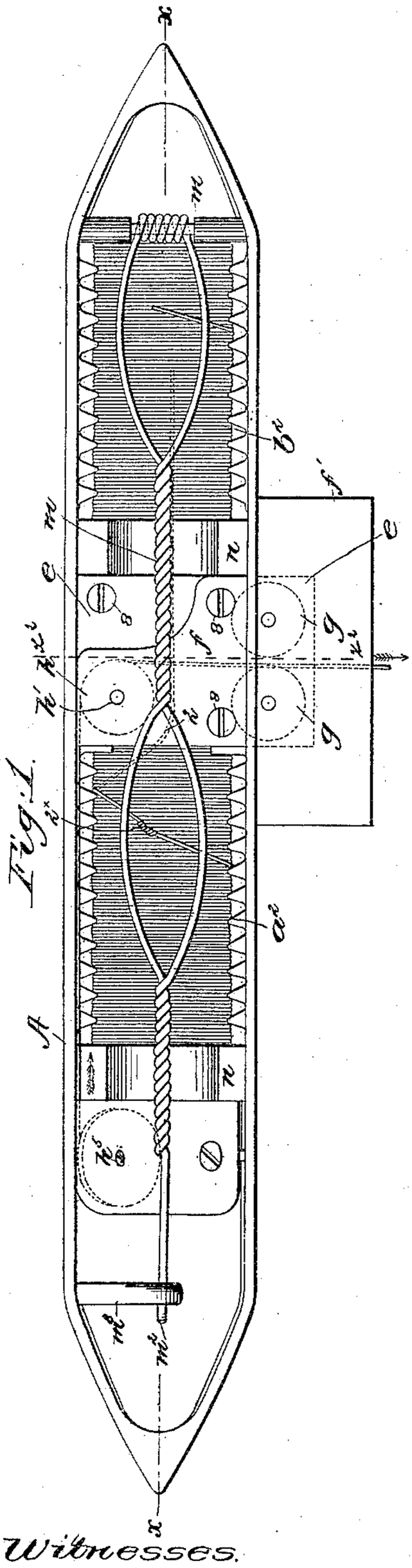

Fig. 1.

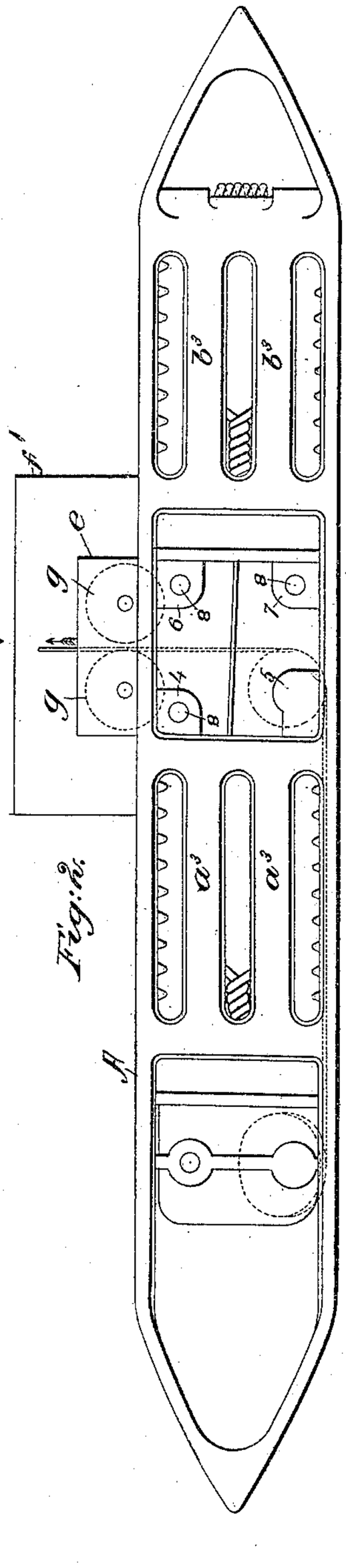

Fig. 2.

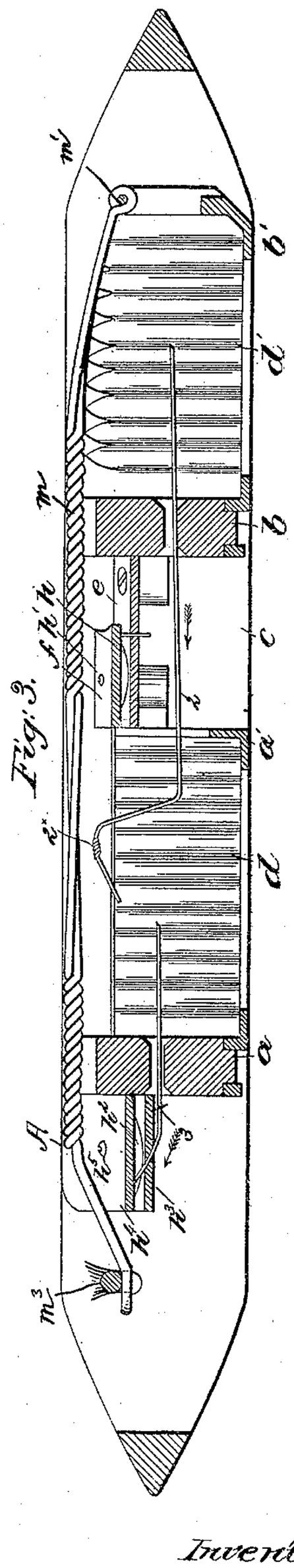

Fig. 3.

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Inventor:
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(No Model.) 2 Sheets—Sheet 2.

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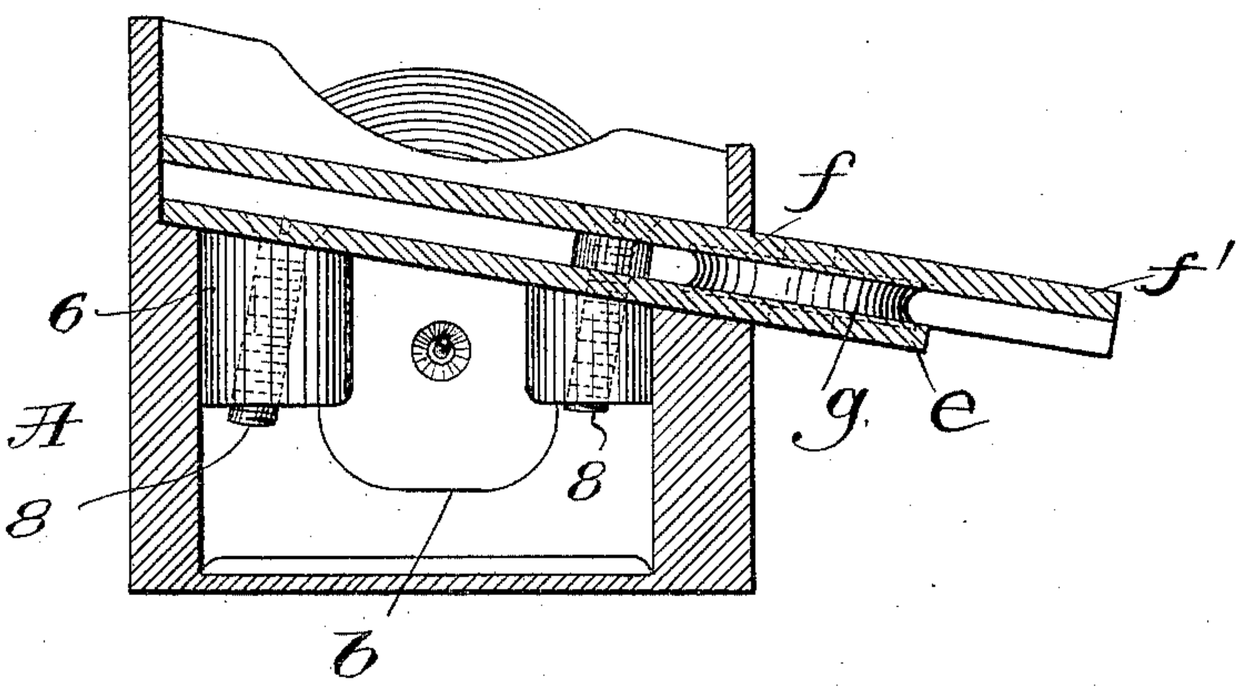
Fig 4.



Witnesses.
Louis N. Gowell
Edward F. Allen.

Inventor.
Henry K. Swinscoe.
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UNITED STATES PATENT OFFICE.

HENRY K. SWINSCOE, OF CLINTON, MASSACHUSETTS.

LOOM-SHUTTLE.

SPECIFICATION forming part of Letters Patent No. 473,677, dated April 26, 1892.

Application filed January 13, 1891. Serial No. 377,649. (No model.)

To all whom it may concern:

Be it known that I, HENRY K. SWINSCOE, of Clinton, county of Worcester, State of Massachusetts, have invented an Improvement in Loom-Shuttles, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object more particularly to improve that class of shuttle used in looms for weaving wire-cloth and other heavy fabrics or webs. In this class of shuttles a single cop of wire is ordinarily employed, and the wire is drawn off from the center of the cop about suitable guide-rolls and delivered from the side of the shuttle. When a single cop is used in a large shuttle, the cop is so large and heavy that it is handled with difficulty, and the wire being uncoiled is liable to become tangled, and in such case the entire cop has to be removed. To simplify this class of shuttle and enable smaller cops or coils to be employed—cops which will be lighter in weight and less liable to tangle—I have provided the shuttle at each side of its delivery-opening with a cop-chamber, and have placed a cop of wire in each chamber and connected the outer end of the wire of the cop first to be unwound with the inner end of the cop next to be unwound, so that the said cops are unwound in succession and delivered from the same part of the shuttle.

Figure 1 is a top or plan view of a shuttle embodying my invention; Fig. 2, an under side or bottom view thereof without the cops; Fig. 3, a longitudinal section in the line $x\,x$, Fig. 1, the cops of wire being omitted; and Fig. 4 is a cross-section of the shuttle in the line x^2, Fig. 1, looking to the right.

The shuttle-body A, preferably composed of metal, is divided by suitable partitions a a' b b' to constitute, as it were, chambers between the respective partitions a a' and b b' for the reception of the cops a^2 b^2 of wire, the said cops being formed by winding the wire into helical coils, and in practice the last coil to be unwound from the outer side of the cop a^2 is joined across the space c with the first inner coil to be unwound from the cop b^2. Fig. 3 shows this part of the wire, which I have marked 2, as extended across this space, it being supposed that the junction of the wires between the two cops is made at $2^\times$.

I have omitted the cops from Fig. 3, to thereby illustrate the serrated projections d d', which constitute the inner walls of the shuttle, they aiding in holding the surface of the wire-cops in place during the rapid movement of the shuttle; but I have herein shown a part of the wire marked 3, which is supposed to be coming from the interior of the cop a^2, it being connected at $2^\times$ to the wire 2, supposed to extend to the interior or innermost layer of coils of wire of the cop b^2.

The arrows in Figs. 1, 2, and 3 are supposed to show the direction of the wire in coming out of the shuttle and from the cops.

The bottom of the shuttle opposite the chambers containing the cops is cut away to leave cross-bars a^3 b^3, this forming a skeleton frame, which decreases the amount of metal in the shuttle, and the partitions a' and b have, respectively, lugs 4 5 6 7, which receive suitable screws, as 8, which serve to connect to the shuttle the two plates e and f, a lip f' of the plate f being extended outwardly beyond the side of the shuttle next the breast-beam of the loom farther than the end of the plate e, (shown by dotted lines in Fig. 1 and full lines in Fig. 2,) the said plates receiving between them and holding the journals of the usual rolls g g, (shown by dotted lines,) between which the wire is delivered from the shuttle into the shed, the said rolls acting in usual manner. Between these plates e and f is placed a guide-roll h, (shown in Fig. 3 in full lines and in Fig. 1 by dotted lines,) the said roll turning about a stud h', it receiving about it the wire which comes to it from about the guide-roll h^2, placed between the plates h^3 h^4, and turning about a pivot h^5, as best shown in Figs. 1 and 3.

The cops are retained in the shuttle by a holding device m, composed, as represented, of wire twisted into the form shown and pivoted at m', the opposite end m^2 of the holder being engaged and held by a stud m^3.

By employing two cops, as represented, instead of one large cop, the cops individually may be more easily handled, as they are lighter and they are less liable to be gotten out of

shape or injured by handling, and, further, as each cop is short the liability of the wire being tangled as it is pulled out from the interior of the cop is lessened, and if tangled requiring the removal of the cop. The other cop in the other chamber of the shuttle does not have to be removed. The small cops may be wound more easily and with less care than though the cop were equal to the sum of the length of the two cops. The shuttle-body is also provided with wooden blocks *n n*, which constitute cross-partitions and guides.

Instead of the particular guide-rolls employed, and about which to lead the wire from the interior of the cop out through the side wall of the shuttle, I may employ any other usual rolls commonly used in shuttles for carrying wire for weaving.

My invention may be practiced in any shuttle wherein the weft carried thereby is to be drawn from the interior of the cops wound in coils or balls.

Prior to my invention I am not aware that a shuttle has ever contained two cops or balls of weft wherein the outer end of one cop was connected with the inner end of the other cop, so that each cop might be unwound from its interior in succession, and this method of applying cops to a shuttle and unwinding them in succession constitutes part of my invention, as by such method the shuttle may be made practically to contain a larger amount of wire than when a single cop is used, and there is less liability of the wire becoming tangled, so as not to deliver properly from the shuttle.

I am aware that it is common to supply a shuttle with a cop or ball of wire and draw the same off from the interior of the cop.

I do not limit myself to using but two cops, though that is the usual practice. In some cases, where the wire is very fine and so more liable to become entangled, I employ more than two cops.

I claim—

A shuttle having compartments for the reception of two independent cops or coils of weft, combined with weft guides or rolls, one located near one end of the shuttle and another located between the spaces receiving two independent cops, whereby the weft may be delivered from the side of the shuttle near its central point from one to the other of the said cops in succession, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HENRY K. SWINSCOE.

Witnesses:

GEO. W. GREGORY,

A. S. WIEGAND.