(Model.)

C. L. SEWARD.

PLAITING APPARATUS.

No. 531,470. Patented Dec. 25, 1894.

Fig. 1.

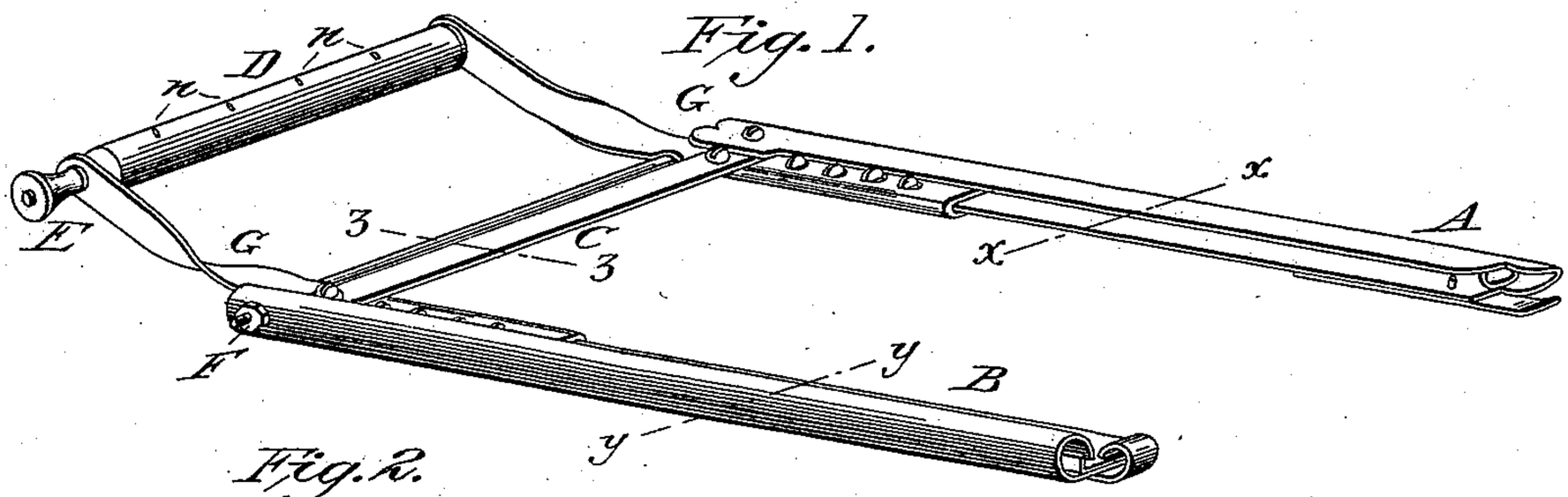


Fig. 2.

Fig. 3.

Fig. 4.

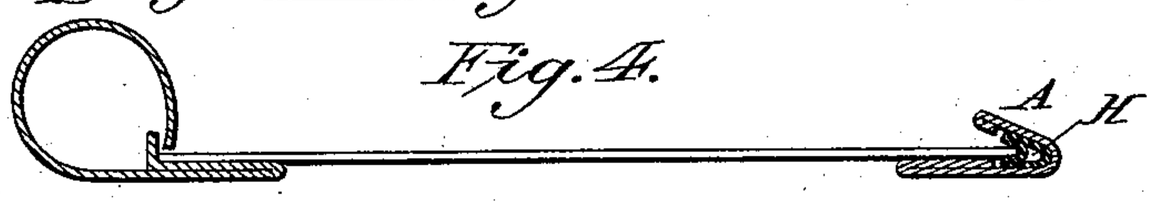


Fig. 5.

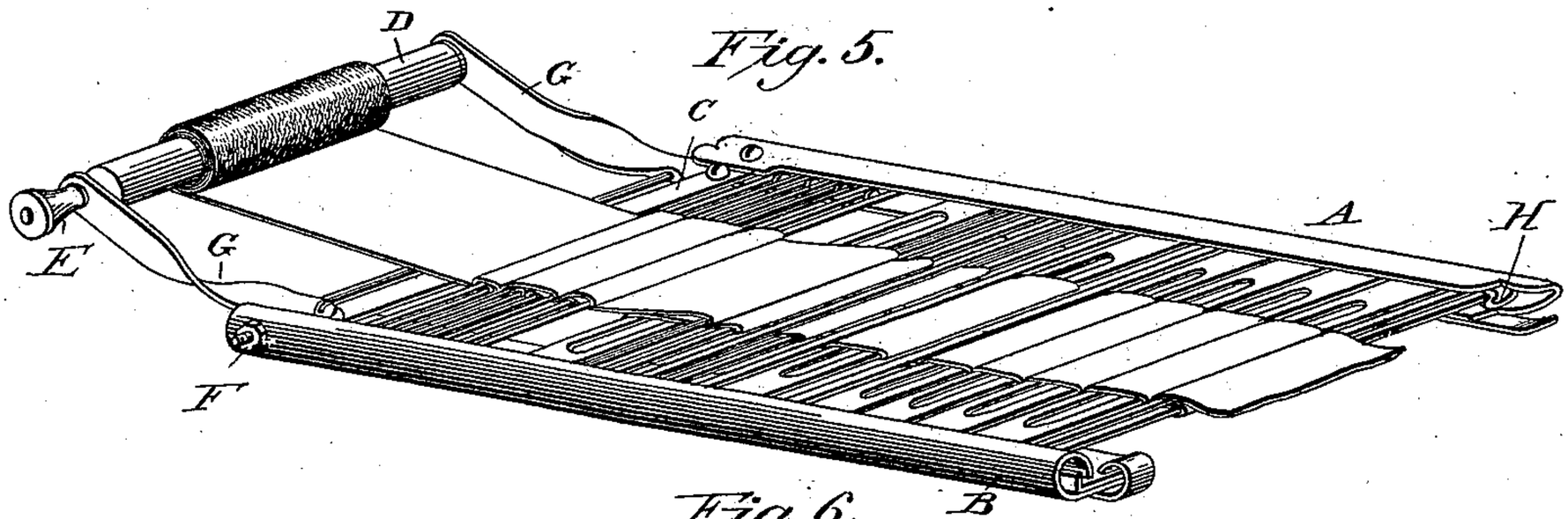


Fig. 6.

Fig. 7.

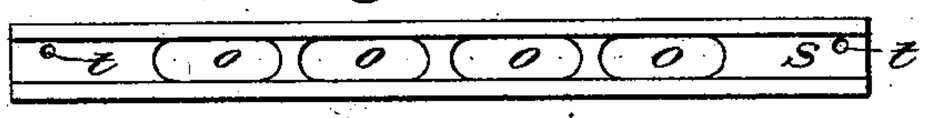


Fig. 9.

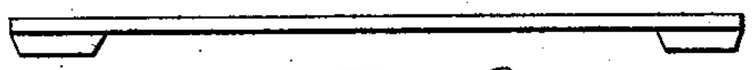
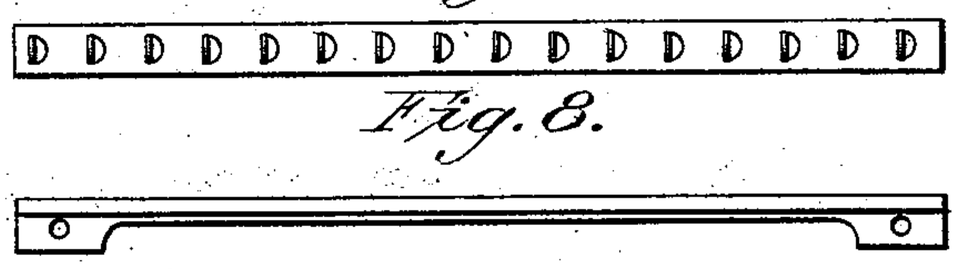


Fig. 8.



Witnesses:

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H. A. Moore

Inventor:

Charles L. Seward

UNITED STATES PATENT OFFICE.

CHARLES L. SEWARD, OF LIBERTY, INDIANA.

PLAITING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 531,470, dated December 25, 1894.

Application filed September 6, 1886. Serial No. 213,465. (Model.)

To all whom it may concern:

Be it known that I, CHARLES L. SEWARD, a citizen of the United States, residing at Liberty, in the county of Union, State of Indiana, have invented a new and useful Plaiting-Machine, of which the following is a specification, reference being had to the accompanying drawings.

The invention is a machine for forming plaits in dress goods.

The mechanism is illustrated in the accompanying drawings, in which—

Figure 1 represents the plaiting frame. Fig. 5 represents the machine in operation; Fig. 2, a cross section of base bar of frame; Figs. 3 and 4, cross sections of the side bars of the frame and showing manner of inserting blades and needles; Fig. 6, a plaiting blade; Figs. 7 and 8, starting clamps; Fig. 9, a gage.

The machine consists of a frame as shown in Fig. 1—having grooved side bars A and B attached to the base bar C and tension roller D also attached to base bar, to be operated by detached plaiting blades and needles.

The base and side bars are formed of strips of sheet metal folded and crimped into shapes shown in Fig. 1, and in cross sections in Figs. 2, 3 and 4.

The side bar A forms a groove and is comparatively flat the under side somewhat the wider. The back of the groove is filled throughout its length with a rubber tube.

The side bar B forms a locking groove, with an elevated upper lip extending upward and inclining backward in a convex curve from the front of the groove—the under side flat and somewhat the wider.

The object of the side bars being formed as stated is that the plaiting blades and needles may be quickly and easily forced into the frame directly upon the goods in the process of forming plaits. Thus one end of the blade or needle is placed against the rubber tube in the groove of side bar A—the other end laid on the elevated side of side bar B, as shown in Fig. 3, and pressed down by thumb or finger into the groove, the elevated side acting as an inclined plane forcing the blade or needle into the rubber tube which rebounds as soon as the other end of the blade or needle passes the inclined plane, and forces it back into the groove of B, and holds it there as shown in Fig. 4; also the side bar A being comparatively flat the machine when full of plaits may be turned over flat on corner of table for pressing plaits on either or both sides.

The side bar A is fixed to the base bar C at right angles by two screws or rivets. The side bar B is attached to the base bar C by one screw or rivet so that the outer end of B may be moved outward and back to open and close the machine.

On the outer end of each side bar is fixed underneath by rivets a flat spring extending out a short distance, each spring having a pin extending up through a hole near the end of the bar.

The roller D is made of wood with small hooks, *n*, *n* Fig. 1 and thumb screw E, and is attached to base bar by strips of metal twisted and bent upward, the object of which is to wind the goods to be plaited and plait it out while plaiting, the thumb screw regulating the tension to gather slack as plaits are formed, and hold the goods taut on the last plait while pressing, by tightening thumb-screw.

The blades used in operating the machine are strips of sheet metal, having folded edges and loop holes throughout their length, Fig. 6

The starting blade has a hole in each end corresponding with and fitting the spring pins at the outer end of side bars. In connection with the starting blade is used the clamp Fig. 7 being a strip of sheet metal folded with a projection at each end to pass under the folded edge of blade and clamp the goods.

The needles are pieces of round stiff steel wire, of equal size and length to fit frame. When they are used a gage is to be placed on each side bar in front of groove. These gages are strips of sheet metal, having oval tip turned up from semi oval cuts at equal distance the whole length, Fig. 9; also with the needles is used the starting clamp, Fig. 8, being a narrow strip of sheet metal folded to fit a needle and clamp the goods at starting. A projection at each end with hole to fit over the spring pins of side bars.

To operate the machine the goods are wound

around the roller the outer end fastened to starting blade, with clamp, Fig. 7, and the blade placed in out end of the frame, the end holes over the spring pins. Another blade is then thrust under the goods, and a loop of the goods thrown over the first blade, leaving the second blade loose in the loop. A third blade is placed in the frame on the goods, next to first blade. The second blade is then placed in the frame equally over first and third. The slack of the loop is then drawn up by roller, forming box plaiting. Knife plaits are formed by lapping the goods with one blade over another more or less, or with a needle over or partly over a blade.

To operate with the needles, the goods are clamped by starting clamp, Fig. 8, to a needle, and the clamp and needle placed in out end of frame, the end holes of the clamp over the spring pins. The goods are then lapped over or under one needle by another, the needles to be regulated and held in their relative position by the gage tips. In forming under plaits, form loop, and insert forward needle first.

To open the machine press spring pins from the holes of the starting blade or clamp, move side bar B outward, and blades or needles with plaits drop out.

Having thus described my invention, what I claim as new and useful is—

The combination with the blades and needles of a plaiting apparatus, of the grooved frame bar A having an elastic filling within the groove, and the opposing locking frame bar B, whereby the blades and needles are adapted to be quickly and easily inserted and removed in the process of forming plaits as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 1st day of September, A. D. 1886.

CHARLES L. SEWARD.

Witnesses:

ALBERT DAVIS,

DANIEL T. SNYDER.