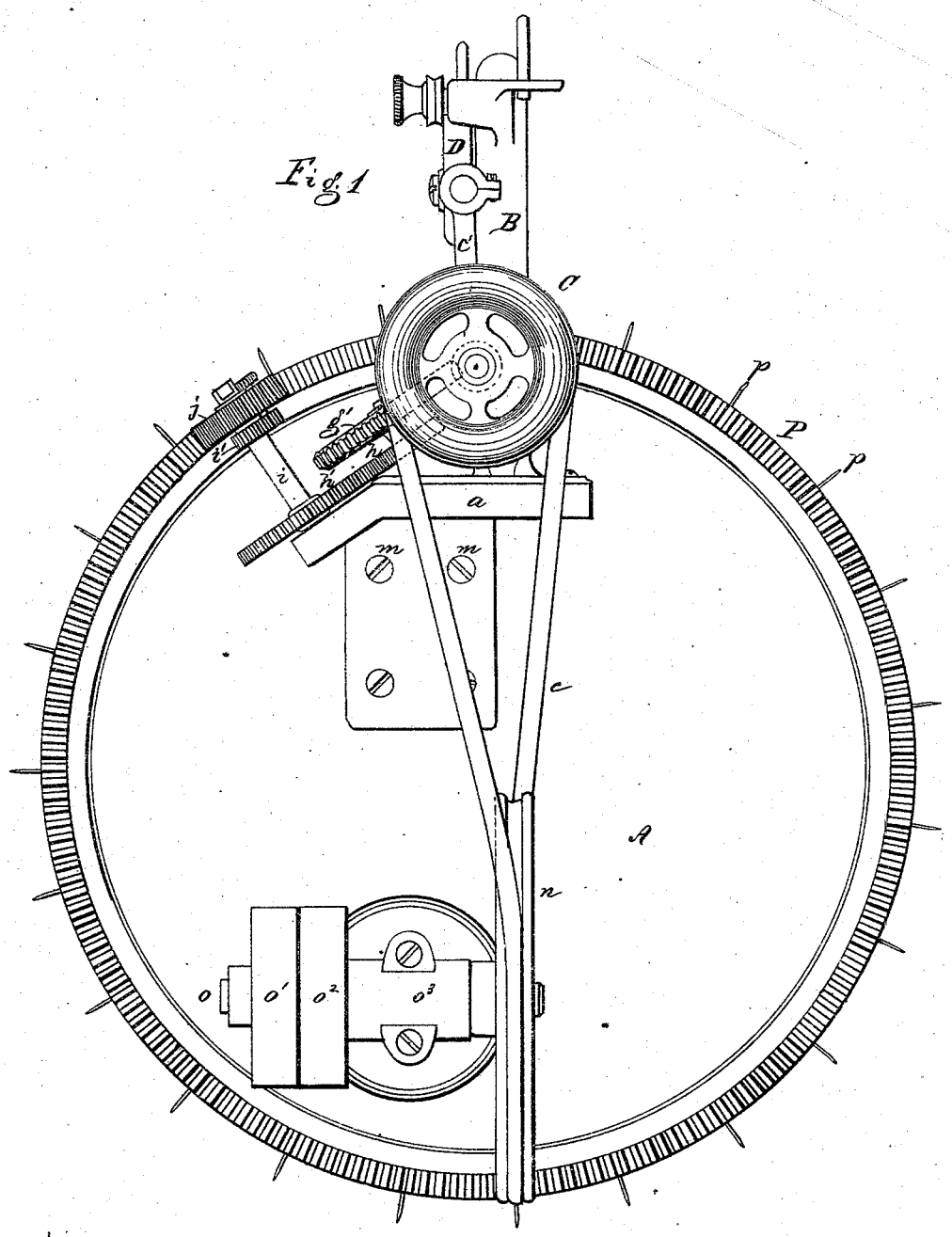
2 Sheets--Sheet 1.

A. S. DINSMORE.

Sewing-Machine.

No. 160,512. Patented March 9, 1875.

Fig. 1



Witnesses.
L. H. Latimer.
Wm. Pratt.

Inventor.
Alfred S. Dinsmore
per Crosby & Gregory
Att'ys.

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2 Sheets--Sheet 2.

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Fig. 2.

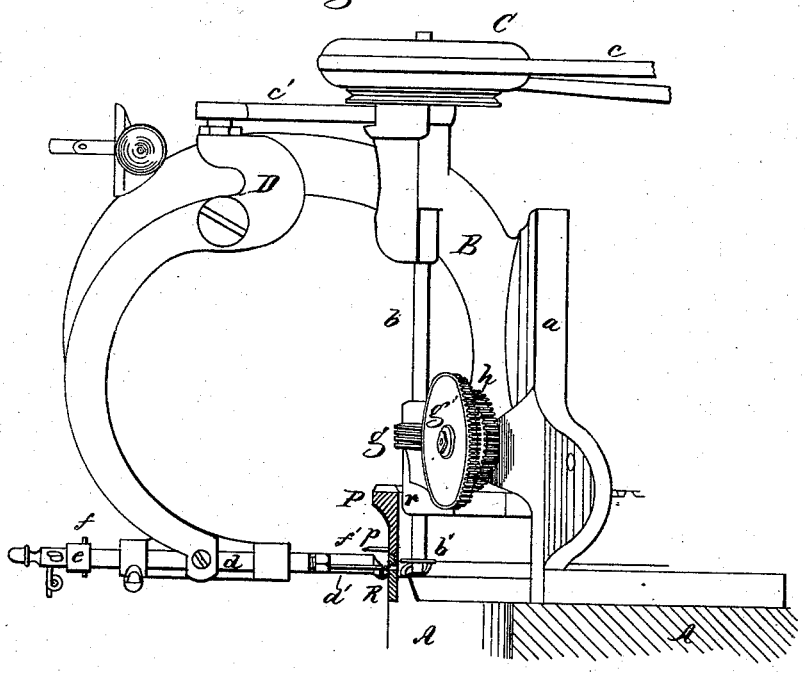
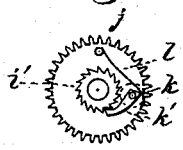


Fig. 3.



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UNITED STATES PATENT OFFICE.

ALFRED S. DINSMORE, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. **160,512**, dated March 9, 1875; application filed January 3, 1875.

To all whom it may concern:

Be it known that I, ALFRED S. DINSMORE, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improved Sewing-Machine, of which the following is a specification:

My invention relates to improvements in sewing-machines for use in factories or other places where it is desired to unite piece-goods in order to form long continuous pieces.

In my machine the fabrics to be united are impaled on pins projecting from a horizontally-moving circular baster plate or ring, toothed at top, to be engaged and moved by toothed wheels actuated from a worm or other gear on a rotating shaft of the sewing-machine proper, which is placed in a vertical position, or so that the needle reciprocates in substantially a horizontal plane.

My invention consists in the combination, with sewing mechanism and the toothed baster-plate, of mechanism, substantially as hereinafter described, for moving the baster-plate and fabric from a gear on the sewing-machine shaft; and also in the combination, with the gear for moving the baster-plate, of a pawl and ratchet, whereby the toothed wheel that engages the teeth of the baster-plate may be disengaged from its operating-shaft, so that the baster-plate and fabric may be turned freely in either direction, so as to bring the fabric in position quickly to receive the action of the needle.

Figure 1 is a top view of my invention. Fig. 2 is a side view of the baster-plate, with a part of its driving mechanism broken away, and Fig. 3 is a view of the pawl and ratchet and toothed wheel for driving the baster-plate.

In the drawing, A is the frame of the machine, circular in form to support the flanged supporting-ring R, on which rests and is moved the baster-plate P, provided at top with teeth, and having projecting from it fabric-holding pins *p*, on which the fabric is impaled, and by which the fabric is suspended. A stitch-forming mechanism, preferably of Willcox & Gibbs' class, is supported on a standard, *a*, rising from the frame A, and is mounted, with relation to the circular horizontally-moving baster-plate, so that the baster-plate moves between the hook-shaft and presser-foot, and the needle works through a needle-hole made in the ring R. The G-shaped arm B of the sewing-machine has its base attached to a vertical standard, *a*, attached to frame A by screws *m* or otherwise, and the hook-shaft *b*, provided with hook *b'* for forming, in connection with an eye-pointed needle, the usual chain-stitch, is driven by a belt, *c*, over its fly-wheel C, the belt extending from such fly-wheel to a fly-wheel, *n*, on a shaft, *o*, provided with fast and loose pulleys o^1 o^2, operated by power. The shaft *o* is supported in a bearing, o^3, at the top of a standard rising from frame A. I do not, however, limit myself to these devices for moving the shaft *b*, as other suitable or well-known devices may be employed instead. The vibrating arm D, supported on arm B, is connected with needle-carrying bar *d*, and the arm is vibrated through the link *c'* connected with it and with an eccentric on the hook-shaft *b*. On the needle-bar is a collar, *e*, having a finger projecting from it toward the stock of the presser-foot *f'*, and under a second flanged collar, *f*, on such presser-bar stock. This finger, as the needle-bar rises, acts against the collar *f*, and lifts the presser-foot *f'* from the fabric just as the point of the needle is withdrawn therefrom, in order to leave the fabric entirely free to be moved by the baster-plate, and the said presser-foot again strikes the fabric just as the needle is to penetrate the fabric. On the hook-shaft *b* is a worm-gear, *g*, that engages a toothed wheel, *g'*, mounted on a stud projecting from the standard *a* or other suitable support. On the collar of this wheel *g'* is a toothed wheel, *h*, that engages a larger toothed wheel, *h'*, on a shaft, *i*, having an attached ratchet-wheel, *i'*. This shaft also carries a toothed wheel, *j*, mounted loosely thereon, but held so as to move with the shaft by means of a pawl, *k'*, on the end of a pin, *k*, having a milled nut, so that the operator of the machine may turn the pawl by hand.

When the pawl *k'* is in the position shown in Fig. 3, the rotation of the shaft *i* will move the toothed wheel, and, consequently, the baster-plate, so as to carry the fabric along under the needle and perform sewing, and the spring *l* holds the pawl in engagement; but the pawl may be disengaged, when it is desired to move the baster-plate, without moving the sewing mechanism, as is often the case, to

place the fabric on the pins *p*, and to move it quickly in place under the needle, or to reverse or turn back the baster-plate in case of imperfection in the sewing or seam.

When the pawl is turned away from the position shown in Fig. 3, the spring *l* bears on the back side of the pawl, and holds it from the ratchet-wheel *i*. The needle is supplied with thread in the usual way from a spool.

In operation, two pieces of fabric to be joined or sewed together are impaled on the pins *p*, the pawl *k'* being disengaged from the ratchet, and when the fabric is properly secured on the pins the baster-plate is moved so as to bring the edge of the fabric under the needle which works through a throat in the ring R. Then the pawl *k'* is turned to engage the ratchet *i'*, and the machine is started, after which the gears *g g' h h' j* move the baster-plate along the distance of a stitch at each revolution of the shaft *b*. The forward bearing *r* of the the hook-shaft *b* is curved to adapt it to the curved baster-plate.

The fabric is entirely relieved from friction of the presser when the baster-plate is moving, and the presser-foot acts as a holder, to prevent any movement of the fabric while the needle is in the cloth.

I am aware that a baster-plate or cloth-supporting ring has been moved from a worm-gear on a shaft not forming part of the sewing mechanism, and connected by gearing with the baster-plate, and this worm-shaft is banded with the driving-shaft of the sewing-machine, but with such connections the movements of baster-plate and sewing-machine are not positive at all times, and in my improvement there is a less number of parts, and they are more compactly arranged.

Having described my invention, I claim—

1. The combination of the rotating hook-shaft and its worm-gear with the toothed baster-plate, the toothed wheel for moving the baster-plate, and connecting-gearing, substantially as described.

2. The combination of the hook-shaft and its worm-gear with the shaft I, operated from the hook-shaft by gearing, its ratchet, and the toothed wheel *j* and pawl, and the baster-plate, substantially as and for the purpose set forth.

3. The combination of the horizontally-moving baster-plate with the needle-bar, needle, presser-bar, presser, and finger and collar *f*, the finger and collar holding the presser from the fabric while the feed takes place or the baster-plate is moving, substantially as and for the purpose set forth.

4. The combination of the frame A and its standard for supporting a stitch-forming mechanism with the circular and toothed baster-plate, the supporting-ring, and mechanism actuated by the hook-shaft to move the baster-plate, substantially as described.

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

ALFRED S. DINSMORE.

Witnesses:

G. W. GREGORY,

S. B. KIDDER.