A. M. SMITH.

Mechanism for Starting Sewing Machines.

No. 44,465. Patented Sept. 27, 1864.

FIG. 1

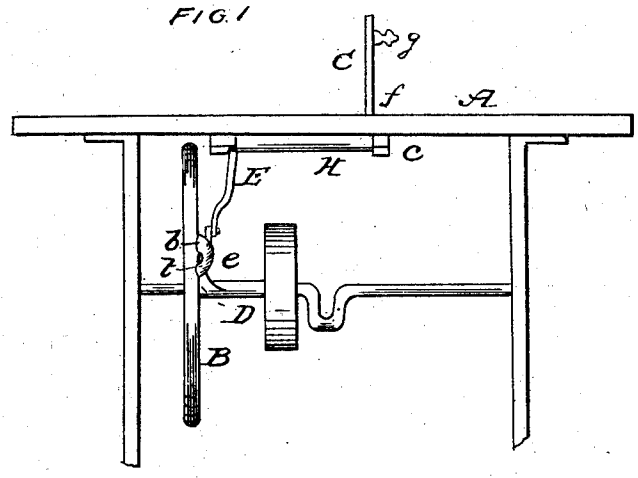


FIG 2

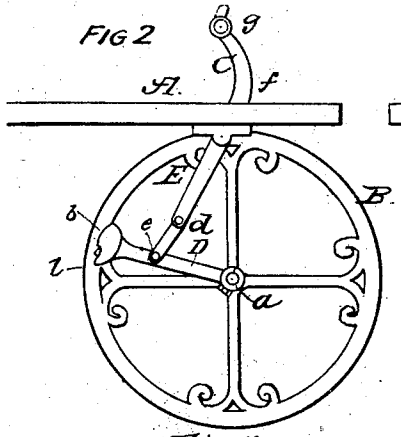


FIG. 3

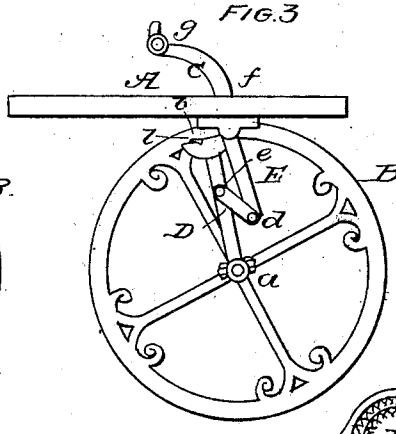
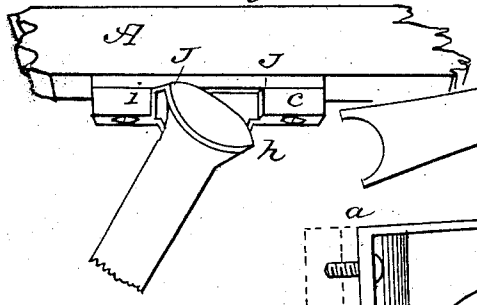
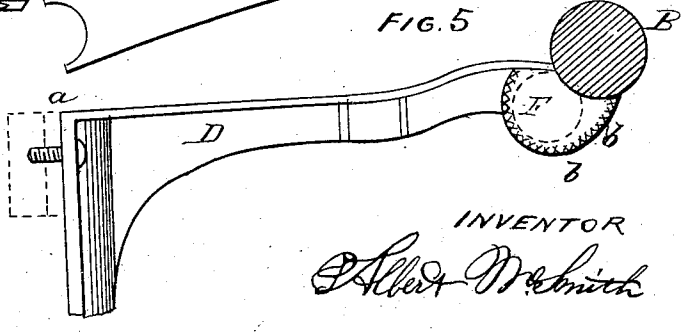


Fig. 4



D

FIG. 5



WITNESSES

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IMPROVEMENT IN MECHANISM FOR STARTING SEWING-MACHINES.

Specification forming part of Letters Patent No. **44,465**, dated September 27, 1864.

To all whom it may concern:

Be it known that I, ALBERT M. SMITH, of Brooklyn, county of Kings, State of New York, have invented a new and useful Improvement in Mechanism for Starting Sewing-Machines; and I do hereby declare that the following is a full and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, of which—

Figure 1 is a front view; Figs. 2 and 3, end views; Fig. 4, a detailed descriptive section; Fig. 5, a descriptive transverse section.

I attach an arm, D D, as shown at Fig. 5, giving a front and side view, and D D D, Figs. 1, 2, and 3, to the shaft on which the balance, drive, belt, or other wheels are placed to operate the machine, by making it, if to apply to new machines or those not yet put together, in one section, (see Fig. 1,) so as to be slipped onto the shaft before the balance-wheel is put on. If to apply to old machines, or those already put together, in two or more sections, and fasten them together with screws, as at *a a a*, Figs. 2, 3, and 5, or in any equivalent manner, so that it can be attached to the shaft without having to take off any of the wheels, and so that it shall be sufficiently loose on the shaft to allow it to be moved back and forth as desired, and to allow the shaft to revolve in it without impeding its progress. I make a conical-shaped recess in the end, middle, or any other part of the arm D, so as to operate on the outer, inner, or either side of the rim of any of the wheels, or any part of them, or in any manner equivalent thereto, so that a ball placed in this recess will fit loosely in one portion of it, and by its own gravity fall down to another portion, coming in contact with the wheel, and become wedged between them sufficiently, so that by moving the arm forward it moves or starts the wheel in the right direction, and by the impetus thus given it the ball becomes released and is thrown up into the upper portion of the recess, where it continues to roll without impeding the progress of the wheel. I generally make this recess in the end of the arm D, as at *b b*, Fig. 5, so that it operates on the inside of the rim of the balance-wheel B, as at *b b b b*, Figs. 1, 2, and 3. This ball I make of any material that is sufficiently hard to answer the purpose, and either round or conical; but generally I make it of hardened or vulcanized rubber and round, as at F F, Fig. 5. In order to move and operate this arm D from the top of the table, I make an arrangement consisting of two levers or arms, E and C, connected together by a main piece, H, hung in bearings *c c* and attached to the under side of the table and parallel with it. One of these levers is extended downward, being made with one or more joints, and connected to the arm D. The other extends up through the table, having a knob or thumb-piece, *g*.

The operation is this: By throwing forward the lever C the main or connecting piece H of the two levers is caused to rock or partially rotate, thereby throwing backward the lever E, which, through its connecting-arm *e*, causes the recessed arm D to be brought up, as in Fig. 3, and the balance or driving wheel is moved forward in the right direction.

On the upper end of the lever E, Fig. 4, where the upper portion of it is shown, I make shoulders to bear against a spring which I place over them, either fastened in the bearings or to the table, to assist in throwing the levers and arms back to their places when moved forward, and to afford a stop for them to strike against to prevent noise. This spring I make of rubber or metal, flat, round, spiral, or otherwise, as shall be equivalent, so that by compressing it together it shall produce the desired effect; but generally I make the shoulders on each side of the lever E, as at *h i*, Fig. 4, and make the spring of a flat piece of rubber and fasten it in the bearing *c*, as shown at *j j*, so that when the lever C is thrown forward to start the machine, as at Fig. 3, the shoulder, as at *h*, on the lever E, Fig. 4, is pressed against the rubber *j* above it, which throws the whole arrangement back to its place, as at Fig. 2, the opposite shoulder, *i*, Fig. 4, striking against the rubber *j* above it, stopping its vibration and the noise it otherwise would make.

I make a latch or thumb-piece and attach it to the recess in the arm on either edge, its bottom or side, or in any way equivalent thereto, so that by it the ball can be raised and held from its contact with the wheel, so that it can be turned back; but generally I make it as at Fig. 5 and attach it loosely to the front edge of the recess with a screw or rivet, as at *k*, so that by pressing with the thumb on the end of it,

as at *l*, it throws the other end, as at *m*, against the ball and raises it, as shown, and when released will, by the pressure of the ball and its own weight, drop down, so as to allow the ball to operate as desired.

What I claim is—

1. So constructing and attaching to the shaft on which the balance or other wheels are placed for operating the machine a movable arm in which a ball is fitted loosely in a conical recess, being kept by its own gravity in contact with the rim of the wheel, so that by moving the arm forward it becomes wedged between them sufficiently to move the wheel with it and start the machine in the right direction, substantially as described or in any manner equivalent thereto.

2. In connection with the above, the arrangement for moving and operating the arm from the top of the table.

3. The latch or thumb-piece whereby the ball is raised and held from its contact with the rim of the wheel, so that it can be moved back when desired.

ALBERT M. SMITH.

Witnesses:
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FREDK. A. FOX.