E. D. SMITH.

Sewing-Machines.

No. 140,438. Patented July 1, 1873.

Fig. 1.

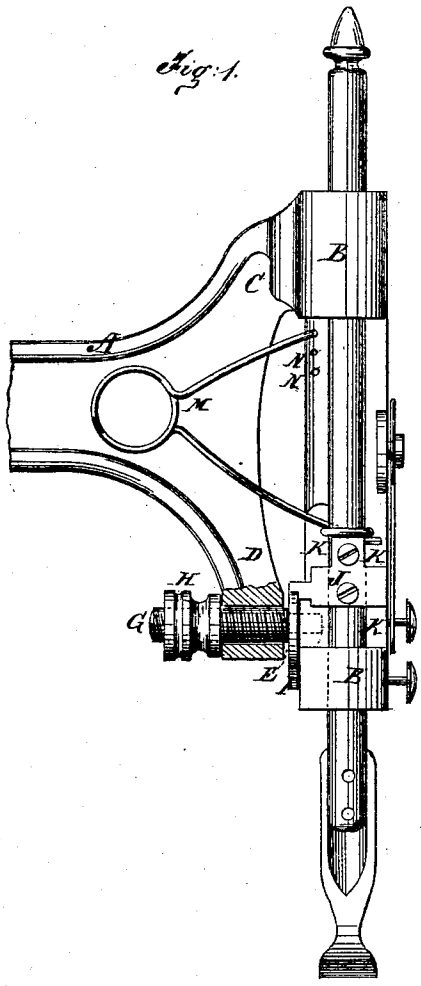
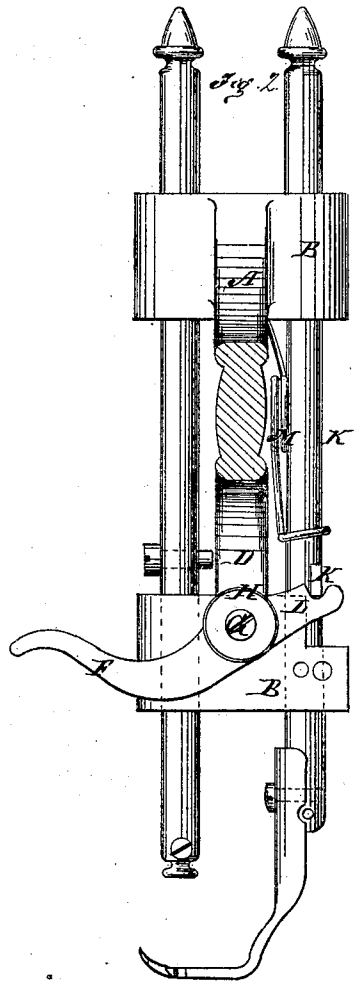


Fig. 2.



Witnesses:

Chas. Nida.

A. Edgecomb

Inventor:

E. D. Smith

Per Munn & Co

Attorneys.

UNITED STATES PATENT OFFICE.

EDWIN D. SMITH, OF NEW YORK, N. Y.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. **140,438**, dated July 1, 1873; application filed May 10, 1873.

To all whom it may concern:

Be it known that I, EDWIN D. SMITH, of New York city, in the county and State of New York, have invented a new and useful Improvement in Sewing-Machines, of which the following is a specification:

I propose to cast the head for the needle and presser-bars onto the branches of the supporting-arms, then saw the lower arm off from the head close to the latter, and fit in an adjusting-screw to spring the head toward the arm thus separated from it, and to utilize the elasticity of the upper branch of the arm, together with the adjusting-screw, to adjust the needle toward and from the shuttle, and thus save considerable labor heretofore expended in fitting a head made separately to the overhanging arm. I also propose to arrange the lever for lifting the presser-bar on this adjusting-screw between the head and the end of the arm sawed from it to utilize said screw for the pivot.

Figure 1 is a side elevation of the head and part of the supporting-arms of a sewing-machine constructed according to my invention, a part of the lower arm being sectioned, and Fig. 2 is a section of the arm and side elevation of the other parts.

A represents the supporting-arm, and B the head. These I cast together in one piece, joining them by the upper branch C and the lower branch D of the arm. Then I separate the latter from the head by the slot E, using therefor a saw or other suitable cutter as much thicker than the lever F as the movement I wish for the lower portion of the head for adjusting the needle relatively to the shuttle. Then I fit in the adjusting-screw G, as shown, making it fast to the head and arranging it to move endwise through the arm D, and providing it with the adjusting-nut H, and thus have the necessary spring to throw the needle in one direction, which I obtain by the elasticity of the arm C, which, although the arm is made of cast-iron, I find in practice to be ample for the purpose, and I find no difficulty from the "setting" of the metal or losing of its elasticity, which is not likely to occur, because the movement is so slight. The width of the slot in the drawing is exaggerated to show it clearly.

In fitting the lever F for lifting the presser on this screw, I arrange it on the reduced portion which enters the head, so that the shoulder of the screw holds it snugly against the side of the head, and thus prevents the looseness that would exist if the face of the branch D was depended upon for holding the lever when the head is allowed to spring away from said branch.

J is the plate or bar for making the connection of the lever F with the presser-bar K. I attach this plate to the side of the bar by "boxing" it into the bar and securing it thereon, in the manner shown, and I utilize this bar for the gib to prevent the needle-bar from turning by arranging it to work against the sides K of the head to which it is fitted, and I make a ledge, L, at a suitable height on said sides, onto which I can turn the gib or plate J to hold the presser-foot up when it is turned around away from the lever.

The head might be cast together with the upper branch and separate from the lower one, but it would not be so well, because it would be difficult to have it set exactly the right distance from the branch D, owing to the irregularity of the setting of the casting in cooling.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The head cast together with the branches of the arm and separated from the lower branch to obtain the adjusting movement of the head, substantially as specified.

2. The presser-lever F pivoted on the adjusting-screw G between the lower branch and head, as and for the purpose described.

EDWIN D. SMITH.

Witnesses:

C. SEDGWICK,

T. B. MOSHER.