(No Model.) 2 Sheets—Sheet 1.

J. A. DAVIS, Dec'd.

W. A. DAVIS, Executor.

FEED MECHANISM FOR SEWING MACHINES.

No. 353,257. **Patented Nov. 23, 1886.**

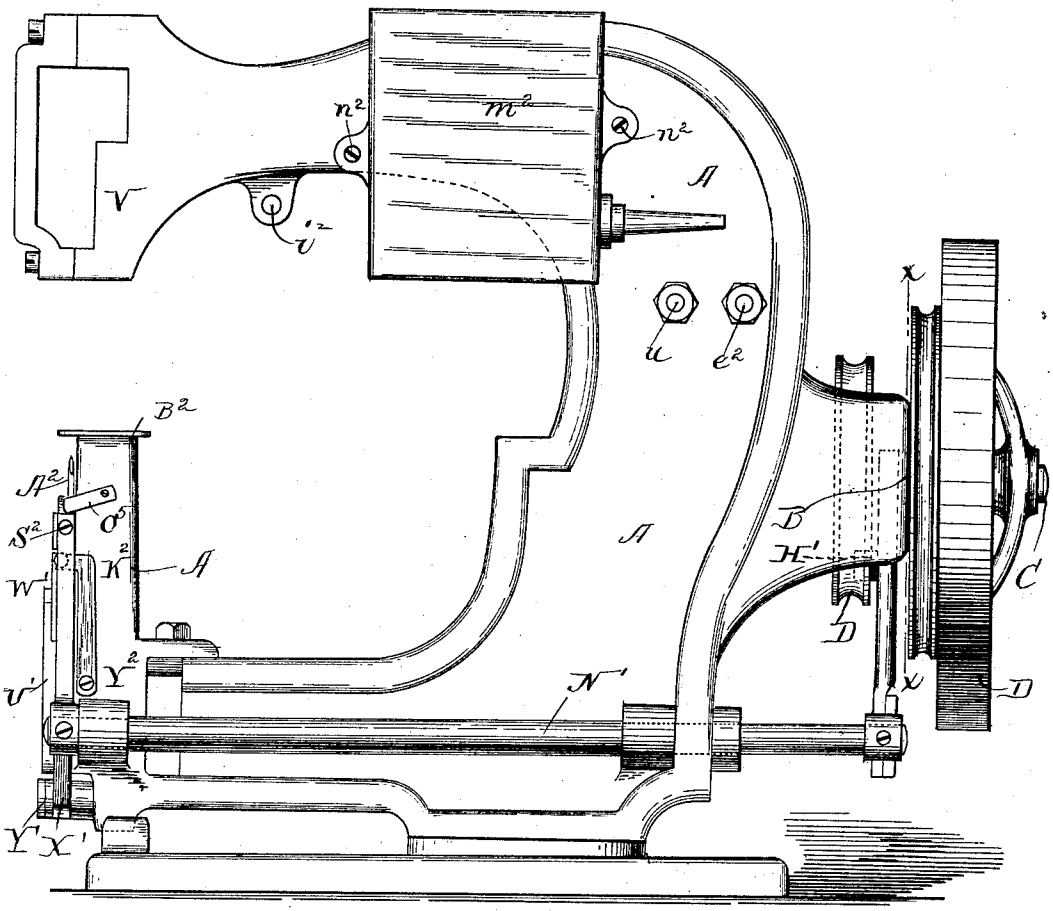

Fig. 1.

WITNESSES:

Chas. S. Gooding.

Robert Wallace.

INVENTOR:

Job A. Davis

by Wm. H. Macleod

his atty

N. PETERS. Photo-Lithographer, Washington, D. C.

(No Model.) 2 Sheets—Sheet 2.

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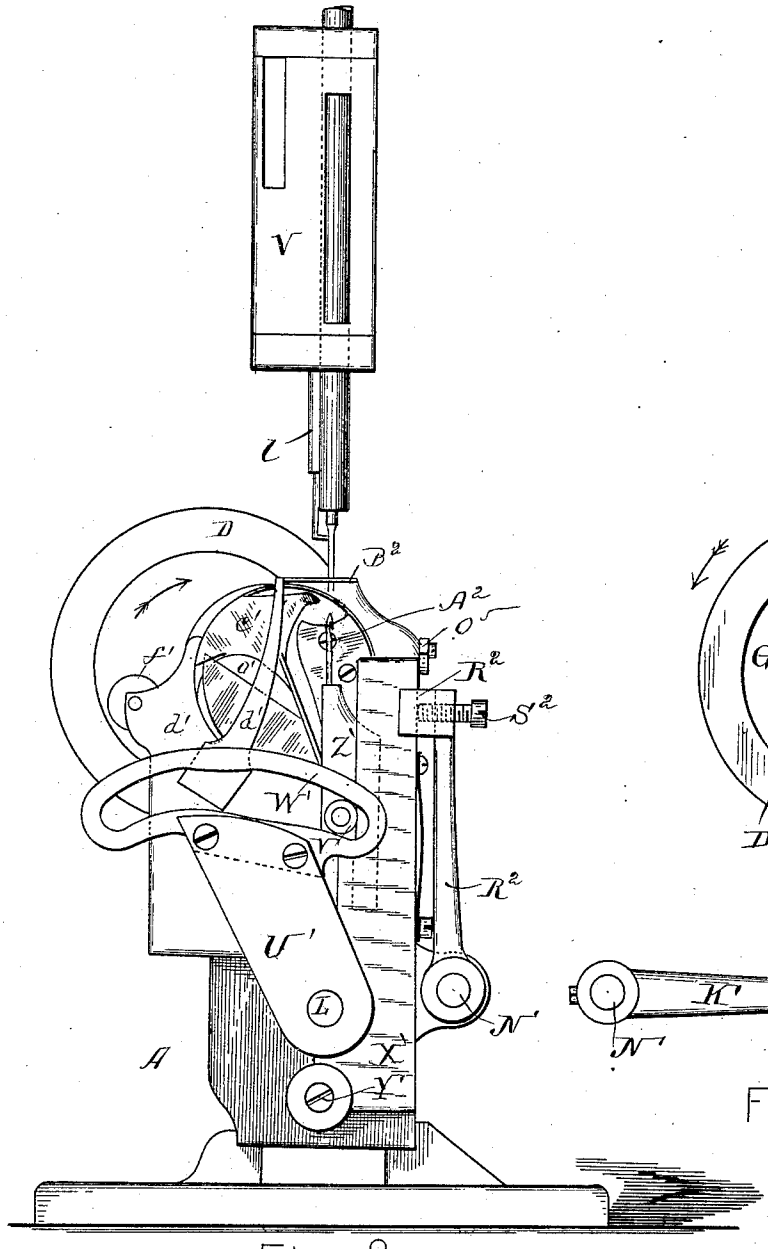

Fig. 2.

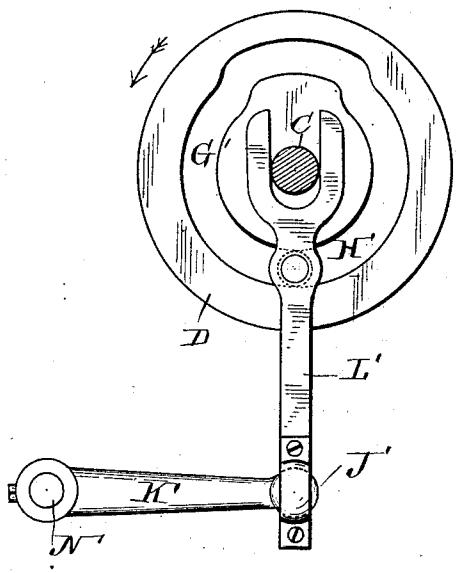

Fig. 3

WITNESSES:
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INVENTOR:
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UNITED STATES PATENT OFFICE.

JOB A. DAVIS, OF BOSTON, MASSACHUSETTS; WILLARD A. DAVIS (EXECUTOR OF SAID JOB A. DAVIS, DECEASED) ASSIGNOR OF ONE-HALF TO LEE E. MOORE, BOTH OF SAME PLACE.

FEED MECHANISM FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 353,257, dated November 23, 1886.

Application filed December 22, 1885. Serial No. 186,472. (No model.)

To all whom it may concern:

Be it known that I, JOB A. DAVIS, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Feed Mechanism for Sewing-Machines, of which the following, taken in connection with the accompanying drawings, is a specification.

The object of this invention is to provide a simple feed mechanism of the class known as "needle-feed" apparatus, in which the goods are carried forward intermittently by a lateral movement of the needle.

The general arrangement of the machine shown in the drawings, aside from the feed mechanism, is similar to that set forth in my applications, Serial Nos. 186,467 and 186,470, for patents on wax-thread sewing-machines, filed simultaneously herewith, to which reference may be made, the same part in all cases being designated by the same letter.

My present invention consists in the devices and combinations of devices set forth in the appended claim.

In the drawings, Figure 1 is a side elevation, showing my present improvement applied to a suitable frame. Fig. 2 is an end elevation of the same, and Fig. 3 an enlarged detail, the main shaft in transverse section on line *x x*, Fig. 1.

The neeedle A^2 has a vertical reciprocation imparted to it by the oscillation of an obliquely-slotted plate, U', which engages a stud, V', projecting from the side of the needle-bar Z', as set forth in detail in my application No. 186,470, hereinbefore referred to.

The needle-bar Z' is mounted in a recess in a vertical plate, X', pivoted to the frame at Y', so that a slight swinging movement may be given to it, as also explained in said case No. 186,470. I however effect this lateral movement on the pivot Y' by my present invention in a somewhat simpler manner than in such other case, as will be explained.

A is the frame of the machine, and C the main shaft rotating in bearings B. D is a pulley fixed on said shaft, and revolving in the direction indicated by the arrows, Figs. 2 and 3.

In the side of the pulley D is a cam-groove, G', to receive a stud and friction-roller, H', projecting from a depending rod or link, L', forked at its upper end to receive the shaft C, as shown in Fig. 3. The lower end of this link L' is loosely connected, preferably by a ball-and-socket joint, J', with an arm, K', projecting from a rock-shaft, N', mounted in suitable bearings formed on the frame, as in Figs. 1 and 2.

At the front end of the shaft N' an arm, R^2, is erected, having its upper end vertically recessed to receive the edge of the swinging plate X', Fig. 2, and provided with an adjusting-screw, S^2, bearing on such edge to regulate the stroke of the arm R^2, or rather the time in said stroke when it shall begin to move the plate X'. This plate returns against a stop, O^5, under the action of a spring, K^2, secured to the frame by a screw Y^2. It follows that if the screw S^2 is retracted so as not to quite touch the plate X' when the arm R^2 begins to move, its movement will not carry the plate X' the full length of the stroke, and thus the extent to which the work will be advanced by the sidewise movement of the needle while passed through it and through the work-plate B^2 is readily controlled.

It will be clear without further explanation that when in the rotation of the pulley D the cam-grove G' forces down the link L' and arm K', the rock-shaft N' will be turned slightly on its axis, and the upright arm R^2 fixed thereon will be swung slightly to the left in Fig. 1, carrying with it the plate X', needle-bar Z', and needle A^2, with the work being operated upon.

What I claim is—

The combination, with the needle-bar Z' and mechanism for reciprocating the same vertically, of the swinging plate X', in which said needle-bar works, the rock-shaft N', having arms K' and R^2, the latter provided with the adjusting-screw S^2, the link L', and the rotary pulley D, having the cam-groove G', substantially as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 13th day of November, A. D. 1885.

JOB A. DAVIS.

Witnesses:
MILAN F. STEVENS,
WILLARD A. DAVIS.