(No Model.) 2 Sheets—Sheet 1.

J. A. DAVIS, Dec'd.

W. A. DAVIS, Executor.

PRESSER FOOT LIFTING MECHANISM.

No. 353,254. Patented Nov. 23, 1886.

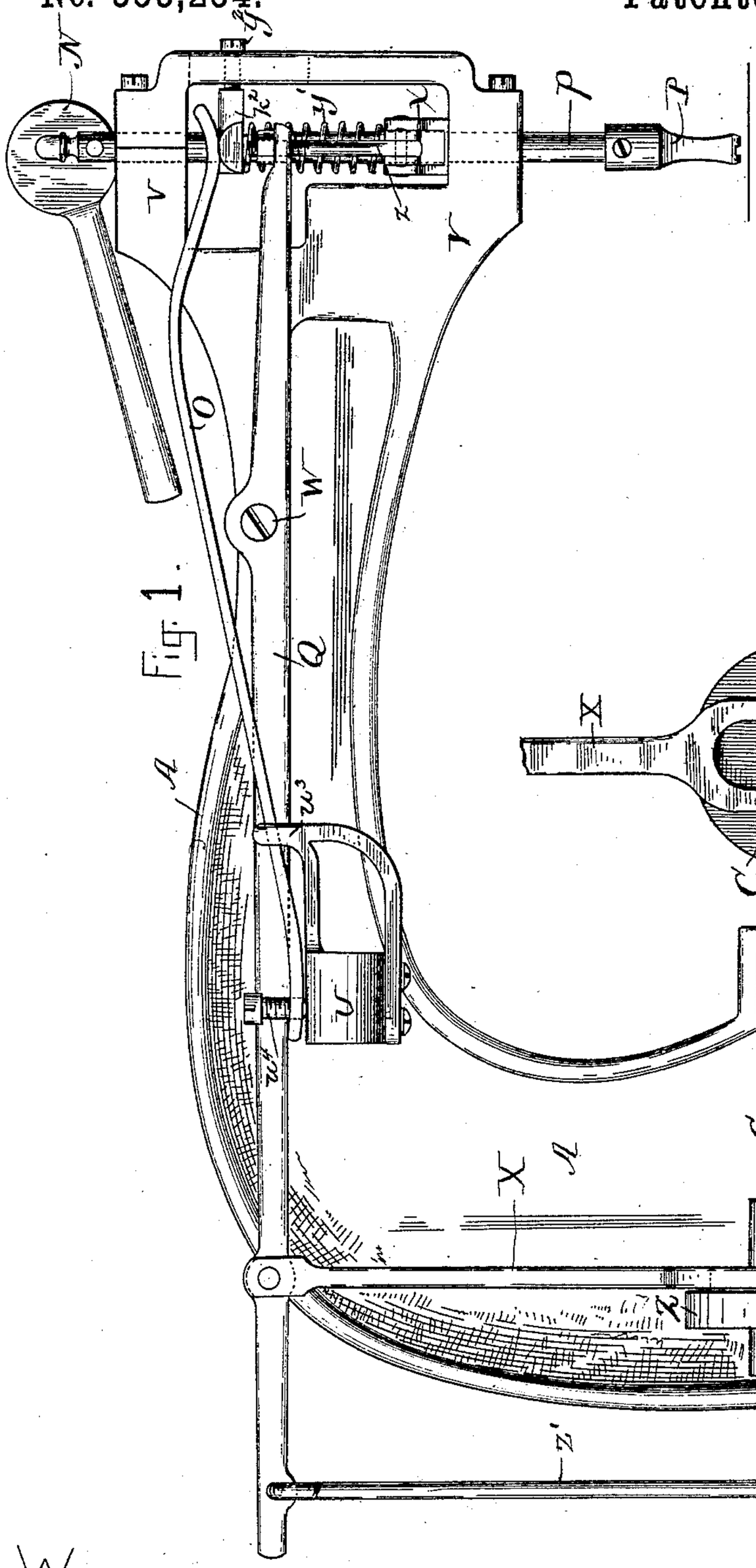

Fig. 1.

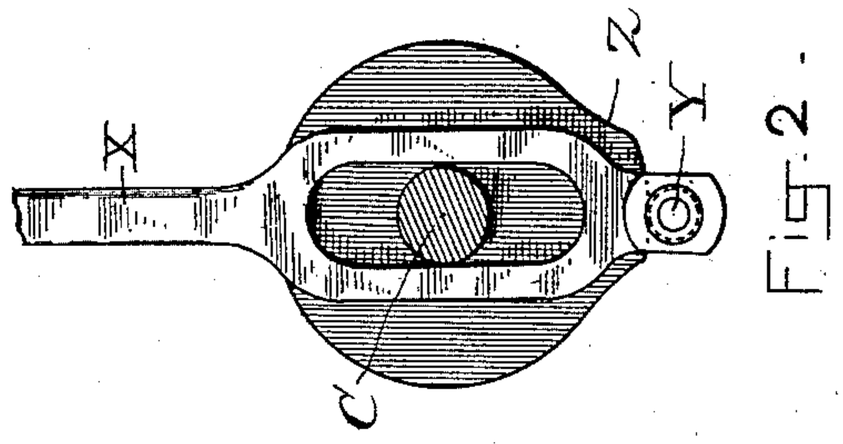

Fig. 2.

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Robert Wallace.

INVENTOR:

Job A. Davis

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(No Model.) 2 Sheets—Sheet 2.

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PRESSER FOOT LIFTING MECHANISM.

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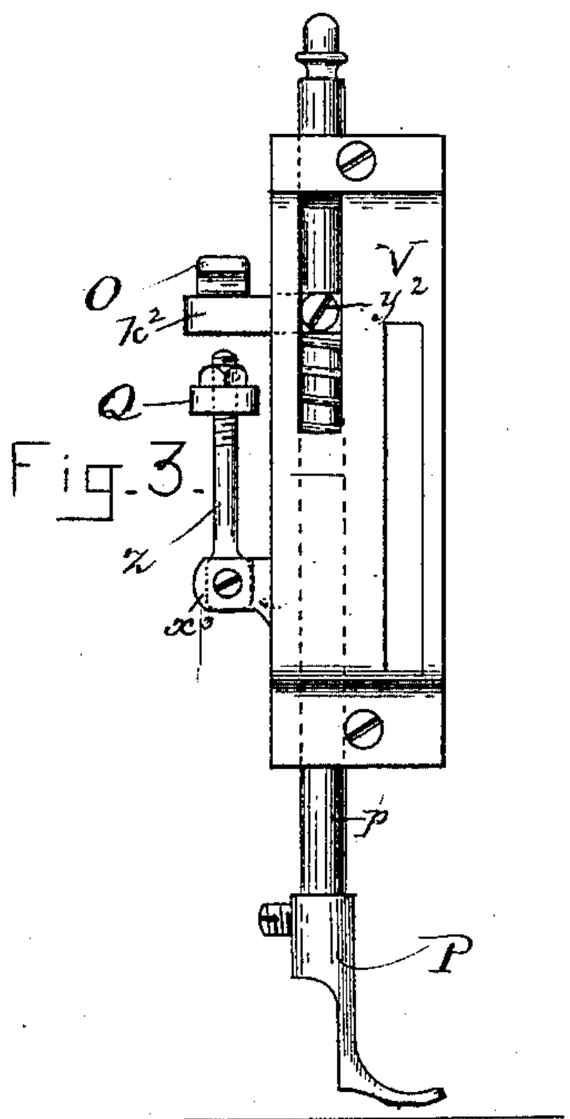

Fig. 3.

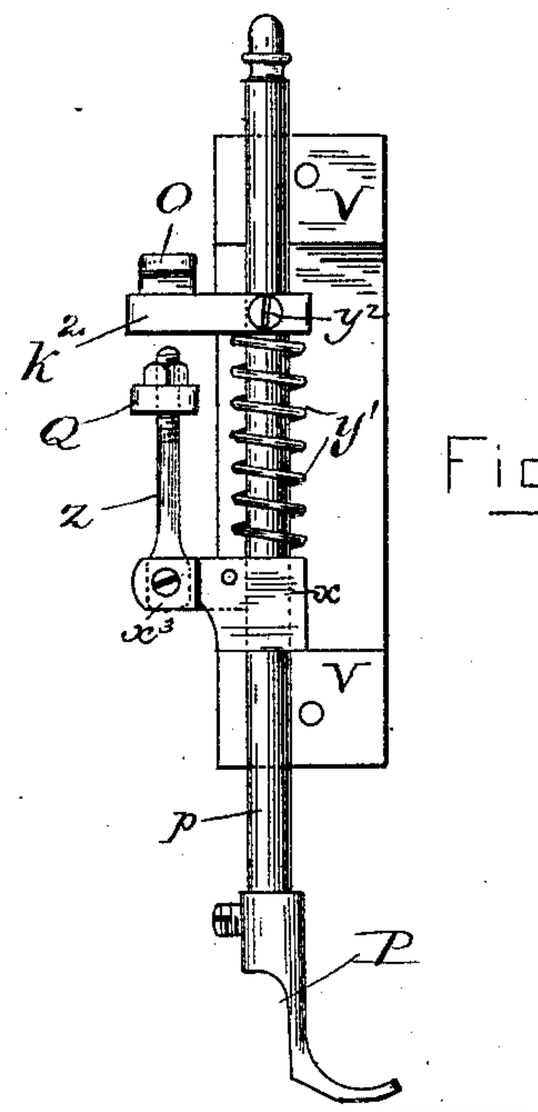

Fig. 4.

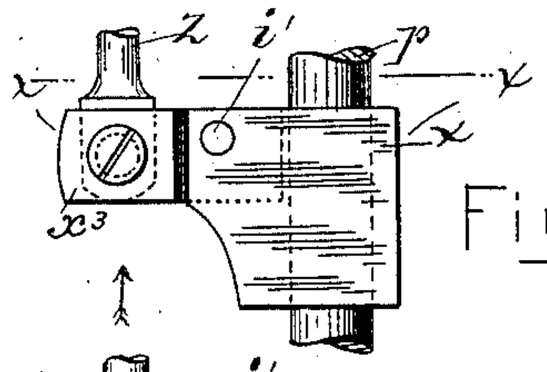

Fig. 5.

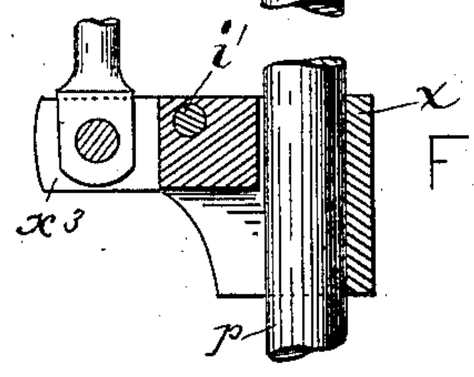

Fig. 6.

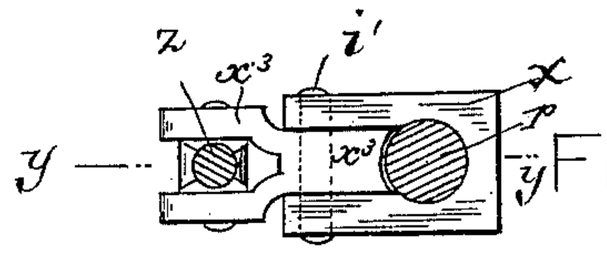

Fig. 7.

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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.

PRESSER-FOOT-LIFTING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 353,254, dated November 23, 1886.

Application filed December 22, 1885. Serial No. 186,469. (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 Presser-Foot-Lifting Mechanism for Sewing-Machines, of which the following, taken in connection with the accompanying drawings, is a specification.

The object of my invention is to provide a simple and effective mechanism for automatically lifting the presser-foot of a sewing-machine at intervals, my invention being more particularly intended for use with wax-thread sewing-machines, and I have shown the same in connection with the wax-thread sewing-machine embraced by my application No. 186,467, filed simultaneously herewith.

In the drawings, Figure 1 is a partial side elevation of a sewing-machine with my invention applied thereto. Fig. 2 is a detail view of the operating-cam and a part of the slotted rod. Figs. 3 and 4 are front views of the head of the machine, showing the presser-bar and connections, the face-plate being removed in the latter figure. Figs. 5, 6, and 7 are detail views of the gripping device for lifting the presser-bar, Fig. 6 being a section on line *y y*, Fig. 7.

A denotes the arm of a sewing-machine, and B a lug or bearing thereon in which is journaled a rotating shaft, C, provided with a cam, Z. X is a slotted rod or bar embracing said shaft, and provided with a pin or roller, Y, held in engagement with the periphery of said cam. The rod Y is attached at its upper end to a lever, Q, pivoted at W to the arm A, the forward end of said lever being connected by an adjustable link, *z*, with a block, x^3, to which is pivoted, by a pin, *i*, a block, *x*, having a vertical opening through which the presser-bar *p* passes, said bar being provided with an ordinary presser-foot, P. To the presser-bar *p* is attached, by a set-screw, y^2, an arm, k^2, on which bears a plate-spring, O, for holding the presser-foot upon the work. The spring O passes through a lug, u^3, of a bracket, U, and the stress of said spring may be regulated by an adjusting-screw, u^4, passing through the spring and impinging against said bracket.

Between the arm k^2 and the block *x* is a spring, *y'*, which normally presses the said block against a horizontal seat afforded by the lower part of the head V of the arm A, thereby holding said block horizontal, so that the presser-bar *p* may move vertically through the same to adjust itself to different thicknesses of material passing beneath the presser-foot P.

From the foregoing it will be apparent that when in the rotation of the cam Z the projecting or full part thereof strikes the pin or roller Y the rod X will be depressed to lift the forward end of the lever Q, to which said rod is attached. This movement of said lever raises the rod *z*, causing the blocks x^3 and *x* to grip the presser-bar *p*, and thus lift the same by a cramping action, this lifting of the presser-bar occurring in a wax-thread machine when the feed takes place.

The presser-bar may be raised to release the work by an ordinary lifting-lever, N, or by means of a treadle-operated rod, *z'*, attached to the rear end of the lever Q. The set-screw y^2 passes through a slot in the face-plate, and thus holds the presser-bar from rotating.

I claim as my invention—

1. In a sewing-machine, the combination, with a presser-bar, of a gripping-block through which said bar passes, a second block adapted to bear against the presser-bar, and to which said gripping-block is pivoted, a lever connected with the said second block, and a cam connected with said lever for operating the latter, substantially as set forth.

2. The combination, with the shaft C and the cam Z, of the rod X, lever Q, link *z*, blocks x^3 and *x*, presser-bar *p*, springs *y'* and O, and arm k^2, substantially as set forth.

3. The combination, with the main shaft and its cam, of the rod X, the lever Q, the presser-bar, and a gripping device surrounding said bar and connected with the said lever, 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.