

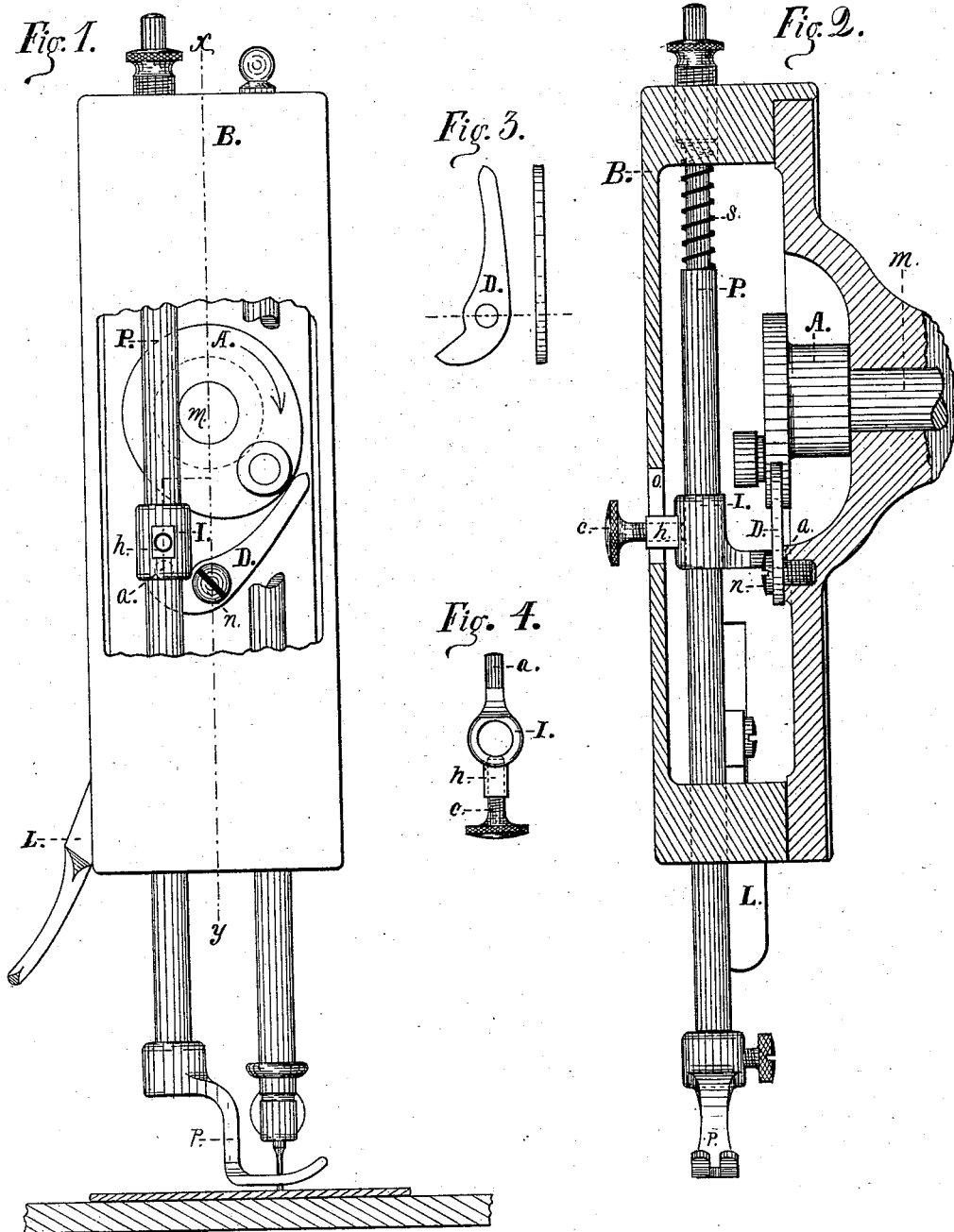
(No Model.)

C. E. CHURCH.

AUTOMATIC PRESSER FOOT LIFTER FOR SEWING MACHINES.

No. 301,962.

Patented July 15, 1884.



Witnesses.

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CHARLES E. CHURCH, OF CLEVELAND, OHIO, ASSIGNOR TO THE WHITE SEWING MACHINE COMPANY, OF SAME PLACE.

AUTOMATIC PRESSER-FOOT LIFTER FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 301,962, dated July 15, 1884.

Application filed January 30, 1884. (No model.)

To all whom it may concern:

Be it known that I, CHAS. E. CHURCH, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Presser-Foot Lifters for Sewing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, forming a part of this specification.

My invention relates to mechanism for automatically lifting the presser-foot while the needle is descending through the fabric, to facilitate the sewing of tortuous seams, braiding, embroidering, &c.; and it consists of devices to be hereinafter explained and more fully described, whereby it can be adapted to operate on varying thicknesses of material, and be rendered inoperative when desired.

Figure 1 is a front elevation showing the mechanism within the face of a sewing-machine, the latter being shown partly broken away, the heart-cam, a portion of the needle-bar, and the thumb-screw *c* being removed therefrom; Fig. 2, a side elevation of the face and a portion of the arm in section through dotted line *xy*, Fig. 1; and Figs. 3 and 4 an elevation and a plan, respectively, of parts of the mechanism in detail detached from the machine.

The mechanism consists of a cam, *A*, fast on the driving-shaft *m*, a lever, *D*, pivoted to the arm of machine by the screw *n*, and caused to vibrate by the said cam engaging with its long arm, as shown, and an adjustable collar, *I*, secured to the presser-bar by the thumb-screw *c*, which fits a tapped hole through the lug *h*, extending through the slot *o* (see Fig. 2) in the face *B*. On the opposite side of the said collar is a lug or pin, *a*, with which the short arm of the lever *D* engages when the latter is vibrated by the cam *A*.

To operate this invention, the fabric is placed

under the foot in the usual manner, the driving-shaft is rotated until the needle on its downward stroke enters the fabric, when the collar *I* is pushed downward on the presser-bar by the operator until the lug *a* strikes the short arm of the lever *D* and forces the long arm of the same against the cam *A*. The collar is then clamped to the bar by the thumb-screw *c*, and as the needle descends through the fabric the lever *D* is vibrated by the cam *A*, lifts the presser-bar, and its foot *p* relieves the fabric from pressure and free to be turned around the needle as a pivot, the construction of the cam being such that the pressure of the foot will be restored ere the needle is withdrawn from the fabric.

The mechanism is rendered inoperative by sliding the collar *I* upward on the bar until it is disengaged from the lever *D*, in which position it is secured by the thumb-screw *c*, when the lever *D* will fall away from the cam, or a slight spring may be used to withdraw it from contact therewith.

I am aware that various devices have heretofore been used for automatically operating the presser-foot by a cam on the driving-shaft and a vibrating lever used in connection therewith, and I do not broadly claim this feature; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

In a sewing-machine presser-foot lifting mechanism, a cam secured to the driving-shaft, a lever pivoted within the head of the machine and vibrated by said cam, in combination with a collar embracing the presser-bar inside of the head, and provided with a projecting lug with which the vibrating lever engages, and a screw passing through the face-plate of the head and adjustably securing the collar to the presser-bar, substantially as set forth.

CHAS. E. CHURCH.

Witnesses:

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