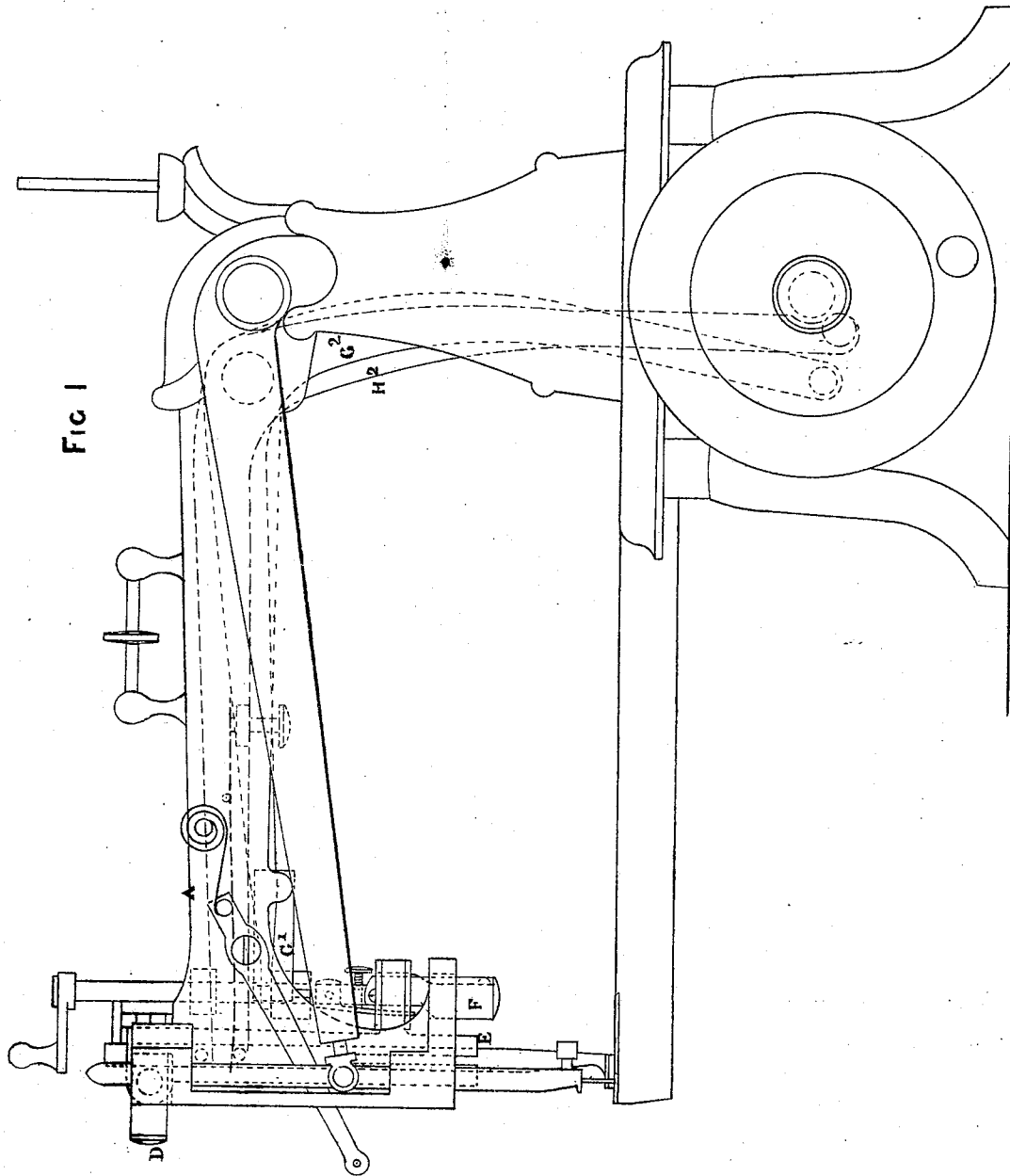


**W. & E. WESTMORELAND.**  
**Feeding Mechanisms for Sewing-Machines.**  
No. 140,603.

Patented July 8, 1873.



Witnesses

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Inventors.

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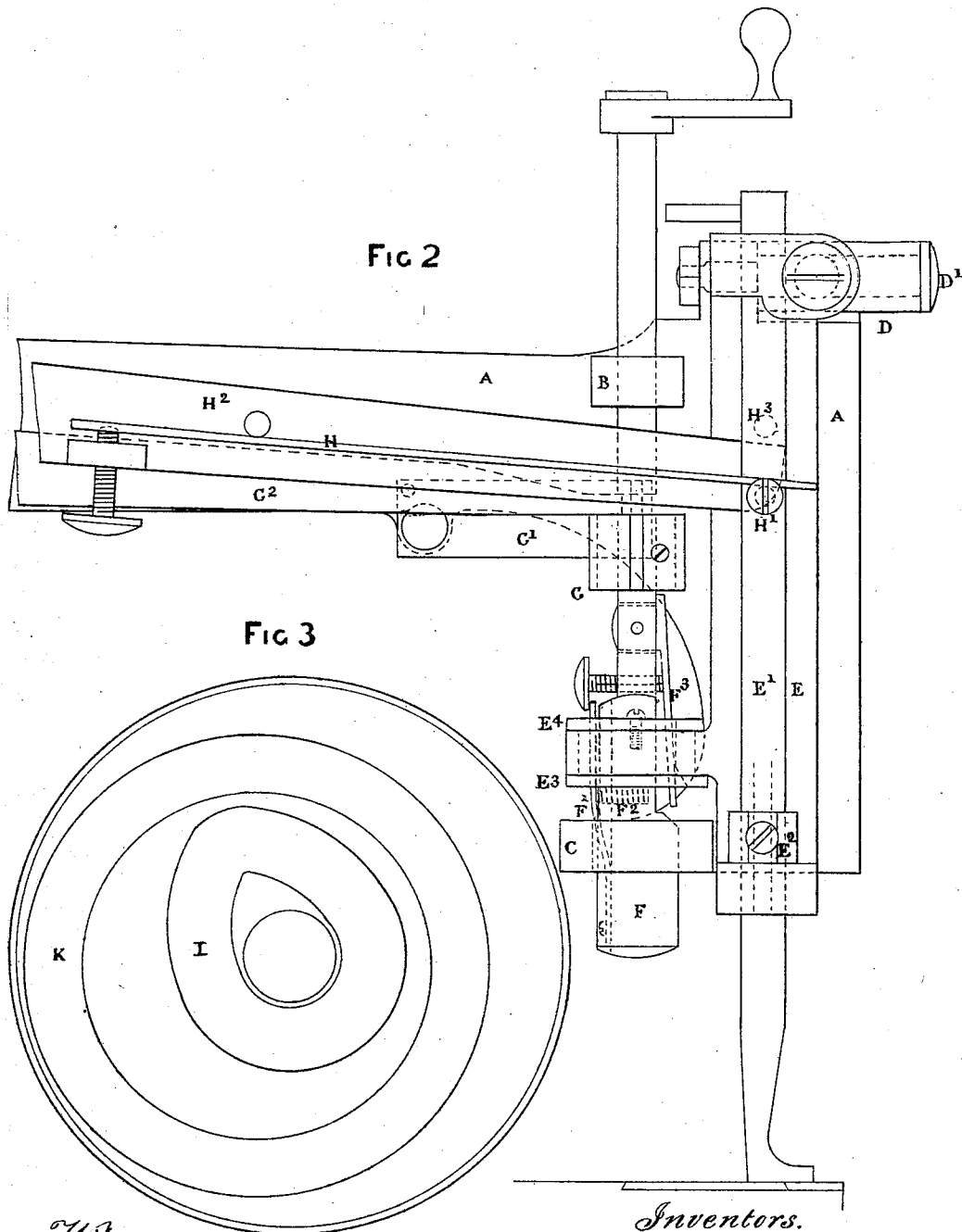
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# UNITED STATES PATENT OFFICE.

WILLIAM WESTMORELAND AND EDWIN WESTMORELAND, OF NOTTINGHAM, ENGLAND, ASSIGNORS OF ONE-HALF THEIR RIGHT TO JOHN KENT, OF NEW YORK, N. Y.

## IMPROVEMENT IN FEEDING MECHANISMS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **140,603**, dated July 8, 1873; application filed August 26, 1872.

*To all whom it may concern:*

Be it known that we, WILLIAM WESTMORELAND and EDWIN WESTMORELAND, of Nottingham, England, have invented certain Improved Apparatus for Operating the Feeding Device in Sewing-Machines, of which the following is a specification:

Figure 1 is a front view of a sewing-machine with our improved apparatus attached thereto. Fig. 2 is a back view of the apparatus, showing only a portion of the standard and two levers, hereafter referred to; and Fig. 3 is a side view of the cam, which communicates motion to the apparatus.

Similar letters of reference indicate corresponding parts.

A is the standard of a sewing-machine, which supports a needle-rod operated by a rocking lever, and provided with a thread-lifter, spring, and tension-disk in the usual way. A T-shaped piece, D, is pivoted to an axle or pin, D', in the upper portion of the head of the machine, and on D is pivoted the bracket E, which carries the feeding presser-foot E'. The bracket E has a ring-like projection, E<sup>5</sup>, to which is fitted internally a slotted collar, E<sup>3</sup>, the collar being held by a cap, E<sup>4</sup>, and screws. The presser-rod E<sup>1</sup> is prevented from turning by means of the piece E<sup>2</sup>, a projection from which enters a groove in the bracket. This collar has an oblong opening to receive the cam-rod F, which reciprocates in the brackets B C secured to the head. The lower part of the rod is somewhat larger, and is turned true to fit the bracket C, which is bored out to receive it. The top of the enlarged part of the rod is beveled on one side, which, as the rod is lifted, strikes the inclined under side of the oblong hole in the collar E<sup>3</sup>, and moves the swinging bracket E and presser-foot E' in the direction the beveled part of the rod F points, and when the rod is lowered the bracket and presser-foot are returned to their previous position by means of a flat spring, F<sup>1</sup>, which is secured at its lower end in a groove cut in the enlarged part of the rod F, at the back of the beveled side. The upper

end of the spring is passed into and presses upon one end of the oblong slot in the collar E<sup>3</sup>, and the flat spring is assisted by a coiled spring, F<sup>2</sup>, (shown by dotted lines,) lying in a hole drilled in the flat part of the rod. The length of traverse of the foot is adjusted by a split-spring thumb-screw, which is screwed through the round part of the rod F, and bears upon a wedge-piece, F<sup>3</sup>, the upper part of which lies in a slot in the rod F, being held by a pin passed through it and the rod. The upper part of the rod F is passed through the boss B, in which it is free to turn, and rise, and fall, and the upper end is provided with a handle for the convenience of the operator. Above the wedge-piece the rod is provided with a drum, G, secured to and turning with it. This drum has four grooves, at equal distances. Into either groove the wedge-shaped end of a flat spring, G<sup>1</sup>, which is attached to the standard of the machine, will drop when so placed by the operator, thus insuring four right-angled movements of the foot; but the foot may be caused to traverse the fabric to be stitched in any other direction by the handle being turned to the point required. The rod F is lowered to allow the foot to retrace at the time the foot is nearly at its highest position. Above the drum G the rod F has a groove turned in it to receive the forked end of a cranked lever, G<sup>2</sup>, which rocks on an axle in the standard of the machine. The lower end of the lever carries a truck, which runs in the groove K of the cam, (seen at Fig. 3,) which communicates the requisite movements. The pressure of the foot upon the fabric to be stitched, and its rising and falling movements, (except when operated by an eccentric acting on a pin at its upper end, and moved by the operator,) are effected in manner following: There is a spring, H, which has its outer end lying in the groove of a stud, H<sup>1</sup>, carried by the foot E'. This spring lies under a pin projecting from a cranked lever, H<sup>2</sup>, and is countersunk on the under side of the inner end to receive the point of a thumb-screw, which is passed through a stud on the lever, the pressure of the spring being regulated by the thumb-screw. The foot is lifted by the

outer end of the lever  $H^2$  striking a pin,  $H^3$ , secured in the stem of the foot. The lever  $H^2$  carries a truck at its lower end, which runs in the groove I of the cam, thus raising and lowering the foot, by which arrangement, as the foot rises, the spring H is lifted with it, instead of the foot lifting the spring as heretofore, thus insuring an easier and quieter movement of the machine.

By the above-described apparatus, when applied to a sewing-machine, we are enabled to stitch in any direction on the sleeve of a garment or the upper part of a boot or shoe, or other article, which cannot be moved round.

We would have it understood that the up-and-down movements of the needle-rod and to and-fro movements of the shuttle may be obtained by any of the means heretofore used, to which we make no claim; but

We claim as our invention—

1. The combination of the T-shaped piece D, carried by the axle  $D'$ , and the swinging bracket E carrying the presser-foot, substantially as and for the purpose hereinbefore set forth.

2. The combination of the spring H, stud  $H^1$ , lever  $H^2$ , pin  $H^3$ , bracket E, presser-foot  $E^1$ , and the cam provided with groove I, all arranged as shown and described.

3. The combination, with the feeding presser-foot and its bracket, pivoted as described, of the reciprocating adjustable rod F, springs  $F^1$  and  $F^2$ , wedge-piece  $F^3$ , and slotted collar, all combined and operated as described.

WILLIAM WESTMORELAND.  
EDWIN WESTMORELAND.

Witnesses:

H. W. GOUGH, C. E.,  
WILLIAM HUGHES.