

DAVID M. SMYTH.

## Feeding Mechanisms for Sewing-Machines.

No. 126,845.

Patented May 14, 1872.

Fig. 1.

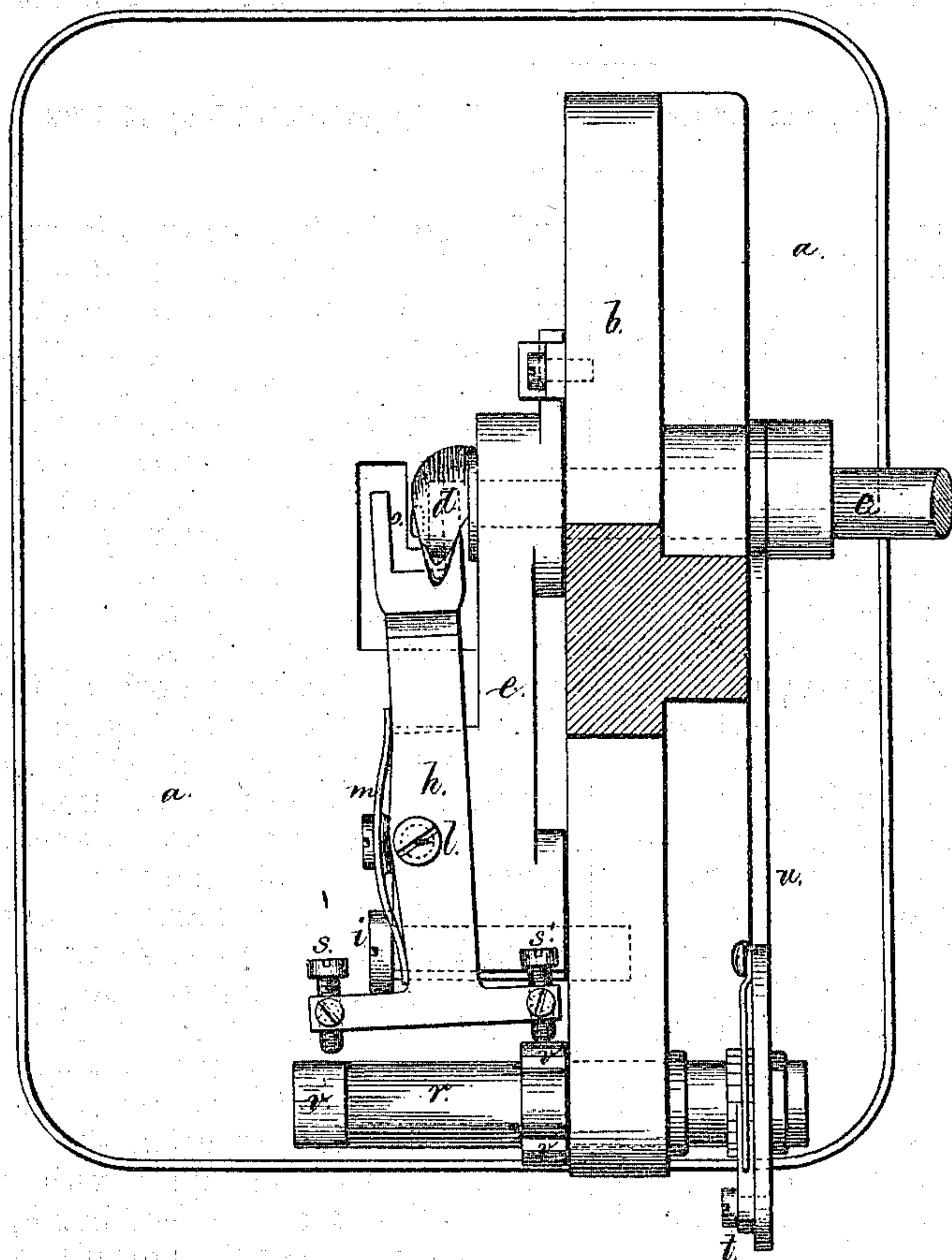
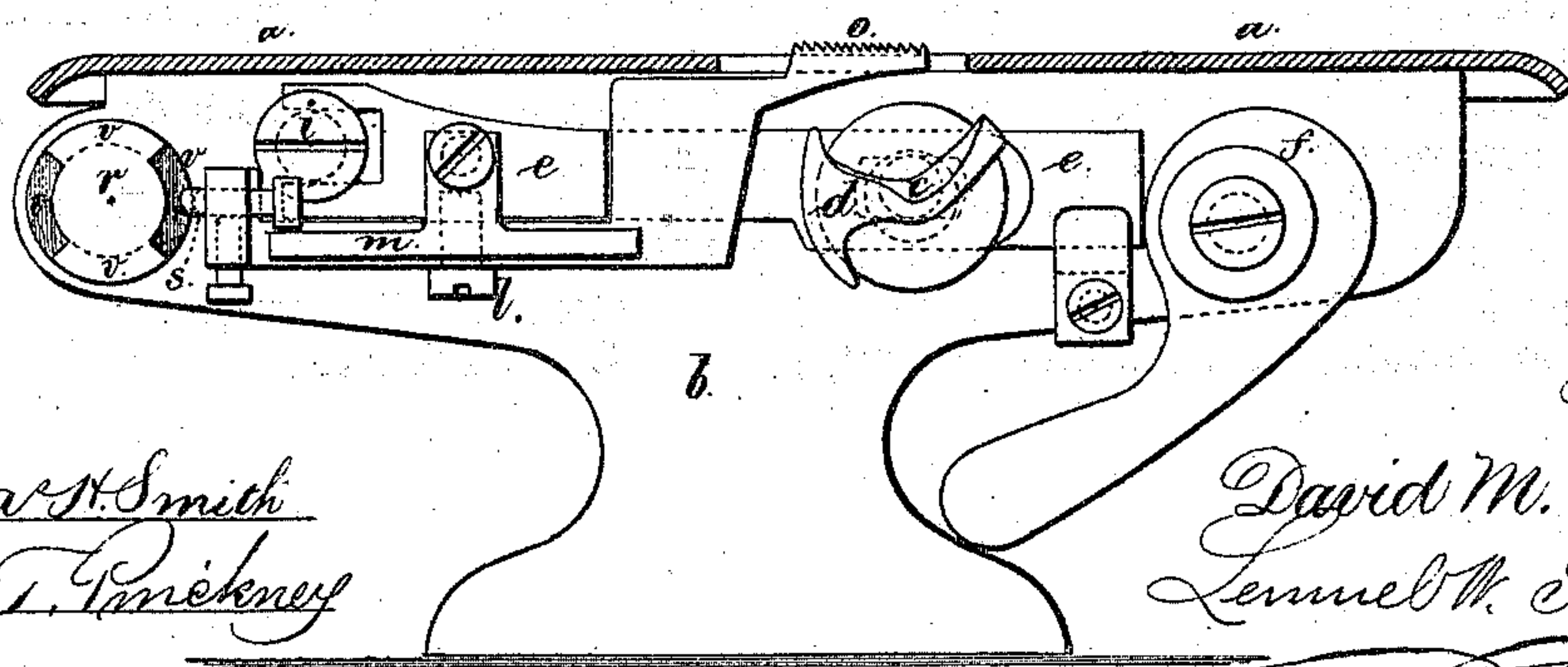


Fig. 2.



Witnesses

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# UNITED STATES PATENT OFFICE.

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ELLIOTT & WILSON, OF NEW YORK, N. Y.

## IMPROVEMENT IN FEEDING MECHANISMS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. 126,845, dated May 14, 1872.

*To all whom it may concern:*

Be it known that I, DAVID M. SMYTH, of Orange, in the county of Essex and State of New Jersey, have invented an Improvement in Feed-Motion for Sewing-Machines, and the following is declared to be a correct description of the same:

This invention is for giving a lateral movement to a sewing-machine feed, so as to produce sewing in a zigzag undulating line, and is a modification of devices before described in Letters Patent granted to me. The present feeding mechanism is especially available in a feed similar to that employed in Wilcox & Gibbs' sewing-machine.

In the drawing, Fig. 1 is an inverted plan of the feeding mechanism, and Fig. 2 is a front view of the same with the bed in section.

The plate of the machine shown at *a*, the frame *b*, revolving-shaft *c*, and hook *d* are of known character, and do not require description. The bar *e*, that actuates the feed, is moved by a cam upon the shaft *c*, and the length of stitch regulated by the eccentric and lever *f*, as usual. This bar *e* is also raised and lowered to bring the feeding-points to and from the cloth, as usual. The bar *e* is guided by the stud *i*, and carries the feed-bar *h*, the same being attached by the screw *l*, upon which it can rock horizontally. The spring *m* attached upon *e*, has two ends, serving to bring the bar *h* to a central or normal position when not otherwise acted upon. At the end of the feeding-bar *h*, that rises through the slot in the plate *a*, is the roughened feed-surface *o*, and at the other end is a T-head with adjusting screws or tappets *s s'*. The cam *r* is revolved progressively by a pawl, *t*, and ratchet-wheel, by a connection, *u*, to the shaft or other motor, and this cam *r* is made with two or more projections, *v*. These projections *v* arrest the movement of the tappet *s* or *s'*,

and cause the feed to swing laterally as it completes its movement, and hence the fabric is carried with it; and, according to which of the tappets *s* or *s'* comes in contact with one of the cam-projections *v*, so the feed will be moved laterally one way or the other. The extent of lateral movement will be regulated by the adjustment of the tappets *s s'* to strike the cam projection earlier or later in the reciprocating feed movement. The cam *r* is constructed according to the character of sewing to be performed. If one projection *v* comes fully into action as the other passes out of action, the sewing will be in short straight lines, at an inclination to each other or zigzag. If the projections come into action gradually, the line of stitching will be a wave or compound curve. If the projections are both periodical-ly out of action, straight sewing will be performed between the angular or zigzag portions. By retracting the tappets *s s'* the machine may be operated to sew in a straight line, or by stopping the rotation of *r* the feed will be diagonal in one direction.

I claim as my invention—

1. The revolving cam *r*, with projections, in combination with the feed-bar *h*, having a T-head and tappets substantially as and for the purposes set forth.

2. The feed-bar *h*, attached to and swinging upon the bar *e*, to which a reciprocating and rising-and-falling motion is given, in combination with a stop or projection that acts to swing the feed-bar *h* laterally at the latter portion of the reciprocation of the bar *e*, substantially as set forth.

Signed by me this 13th day of April, A. D. 1872.

D. M. SMYTH.

Witnesses:

GEO. W. GLAZIER,  
E. P. FOSTER.