

(No Model.)

C. H. WILLCOX.

FEED MECHANISM FOR SEWING MACHINES.

No. 398,300.

Patented Feb. 19, 1889.

FIG. I.

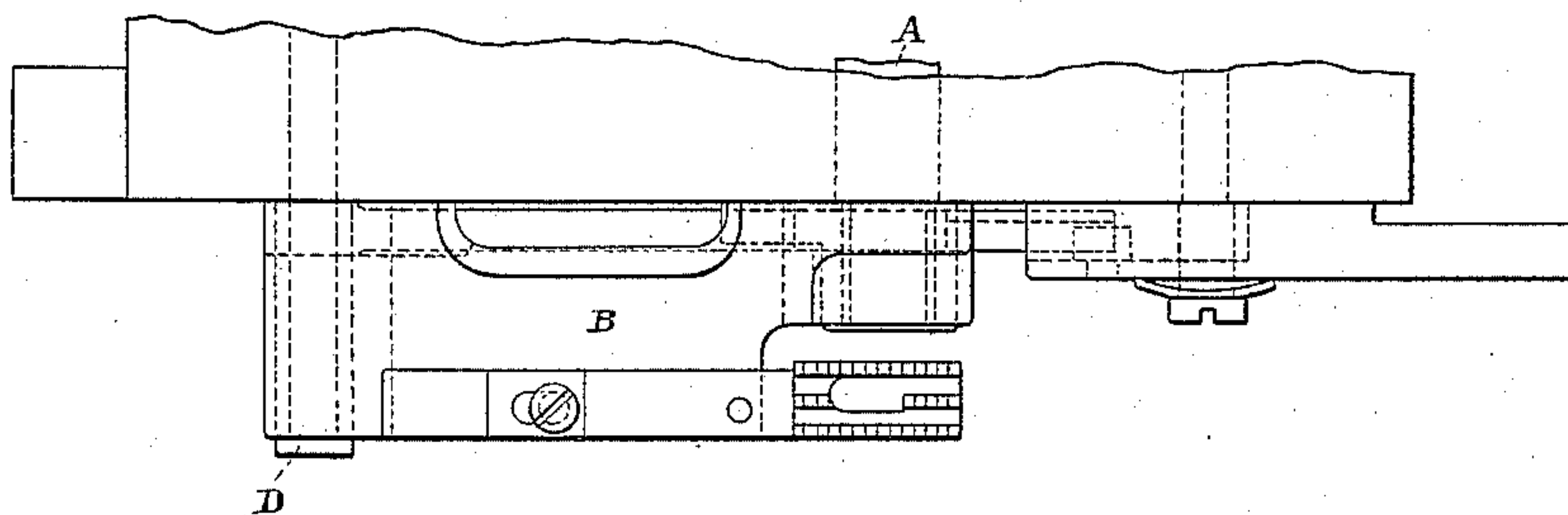


FIG. II.

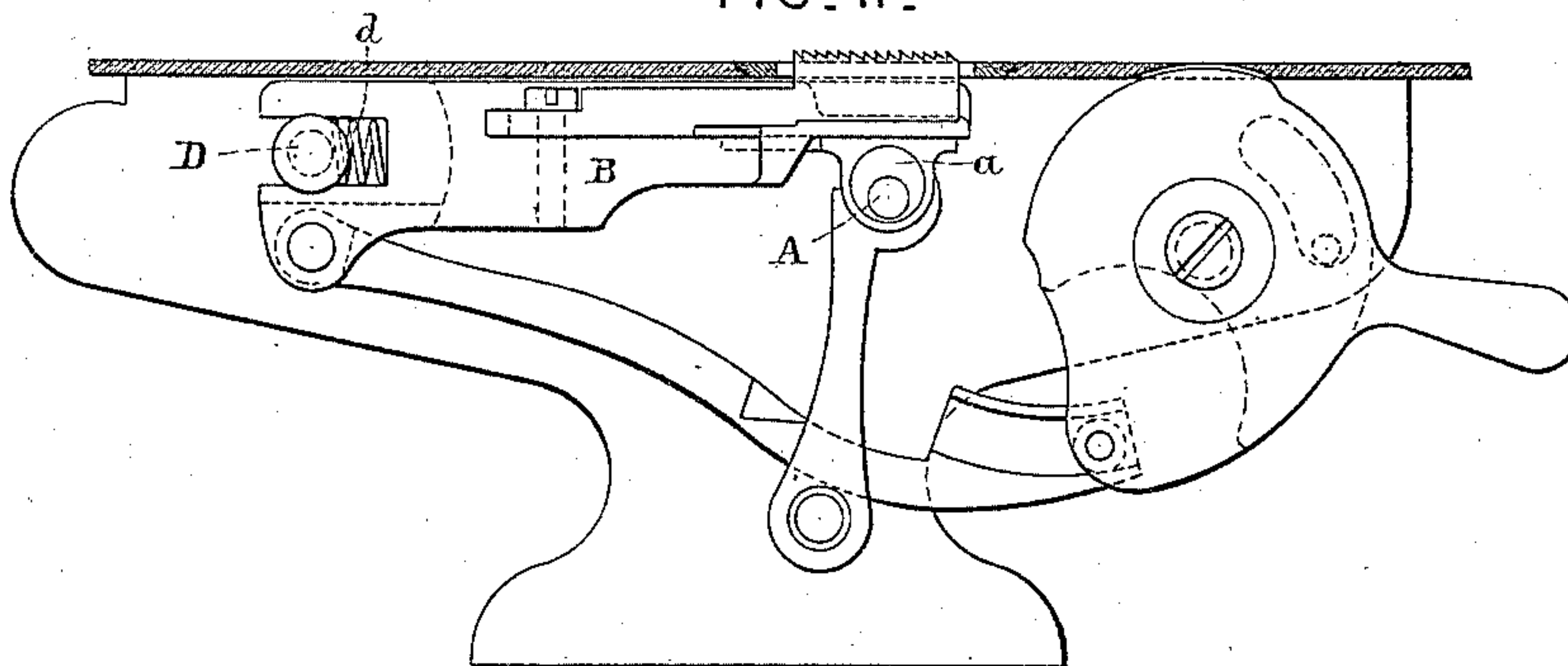
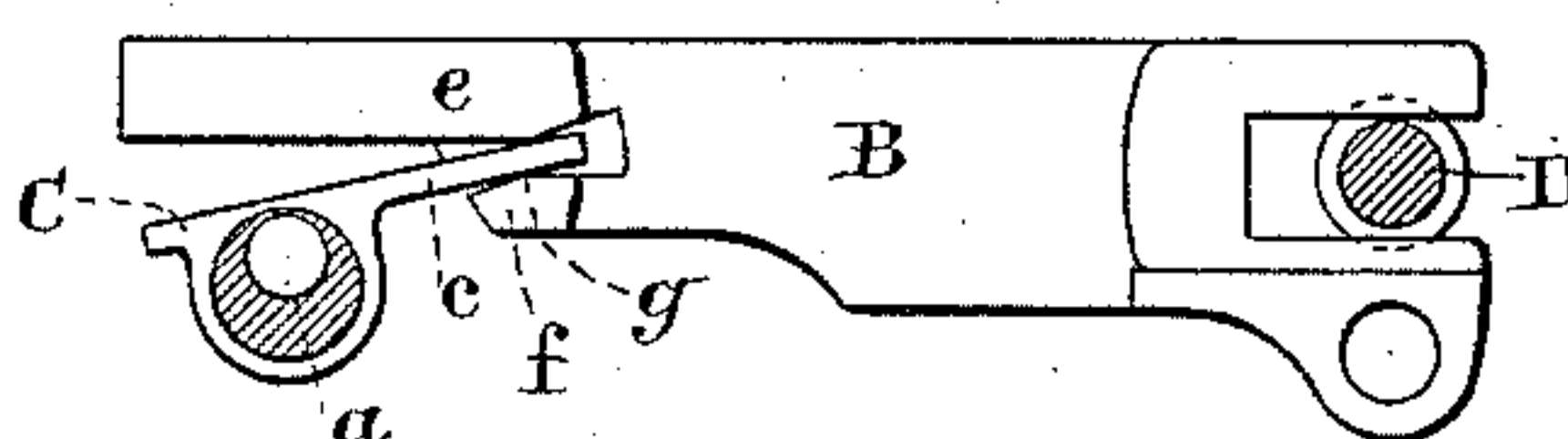


FIG. III.



Attest:
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UNITED STATES PATENT OFFICE.

CHARLES H. WILLCOX, OF NEW YORK, N. Y., ASSIGNOR TO THE WILLCOX & GIBBS SEWING MACHINE COMPANY, OF SAME PLACE.

FEED MECHANISM FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 398,300, dated February 19, 1889.

Application filed November 20, 1888. Serial No. 291,335. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. WILLCOX, of New York city, in the county and State of New York, have invented a new and useful Improvement in Feed Mechanism for Sewing-Machines, which improvement is fully set forth in the following specification.

This invention has reference to feed mechanism for sewing-machines, and its object is to prevent injury to the mechanism in case of accidental interference with the motion of the feed-bar, as by its catching the cloth or by the winding up of the thread upon the looper. In such case the descent of the feed-bar by the operation of the feed-eccentric is resisted, and if the resistance be considerable injury to the feed mechanism is likely to be caused thereby.

According to the present invention the connection between the feed-bar and feed-eccentric, whereby the motion of the latter is communicated to the former, is of such a nature as in the ordinary operation of the machine to impart the proper motions to the feed, but in case of such accident, as above specified, to permit the feed-bar to remain at its highest point while the eccentric descends. This is effected by means of a shoe, which surrounds the feed-eccentric and upon the upper surface of which the feed-bar rests by gravity in the ordinary operation of the machine. The pressure of the spring, which returns the feed-bar, also aids in insuring the contact of these two parts. This shoe is provided with a projection entering a recess in the feed-bar, and is thereby held in position and prevented from rotation with the eccentric. The form of this recess is such that the shoe can separate from the feed-bar sufficiently to descend with the eccentric should the feed-bar by any accident be held in its highest position. The recess, moreover, being in the rear of the feed-bar, prevents the shoe slipping off the eccentric when the feed-bar is in place.

It is preferred to form the recess for receiving the projection of the shoe by cutting a slot of proper form in the feed-bar; but it could be formed by tapping a pin in the feed-bar below the shoe.

In the accompanying drawings, which form

part of this specification, Figure I is a partial plan view of the parts under the cloth-plate of the machine; Fig. II, a side elevation, and Fig. III a rear view, of the feed-bar and shoe.

The machine partially illustrated in these drawings is the well-known Willcox & Gibbs single-thread chain-stitch machine, and the feed-mechanism illustrated is substantially that described in patent of Willcox and Carlton, No. 116,783, dated July 4, 1871.

A is the main shaft, and *a* the feed-eccentric, which imparts the usual four motions to the feed-bar B. Between the feed-bar B and eccentric *a* is interposed the shoe C, surrounding the eccentric and having a flat upper surface, upon which the feed-bar rests by gravity. The contact of these parts in the normal working of the machine is further insured by the pressure of the spring *d*. Shoe C has a projection or tail-piece *c*, which extends between the overhanging part *e* and the projection *f* at the rear of the feed-bar, these parts forming between them a recess or slot. Contact of the projections *e* and *f* with the tail-piece *c* prevents rotation of the shoe C with eccentric *a*. At its narrowest part the recess or slot is about the width of the tail-piece *c*; but this part is simply a line from which the recess or slot is widened in both directions by cutting away the projections *e* and *f* at an angle, as best shown in Fig. III. The manner in which the part *f* is cut away forms an edge *g*, upon which as a center the shoe C can turn in case anything occurs to arrest the descent of the feed-bar. The separation of the shoe C and feed-bar B is shown in Fig. III.

It will readily be seen that the construction described permits the feed-eccentric to move to its lowest point without necessitating the descent of the feed-bar, and at the same time causing no damage to the parts.

Modifications may obviously be made in the details of construction without departing from the spirit of the invention.

I claim as my invention or discovery—

1. The combination, with the feed-bar and feed-eccentric, of a shoe surrounding said eccentric and communicating motion therefrom to said feed-bar, said shoe having a tail-piece or extension resting upon a projection of said

feed-bar, upon which it can rock sufficiently to permit the descent of said eccentric and shoe, leaving said feed-bar in the highest position, substantially as described.

- 5 2. The combination of the feed-bar, the feed-eccentric, and the shoe interposed between the two and having a tail-piece projecting into a recess or slot in said feed-bar, said recess or slot having a contracted portion about the
10 width of said tail-piece, and having divergent

walls on each side of said contracted portion, substantially as and for the purpose set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

CHAS. H. WILLCOX.

Witnesses:

J. PARMLY,

E. A. RACE.