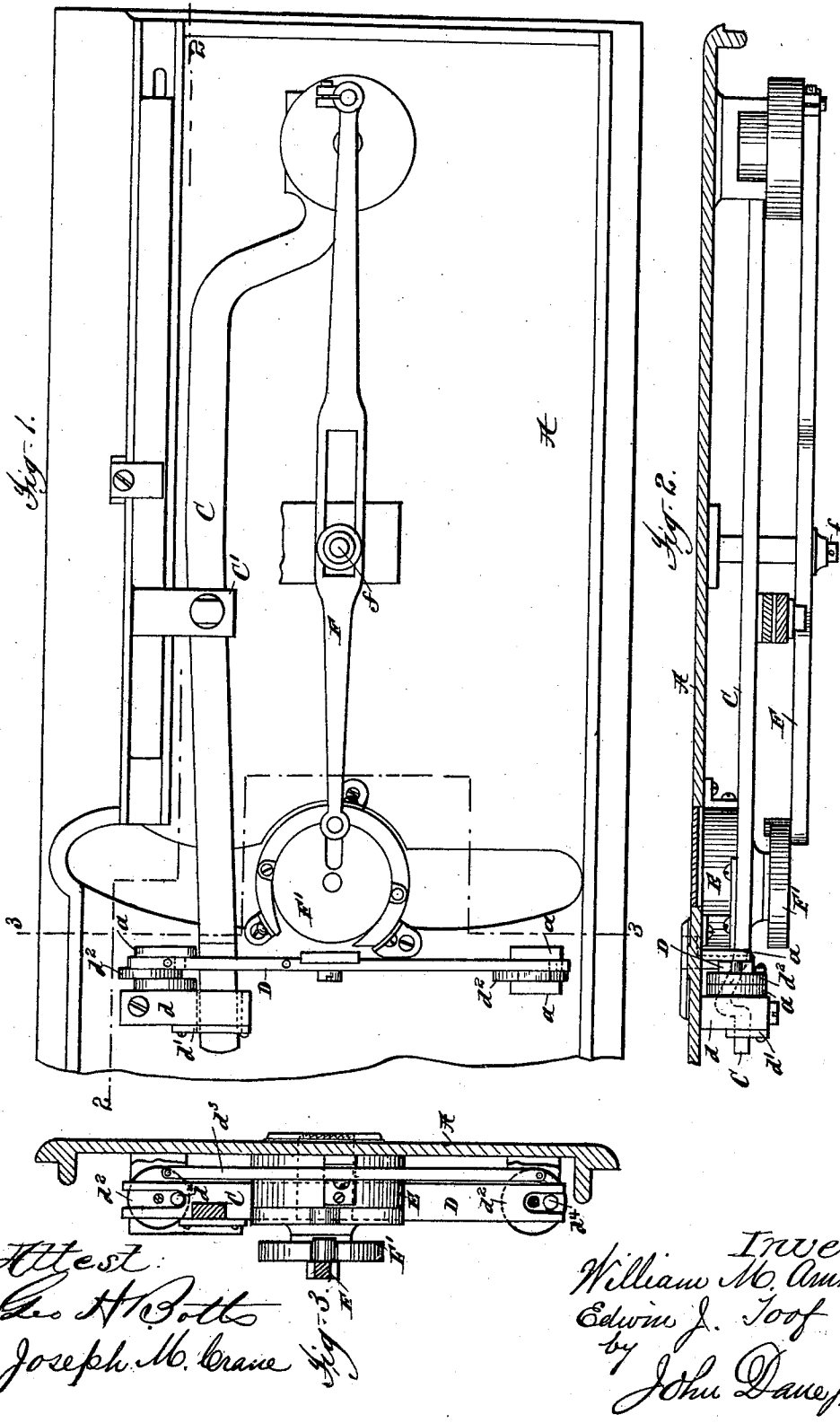


(No Model.)

W. M. AMMERMAN & E. J. TOOF.
SEWING MACHINE.

No. 582,382.

Patented May 11, 1897.



UNITED STATES PATENT OFFICE.

WILLIAM M. AMMERMAN AND EDWIN J. TOOF, OF NEW HAVEN, CONNECTICUT, ASSIGNORS TO SAID TOOF.

SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 582,382, dated May 11, 1897.

Application filed October 16, 1890. Serial No. 368,353. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM M. AMMERMAN and EDWIN J. TOOF, citizens of the United States, and residents of New Haven, county of New Haven, and State of Connecticut, have invented new and useful Improvements in Sewing-Machines, of which the following, taken in connection with the drawings herewith accompanying, is a specification.

Our present invention relates more particularly to the feeding mechanism for sewing-machines; and it consists, first, in the means for supporting and carrying the feed-bar; secondly, in the means for operating the latter, and, thirdly, in certain details of construction and combinations of parts, as will hereinafter be set forth in detail and pointed out in the claims.

The object of our invention is to secure the uniform presentation and movement of the serrated feeding-surface of the feed-bar in a horizontal plane above the cloth-plate of the machine in order that its entire surface may obtain a firm and positive engagement with the material being operated upon and prevent any liability of undue strain or damage thereto, which is especially liable to occur in case of thin goods when, as heretofore, the serrated feeding-surface is presented above the cloth-plate in a slanting position to cause its forward end to engage with the material and begin to move or feed the same before its entire surface has engaged therewith, such and other objectionable features in the usual means for feeding the material in the operation of sewing being obviated by the construction and combination of parts forming our invention.

Referring to the drawings, Figure 1 represents a bottom view of the bed-plate of a sewing-machine embodying our invention; Fig. 2, a longitudinal sectional view through line 2 2 of Fig. 1, and Fig. 3 a sectional view through line 3 3 of Fig. 1.

To explain in detail, A represents the bed-plate of the machine, and D the feed-bar. In the present instance and according to our invention we have provided two pivoted oscillating crank-disks d^1 d^2 , which are supported between lugs or projections (represented at

a) located on the under side of the bed-plate A. These disks are connected by a rod d^3 , which is pivotally attached at each end thereto and at an equal distance from their pivot-point in order to insure their uniform movement when operated in a manner as will be described. These disks are also each provided with a pin or projection d^4 , located thereon at an equal distance from its pivot-point, on which the feed-bar D is supported, the latter being provided with a longitudinal slot or opening at or near each end thereof to receive the said supporting pins or projections d^4 . By this means of supporting the feed-bar it will be obvious that it will be supported and carried in a horizontal plane during both its vertical and horizontal movement, as the supporting projections d^4 always move in the same plane by reason of the connection of the disks by the rod d^3 , causing said disks to move in unison, as will be readily understood.

The feed-bar is operated by means of a lever C, which has a sliding pivotal connection at or near its center with an adjustable support and fulcrum C' and at one end is provided with a collar or sleeve, which embraces a cam or eccentric located on a vertically-arranged rotating rod or shaft, (not shown in the drawings,) from and by which the lever C receives a vibrating and longitudinally-reciprocating movement, as will be readily understood. The opposite end of said lever C projects through an opening of a corresponding size, or nearly so, located in the feed-bar D and through a horizontally longitudinal opening or slot d' in a stationary lug or projection d , located on the under side of the bed-plate A.

At a point adjacent to its connection with the feed-bar or where it extends through the latter the lever C is provided with a vertically-arranged bend or angle formed therein, as more clearly shown in Fig. 2, which is adapted, when being reciprocated through the said opening in the feed-bar, to give the latter a positive vertical or up-and-down movement. The horizontal movement of the feed-bar is secured by the vibrating movement of the lever C, as will be obvious.

The movement of the feed is regulated by adjusting the position of the fulcrum C' of the operating-lever C, by which the length of

throw or vibration of the latter, and thereby the connecting feed-bar, is regulated, as will be readily understood.

Having thus set forth our invention, we do not wish to be understood as confining ourselves to the particular means of connection between the feed-bar and the rocking oscillating crank-disks or to the particular means for operating the feed-bar, as herein set forth; but

What we do claim, and desire to secure by Letters Patent of the United States, is—

1. In a sewing-machine, the combination of two oscillating crank-disks, means connecting said disks whereby they will move in unison, a feed-bar supported by said disks to be guided vertically thereby and have a horizontal movement independent of the same, and means for operating said feed-bar and connecting parts, substantially as and for the purpose set forth.

2. In a sewing-machine, the combination of two oscillating crank-disks, a rod pivotally connecting with said disks, a feed-bar supported by said disks to be guided vertically thereby and have a horizontal movement independent of the same, and means for operating said feed-bar and connecting parts, substantially as and for the purpose set forth.

3. In a sewing-machine, the combination of two oscillating crank-disks, each having a pin located thereon in a position to move in the same horizontal plane, means connecting said disks whereby they will move in unison, a feed-bar having horizontally-elongated slots therein to receive said pins on the crank-

disks, whereby the feed-bar will be supported on the latter to be guided vertically thereby and have a horizontal movement independent of the same, and means for operating the feed-bar and connecting parts, substantially as and for the purpose set forth.

4. In a sewing-machine, the combination of two oscillating crank-disks pivotally connected with each other to operate in unison, a feed-bar supported by said disks to be guided vertically thereby and have a horizontal movement independent of the same, and a reciprocating vibratory lever having a sliding connection with the feed-bar through an opening therein, and provided with a bend or angle for reciprocating through said opening in the feed-bar, substantially as and for the purpose set forth.

5. In a sewing-machine, the combination of two oscillating crank-disks pivotally connected with each other to operate in unison, a feed-bar supported by said disks to be guided vertically thereby and have a horizontal movement independent of the same, a reciprocating vibratory lever having a sliding connection with the feed-bar through an opening therein, and provided with a bend or angle for reciprocating through said opening in the feed-bar, and an adjustable fulcrum for the said operating-lever, substantially as and for the purpose set forth.

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Witnesses:

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