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FEEDING MECHANISM FOR SEWING MACHINES.

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1,231,133. Patented June 26, 1917.

Fig. 1.

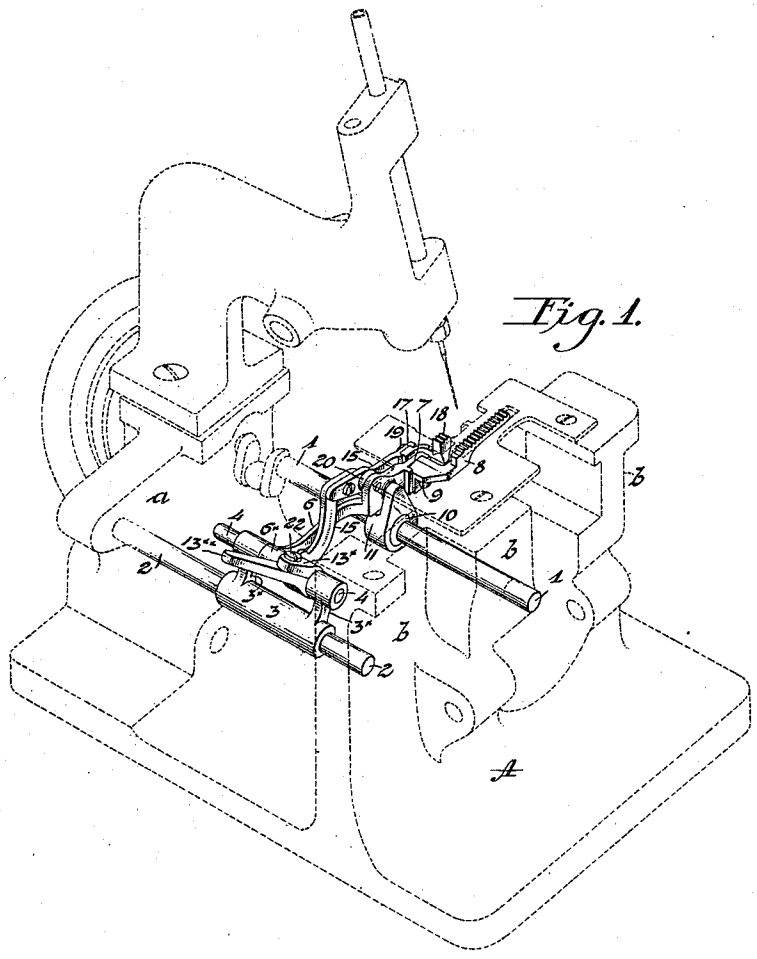
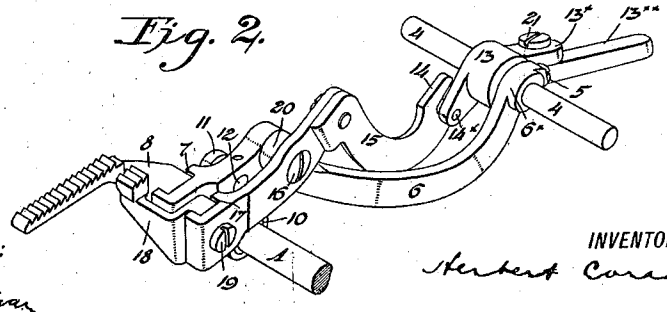


Fig. 2.



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FEEDING MECHANISM FOR SEWING-MACHINES.

1,231,133. Specification of Letters Patent. **Patented June 26, 1917.**

Application filed October 20, 1914. Serial No. 867,599.

To all whom it may concern:

Be it known that I, HERBERT CORRALL, a subject of the King of the United Kingdom of Great Britain and Ireland, residing at Parkview, Helensburgh, Dumbartonshire, Scotland, have invented certain new and useful Improvements in Feeding Mechanism for Sewing-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to feeding mechanism for sewing machines and has for its object to provide simple and effective supporting and adjusting means for coacting feeding members comprising a main feed-dog and an auxiliary feed-dog disposed at one side thereof, means being provided for instantaneously adjusting the relative heights of the two feed-dogs to suit the particular class of work operated upon at the moment. The improvements are adapted for use in connection with machines for overedging, binding, or cording, lace curtains, knit goods, and the like, being adapted to compensate for different thicknesses in that portion of the work directly engaged by the feed-dogs.

The improvements comprise a main feed-bar carrying the main feed-dog and connected with a feed-rocker and with suitable feed-lift means operated from the driving shaft of the machine, together with an auxiliary feed-bar pivotally mounted upon the main feed-bar and carrying an auxiliary feed-dog disposed at one side of the main feed-dog to move in unison therewith. The rear end of the auxiliary feed-bar is connected with an adjusting lever which, in the present embodiment of the invention, is fulcrumed upon the feed-rocker, in such manner that the operator can manipulate the same without disturbing the work to instantly raise or lower the auxiliary feed-dog and thus adjust the relative heights of the two feeding elements.

In the drawings, Figure 1 is a perspective view of the improvements applied to a Singer sewing machine of a type in which the driving shaft is located below the overhanging arm in which the needle-bar is mounted. Fig. 2 is a perspective view of the main feed-bar, the auxiliary feed-bar, and the adjusting lever, removed from the machine.

The improvements are shown applied to the frame of a machine comprising the bed-plate A and up-right bearing supports *a*, *b*, the latter being formed with suitable bearing apertures to receive the driving shaft 1 and feed rock-shaft 2. It will be understood that the feed rock-shaft 2 is provided with suitable operative connections (not shown) with the driving shaft 1.

Fixed upon the feed rock-shaft 2 is the feed-rocker 3 provided with two spaced lateral arms $3^{\times}$, each arm having an enlarged apertured end to receive a pin 4. Disposed intermediate the arms $3^{\times}$ and fixed upon the pin 4, by means of a clamping screw 5, is the enlarged apertured end $6^{\times}$ of the main feed-bar 6, formed in its forwardly projecting end with a vertical channel 7 to receive the shank of the main feed-dog 8 which is secured in position upon the bar by means of the stud-screw 9. The feed-bar 6 overhangs a feed-lift eccentric 10 on the driving shaft 1, and a short pitman 11 embracing the feed-lift eccentric is pivotally connected to the bar at the rear of its channel 7 by means of a stud-screw 12.

Mounted upon pin 4, intermediate the rocker arms $3^{\times}$ and adjacent the enlarged end of the feed-bar 6, is the split hub of an adjusting lever 13 which carries a laterally projecting pin $14^{\times}$, the latter engaging the forked end 14 of an auxiliary feed-bar 15. The auxiliary feed-bar is fulcrumed by means of stud 16 upon the main feed-bar 6 and is formed near its end with a channeled seat 17 to receive the auxiliary feed-dog 18, the latter being held in place on the bar by means of a screw 19. A washer 20 is fitted upon the fulcrum stud 16 intermediate the bars 6 and 15 to compensate for wear occasioned by vibration and the relative movement of the bars during the adjustment thereof.

The split hub of adjusting lever 13 merges into two separate sections forming a rearwardly projecting ear or lug $13^{\times}$ and a finger piece $13^{\times\times}$.

Apertures are formed in the lug $13^{\times}$ and finger piece $13^{\times\times}$ to receive a screw 21 which serves to force these two members together and thus to hold the adjusting lever against movement upon the pin 4 until a certain degree of friction is overcome by pressure upon the finger piece $13^{\times\times}$. In practice, the auxiliary dog 18 operates at the rear of the needle and in position to engage the finished

end of the curtain or other article as the cording, overseaming or binding thereof progresses. By depressing or elevating the finger piece 13^{xx} of the adjusting lever 13, the operator may instantly lower or raise the auxiliary dog according to the height of the finished edge of the work, and thus may insure the feeding of the latter without puckering or drawing, through the equalized action of the two feed-dogs. By the foregoing construction an instantaneous adjustment of the relative heights of the two feed-dogs may be obtained without removing the work from the machine.

It will be understood that changes may be made in the embodiment of the improvements herein illustrated without departing from the spirit of the invention, and especially with respect to the form of, and connections between, the feed-bars and the adjusting lever.

Having thus set forth the nature of the invention, what I claim herein is:—

1. In feeding mechanism for sewing machines, the combination with a primary feed-dog and supporting means therefor including a reciprocatory bar, of a secondary feed-dog pivotally mounted upon the reciprocatory bar, and means for instantly raising or lowering said secondary feed-dog including an adjusting lever and a pin-and-slot connection between said lever and said secondary feed dog.

2. In feeding mechanism for sewing machines, the combination with a primary feed-dog and supporting means therefor including a reciprocatory bar, of a feed-rocker carrying a supporting pin upon which the said bar is mounted, a secondary feed-dog, and an auxiliary bar therefor fulcrumed upon the reciprocatory bar and formed with a slot, an adjusting lever fulcrumed upon the rocker-pin adjacent the reciprocatory bar and carrying a pin entering the slot in the auxiliary bar and also provided with an operating handle projecting rearwardly of the rocker to be directly manipulated by the operator for instantaneously raising or lowering the auxiliary feed-dog.

3. In feeding mechanism for sewing machines, the combination with a primary feed-dog and supporting means therefor including a reciprocatory bar, of a secondary feed-bar pivotally supported upon the reciprocatory bar, a secondary feed-dog carried thereby, and an adjusting lever directly and slidably connected with the secondary feed-bar for effecting instantaneous elevation or depression of the secondary feed-dog relative to the primary feed-dog.

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

HERBERT CORRALL.

Witnesses:
WALLACE CRANSTON FAIRWEATHER,
HENRY MASON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."