

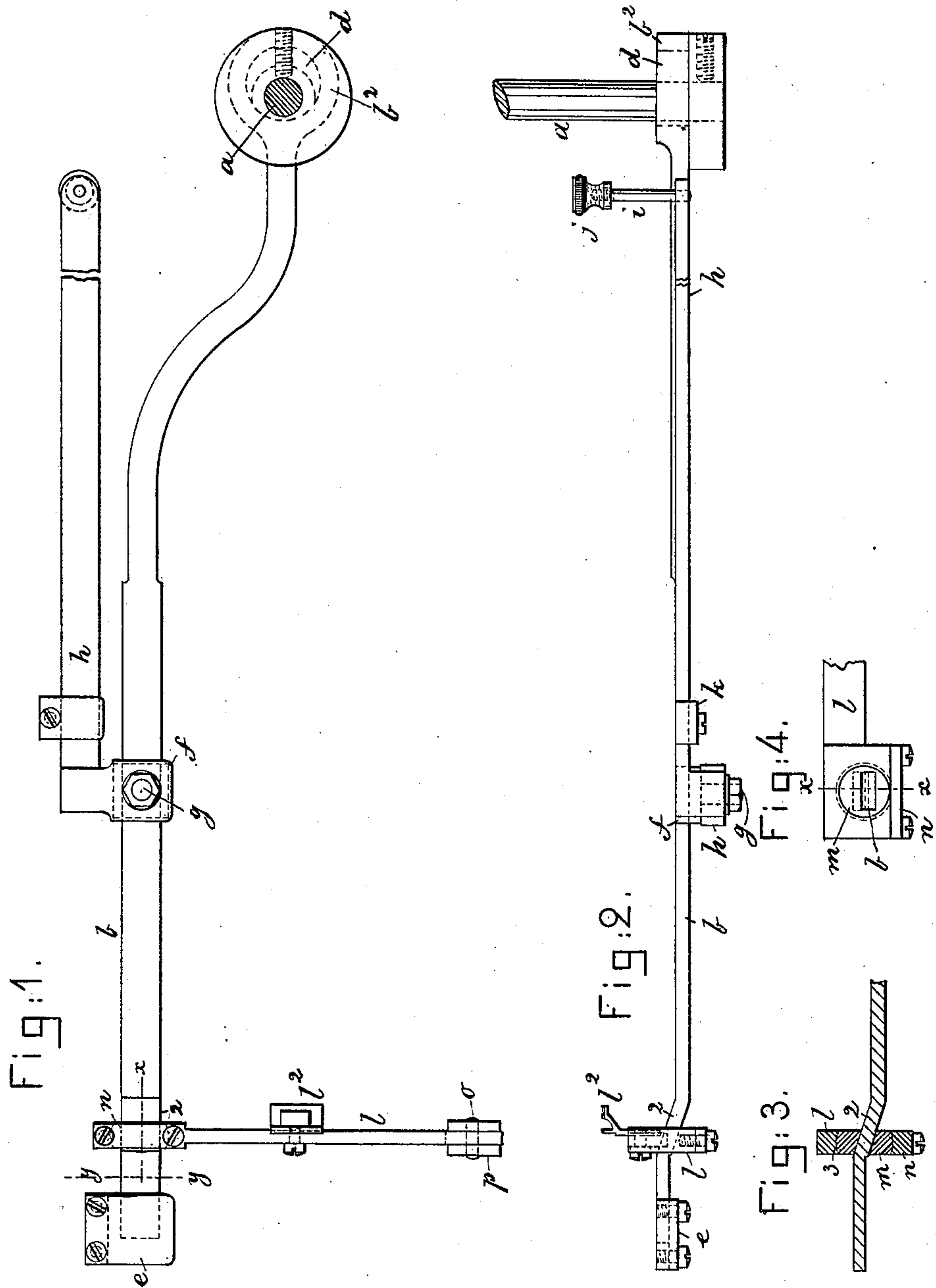
(No Model.)

H. W. HADLEY & W. L. GROUT.

SEWING MACHINE ATTACHMENT.

No. 251,219.

Patented Dec. 20, 1881.



Witnesses.

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# UNITED STATES PATENT OFFICE.

HORACE W. HADLEY AND WILLIAM L. GROUT, OF ORANGE, MASS.

## SEWING-MACHINE ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 251,219, dated December 20, 1881.

Application filed October 20, 1881. (No model.)

*To all whom it may concern:*

Be it known that we, HORACE W. HADLEY and WILLIAM L. GROUT, both of Orange, Franklin county, State of Massachusetts, have  
5 invented an Improvement in Sewing-Machine Attachments, of which the following description, in connection with the accompanying drawings, is a specification.

This invention in sewing-machines has reference to improvements in the mechanism for  
10 operating a four-motioned feeding device positively in all its movements.

In this our invention we employ a feed-carrying bar, a reciprocating and vibrating horizontally-placed wedge-bar, having its fulcrum  
15 in a loosely-pivoted adjustable block, substantially as in the so-called "New Home machine;" but with these devices we have combined a slotted disk, which receives the inclined or  
20 wedge part of the wedge-bar, the said disk having its edges rounded and fitted into a curved annular seat in the feed bar, so that as the wedge-bar is reciprocated through the slot of the said disk to raise and lower the feed  
25 and vibrated to move the feed forward and backward the said disk is free to rock or turn to a limited extent to avoid binding of the parts.

Figure 1 is an under side view of a sufficient portion of a sewing-machine to illustrate our  
30 invention; Fig. 2, a side view of the feeding devices and the lower portion of the upright shaft and cam for moving the feeding devices, the frame-work of the machine not being shown; Fig. 3, a sectional detail in the line *x*  
35 *x*, Figs. 1 and 4; and Fig. 4 is a detail of the rear end of the feed-bar with its disk, the view being taken looking toward the right from the dotted line *y y*, Fig. 1.

In the drawings, *a* represents the usual vertical shaft employed in the New Home and Singer class of machines to actuate the wedge-  
40 bar *b*, said shaft having at its lower end an eccentric, *d*, (shown in dotted lines,) which is embraced by the eccentric-strap *b'*, constituting  
45 the rear end of the wedge-bar *b*. This wedge-bar, provided near its outer end with a wedge or incline, 2, is guided at its outer end by the plate *e*, which will be attached to the bed-plate of the sewing-machine at its under side, and  
50 between its ends the said wedge-bar has its fulcrum, as usual, in a block, *f*, pivoted at *g* on the

adjusting-bar *h*, held in a guide, *k*, and made longitudinally adjustable in the usual way to vary the length of the feed-stroke of the bar  
55 *b* through the pin *i* and nut *j*, the pin being extended up through a slot in the bed-plate, all as usual.

The feed-bar *l*, slotted at one end to receive the pin *o* in the ears or brackets *p*, supposed to be secured to the under side of the bed-plate,  
60 all as usual, has at its other end a circular or annular space, concaved, as shown in Fig. 3, to receive the disk *m*, the periphery or edges of which is convexed to fit the concaved annular space in the feed-bar, the said disk being held  
65 in the said space by the cap *n*.

The disk *m* is provided at or near its center with a slot just wide enough to receive the wedge part of the wedge-bar, and inclined from one to its other side to correspond with the in-  
70 clination of the wedge part or incline 2 of the said bar. This disk and its application to the usual wedge bar and feed-bar comprise our invention.

The feed-bar is moved backward and forward  
75 positively by the wedge-bar as it is vibrated by the eccentric about the fulcrum-block, and the feed-bar is raised and lowered positively as the wedge 2 is reciprocated backward and forward through the inclined slot in the disk, into  
80 which slot the wedge part 2 is closely fitted. The feed-bar is to have right-line movement from the vibrating bar *b*. Hence, to prevent binding of the parts, we have rounded or made the edges of the disk convexed and fitted it  
85 into a concaved seat made in the feed-bar, so that the said disk, as the vibrating wedge-bar is moved backward and forward through it, is free to rock and oscillate to a limited extent.

We claim—

The feed bar and the slotted movable disk  
90 fitted thereto, combined with the reciprocating and vibrating wedge-bar *b*, to operate substantially as described.

In testimony whereof we have signed our  
95 names to this specification in the presence of two subscribing witnesses.

HORACE W. HADLEY.  
WILLIAM L. GROUT.

Witnesses:

JOHN W. WHEELER,  
ABIJAH FRENCH.