

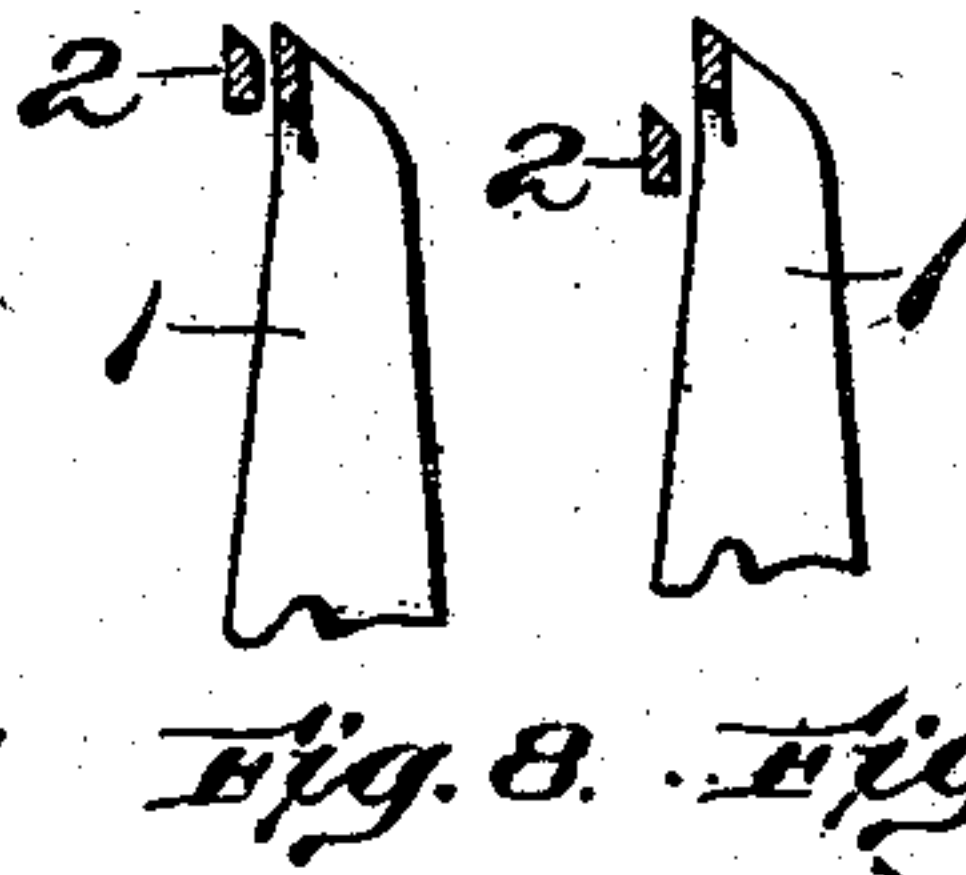
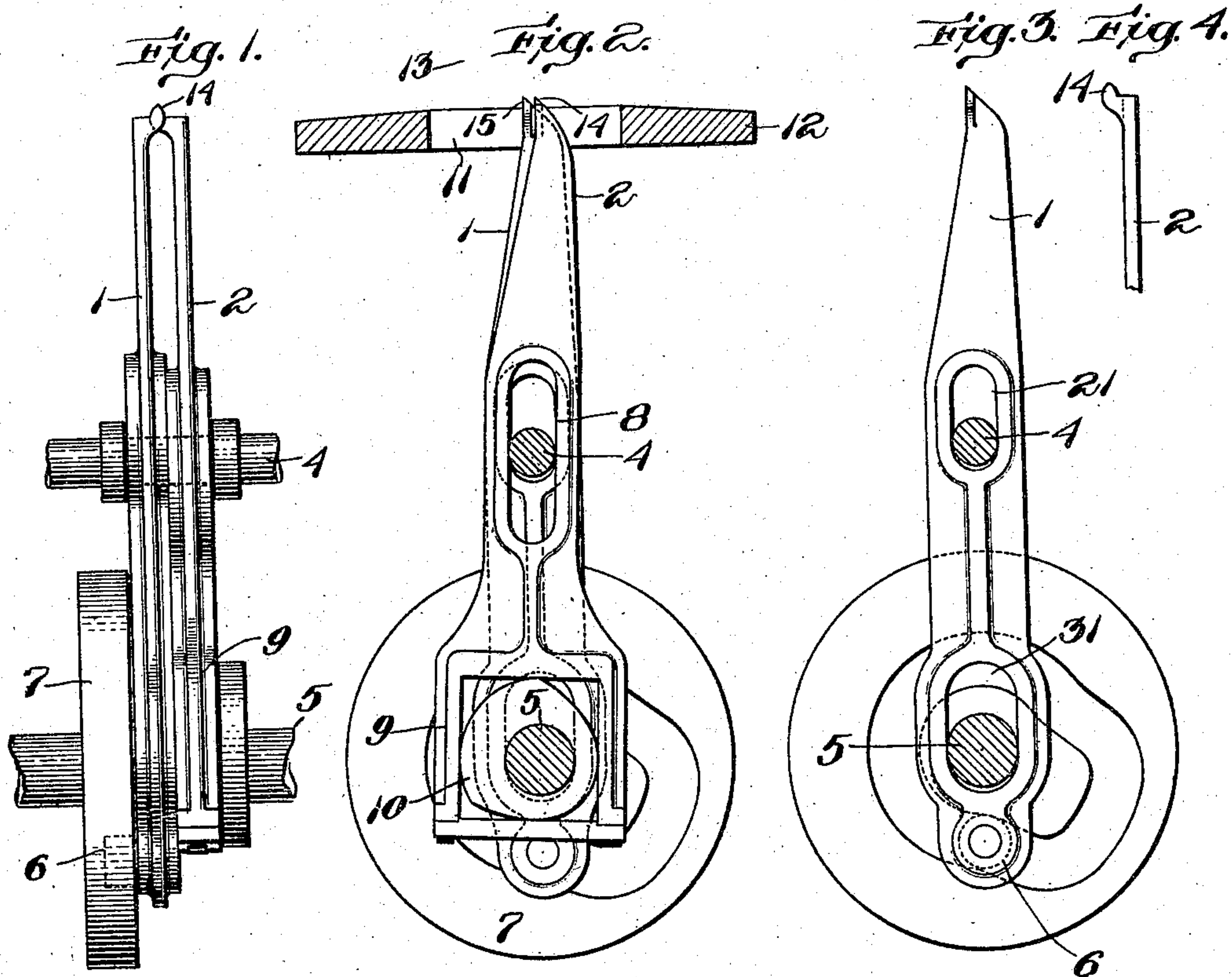
No. 858,539.

PATENTED JULY 2, 1907.

J. A. RHOULT.

FEEDING MECHANISM FOR SEWING MACHINES AND THE LIKE.

APPLICATION FILED DEC. 7, 1905.



Witnesses:

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# UNITED STATES PATENT OFFICE.

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## FEEDING MECHANISM FOR SEWING-MACHINES AND THE LIKE.

No. 858,539.

Specification of Letters Patent.

Patented July 2, 1907.

Application filed December 7, 1905. Serial No. 290,726.

*To all whom it may concern:*

Be it known that I, JOSEPH A. RHOULT, of Haverhill, in the county of Essex and State of Massachusetts, have invented an Improved Feeding Mechanism for Sewing-Machines and the Like, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of my improved feeding mechanism; Fig. 2 is a front view of the mechanism shown in Fig. 1; Fig. 3 shows the holder hereinafter described, and its actuating cam; Fig. 4 is a detail showing the work-engaging end of the feeder hereinafter described; Figs. 5, 6, 7, 8, 9 and 10 are views illustrating the mode of operation of my improved feeding mechanism.

In sewing and like machines which operate in a line upon a piece of work, the work is usually fed through the machine, step by step, while it is being operated upon, and there are times during the operation of such machines when the work is likely to be displaced with consequent inaccuracy of feed and of stitching.

The object of my invention is to provide an improved feeding mechanism for use in sewing machines and the like which will feed the work step by step during the operation of the machine and at all times hold the work against accidental displacement. To this end I provide a feeder and a holder which alternately engage the work in such manner that at all times during the operation of the mechanism one or the other is in engagement with the work and prevents displacement thereof.

In the best form of my invention the feeder and the holder both engage the work preferably on a line which is parallel with the feed and during the operation of the mechanism the feeder travels from a retracted position into engagement with the work, then laterally to effect the feed, and then out of engagement with the work back to its retracted position again, the holder being out of engagement with the work as the latter is shifted laterally by the feeder, and being brought into engagement with the work after the feeder has completed its feeding movement. By this arrangement the work is at all times controlled by the mechanism so that accidental displacement and irregular feed is prevented, and whatever marking of the work results from the engagement therewith of the holder and the feeder will be in one line.

Other features of my invention are hereinafter pointed out.

Having reference to the drawings, 1 represents the

holder and 2 the feeder. The holder 1 is made with slots 21 and 31 through which extend a fixed stud 4 and a shaft 5, the latter being constantly driven from any suitable source of power. The lower end of holder 1 carries a cam roll 6 in engagement with a cam 7 fixed to the shaft 5 through which at the proper moments during the operation of the mechanism the holder is lowered and raised in a straight line. The feeder 2 is made with a slot 8 to embrace stud 4 and with a yoke 9 embracing a cam 10 on shaft 5 through which feeder 2 is raised and lowered as well as oscillated on stud 4. The upper ends of the holder and feeder extend into a slot 11 in a work-rest 12 at a point below an abutment 13 which in the case of a sewing machine such as that shown in my Patent No. 796,866 would be the presser-foot, work guide or thread carrier. The upper ends of the holder and feeder terminate in work-engaging points 14 and 15, which are offset one toward the other and which overlap as shown in Fig. 1 so that they are in a line parallel with the oscillating movement of feeder 2.

The operation of the mechanism, starting with the parts in the position shown in Fig. 2, is illustrated in Figs. 5 to 10 inclusive, and is as follows: Holder 1 is first lowered by cam 7 and then feeder 2 is swung on stud 4 so as to shift its point 14 laterally to the left and at the completion of this lateral work-feeding movement cam 7 raises holder 1 into engagement with the work back of point 14 after which cam 10 lowers feeder 2, swings its upper end laterally to the right and then raises it back into engagement with the work behind the holder. The operation is then repeated, and, as will be obvious, each time the holder or feeder is thrust against the work the latter is firmly and positively held against abutment 13 by the holder or feeder and accidental displacement of the work is thus at all times prevented.

It will be clear that with my feed mechanism the thrust of both feeder and holder is substantially at right angles to the work and therefore does not tend to cause side play of the work or inaccuracy of the feed. My construction is very compact and yet is of ample strength without giving any spring effect to the feeder or holder.

What I claim is:

1. In a feeding mechanism of the character described the combination with a feeder and a holder having their work-engaging ends offset one toward the other in a direction at right angles to the feed, of means to revolve the work-engaging end of the feeder in a plane around the work-engaging end of the holder, and means to operate the holder.

5 2. In a feed mechanism of the character described the combination with a feeder and a holder having their work-engaging ends offset one toward the other and overlapped, of means to shift the feeder from a retracted position into engagement with the work, then laterally to feed the work, and then out of engagement with the work and back to its retracted position again; and means to shift the holder to and from the work to engage the latter while the work is not engaged by the feeder and to

free the work while the feeder is acting thereon, said operating means for the holder and feeder co-operating to cause the work-engaging end of the feeder to travel in an endless path around the work-engaging end of the holder. 10

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