No. 814,236. PATENTED MAR. 6, 1906.

R. SCHÖCHLI.

FESTOON STITCH AND SIMILAR MACHINE.

APPLICATION FILED SEPT. 26, 1904.

2 SHEETS—SHEET 1

Fig. 1.

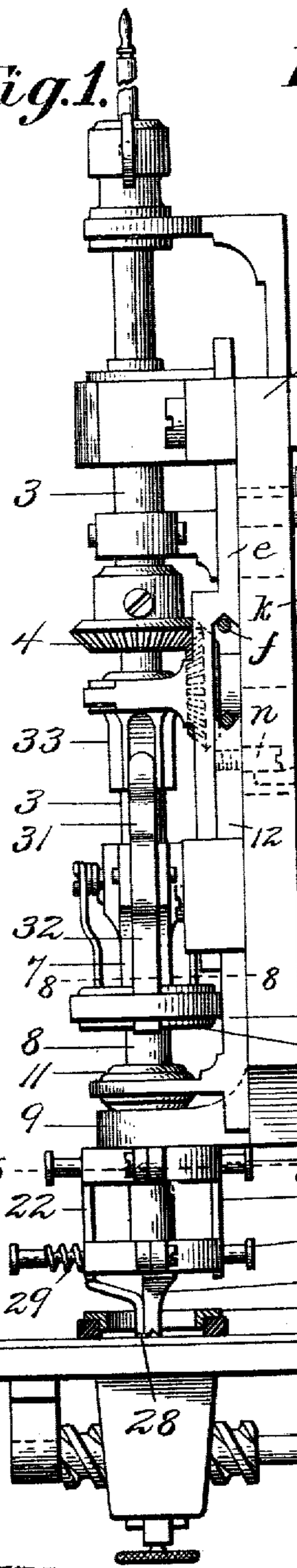


Fig. 4.

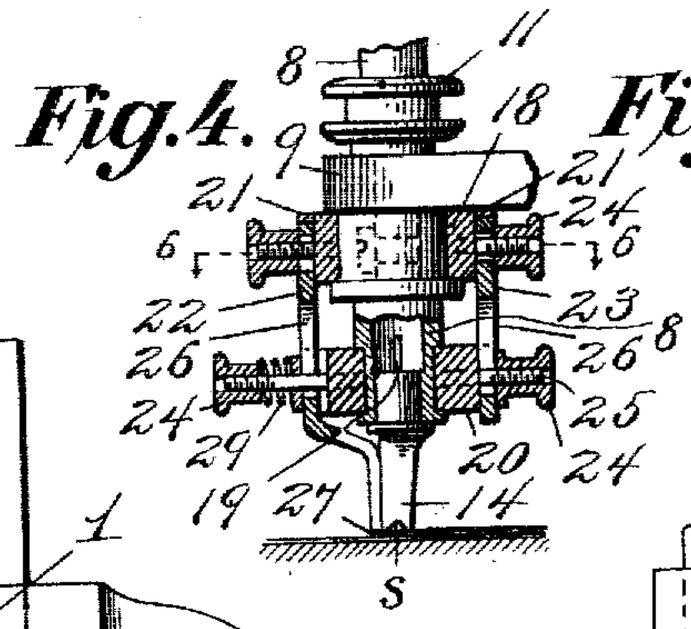


Fig. 3.

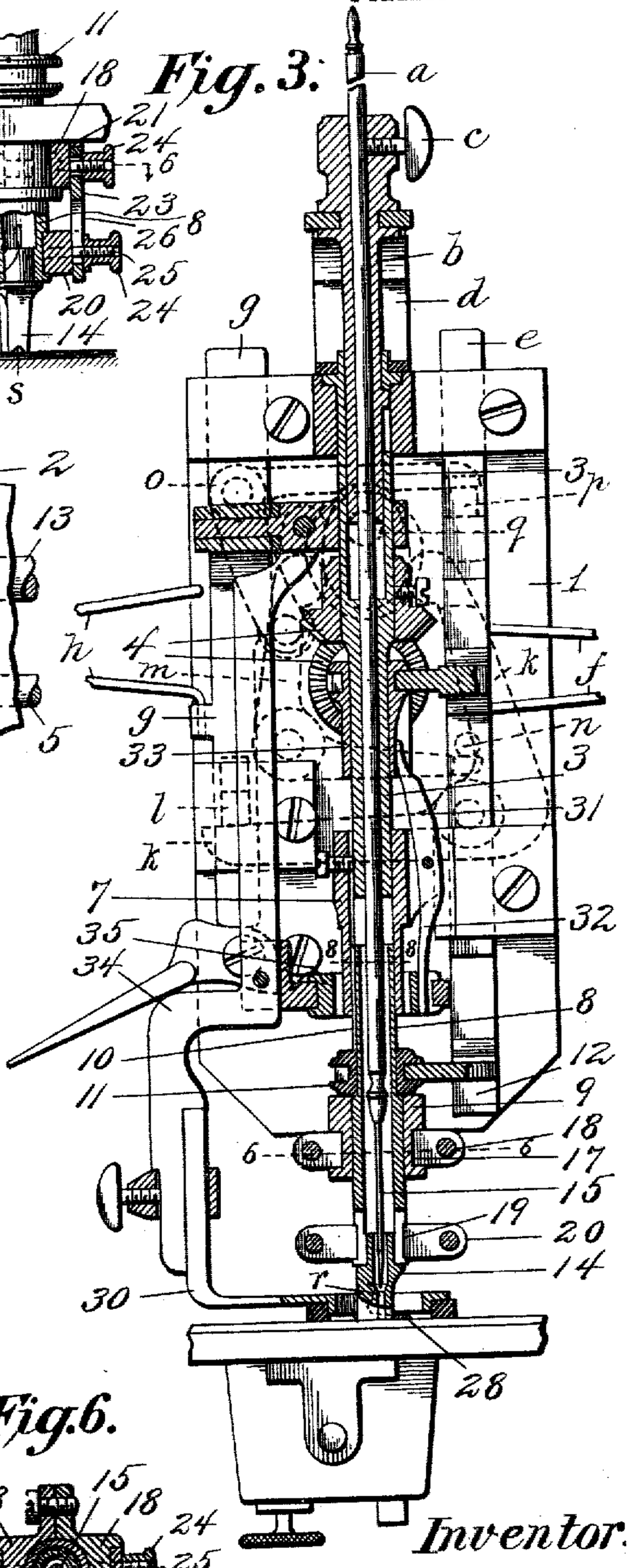
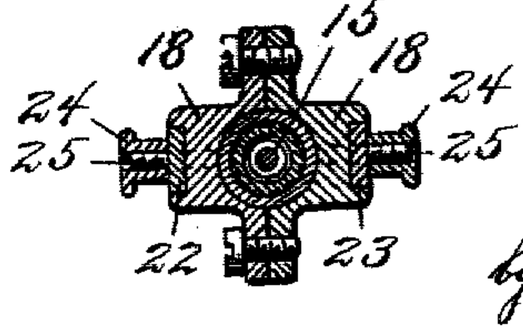


Fig. 6.



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2 SHEETS—SHEET 2.

Fig. 2

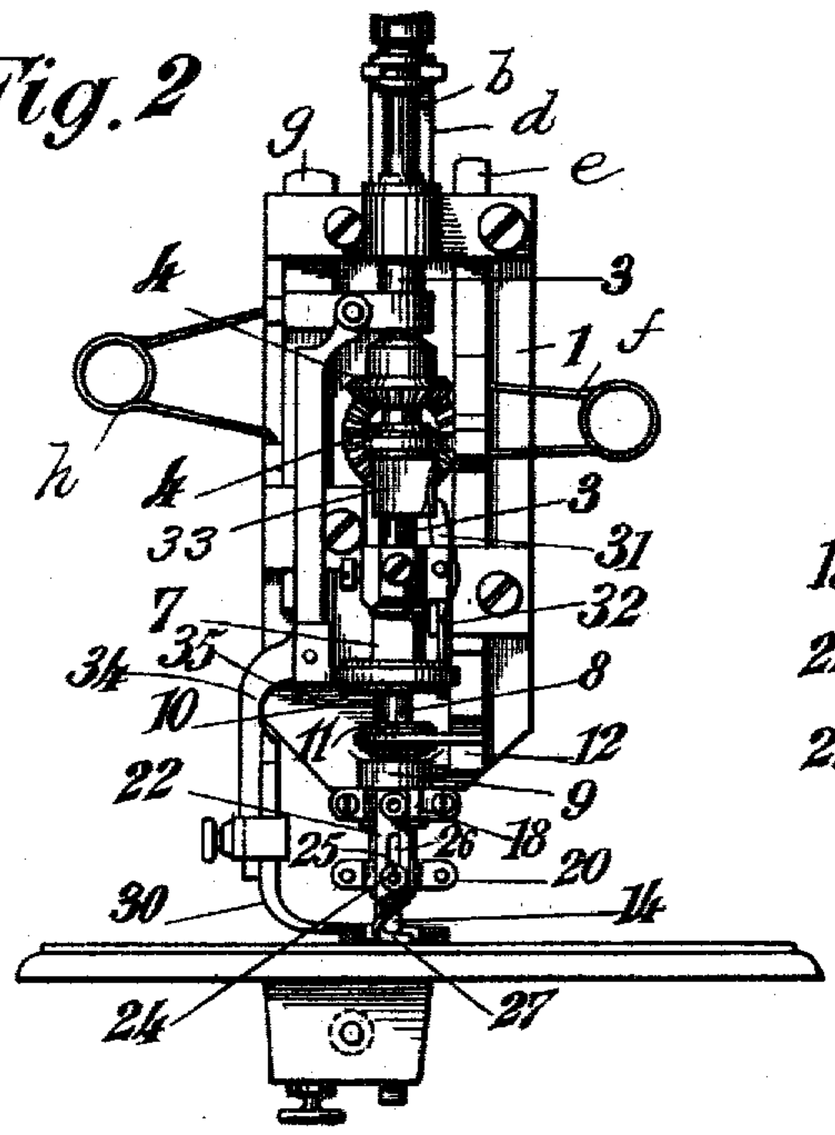


Fig. 7

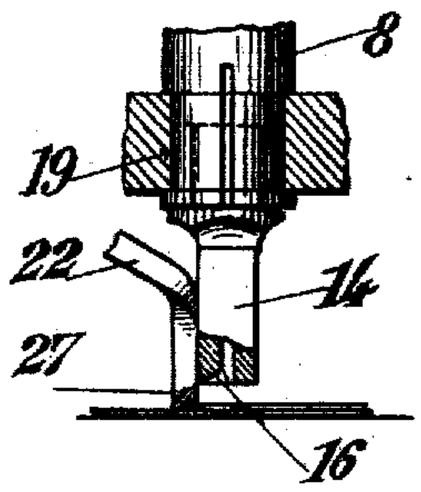


Fig. 5

Fig. 8

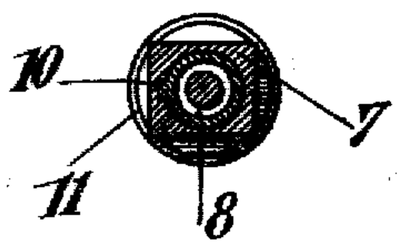
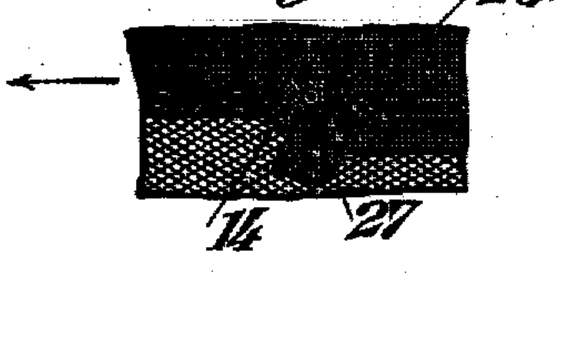


Fig. 9



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UNITED STATES PATENT OFFICE.

RUDOLF SCHÖCHLI, OF ZURICH, SWITZERLAND, ASSIGNOR TO PATCHOGUE MANUFACTURING CO., OF PATCHOGUE, NEW YORK, A FIRM.

FESTOON-STITCH AND SIMILAR MACHINE.

No. 814,236. Specification of Letters Patent. Patented March 6, 1906.

Application filed September 26, 1904. Serial No. 226,079.

To all whom it may concern:

Be it known that I, RUDOLF SCHÖCHLI, a citizen of the Republic of Switzerland, residing at Zurich, Switzerland, have invented new and useful Improvements in Festoon-Stitch and Similar Machines, of which the following is a specification.

My invention relates to festoon-stitch and similar machines having cutting devices for appliqué work, as will be more particularly described in the following specification.

Referring to the drawings, wherein like parts are similarly designated, Figure 1 is an elevation of so much of a machine as will be necessary to illustrate my improvements. Fig. 2 is an end view looking at the head of the machine. Fig. 3 is a vertical central section at right angles to Fig. 1. Fig. 4 is a view, partly in section, to show the mounting of the knives. Fig. 5 is a side view showing the stationary knife in position. Fig. 6 is a section on lines 6 6, Figs. 1 and 3. Fig. 7 shows the cooperation of the knives, parts being in section. Fig. 8 is a section on lines 8 8, Figs. 1 and 3. Fig. 9 is a section on line 9 9, Fig. 5.

The machine to which this invention is applied is of the well-known Cornely type and has a central needle-rod *a* fixed in a needle-tube *b* by a screw or thumb-screw *c*, said needle-tube being slidably but non-rotatively mounted in a tube 3, rotated at will by miter-gears 4 on a shaft 5, driven by suitable hand mechanism. On the tube 3 is slidably mounted a sleeve 33, having a wedge surface engaging the tail 31 of a lever pivoted in a sleeve 7, fixed on the lower end of tube 3. The nose 32 of this lever laterally moves the fabric-feed. A sleeve 8, capable of vertical movement independent of the other parts above mentioned, but rotating with them, carries a reciprocating knife that coöperates with a stationary knife, said movable knife being reciprocated by the collar 11, fixed on sleeve 8, and actuating-bar 12. The needle-tube *b* is reciprocated by a bar *d*. The sleeve 33 is depressed by a bar *e*, between which bar and the bar 12 is a spring *f*. The cloth-feed 30, attached to an actuating-bar *g*, is urged downward by a spring *h*. The means for operating these bars consists of a cam *i*, mounted on the driving-shaft 13 of the machine, one step of which cam actuates one arm of a bell-crank lever *k*, the other arm of which lifts a pin *l*, fixed in the cloth-feed-actuating bar *g*, and the same step of the cam actuates a similar bell-crank lever *m*, that lifts pin *n*, fixed in the actuating-bar 12. The other cam-step actuates bell-crank lever *o*, that depresses pin *p* on rod *e*, and the needle-tube-actuating bar *b* is reciprocated by a pin *q*, eccentric to the driving-shaft 13 and fixed in the cam. So much of the general structure and operating parts were well known prior to my invention and are included only to render clear the following description of my improvements.

Instead of running the driving-tube entirely through the sleeve 7, as in prior machines, I cut this tube off within the sleeve 7 and slidably connect the knife-tube 8 in the sleeve 7 by a groove and a feather 10. The immovable boss 9, in which said knife-tube 8 has bearing, carries a two-part collar 18, freely revoluble thereon. Each part of collar 18 has a screw 25, carrying a nut 24, one of which holds the upper end of a guide 23, Fig. 4, having a slot 26 at its lower end, and the other screw holds the upper end of the oppositely-situated stationary knife 22, having a like slot 26. The lower end of tube 8 has a peripheral groove in which is firmly clamped a second two-part collar 20, having like screws 25 and nuts 24 thereon. This collar clamps the end of knife-tube 8 that is split, as shown at 19, to receive the shank of the perforated knife 14, while the screws 25 of collar 20 pass through and are guided in the slots 26. The stationary knife (shown in side elevation, Fig. 5) has a thin lower foot portion 27 extended into a toe 28, that takes just in front of the cutting edge 16 of the movable knife. The movable knife 14 is perforated at *r* to allow the needle to pass through it and has a V-shaped notch *s* across its lower face to form one sharp knife-edge that lies against the stationary knife, as shown, and acts scissor-like on the appliqué fabric to cut it along the seam as it is sewed onto the base fabric. The perforation through which the needle passes enters the V-shaped notch on the bottom of the knife. This shape of notch permits the knife to be readily sharpened at the cutting side, while the other side acts as a presser-foot for the fabric. The spring 29 holds the knife-bar 22 against the knife 14, so that they can be easily adjusted after wear or sharpening.

The structure of the parts permits their simultaneous rotation and reciprocation and the rotation only of the relatively stationary knife 22.

It is important that there be relative adjustability of the knives in order to compensate for their wear, due to sharpening. Unless the two knives fit close together like a pair of scissors they will not cut. The knife 14 being clamped in the split end of knife-tube can readily be turned in the tube, so as to set its edge to the other knife 27. The knife 27 can also be turned on the boss by loosening the two-part collar 18, and, further, by reason of the nuts 24 and the spring 29, the lower end of this knife can be moved or forced toward the knife-edge 14 and also be adjusted vertically.

Having thus described my invention, what I claim as new therein, and desire to secure by Letters Patent, is—

1. In a machine such as described a reciprocable split-ended knife-tube, a knife having a cylindrical shank clamped therein, a coöperating knife movable to and from the aforesaid knife whereby the edges of said knives may be adjusted toward each other.

2. In a machine such as described, a fixed boss, a collar held and capable of being turned and clamped in any position thereon, a hollow reciprocating split-ended knife-tube passing through the boss, a knife clamped in the tube, a coöperating knife mounted on said collar and means to set it to and from the first knife.

3. In a machine such as described, the combination with a fixed boss, and a clamp mounted on the boss; of a reciprocable split-ended tube, a clamp thereon, a knife mounted in the end of the tube and having a V-shaped notch in its end, one side of the knife and notch forming a cutting edge, and a second knife secured to the clamp on the boss and guided on the clamp on the tube, and means on said second clamp to urge the second knife against the first knife, substantially as described.

4. In a machine such as described, two knives, one of which is reciprocable with respect to the other, means to independently adjust the knives vertically, means to permit each knife to be turned horizontally about its vertical axis and independently with respect to the other and means to move one of the knives laterally.

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

RUDOLF SCHÖCHLI.

Witnesses:

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JOSEPH SIMON.