POLLACK & SCHMIDT.

Sewing Machine.

No. 41,444. Patented Feb. 2, 1864.

Fig: 1.

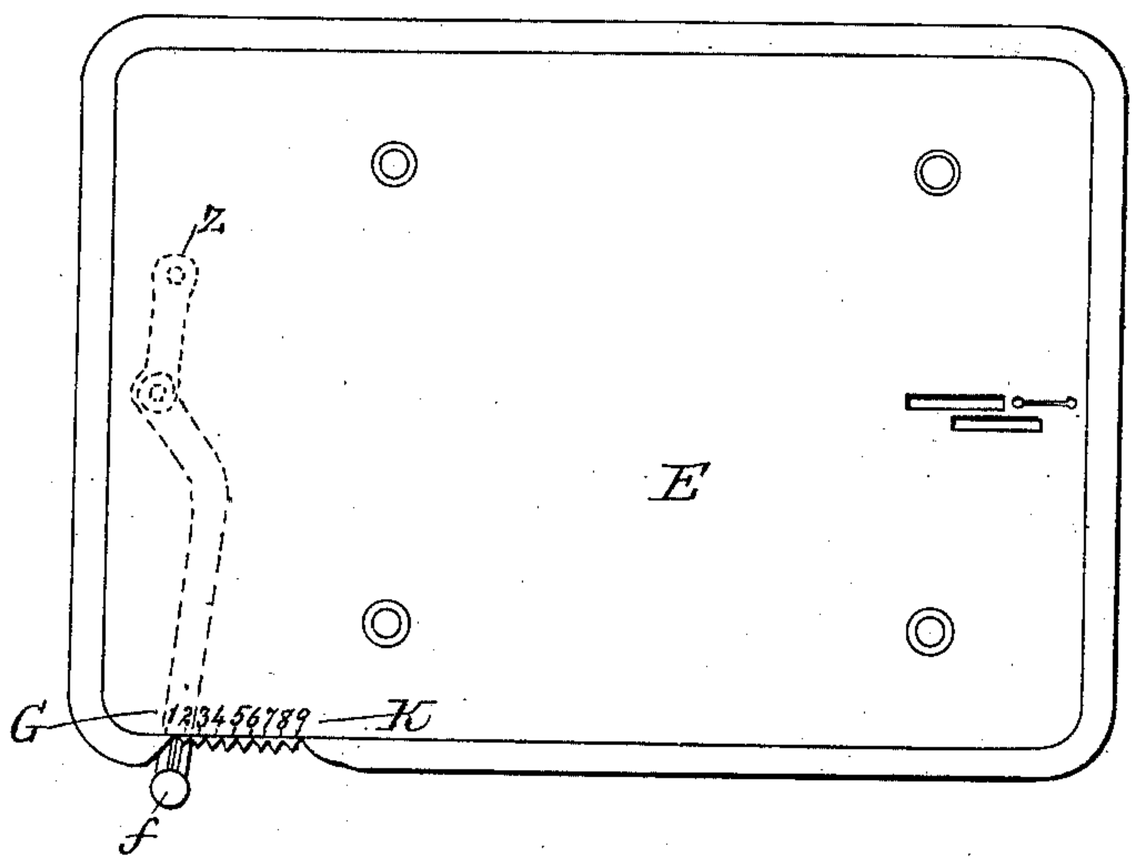


Fig: 3.

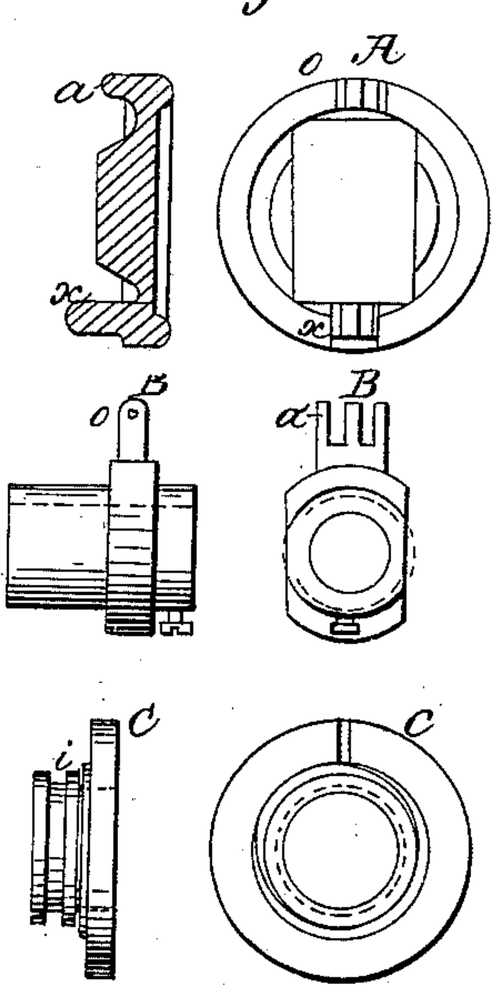
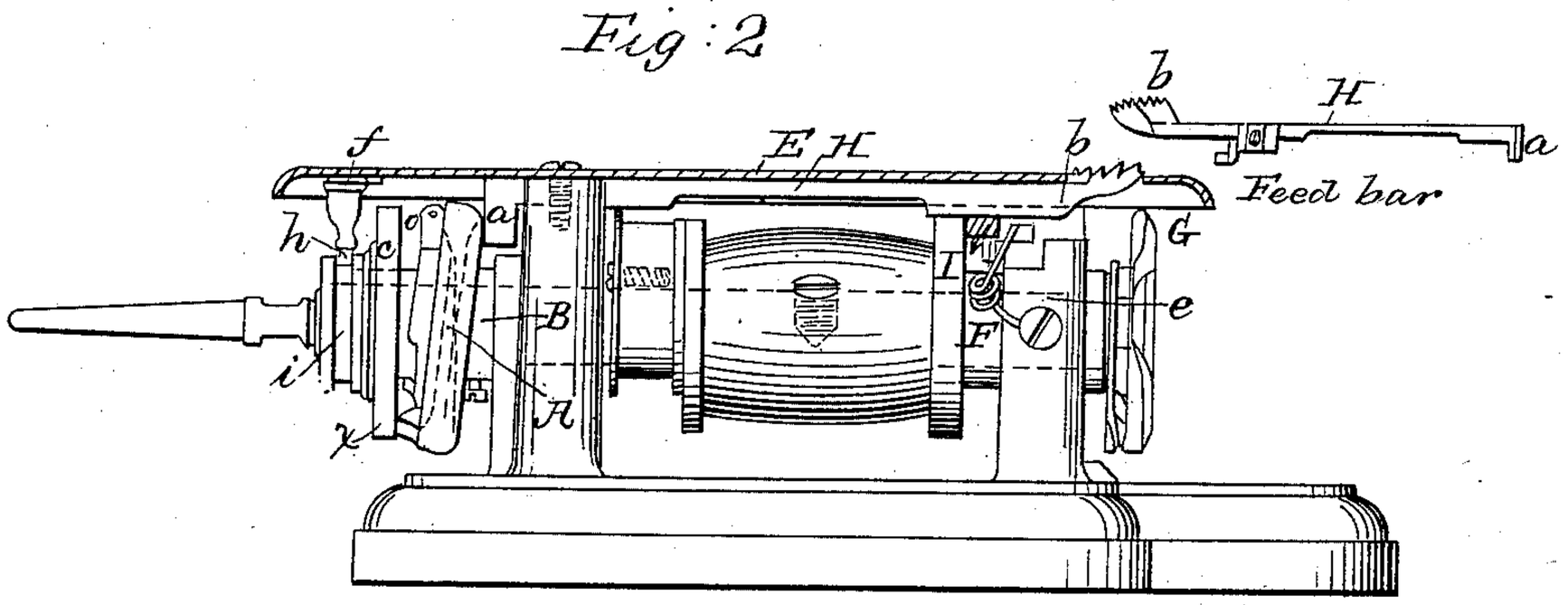


Fig: 2



Witnesses.
Lev Bonnitz
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UNITED STATES PATENT OFFICE.

HEINRICH POLLACK AND EDWIN SCHMIDT, OF HAMBURG, GERMANY.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. **41,444**, dated February 2, 1864.

To all whom it may concern:

Be it known that we, HEINRICH POLLACK and EDWIN SCHMIDT, of Hamburg, Germany, have invented a new and useful Improvement in Sewing-Machines; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a plan, Fig. 2 a side elevation, and Fig. 3 separate views, of the parts.

The same letters indicate like parts in each of the figures.

In that class of sewing-machines manufactured by the Wheeler & Wilson Manufacturing Company, and all others in which the material to be sewed is moved forward or fed by a roughened or toothed surface, called the "feed-bar," which receives a reciprocating motion from a cam or a rotating shaft, the cam at each operation moves the feed-bar to the same point, and when the cam has passed the feed-bar is drawn in the opposite direction against an adjustable stop by the tension of a spring, the range of motion to determine the length of stitches being governed by adjusting the position of the stop against which the feed-bar is drawn by the spring.

In running the machine at high velocity, for sewing fast, the striking of the feed-bar against the stop, when it is liberated by the cam and drawn back by the spring, produces a disagreeable rattling noise, which is very disagreeable, particularly to nervous persons.

The object of our invention is to avoid this defect; and it consists in combining with the rotating-arbor and the feed-bar of a sewing-machine an inclined face-wheel, so connected by a hinged joint with the rotating arbor and with an adjustable slide that by shifting the slide the inclination of the said face-wheel relatively to the axis of rotation shall be increased or diminished, so as to increase or decrease the range of motion of the feed-bar, which derives motion therefrom.

In the accompanying drawings, E represents the table of a sewing-machine, F the rotating arbor, and G the rotating-hook, as in the well-known Wheeler & Wilson sewing-machine. The reciprocating feed-bar H is also made, as in the Wheeler & Wilson machines, with a roughened or toothed surface, *b*, and heel *a*, to be acted upon to move it in one direction, and a spring, *e*, to move it in the opposite direction. The forward or feeding end of said bar is, in like manner, moved up to take hold of and down to let go the cloth by a cam-wheel, I, on the arbor; but instead of the usual cam-wheel for giving the longitudinal motion in one direction to the feed-bar against the tension of the spring *e*, there is an inclined wheel, A, the inclined face of which acts against the heel *a* of the feed-bar to give it the required motions in both directions and without jar, the spring *e* keeping the heel *a* of the bar at all times in contact with the inclined face of the wheel. To vary the throw of the feed-bar for different lengths of stitches, the inclination of the face-wheel A must be changed. This said wheel A is hollow and loose on the arbor F, and it is hinged at *o* to an arm projecting from a sleeve, B, secured to the arbor, and on the side of the arbor, opposite to the hinged joint *o*, it is in turn hinged at *x* to a collar, C, which is free to slide on the arbor. In this way it will be seen that by sliding the collar C the face-wheel A can be set at any inclination desired. To facilitate the adjusting of the feed-motion by these means, there is a lever, *f*, (represented by dotted lines in Fig. 1,) which turns on a fulcrum-pin, at *z*, the handle projecting a little beyond the edge of the table E. The handle end of this lever can be held in any position to which it may be shifted by a series of notches under the table, there being a scale of corresponding numbers at the edge of the table to indicate the length of stitches to which the feed-bar is to be adjusted. The lever *f* has a fork, *h*, which fits in a groove, *i*, of the collar C, so that by moving the handle the collar will slide on the arbor, and thereby change the inclination of the face-wheel A, and thereby the range of motion of the feed-bar, so that the operator can regulate the length of stitches by simply shifting the handle, whether the machine is sewing or at rest, and the feed-motion will work for any length of stitch without jar.

Although we have herein described and represented our said improvement as applied to a Wheeler & Wilson or rotating-hook sewing-machine, we do not wish to be understood as

limiting our claim of invention to such application, as it is equally applicable to other sewing-machines having a like feed-motion.

What we claim as our invention, and desire to secure by Letters Patent, is—

The hinged face-wheel and sliding collar for varying the inclination of the face-wheel, substantially as described, in combination with the rotating arbor and reciprocating feed-bar, substantially as and for the purpose specified.

HEINRICH POLLACK.
EDWIN SCHMIDT.

Witnesses:
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