

(Model.)

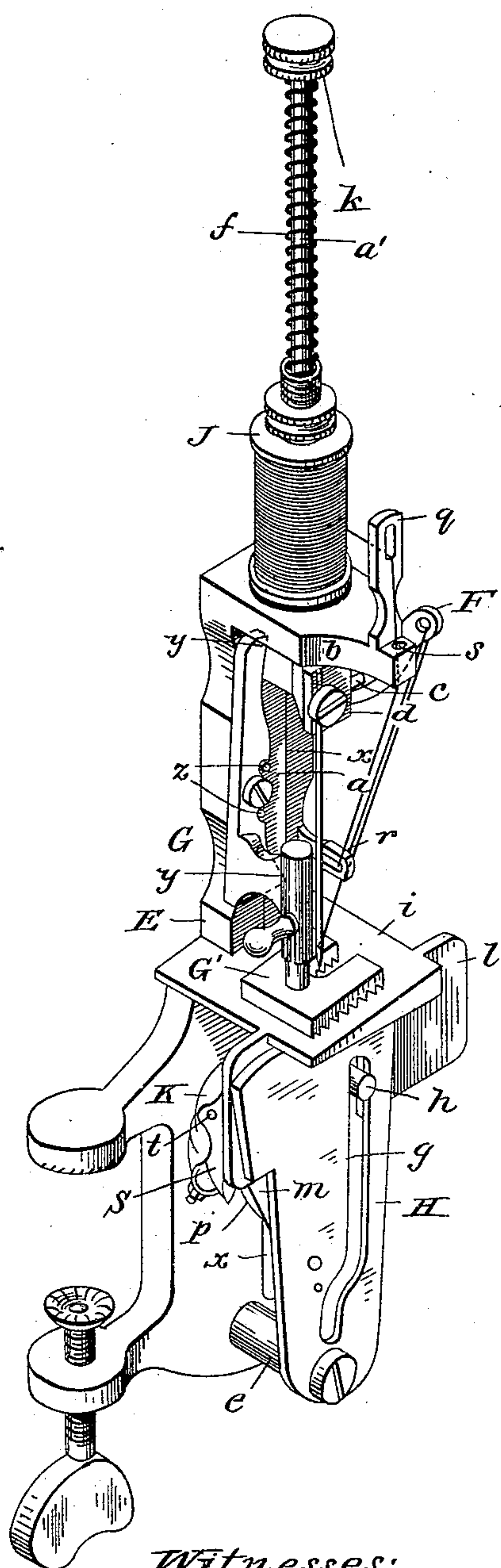
2 Sheets—Sheet 1.

S. A. ROSENTHAL.
POCKET SEWING MACHINE.

No. 353,970.

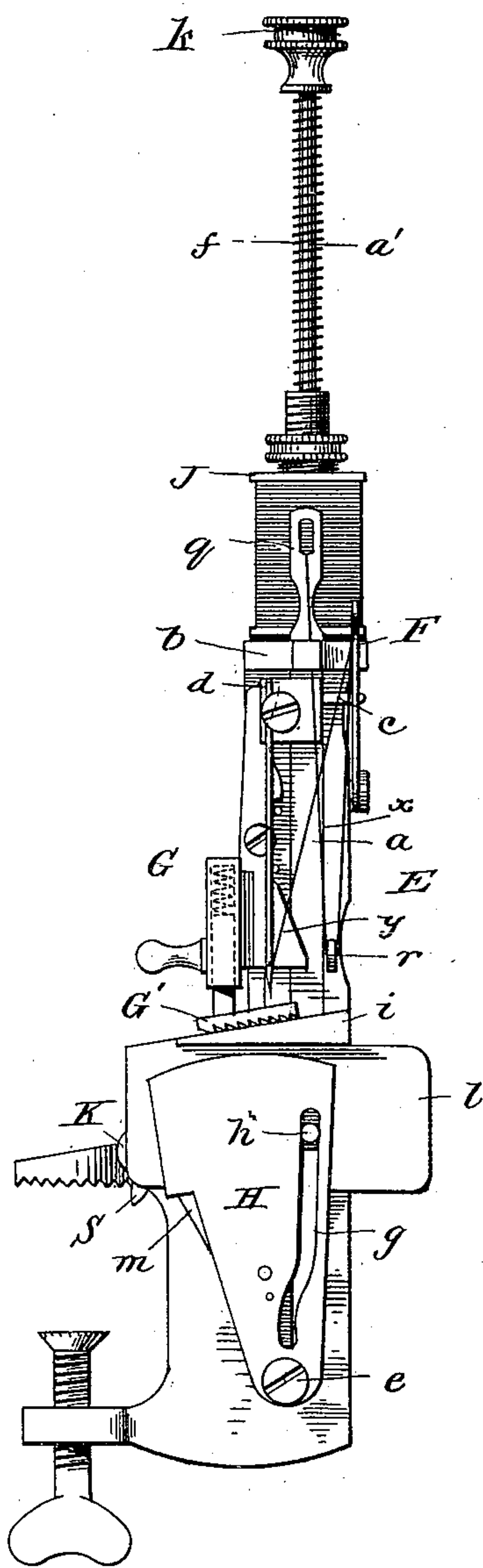
Patented Dec. 7, 1886.

Fig. 1.



Witnesses:
E. A. Dick
Marvin A. Curtis

Fig. 2.



Inventor:
Sally Adolf Rosenthal
by *Marshall Bailey*
Attorney

(Model.)

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Fig. 3.

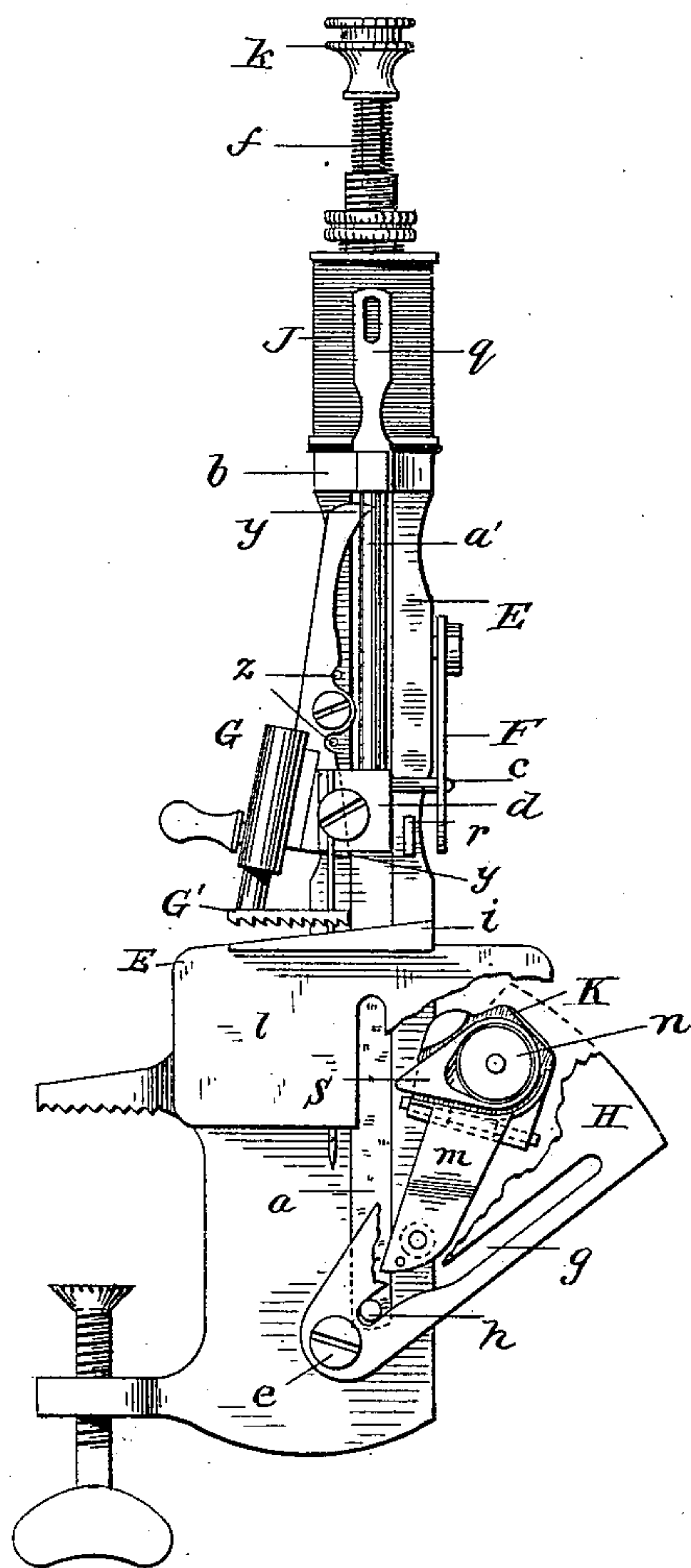
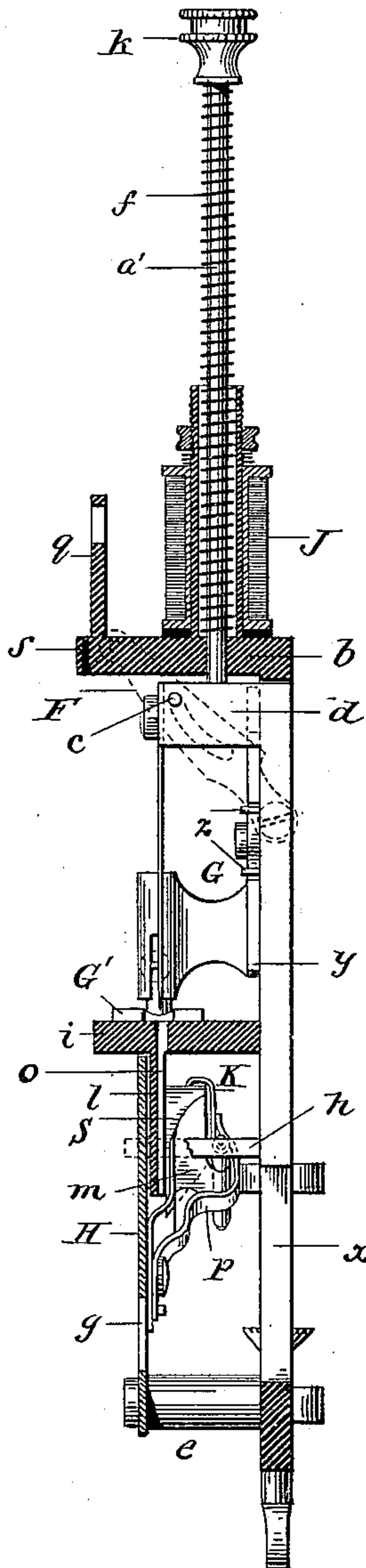


Fig. 4.



Witnesses:

E. A. Dick

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UNITED STATES PATENT OFFICE.

SALLY ADOLPH ROSENTHAL, OF BERLIN, GERMANY.

POCKET SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 353,970, dated December 7, 1886.

Application filed March 20, 1886. Serial No. 196,015. (Model.) Patented in France October 17, 1885, No. 171,723; in Belgium November 17, 1885, No. 86,713; in England December 17, 1885, No. 15,513; in Austria-Hungary April 25, 1886, No. 45,838, and No. 13,872, and in Germany May 13, 1886, No. 36,617.

To all whom it may concern:

Be it known that I, SALLY ADOLPH ROSENTHAL, of Berlin, in the Kingdom of Prussia, Germany, have invented a certain new and
5 useful Pocket Sewing-Machine, (for which Letters Patent have been obtained as follows: Germany, No. 36,617, granted May 13, 1886; Austria-Hungary, No. 45,838 and No. 13,872,
10 granted April 25, 1886; France, No. 171,723, dated October 17, 1885; Belgium, No. 86,713, dated November 17, 1885; England, No. 15,513, dated December 17, 1885,) of which the following is a specification.

The object I have in view is to produce a
15 cheap, simple sewing-machine of compact structure, which can easily be carried in a pocket and readily fixed to a table when required.

The machine which I have devised is a lock-
20 stitch shuttle sewing-machine having a top feed, the feeder being also the presser or presser-foot. The active instrumentalities by which the formation of the stitch is effected are a vertically-reciprocating needle, an oscillatory thread-guide lever, and a reciprocatory
25 or vibrating shuttle, all of which instrumentalities, together with the combined feeder and presser, derive movement directly from the needle bar or slide. This bar is thrown up by
30 a spring and is depressed by hand, for which purpose it is provided with a head or button on its upper end. It extends both above and below the cloth-plate and engages directly the shuttle carrier or lever, so that the latter is
35 caused to vibrate or oscillate by and during the vertical reciprocatory movement of the bar. There is no wheel or rotating device in any portion of the structure, the number of parts is reduced to a minimum, and the greatest possible compactness consistent with efficiency is
40 secured.

The nature of my invention and the manner in which the same is or may be carried into effect will be readily understood by reference
45 to the accompanying drawings, in which—

Figure 1 is a perspective view of a sewing-machine made in accordance with my invention, with the parts in the position when the
50 needle is up. Fig. 2 is a front elevation of the same. Fig. 3 is a like elevation with the parts

in the position when the needle is down, with the shuttle-lever partly broken away. Fig. 4 is a vertical section from front to rear of the machine.

E is the bracket-frame which supports the
55 various instrumentalities. It is provided at its lower end with a jaw and clamping-screw by which it may be secured to a table, and has also the plate *i*, which forms the cloth-plate of the machine. In the bracket (and extending nearly the whole length of the same)
60 is a vertical slot, *x*, in which is mounted and adapted to slide the needle-bar *a*, provided at its upper end with a forwardly-projecting boss or head, *d*, to which the needle is secured by
65 a clamp in the usual way. Above the head *d* the needle-bar is prolonged into a bar or rod, *a'*, which passes up through the overhanging shelf *b* at the top of the bracket, and the tube on which is mounted the bobbin *J*, for the upper or needle thread. The rod *a'* is surmounted
70 by a button, *k*, between which and the shelf *b* is confined a spiral spring, *f*, encircling the rod and tending to throw the needle-bar up. Underneath the cloth-plate, at the point where
75 the needle-slot is formed, is the hanging guard-plate *l*, which is parallel with the front edge of the cloth-plate, and has in its inner face a vertical groove, *o*, to receive the needle. The
80 latter is thus protected from striking or coming in contact with the shuttle and the pin that moves the shuttle lever or carrier.

The shuttle *S* rests in a basket or cradle, *K*, which is carried upon the rear face, and at or near the upper end of a lever, *H*, pivoted
85 to a boss, *e*, on the lower end of the bracket-frame *E*. The plate *l* extends between the lever *H* and the shuttle cradle or basket *K*, and the side of the basket next to the plate is open, so that the shuttle therein will be in contact with the inner face of the plate, which
90 thus forms in effect the needle-face of a shuttle-race. The shuttle-lever is actuated to throw or move the shuttle at the proper time by means of a horizontal pin, *h*, on the lower end
95 of the needle-bar, which projects forward into a longitudinal slot, *g*, in the shuttle-lever, said slot being a cam-slot of such form as to impart to the shuttle-lever movements appropriate to cause the shuttle to properly co-
100

operate with the needle in making the stitch. The shuttle cradle or basket K is fixed to the back of the shuttle-lever by a bracket-arm, *m*, and has a hinged back which is made self-closing by a spring, *p*.

Pivoted to the side of the bracket E is the slotted thread-guide lever F, which acts in some sort as a take-up, being provided with a thread-eye at its outer end. This lever is operated directly from the needle-bar *a* by means of a pin, *c*, which projects laterally from the bar into the slot in the lever. Thread from the bobbin J passes first through the tension *q*, (of ordinary or suitable construction,) thence through the guide hole *s* in the front of the shelf *b*, thence through the eyelet *r* on bracket E, thence through the thread-eye at the outer end of the lever F, and thence to the needle. The under or shuttle thread is guided from the bobbin *n* through the hole *t* in the wall of the shuttle in the usual way.

The instrumentalities for effecting the feed of the goods consists of a feeder, G, arranged above and to have contact with the cloth-plate, and to act not only as a feeder but as a presser also. It consists of a laterally-vibrating lever horizontally pivoted at about its middle to the front of the bracket-frame E, provided with a foot, G', which bears with spring or yielding pressure upon the goods, and with a cam projection, *y*, at each end, so formed as to be struck by the needle-head *d* as it rises and descends, each of said projections being alternately brought into the path of the head *d*, so as to secure the requisite to-and-fro movement of the feeder. Pins *z* on the bracket-frame limit the extent of said movement.

The mode of operation of the machine is obvious, from the foregoing description, to one skilled in the art to which this invention pertains. It is sufficient to say that when the needle-bar is depressed from the position shown in Fig. 2 to that shown in Fig. 3 the needle descends through the cloth, the thread-guide lever F is lowered to permit this movement and to give slack thread, the presser and feeder is (at or near the conclusion of the stitch) forced outwardly, and the shuttle-lever is moved to a point where the shuttle will be

in position on its return to pass through the loop of needle-thread, all this being accomplished by the direct action of the needle-bar upon the instrumentalities named. When pressure is released from the needle-bar it at once springs back to place. The moment it starts, the shuttle is thrown across the race-plate *l* far enough to take the needle-thread loop before the needle rises too far, (there being at this time slack enough to throw out a proper loop of needle-thread,) and as the needle bar continues to move upward the return movement of the shuttle-lever also continues, the lever F swings up, and lastly, as the needle is about terminating its upward stroke the needle-head strikes the upper cam projection on the feeder and presser and causes the foot of the same to advance, and in so doing to press upon and feed forward the goods in position for the next stitch.

Having now described my invention and the manner in which the same is or may be carried into effect, what I claim, and desire to secure by Letters Patent, is—

1. The combination, with the bracket-frame and its cloth-plate, of the needle-bar arranged to slide vertically in said frame and extending both above and below the cloth-plate, and the pivoted shuttle-lever having a pin-and-slot connection with said needle-bar, substantially as and for the purposes hereinbefore set forth.

2. The combination, with the bracket-frame and its cloth-plate, and the needle-bar sliding vertically therein, of the pivoted thread-lever F, the cloth presser and feed lever G, provided with cam projections, and the shuttle-lever H, all of these instrumentalities connected to and operated directly by the needle-bar, as and for the purposes hereinbefore set forth.

3. The pivoted shuttle-lever and the shuttle basket or cradle attached thereto, in combination with the bracket-frame, the cloth-plate, the vertically-sliding needle-bar provided with a pin which enters a slot in the shuttle-lever, and the guard-plate *l*, under the arrangement and for operation as set forth.

SALLY ADOLPH ROSENTHAL.

Witnesses:

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