

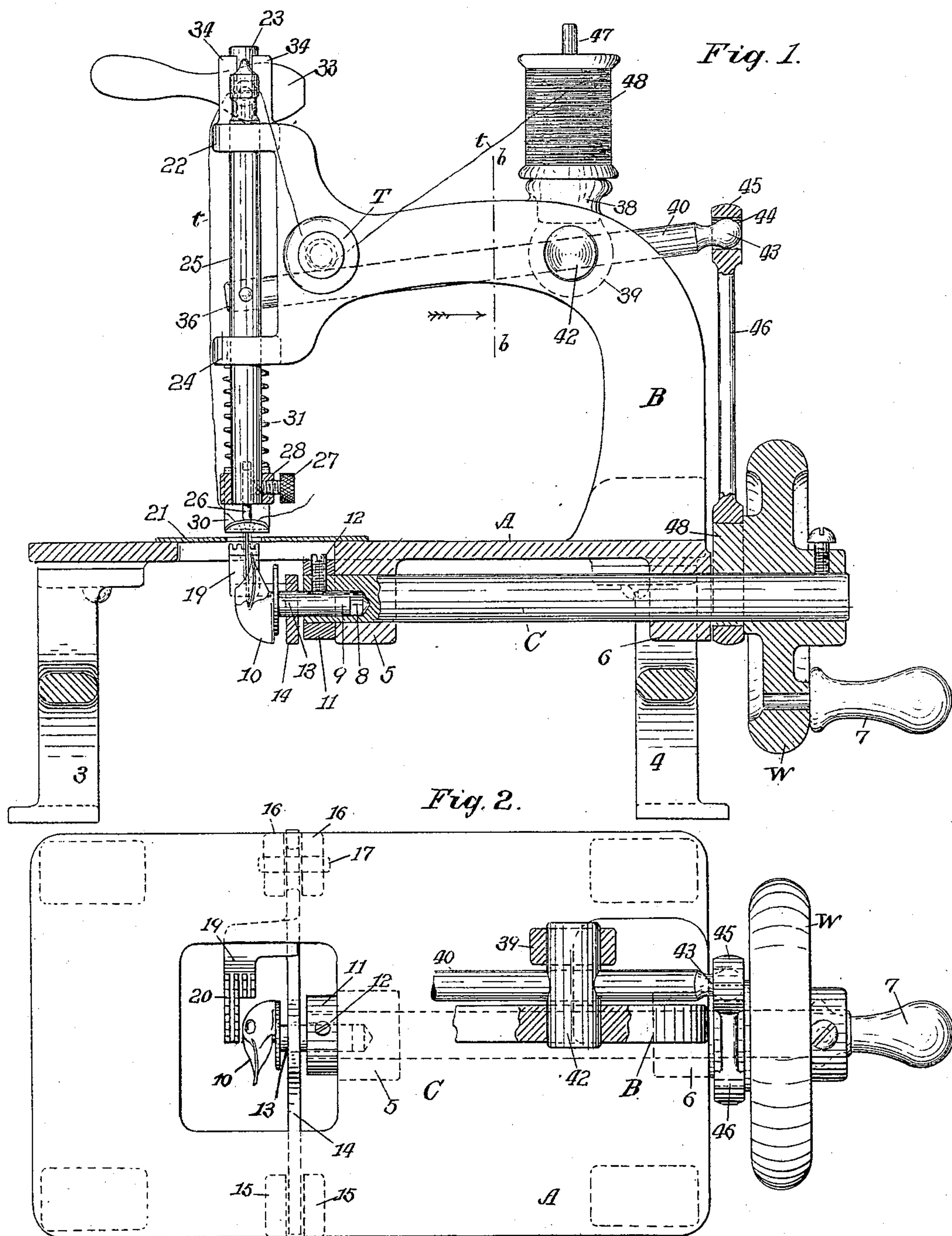
(No Model.)

2 Sheets—Sheet 1.

W. L. CHENEY.
SEWING MACHINE.

No. 461,815.

Patented Oct. 27, 1891.



Witnesses: { L. C. Hermann. Inventor: Walter L. Cheney
Geo W. Drake. By his Attorney, F. H. Richards.

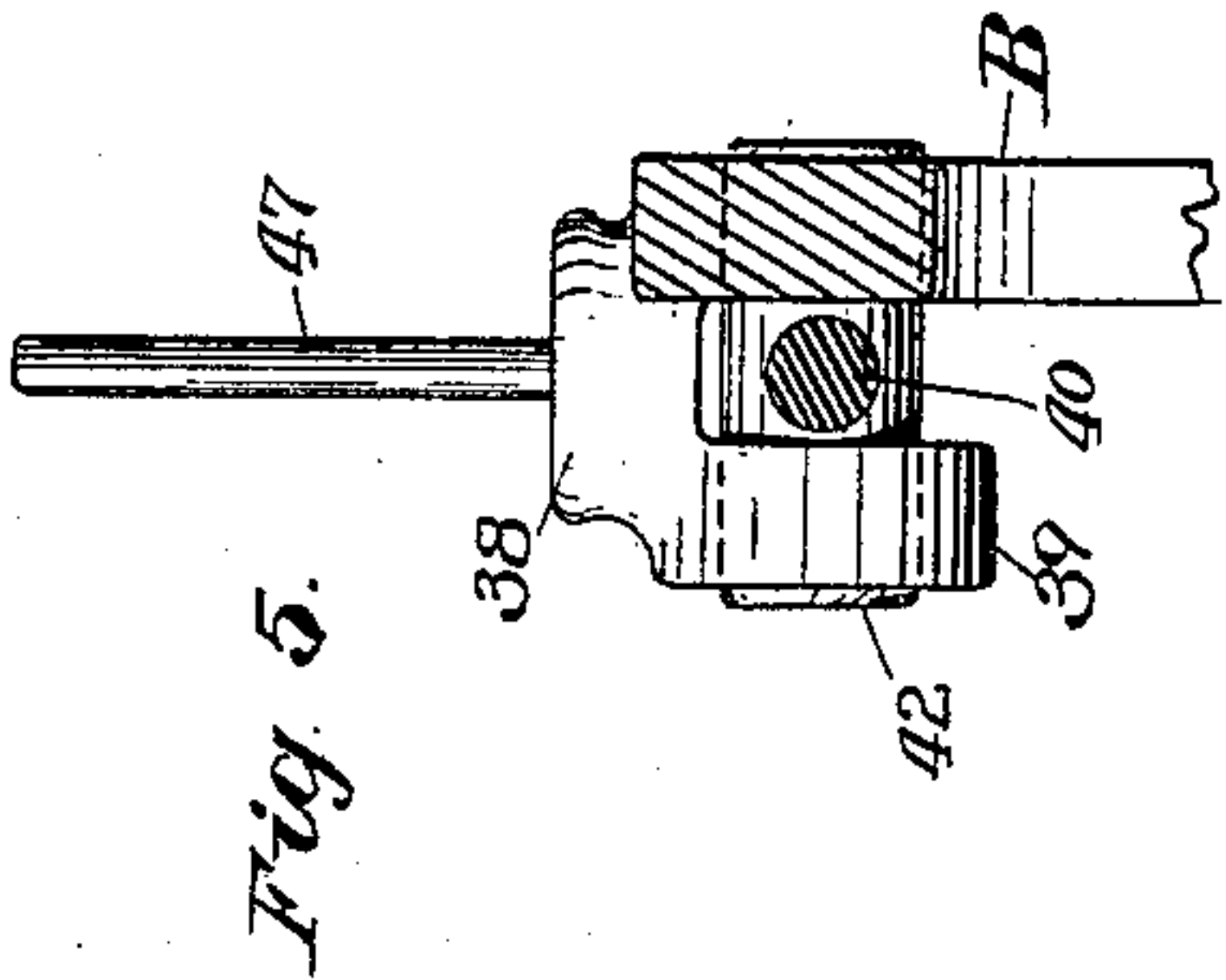
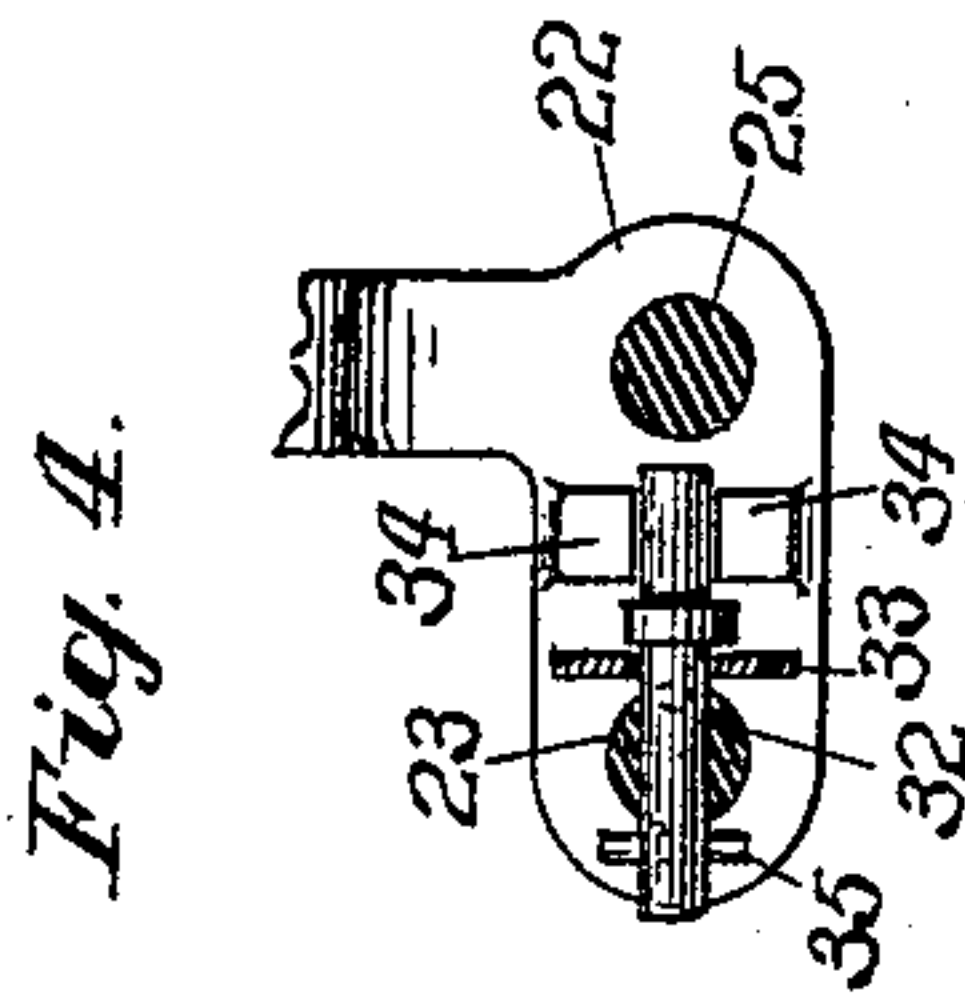
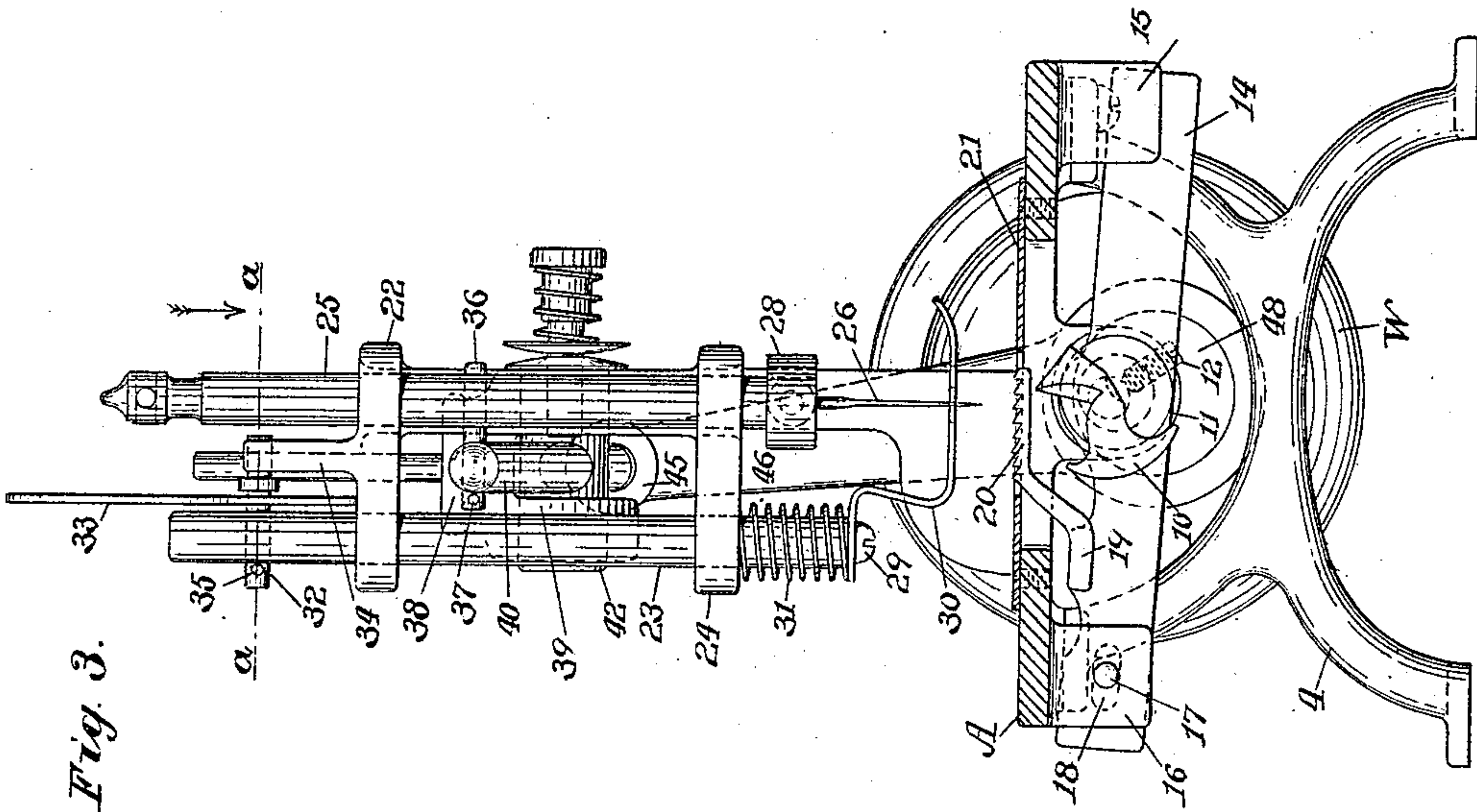
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Attorney.

UNITED STATES PATENT OFFICE.

WALTER L. CHENEY, OF HARTFORD, CONNECTICUT.

SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 461,815, dated October 27, 1891.

Application filed January 31, 1888. Serial No. 262,481. (No model.)

To all whom it may concern:

Be it known that I, WALTER L. CHENEY, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Sewing-Machines, of which the following is a specification.

This invention relates to that class of sewing-machines which are made of small size, especially for the use of children and learners, and in which extreme economy of labor and material consistent with proper operation is the chief desideratum.

To this end the invention consists in the improvements hereinafter described and claimed.

In the drawings accompanying and forming a part of this specification, Figure 1 is a front elevation of a sewing-machine embodying my improvements, some parts being broken away the better to show certain details. Fig. 2 is a plan view showing the table or bed-plate and a part of the operative details. Fig. 3 is a front elevation, with a part of the table broken away to better show the feed apparatus and other parts. Fig. 4 is a horizontal sectional view in line *a a*, Fig. 3. Fig. 5 is a vertical sectional view in line *b b*, Fig. 1.

Similar characters designate like parts in all the figures.

This machine belongs to the class known as "chain-stitch sewing-machines" and which use a single thread. The frame-work consists or may consist of the usual bed-plate or table A, overhanging arm B, and some means, as legs or supports 3 4, for supporting said bed-plate. The driving-shaft C is fitted to revolve in suitable bearings 5 6 on and under said bed-plate, and has fixed thereon the usual wheel W, (provided with a handle 7,) whereby it is driven. The forward (left-hand in Fig. 1) end of shaft C has bored therein a hole 8 for receiving the stem 9 of the usual loop-forming hook 10. Shaft C projects through bearing 5, and a collar 11 is fitted thereon for the purpose of preventing longitudinal displacement of said shaft. A set-screw 12 passes through the collar and shaft and against said stem 9, thereby holding all three of those parts in proper relative positions. The hole 8 is bored eccentric to the shaft C, so that the projecting part 13 of said

stem 9 forms a crank-pin for working the feed-bar 14. By means of this peculiar feature of construction the feed is actuated without any device being especially provided therefor and without any additional cuts or operations being required in making the parts used therefor. The feed is actuated, it will thus be seen, by certain means which are obtained without cost. The feed-bar 14 works at the front end between lugs or guides 15 and at the back end between guides 16 and over a pin 17, which pin fits freely in a slot 18 in said bar. The feed-bar has an arm 19, provided with the usual feed-notches 20, which work through a slot in the plate 21, all in the ordinary manner.

The forward end of the arm B has the usual upper and lower bearings 22 24 bored to carry in proper horizontal positions the needle-bar 25 and the presser-bar 23. The needle-bar has the usual eye-pointed needle 26, held in place by set-screw 27, which is screwed into collar 28 and passes into said bar against the shank of the needle. The presser-bar has secured thereto by screw 29 the usual presser-foot 30, and is normally held down by the usual spring 31. At its upper end the bar 23 has a hole drilled therein to receive the pin 32, which pin passes through the presser-bar and through the usual lifter lever or cam 33 and fits between the guides 34, formed on bearing 22. The pin and guides act together to prevent rotation of the bar 23, while permitting the vertical movement thereof. A small split key 35 holds pin 32 in place. The cam 33 takes its bearing on the top of bearing 22. The needle-bar has a hole drilled crosswise and through it for receiving the pin 36, which also passes through a similar hole in the front end of the needle-bar-actuating lever 40, and is held in place in one direction by a small split key 37, and in the other by abutting against the presser-bar 23. This arrangement is shown best in Fig. 3. The lever 40 being closely connected with the needle-bar through a pivot-pin 36 passing through both the lever and the bar, said bar is thereby kept from rotation by a free-working pin or journal and without the necessity of using any sliding guide therefor. Thus the same straight pin 36 which connects those two parts keeps each of said parts from rotation.

The arm B has a laterally-projecting bar or arm 38, from which depends the bearing 39. Through said arm and bearing 39 a hole is bored for the rocking fulcrum-pin 42, which
 5 pin is of larger diameter than the round lever 40 and is bored transversely to admit the passage through it of said lever, which lies between arm B and bearing 39. These arrangements are such that the lever 40, acting through
 10 pin 36, imparts a vertical movement to bar 25 and prevents any rotation thereof, and such that said pin 36, being carried by bar 25, keeps bar 40 from rotating and causes the same to slide to and fro in fulcrum 42 as the said lever swings up and down. The rear end (at
 15 the right hand in Figs. 1 and 2) of lever 40 has a spherically-formed journal or bearing 43, which fits into a cylindrical hole 44 in the upper end 45 of the connecting-rod 46, that
 20 is driven by eccentric 48 on wheel W. This feature accommodates the aforesaid longitudinal movement of the lever 40 and avoids any detrimental lateral pressure on the upper end of rod 46. A pin 47 on arm B carries the
 25 spool 48, from which the thread *t* runs first to the tension device T, then through the upper end of the needle-bar, and from thence down to the needle in usual manner.

The several principal movements of the machine are timed to operate for the forming of
 30 stitches after the usual manner, which will be understood without recital thereof.

Thus constructed and organized my improved sewing-machine requires but very few
 35 screws, (and these may be all of one size of thread,) and the several parts are so related that one part will in several instances perform its own function and assist in some

other. By loosening screws 12, 27, and 29 and removing pins 35, 37, and 17 the whole mechanism may be quickly disassembled. 40

Having thus described my invention, I claim—

1. In a sewing-machine, the combination, with the cylindrical reciprocable needle-bar 45 having a transverse cylindrical perforation for the pin 36, of the cylindrical oscillating lever having means, substantially as described, for permitting longitudinal movement relative to its fulcrum-axis and also 50 cylindrically perforated for said pin, means, substantially as described, actuating said lever, and the pin 36, fitting said perforations to connect said lever and needle-bar, whereby said pin serves the double purpose of connecting the needle-bar with its operating-lever and preventing the rotation of the bar and of the lever, said lever having a sliding movement in its supporting-fulcrum on the vertical movement of the needle-bar, all substantially as described. 60

2. In a sewing-machine, the combination, with the needle-bar and the lever 40, each perforated for the pin 36, of the pin 36, extending through the perforations in said bar and lever and having in one end thereof a hole 65 for a key, the presser-bar contiguous to the perforated end of said pin 36, and a key in the hole in the pin 36, whereby said pin is held from longitudinal movement in one direction 70 by said key and in the other direction by said presser-bar, all substantially as described.

WALTER L. CHENEY.

Witnesses:

F. H. RICHARDS,
 H. A. LAWTON.