

J. A. LOHMAN.
SEWING MACHINE.

APPLICATION FILED NOV. 29, 1905.

993,452.

Patented May 30, 1911.

3 SHEETS—SHEET 1.

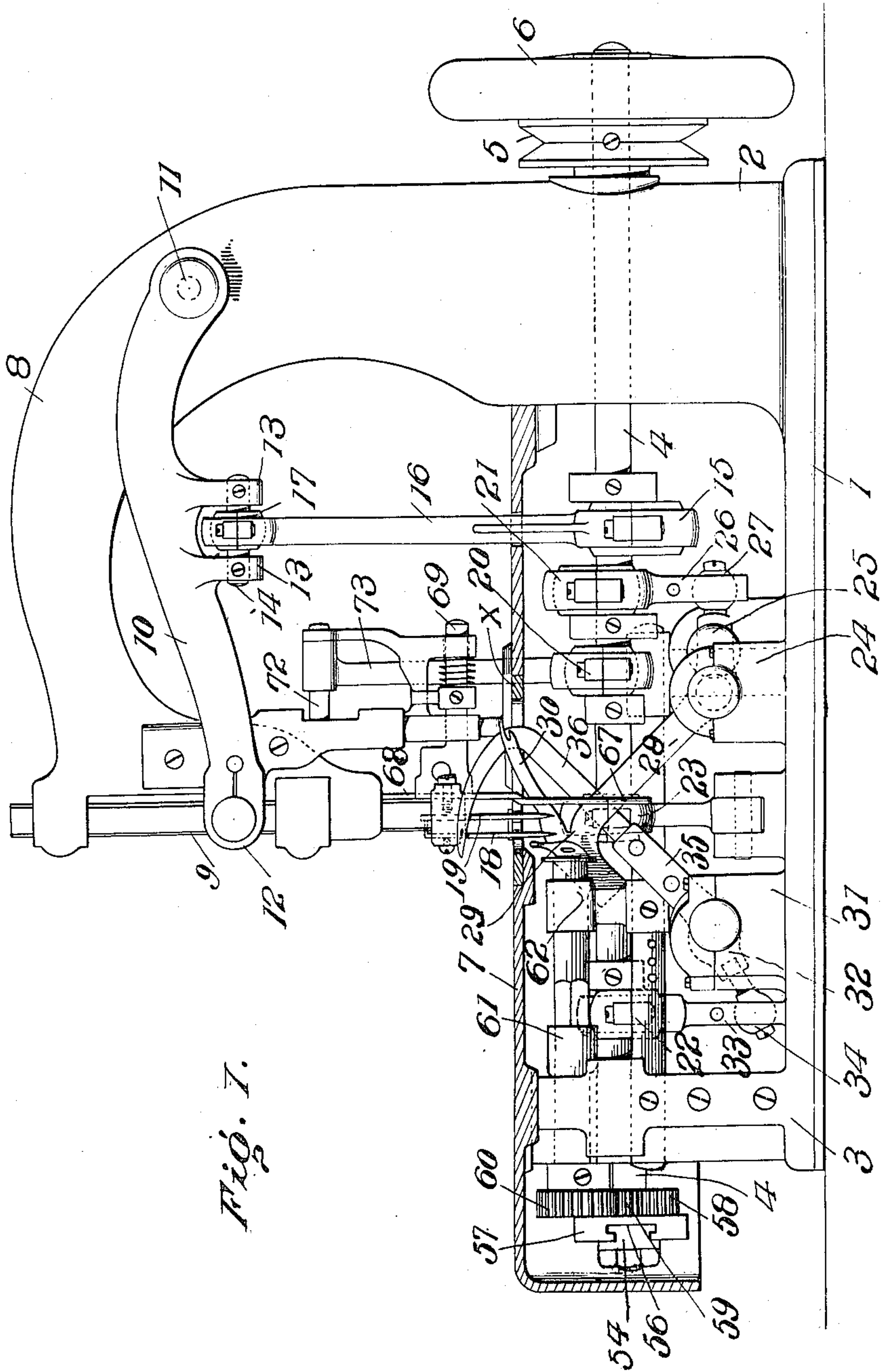


FIG. 1.
Fig. 1.

Witnesses.
W. W. Williams.
Jas. B. Richmond

by,

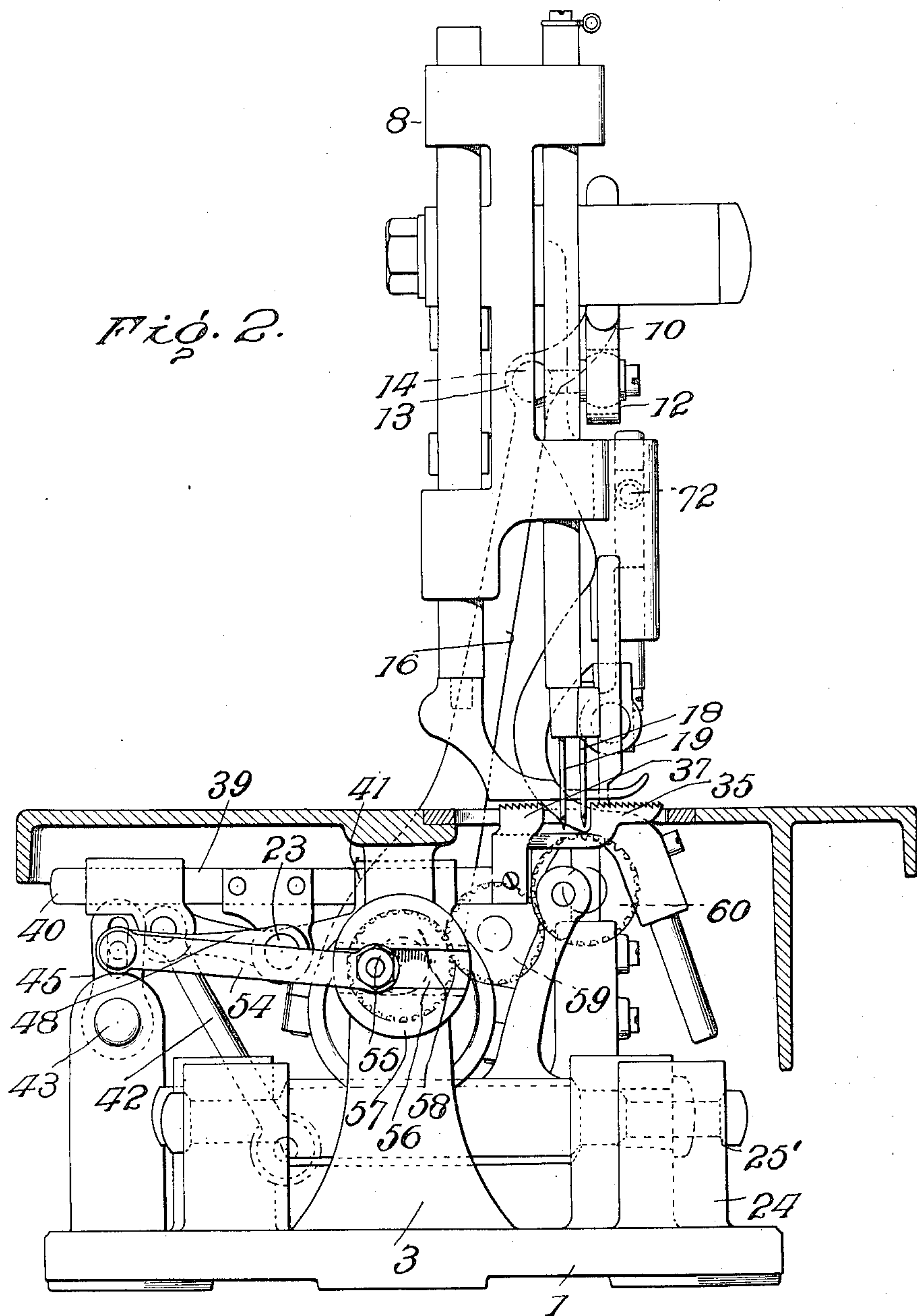
Inventor.
Joseph A. Lohman
Augustus B. Skoughron.
Attorney.

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Inventor.

Joseph A. Lohman.

Augustus B. Slaughter.
Attorney.

Witnesses.

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Gas. Richmond.

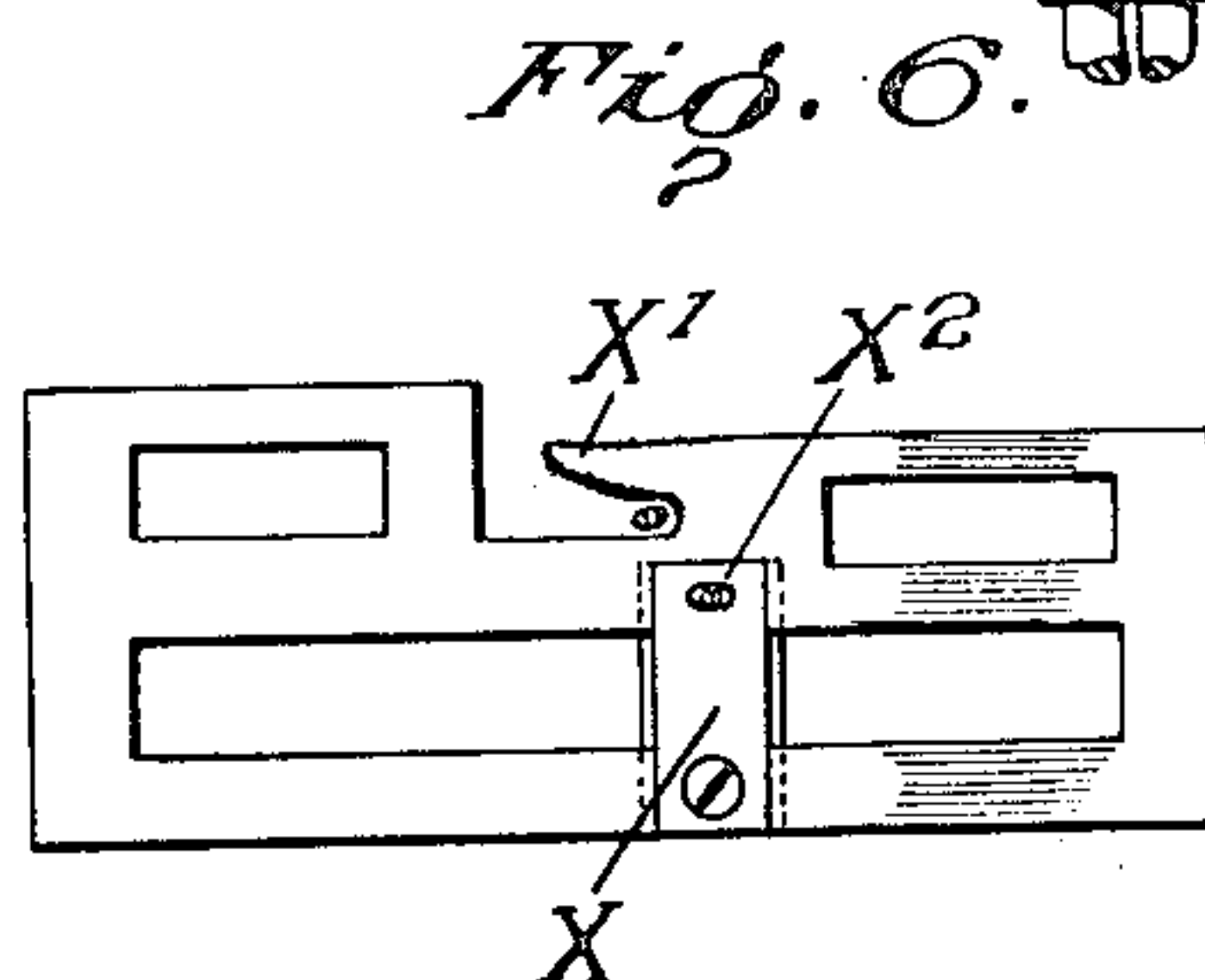
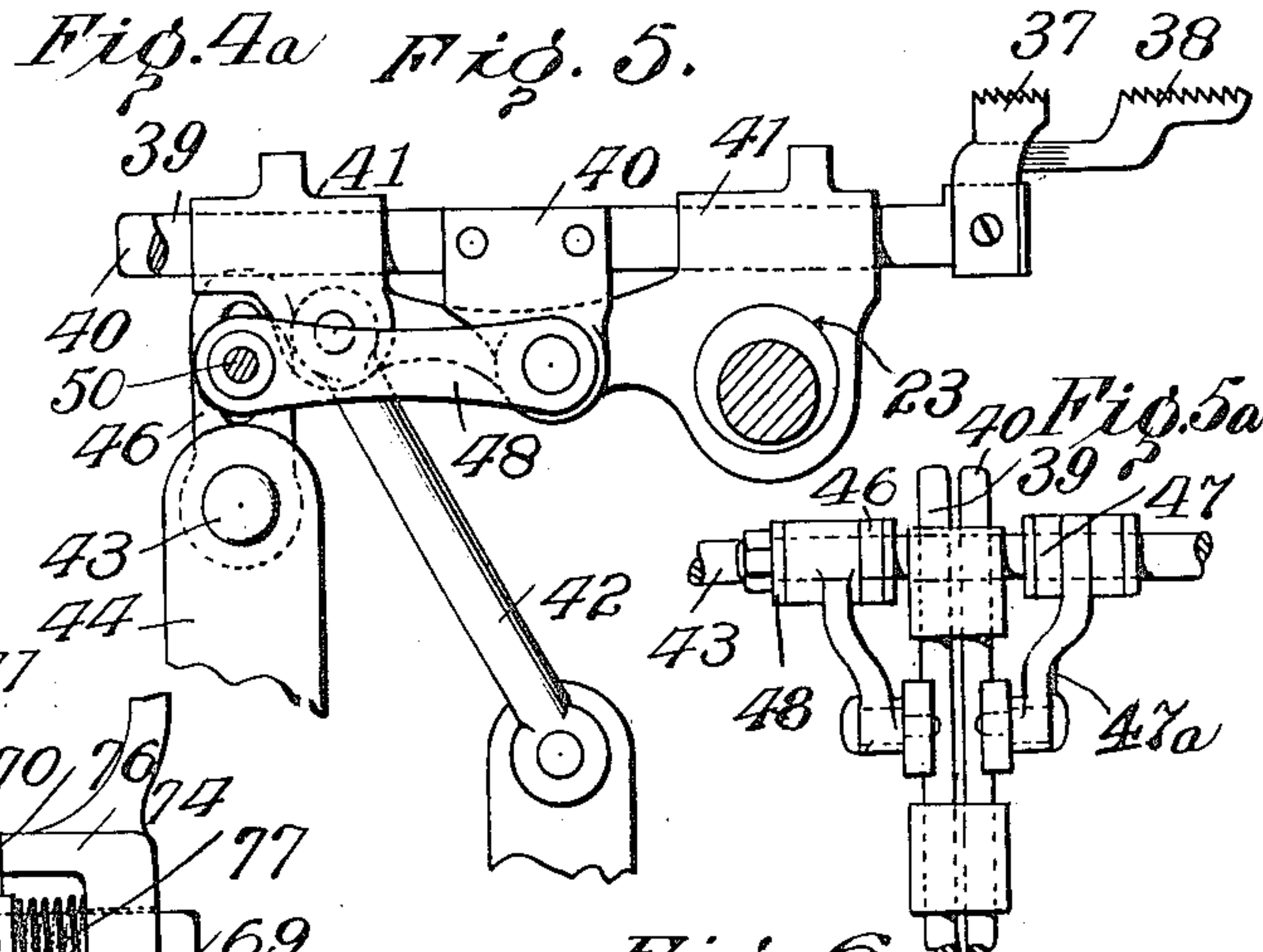
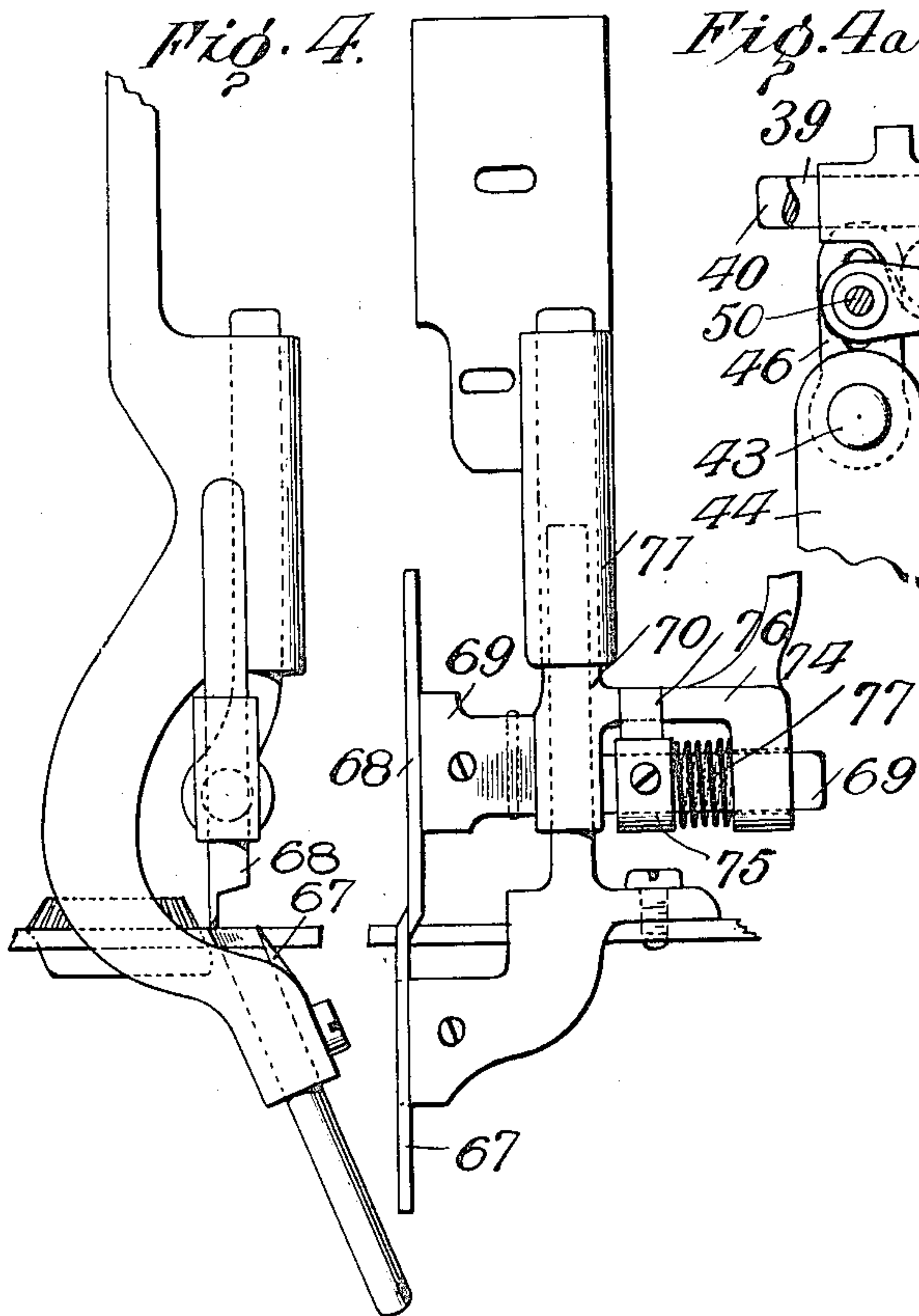
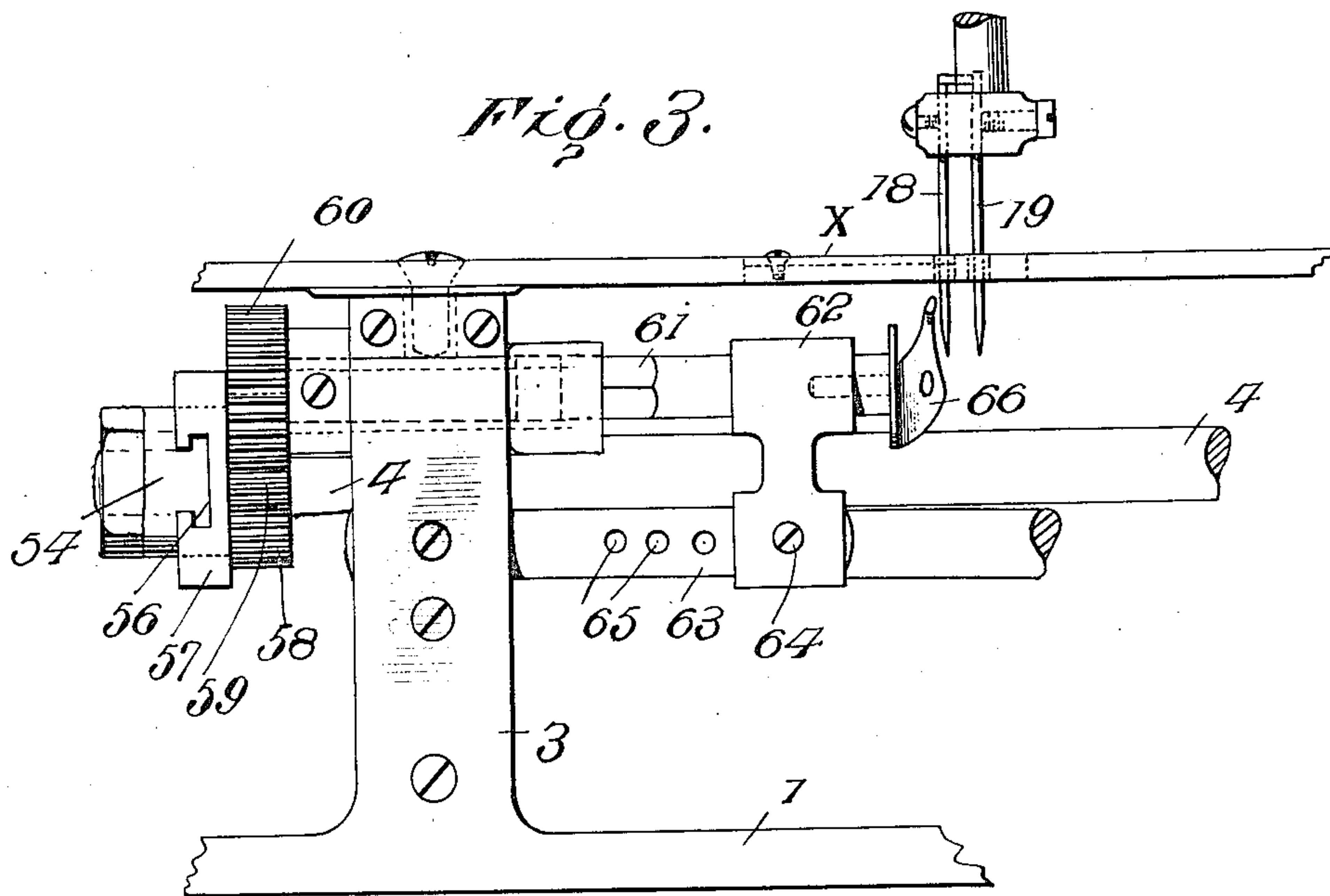
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3 SHEETS—SHEET 3.



Witnesses.
W. W. Williams.
Jas. B. Richmond

by,

Inventor.
Joseph A. Lohman.
Augustus B. Sloughlon.
Attorney.

UNITED STATES PATENT OFFICE.

JOSEPH A. LOHMAN, OF PHILADELPHIA, PENNSYLVANIA.

SEWING-MACHINE.

993,452.

Specification of Letters Patent.

Patented May 30, 1911.

Application filed November 29, 1905. Serial No. 289,590.

To all whom it may concern:

Be it known that I, JOSEPH A. LOHMAN, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Sewing-Machines, of which the following is a specification.

Objects of the invention are to provide a sewing machine capable of seaming as well as overseaming.

Generally stated, the invention embodies a sewing machine adapted to sew various widths of stuff and which may be used as a plain overseamer or as a combination machine for straight seaming and overseaming at one operation, thus doing away with the present system of seaming and then overseaming requiring two machines and two operators.

The nature, characteristic features and scope of the invention will be more clearly understood from the following description taken in connection with the accompanying drawings, forming a part hereof, wherein—

Figure 1, is a side elevational view of a sewing machine embodying features of the invention, with the bed plate in section to disclose the general arrangement of the operating parts below the same. Fig. 2, is an end view seen from the left of Fig. 1, with the bed plate in section. Fig. 3, is a detail view of the hook. Fig. 4, is a detail side view of the trimmer with parts broken away. Fig. 4^a, is a front view of the same. Fig. 5, is a side view of the feed bars and connections. Fig. 5^a is a top view of the feed bars and connections. Fig. 6, is a detail illustrating the needle plate.

Referring to the drawings, 1, represents the base or frame of the machine from which rise the standards 2, and 3, in which is journaled the longitudinally ranging main or driving shaft 4, carrying the belt or power pulley 5, and balance wheel 6. The standards 2 and 3, support the cloth plate 7, and standard 2, is provided with the usual overhanging arm or gooseneck 8, which accom-

modates the needle bar 9, and its complementary presser foot bar.

10, represents the needle bar lever which is adapted to rock on a stub shaft 11, and is connected with the needle bar by the usual universal joint 12. The lever 10, is provided with the downwardly extending lugs or projections 13, in which is mounted a bar or shaft 14.

15, is an eccentric strap on the main or driving shaft and it serves to actuate the needle lever through the medium of the pitman 16, which is connected with the bar 14, by a ball joint 17.

18, and 19, are needles carried by the needle bar, whereof the former lays a straight seam and the other effects the overseaming.

20, 21, 22, and 23, are eccentric straps on the main or driving shaft, whereof the first transmits motion to the trimmer, the second operates the left-hand hook, the third operates the threaded looper, and the fourth through the medium of instrumentalities hereinafter described effects the raising and lowering of the feed.

24, are brackets on the base 1, of the machine, disposed out of alinement with one another and affording bearings for the spreader rocker 25. The ends of the rocker 25, are coned as at 25', and the bearings are correspondingly formed to avoid all lateral motion. The rocker 25, is connected with the strap 26, of eccentric strap 21, by a ball joint 27, and said rocker carries a bar or holder 28, having a socket 29, to receive the needle spreader 30.

31, are brackets similar to the brackets 24, and constituting bearings for the looper rocker 32. Strap 33, connects the looper operating eccentric strap 22, with the rocker 32, there being an interposed ball joint 34.

35, indicates the looper holding arm or carrier, and 36, indicates the looper.

The feed is of the auxiliary type and embodies front and back feed dogs 37 and 38, mounted on feed bars 39 and 40. (See Fig. 5.) The feed bars are mounted side by side

in a feed box 41 so as to be movable endwise in the box, and partake of an endwise as well as a vertical motion. The feed box is sustained at one end by an eccentric strap 5 23, on the main shaft, and at the other end by a link 42, pivotally attached to the base or some other stationary part of the machine.

43, is a rock shaft mounted in suitable bearings 44, and carrying three arms 45, Fig. 2, 46, and 47, whereof the former derives motion from the main shaft. The arms 46, and 47, are disposed one on each side of and impart motion to the feed bars, the arm 46, serving to actuate the feed bar 39, and arm 47, serving to actuate the feed bar 40 by a link 47^a. The arm 46, is connected by a link 48, with the feed bar 39, for shifting said bar back and forth. The 20 arm 46, has a pin-and-slot connection 50, with the link 48, connected with the feed bar 39, and this arrangement affords an adjustment to give said feed bar a longer throw than the back feed 40. The advantage 25 of such an adjustable feed lies in the fact that it permits the goods to be sewed without any puckering or gathering which is a common obstacle met with in operating upon knit goods or articles of irregular shape. 30 The arm 45, has pivot connection with one end of a connecting rod 54, the other end of which carries a stud 55, that is adjustable in a straight slot or way 56, of a disk 57, mounted on the end of the main shaft. The 35 main shaft 4, also carries at its end a gear wheel 58, that transmits motion through the intermediate gears 59, and 60, to a hook shaft 61, that is afforded bearings in the standard 3, and in a sliding bracket 62. The 40 shaft 61 is in two pieces telescopically connected, or otherwise arranged, to permit the bracket 62 and hook to be shifted. The bracket 62, is mounted on a bar or projection 63, and may be adjustably secured along 45 said bar by a pin or screw 64, adapted to take into the pit holes 65. The purpose of this adjustment is to permit the hook 66, to be shifted to provide for different spaces between the lines of stitching.

50 The trimming mechanism comprises a lower or stationary knife blade 67, and an upper or movable knife blade 68. The blade 68, is carried by a knife holding arm 69. 70, is a bracket which accommodates said arm and has screw and slot connection with the overhanging arm or gooseneck, thereby affording an adjustment to provide for different widths of seams when the machine is operating as an overseamer.

60 71, indicates the upper knife bar holder, which is suitably guided in the bracket and has an arm 72, connected with strap 73, of eccentric 20 Fig. 1.

65 74, is an overhanging arm on the knife bar holder 71.

75, is a collar mounted on the knife holder 69, and having lugs 76, which engage the arm 74, and thus prevent the knife from tilting.

77, is a spring interposed between the arm 70 74 and collar 75, and tending to hold the knife 68 up to its work.

When the machine is operating as an overseamer the needle 19, being at its lowest point and the spreader at its lowest point, 75 the two starting together, the hook on the spreader crosses the eye of the needle just above the eye, picking up the thread and carrying it to a point slightly above the cloth plate of the machine where the 80 threaded looper crosses it and passes through the loop that the spreader is holding out between the needle and the former stitch; said looper then passing over the top of the cloth plate during the time that the needle is 85 going to its highest point. At that time the looper has crossed the line of needle and the needle on its downward motion picks the thread off the looper, passes down through the fabric seam and thus forms the over- 90 seaming stitch. The second needle has its threads picked off by the hook 66, such as is commonly used for this purpose except that it has a left-handed hook that forms a coiling chain stitch. 95

The needle plate (Fig. 6,) which is securely fastened on the bed or top plate contains the necessary slots for the feed dogs and has a horn X', on which the overseaming stitch is formed. It is also provided 100 with a detachable plate X, which is provided with a needle hole X² for the chain stitch needle. Plates X, are furnished in varying widths so that the needles can be spaced at different distances apart to change 105 the distance between the lines of stitching, the hook 66 being moved if desired. When operating simultaneously as an overseamer and tucker, the trimmer knives are removed. When operating as an overseamer one 110 needle is removed.

It will be obvious to others skilled in the art to which the invention appertains that modifications may be made in details without departing from the spirit and scope of 115 same, hence I do not limit myself to the precise arrangement and combination of parts hereinabove described, but

Having described the nature and objects of my invention, what I claim as new and 120 desire to secure by Letters Patent is:—

A sewing machine comprising the combination of a needle bar, means for reciprocating it, a feed consisting of two feed bars one ahead of the other, means for operating 125 said bars to cause one to travel farther than the other at each throw, said means including a rock shaft having arms and a link as 42, a threaded looper and a spreader co-operating with each other and a needle, a 130

left-hand rotary hook cooperating with a
needle, means for adjusting said hook, means
for operating said hook, spreader and
looper, a detachable plate provided with an
5 opening for the needle that cooperates with
the hook, and needles, whereby the hook can
be adjusted and the plate replaced by other
plates to accommodate the needles at differ-

ent distances apart to make different spaces
between the seams.

10

In testimony whereof I have hereunto
signed my name.

JOSEPH A. LOHMAN.

Witnesses:

W. J. JACKSON,

JAS. A. RICHMOND.