G. M. EAMES.

SEWING MACHINE.

APPLICATION FILED FEB. 28, 1914.

1,155,051. Patented Sept. 28, 1915.

Fig. 1.

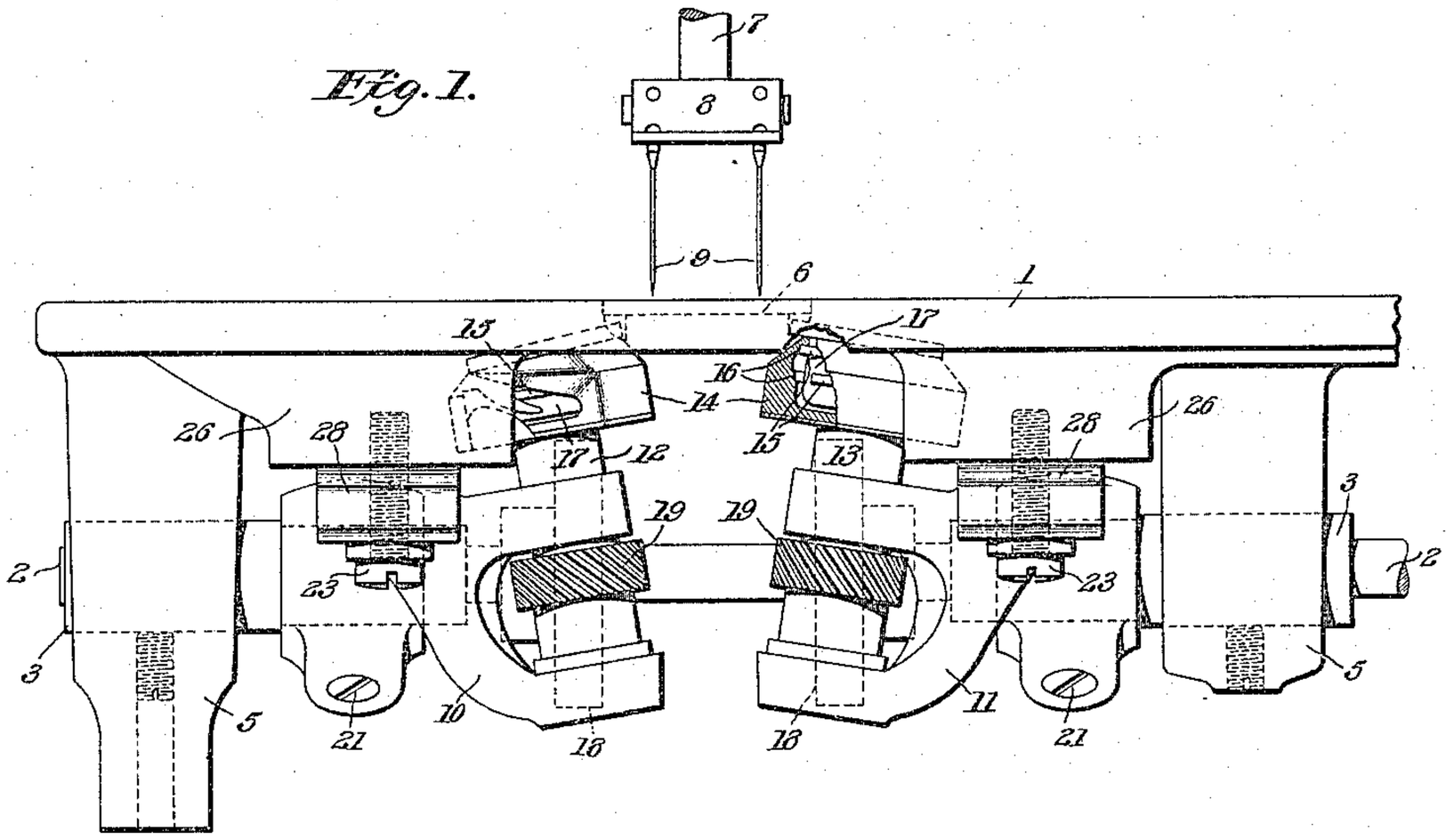
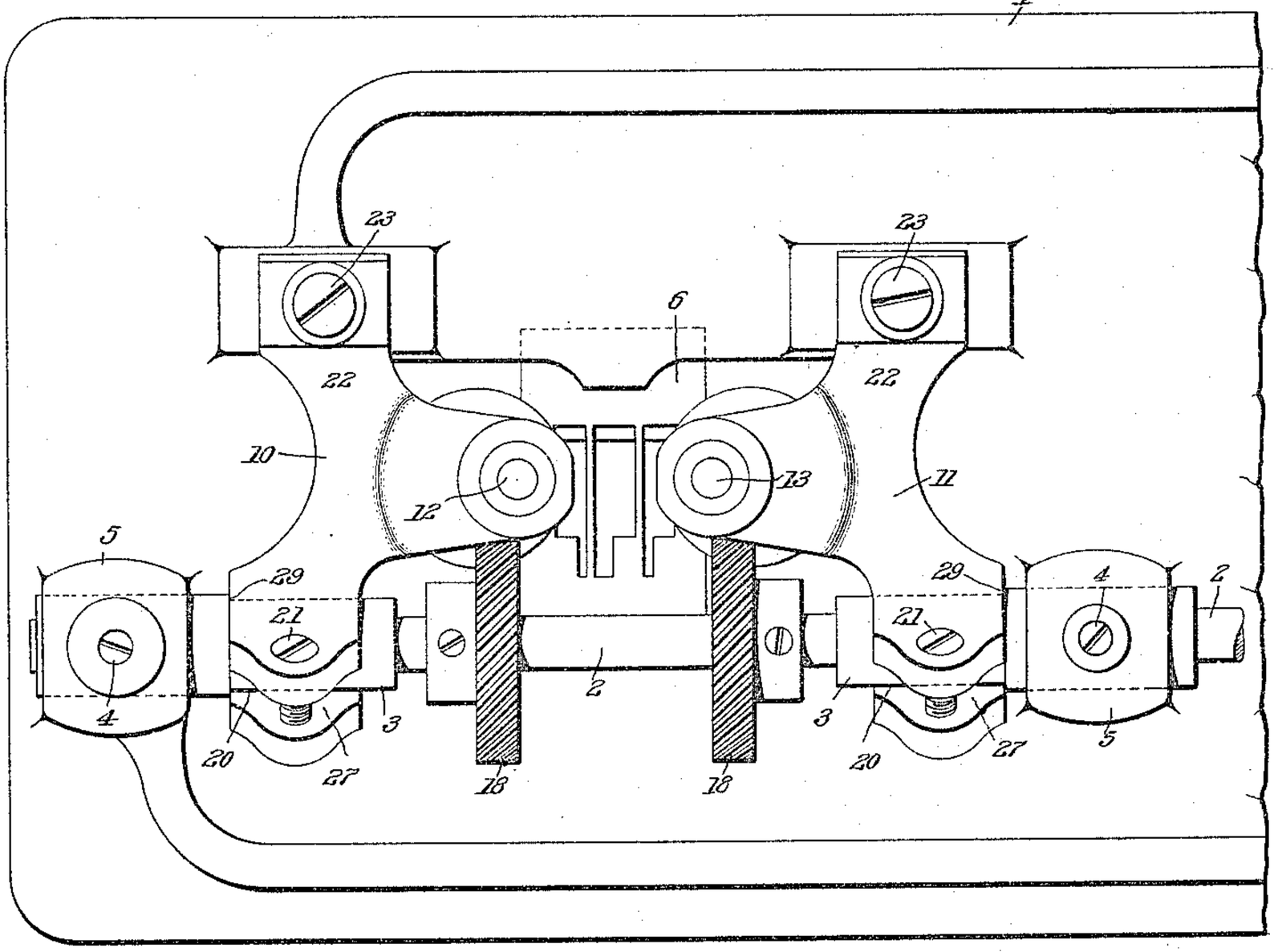


Fig. 2.



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SEWING-MACHINE.

1,155,051. Specification of Letters Patent. Patented Sept. 28, 1915.

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To all whom it may concern:

Be it known that I, GEORGE M. EAMES, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Sewing-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to improvements in loop-taker supporting brackets for sewing machines and has for its object to make more convenient the removal of the loop-taker from its supporting bracket and the latter from engagement with the looper-actuating mechanism, when, for any purpose, operative conditions require it.

For a better understanding of the broader application of the invention it is herein shown as applied to a multiple needle machine but it is to be understood that the invention is not limited in this respect.

Referring to the drawings, Figure 1 is a view in front side elevation of a portion of a sewing machine bed-plate equipped with the present invention. Fig. 2, an underside view of Fig. 1.

Referring to the figures, 1 represents the sewing machine bed-plate, 2 the looper-actuating shaft journaled in bushings, as 3, secured by screws, as 4, in lugs, as 5, depending from the bed-plate, 6 the needle- or cloth-plate, 7 the lower end portion of one form of commonly employed needle-carrying-bar provided with the needle-bracket 8 into which is suitably secured the needles, as 9.

10 and 11 denote the left and right hand loop-taker supporting brackets, respectively, and into the latter are journaled in suitable bearings the respective loop-taker shafts 12 and 13 provided with loop-takers, as 14, and into the latter are journaled by flanges, as 15, and guideways, as 16, the bobbin-cases, as 17, provided with the usual bobbins (not shown).

On the looper-actuating shaft 2 is suitably secured complemental spiral-gears, as 18, each meshing with a like gear, as 19, carried by the respective loop-taker shafts 12 and 13, the ratio of the coacting gears being as one to two, thus giving to the loop-takers two rotations to one rotation of the shaft 2.

The brackets 10 and 11 are each provided with pinch bearings, as 20, the pinch screws, as 21, permitting of the adjustment of said brackets along the bushings 3 and swinging movements about said bushings, the oppositely arranged arms, as 22, of said brackets being secured by screws, as 23, to the lugs, as 26, depending from the bed-plate, the openings, as 27, of the pinch bearings 20 being of a width slightly greater than the diameter of the shaft 2 which, through the removal of the screws 21 and the adjustment of the bushings 3 in directions away from each other, permits of the removal of said brackets out of engagement with the main-shaft. The securing surfaces, as 28, of the arms 22 are convexed to better accommodate a slight trimming off of the metal to effect the desired relative action of the coacting gear-members 18 and 19 when first assembled.

The bushings 3 are provided with annular shoulders, as 29, to accommodate the swinging movements of the supporting brackets, and parts carried by said brackets, out of and into operative relationship with the needle without interfering with their given relative adjustments, but it is to be understood that the invention is not limited to such specific means as it is evident that commonly employed collars adjustably secured upon the bushings 3 would maintain given adjustments of the supporting brackets.

Among the features of construction important to the invention, is the hinging of the looper supporting bracket to a stationary part of the sewing machine or upon the same axis as that of the gear which acts to drive the loop-taker shaft, it being understood that the hinging of the loop-taker supporting bracket on an axis corresponding to the axis of rotation of the gear 18 makes it practical to rotate the gear 19 about the gear 18 without disturbing their relative adjustment.

While not as desirable as the present construction the supporting brackets might be hinged upon the shaft 2 by substituting suitable shaft openings and employing the screws 21 to effect a running fit, as the screws 23 would hold the brackets from accidental movement with respect to said shaft.

Having thus set forth the nature of the invention, what I claim herein is:—

1. In a sewing machine, the combination

with a stitch-forming mechanism including a cloth-plate and a loop-taker shaft carrying a loop-taker provided with a thread-bobbin arranged in a plane substantially parallel with said cloth-plate, of a loop-taker supporting bracket mounted to turn on a stationary part of the sewing machine and normally secured against accidental movement.

2. In a sewing machine, the combination with a stitch-forming mechanism including a looper-actuating shaft, a cloth-plate and a loop-taker shaft carrying a loop-taker provided with a thread-bobbin arranged in a plane substantially parallel with said cloth-plate, of a loop-taker supporting bracket mounted to turn on an axis corresponding to the axis of said looper-actuating shaft and normally secured against accidental movement, said supporting bracket being capable of adjustments in directions transverse to its swinging movements.

3. In a sewing machine, the combination with a stitch-forming mechanism including a cloth-plate and a loop-taker shaft carrying a loop-taker provided with a thread-bobbin arranged in a plane substantially parallel with said cloth-plate, of a loop-taker supporting bracket mounted to turn on a stationary part of the sewing machine and normally secured against accidental movement, the securing surface of said supporting bracket being convex for the purpose set forth.

4. In a sewing machine, the combination with a stitch-forming mechanism including a looper-actuating shaft, a cloth-plate, a loop-taker shaft provided with a gear and carrying a loop-taker provided with a thread-bobbin arranged in a plane substantially parallel with said cloth-plate, and a gear-member coacting with the gear carried by said loop-taker shaft to drive said loop-taker, of a loop-taker supporting bracket mounted to turn upon an axis arranged substantially in line with the axis of said loop-taker shaft-driving gear-member.

5. In a sewing machine, the combination with a stitch-forming mechanism including a looper-actuating shaft, a cloth-plate and a loop-taker shaft carrying a loop-taker provided with a thread-bobbin arranged in a plane substantially parallel with said cloth-plate, of a loop-taker supporting bracket mounted to turn upon an axis corresponding substantially with the axis of said looper-actuating shaft and at its turning point provided with a slot corresponding substantially to the diameter of said looper-actuating shaft.

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

GEORGE M. EAMES.

Witnesses:
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