

J. C. RINGE.
 NEEDLE BAR MECHANISM FOR SEWING MACHINES.
 APPLICATION FILED MAY 22, 1911.

1,020,057.

Patented Mar. 12, 1912.

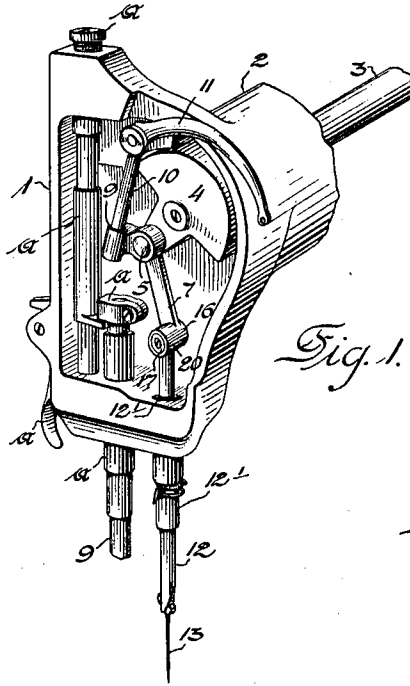


Fig. 1.

Fig. 2.

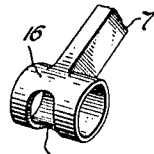
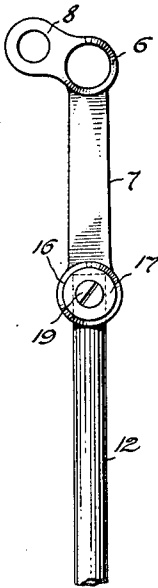


Fig. 4.

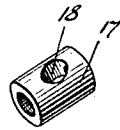
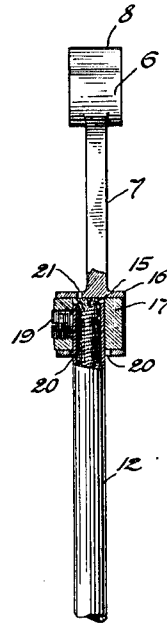


Fig. 5.

Fig. 3.



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NEEDLE-BAR MECHANISM FOR SEWING-MACHINES.

1,020,057.

Specification of Letters Patent.

Patented Mar. 12, 1912.

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To all whom it may concern:

Be it known that I, JOHN C. RINGE, 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 Needle-Bar Mechanism for Sewing-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to improvements in needle-bar mechanism for sewing machines, and has for its object to provide improved means for connecting the needle-bar with its actuating shaft; and to this end the needle-bar-actuating link is provided with a bearing in which the needle-bar-carrying shaft is mounted to move freely in the direction of its length, said shaft being provided with an opening into which extends the upper end of the needle-bar and with means for securing the latter.

In the accompanying drawings illustrating the invention, in the several figures of which like parts are similarly designated, Figure 1 is a perspective of the front end of a sewing machine bracket arm, a part of the main or needle-bar-driving shaft, shaft flange and needle-bar, the latter being operatively connected with said flange by the improved means. Figs. 2 and 3 illustrate the needle-bar-actuating link and attached needle-bar, the latter figure being partially in section to better illustrate the means for connecting said needle-bar with said link. Figs. 4 and 5 are views, in perspective, of that portion of the needle-bar-actuating link provided with the bearing, and the needle-bar-carrying shaft carried by said bearing, respectively.

1 represents the head of the sewing machine bracket arm 2, 3 the main or needle-bar-driving shaft mounted in said bracket arm and carrying at its forward end the shaft flange 4 provided with a crank pin 5 upon which is journaled the bearing 6 of the needle-bar-actuating link 7, a second bearing 8 carried by said link receiving a stud bearing 9 into which projects an arm 10 of the needle thread take-up 11, which elements, together with those forming a portion of the cloth-presser mechanism (designated by *a*), are common to sewing machines of earlier construction and have no bearing on the present invention, except to better illustrate its application.

12 is the needle-bar carrying the needle 13, said needle-bar being mounted to move vertically in its bearing 12' and provided at its upper end with a tubular portion having a suitable wick, as 15, which acts as a vehicle for the distribution of lubricant between the inner surface of the bearing 16 and needle-bar-carrying shaft 17, the latter being provided with an opening 18 in which said needle-bar is secured by screw 19.

The bearing 16 is provided with an opening 20 of sufficient length to prevent said bearing from contacting with the needle-bar in its oscillating movements due to the action of the crank pin 5, and such opening is of sufficient width to allow the shaft 17 to move in the direction of its length sufficiently to compensate for any inequality incident to the construction and assembling of the needle-bar-actuating mechanism which might cause said needle-bar to vary in its vertical alinement with said opening.

21 represents an opening through which the lubricant is distributed to the wick 15.

Claims:—

1. In a sewing machine, needle-actuating mechanism including a needle-bar, a needle-bar bearing in which said needle-bar is mounted to move in the direction of its length, a needle-bar-carrying shaft and a needle-bar-actuating link, the latter being provided with an opening through which said needle-bar passes freely and with a bearing in which said needle-bar-carrying shaft is journaled, the latter capable of adjustment in the direction of its length in said bearing to insure the free alinement of said needle-bar with respect to said needle-bar bearing.

2. In a sewing machine, needle-actuating mechanism including a needle-bar provided with a tubular portion in which an oil distributing vehicle is housed, a needle-bar bearing in which said needle-bar is mounted to move in the direction of its length, a needle-bar-carrying shaft and a needle-bar-actuating link, the latter being provided with an opening through which said needle-bar passes freely and with a bearing in which said needle-bar-carrying shaft is journaled, the latter capable of adjustment in the direction of its length in said bearing to insure the free alinement of said needle-bar with respect to said needle-bar bearing.

3. In a sewing machine, needle-actuating

mechanism including a needle-bar provided
with an open-end tubular portion, a needle-
bar bearing in which said needle-bar is
mounted to move vertically, a needle-bar-
5 carrying shaft provided with an opening in
which said needle-bar is secured, and a needle-
bar-actuating link, the latter being provided
with an opening through which said
needle-bar passes freely and with a bearing
10 in which said needle-bar-carrying shaft is
 journaled, the latter capable of adjustment

in the direction of its length in said bearing
to insure the free vertical alinement of said
needle-bar with respect to said needle-bar
bearing. 15

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

JOHN C. RINGE.

Witnesses:

ABBIE M. DONIHUE,
THOMAS CAMPBELL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."