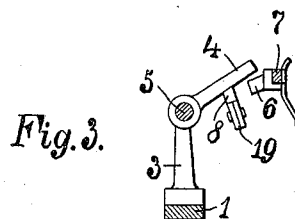
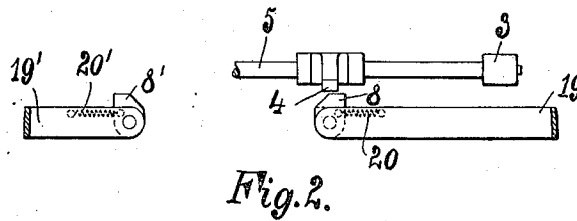
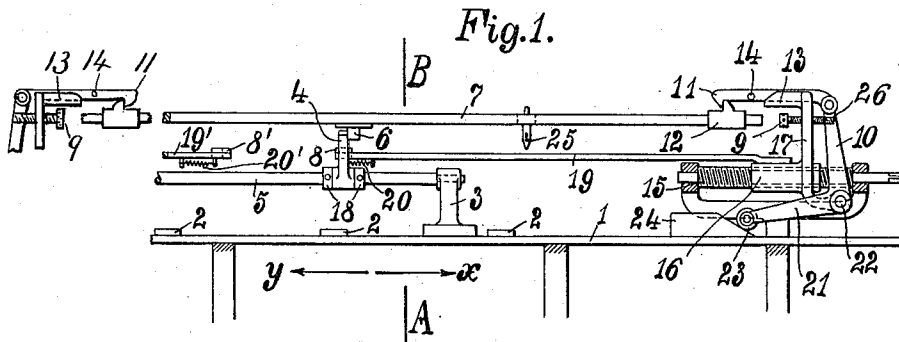


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DRIVING MECHANISM FOR THREAD-GUIDE BARS.
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DRIVING MECHANISM FOR THREAD-GUIDE BARS.

1,023,695.

Specification of Letters Patent.

Patented Apr. 16, 1912.

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To all whom it may concern:

Be it known that I, CARL WALTHER, a subject of the German Emperor, residing at Chemnitz, in the Kingdom of Saxony and Empire of Germany, have invented certain new and useful Improvements in Driving Mechanism for Thread-Guide Bars, of which the following is a specification.

In many cases in the construction of machines it happens that a heavy object continually moves to and fro on a rectilinear way. If this object at the end of its course, runs against a fixed body a serious shock and consequent damage results to one or both bodies.

The purpose of the present invention is to avoid this violent contact of parts by retarding the speed of the moving element in the last moments of its motion.

In the inclosed drawing an instance of the construction of the invention in a straight knitting frame is illustrated.

Figure 1 is a front view of the device. Fig. 2 shows enlarged detailed views of parts of the device shown in Fig. 1 when seen from above. Fig. 3 is a vertical cross-section on the line A—B of Fig. 1.

The part which is moved to and fro, the motion of which is to be retarded at the end of its run, is the rod 7, to which the thread guides 25 are fixed. As is known the thread guide 25 must be continually shifted to and fro in the two directions x and y . In the last moment of its motion, the right end of the bar 7 encounters the cap 9 of the screw 26, and in its return movement the left end of the rod 7 encounters the cap 9 of the screw 26'. But because, as is known, a knitting frame is very long, the left end of the mechanism could not be fully illustrated in the drawing.

I will now describe the device in detail.

As shown in the drawing the bar 1 is mounted on the stationary frame of the machine and can be reciprocated in its longitudinal direction as shown by the two arrows x and y . The posts 3 are fixed to the bar 1, of which in the drawing only one is illustrated. The bar 5 is fixed to the post 3. The bar 5 must therefore make exactly the same motions (x, y) as the bar 1, whose movement is constant.

The arm or latch 4 is rotatably mounted on the bar 5. The two rings 18 fixed to the bar 5 prevent longitudinal movement of the lever 4 on the bar 5. The rod 7, which has

a variable traverse and to which the thread guides 25 are fixed is furnished with a lug 6. If the bar 5 is shifted in the direction x , the arm or latch 4 strikes the lug 6 and the bar 7 must move therewith in the same direction x . As shown in Fig. 3 the lever 4 can also be thrown upward, so that the arm or latch 4 and the lug 6 are not in contact. The rod 19 is furnished with a head 8, and is itself held by a spring 20 in nearly the same position, as is illustrated in Fig. 2. The rod 19 generally stands still, and if the arm or latch 4 is moved in the opposite direction, the arm 4 then encounters the oblique face of the head 8 and is turned out as seen in Fig. 3. Just such a rod as 19 to the right side is also arranged, 19', to the left side of the machine. The rod 19' is provided with just such a head 8' and with a spring 20'.

In the frame of the machine the fashioning screw 15 is mounted. On this screw 15 rests a nut 16. On the nut 16 is arranged a bolt 22, which serves as center of motion for the crank lever 10, 21. A vertical arm 17 is secured on the nut 16 and carries an adjusting screw 26 and is, besides, furnished with a sloping head 13. The said crank lever 10, 21 has arranged on its arm 21 a roller 23, and on the other arm a pawl 11 jointed to said arm 10 and with a pin 14, for the purpose of raising the pawl 11. A head 12 is formed at the end of the rod 7, with which the pawl 11 engages. An oblique wedge 24 is fixed to the bar 1.

The operation of the device is as follows: If the parts 1, 2, 3, 5 move in the direction of the arrow x and have got then near the extreme point of their motion, the arm or latch 4 strikes the end of the bar 19, and the head 12 snaps under the pawl 11. Consequently the bars are positioned as in Fig. 3, that is to say, the arm or latch 4 is lifted off from the lug 6 and cannot take the rod 7 along with it. In the same moment however the wedge 24 also reaches the roller 23 and the lever 10, 21 is consequently turned, so that the pawl 11 draws the head 12 to the right. The motion which the rod 7 gets by the pawl 11 is a much slower motion than that which the rod 7 has got by the arm or latch 4. The bar 7 is not so freely movable in its bearings or driven at such a rate by its direct connection, to the bar 1, as to cause its momentum to carry it beyond the point to which it is positively moved. In the last moment of this motion

the end of the rod 7 will therefore only run with very slow speed against the cap 9 of the screw 26. This is the purpose of the invention as it has already been explained
5 above more particularly.

Having now described my invention and in what manner the same is operated, what I claim is:

1. In a thread guide bar traverse mechanism for straight knitting machines, a primary bar having a constant reciprocating movement, a thread guide bar, a latch 4 on said primary bar to contact with and drive the thread guide bar, a stop for the thread
15 guide bar and means to vary the position of said stop, and a second stop 19 carried by said means to unlock the latch before the thread guide bar encounters its stop, and a device carried by said stop positioning
20 means to engage and move the thread guide bar against the stop.

2. In a thread guide bar traverse mechanism

for straight knitting machines a primary bar on the machine frame having a constant reciprocating movement, a post on
25 said bar, a bar 5 carried by said post, an arm 4 rotatable on said bar 5, a thread guide bar having a lug thereon by which said arm drives said thread guide bar, a head
near the end of said thread guide bar, a
30 frame carrying a fashioning screw, a crank lever fulcrumed on a nut carried by said screw, an incline on said primary bar engaged by a roller on the lower arm of said
crank lever, a catch pivoted on the upper
35 arm of said crank lever, adapted to engage behind the head of said thread guide bar and an adjustable stop for said thread guide bar also carried by said nut.

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Witnesses:

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