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 LOOM FOR MANUFACTURING TERRY FABRICS.
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Fig. 2

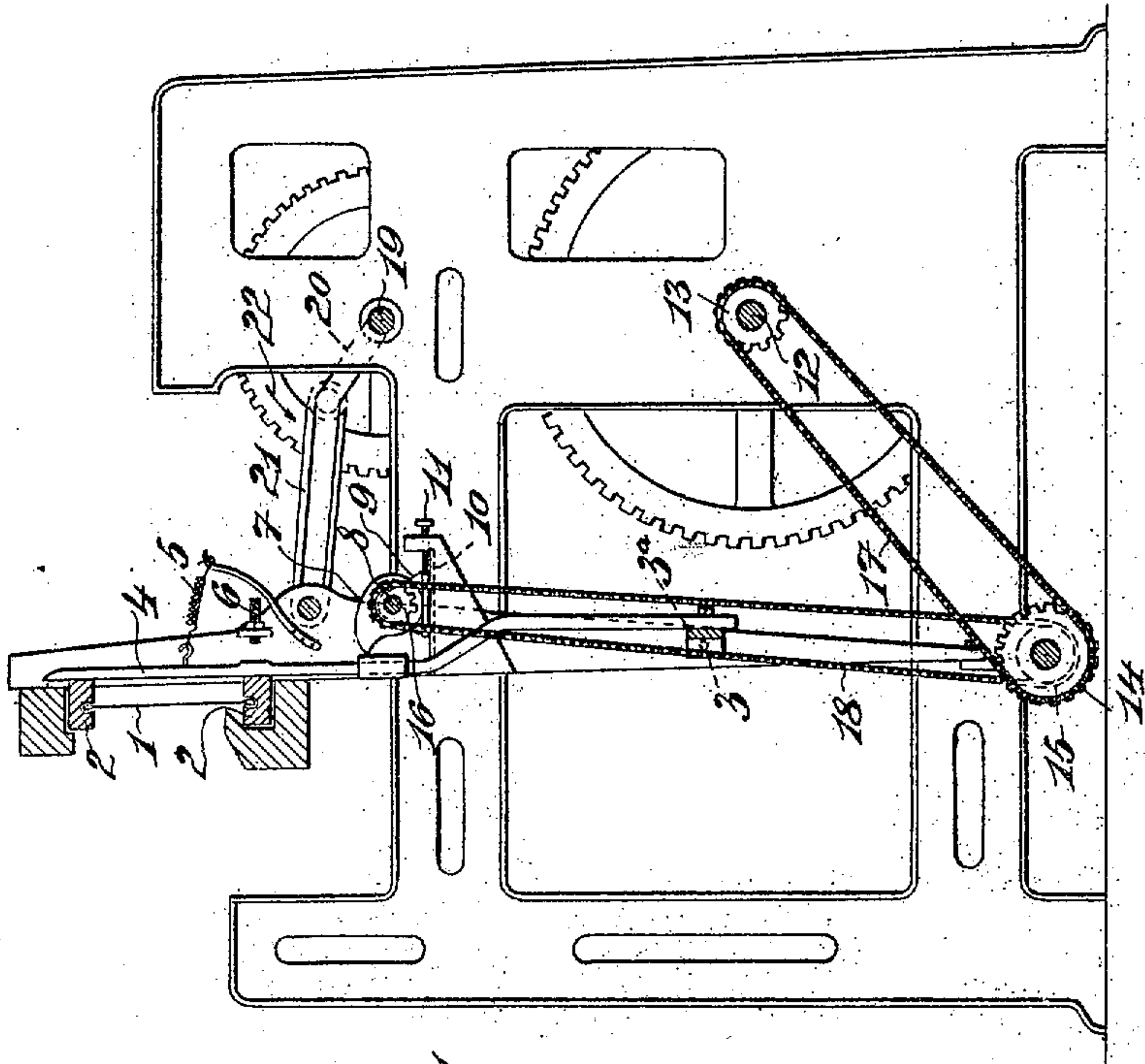


Fig. 3

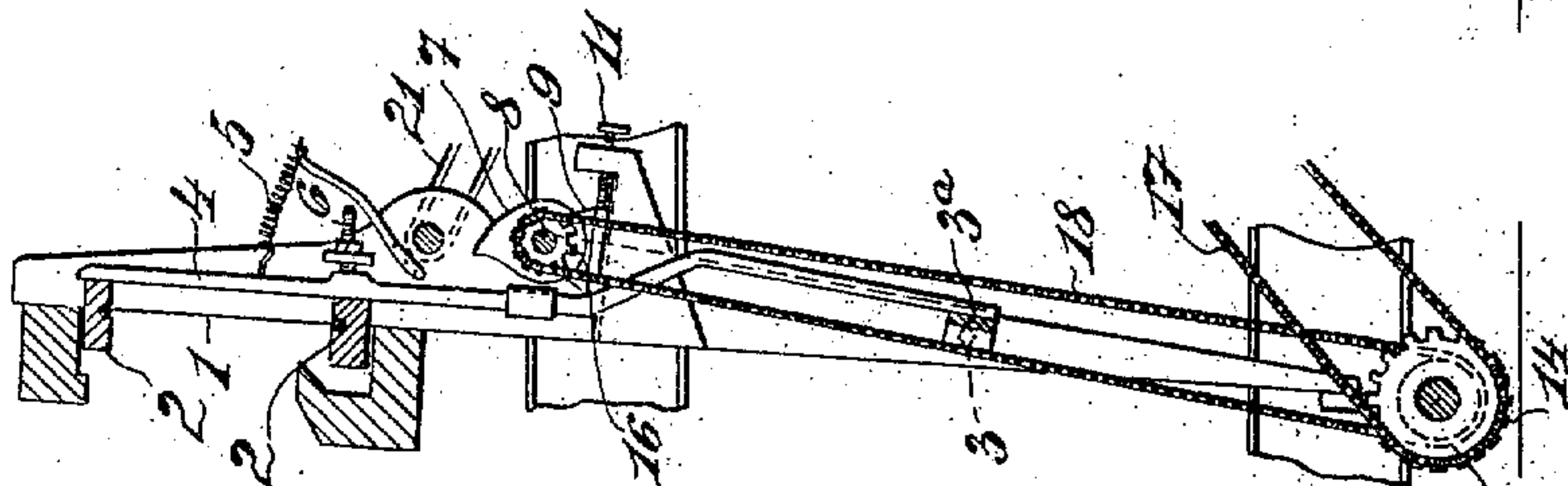
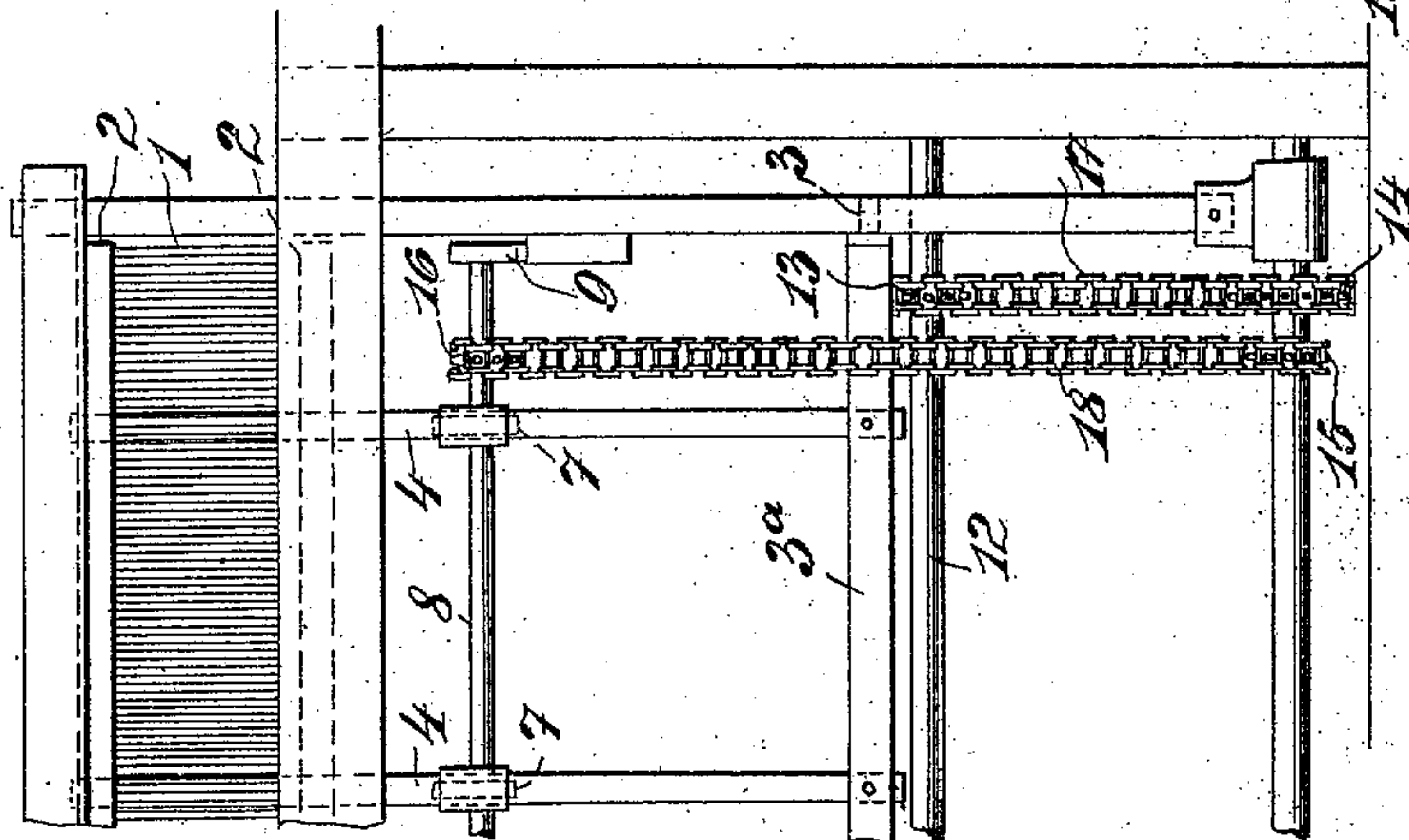


Fig. 1



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LOOM FOR MANUFACTURING TERRY FABRICS.

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To all whom it may concern:

Be it known that I, GUSTAV KRATKY, of Freudenthal, Austro-Silesia, Empire of Austria-Hungary, a subject of the Emperor of Austria-Hungary, have invented new and useful Improvements in Looms for Manufacturing Terry Fabrics, of which the following is a specification.

The invention relates to looms for weaving mechanically and in a rational manner fabrics having a rough surface for rubbing purposes, such as bathing towels which fabrics have two to three meters of breadth and consist of linen or cotton. Such fabrics are made by weaving together two warps, a bottom warp and a terry warp in such a manner that, according to the binding, the terry warp is drawn in for half the length of the twine or knots after a certain binding weft of the bottom warp. The drawing in of the terry warp may be brought forth either by pushing in for a suitable distance the whole batten after a certain binding weft, or by giving the required movement to the reed only. It is advisable to give the movement necessary for the drawing in of the terry warp only to the reed, in order to let the batten make its forward and backward movement without any disturbance, so that it may not unfavorably influence the weft fork, nor the release of the trigger.

In all designs of looms which have a movable reed for the purpose described before, this motion of the reed is dependent upon the forward and backward movement of the batten, but the dependence upon the two movements from one another is a drawback with looms for making twined fabrics, that is fabrics having nooses or loops on the surface, because the making of the twine or knot or noose is mainly dependent upon the kind of binding and because the stroke of the reed and the binding must match. Now every loom even if it be provided with a well working brake, completes two to three more turns on account of its speed and therefore it is always necessary when the weft is used up, to turn the loom two or three turns backward in order to actuate the reed at the proper binding weft. According to my invention this adjusting may be dispensed with by transmitting the forward and backward movement of the reed from the rotation of the shuttle-driver shaft, by means of which the formation of the shed is also effected. It

is obvious that with such kind of driving arrangement not only the binding and the stroke of the batten must be matching, but also the shaft of the eccentric disk which causes directly the movement of the reed, is turned backwardly with the backward movement of the loom. If however the movement of the reed would be dependent upon the movement of the batten as this has been the case up to this time, the advancing means for the reed would work in the forward direction, even when the loom is turned backward.

In the accompanying drawing one form of execution of my invention is represented.

Figure 1 shows in a front view the mechanism when the reed is pressed against the weft during the passage of the shuttle; Fig. 2 is the corresponding side elevation and Fig. 3 shows the batten and the reed before the stroke.

The reed 1 is located in a separate wooden frame 2 which is secured to two arms 4, pivoted to pivots 3 of the batten shaft 3^a; the arms 4 are under the influence of springs 5. The frame 2 which can be forced by means of eccentrics 7 against the finished fabric independently of the batten movement, after the binding weft determinative for the formation of the twines or knots has been thrown in, can be adjusted by means of springs 5 and screws 6 so that it lies exactly on the back-wall of the shuttle-box, whereby the necessary rectangular position of the reed to the ready made fabric is guaranteed. The eccentrics 7 causing the movement of the reed are wedged upon a shaft 8, running over the whole width of the loom and supported by slidably arranged bearings which may be adjusted in a dove-tailed recess by means of adjusting screws 11.

According to my invention the eccentrics are driven independently from the batten motion as their movement is derived from the shuttle-driver shaft 12 through the chain gears 13, 14 respectively 15, 16 and the chains 17, 18. The rate of transmission must be chosen in such a way that the noses of the eccentric disks 7 come into contact with the arms 4 after a number (three at least) of wefts has been thrown in, whereupon these wefts are pushed to the edge of the fabric, because the stroke of the reed is equal to the sum of the stroke of the batten plus the stroke derived from the eccentric

disks. The batten-motion is taken in the usual manner from the main shaft 19 by means of the crank 20 and the rod 21.

In the known terry looms the distance between the trigger and the frog is reduced thereby that the whole batten is farther driven in and the shuttle must be thrown through the lash, whereat the warp is frequently torn. According to my invention it is possible to lift out the trigger of terry looms which must necessarily always be trigger-looms and at which the trigger must be fixed to the batten, by means of the shuttle independently from the movement of the reed, regularly as in any plain loom.

When the loom described has to be used for making plain goods, the chain gear 16 is cut off, whereupon the shaft 8 and the disks 7 are standing still. To this purpose the gear 8 is detachably mounted.

The following may elucidate further advantages of the invention. It is known that at any rate the reed must in any loom lie along its whole length on the back wall of the shuttle-box and that it has to stay in this position during the time the shuttle is racing. In every system of linen or cotton looms the drive of the shuttle begins when the crank is in its lowermost position (Fig. 3) and in narrow looms the shuttle arrives in the opposite shuttle box in the moment when the crank attains its highest position. During the time in which the crank moves from its lowermost position to the top (in the direction of arrow 22) the reed must not change its position, because the shuttle is sliding in this time along the reed and has not to be diverted, as otherwise it would sling and would not arrive in the opposite shuttle box. The reed can but change its position when the crank is moving from its topmost position to its lowermost position (in the direction of arrow 22) during which time the terry warp is drawn in to form the twines or knots. As the race of the shuttle is beginning anew in the lowermost position of the crank it is again necessary that the reed is perfectly standing still at this moment and that it lies on the back wall of the shuttle box. These requirements of the practice are all fulfilled by the present invention, as the movement of the crank from the highest to the lowest position is perfectly used for the action of the reed in such a way

that the eccentric 7 respectively the eccentrics begin to press against the arms 4 while the crank is moving from its topmost position and approaches the horizontal line. During the further movement of the crank below the horizontal position the reed is perfectly forced against the edge of the finished fabric and while the crank is approaching its lowest position the levers are quickly going backward into their first position, as in the moment, when the crank comes into its lowermost position the shuttle is about to again leave the shuttle box.

Having now described my invention what I claim as new is:

1. A loom comprising in combination, a swinging reed frame provided with a shuttle race, means for swinging said frame, a reed, a structure supporting said reed and pivotally mounted on said frame, a spring connected with said structure and frame for normally holding the former in a retracted position, cams mounted on said frame for forcing said reed toward the fell of the fabric, means for adjusting the position of said cams with respect to said structure, and independent means for operating said cams.

2. A loom comprising in combination, a swinging reed frame provided with a shuttle race, means for swinging said frame, a reed, a structure supporting said reed and pivotally mounted on said frame, springs normally holding said structure in a retracted position, cams for engaging said structure to force the reed toward the fell of the fabric, means for adjusting the position of said cams with respect to said structure, and independent means for operating said cams.

3. A loom comprising in combination, a swinging reed frame provided with a shuttle race, means for swinging said frame, a reed, a structure supporting said reed and pivotally mounted on said frame, adjustable devices mounted on said frame for engaging said structure and forcing the reed toward the fell of the fabric, and independent means for operating said devices.

In testimony whereof I affix my signature in presence of two witnesses.

GUSTAV KRATKY.

Witnesses:

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