

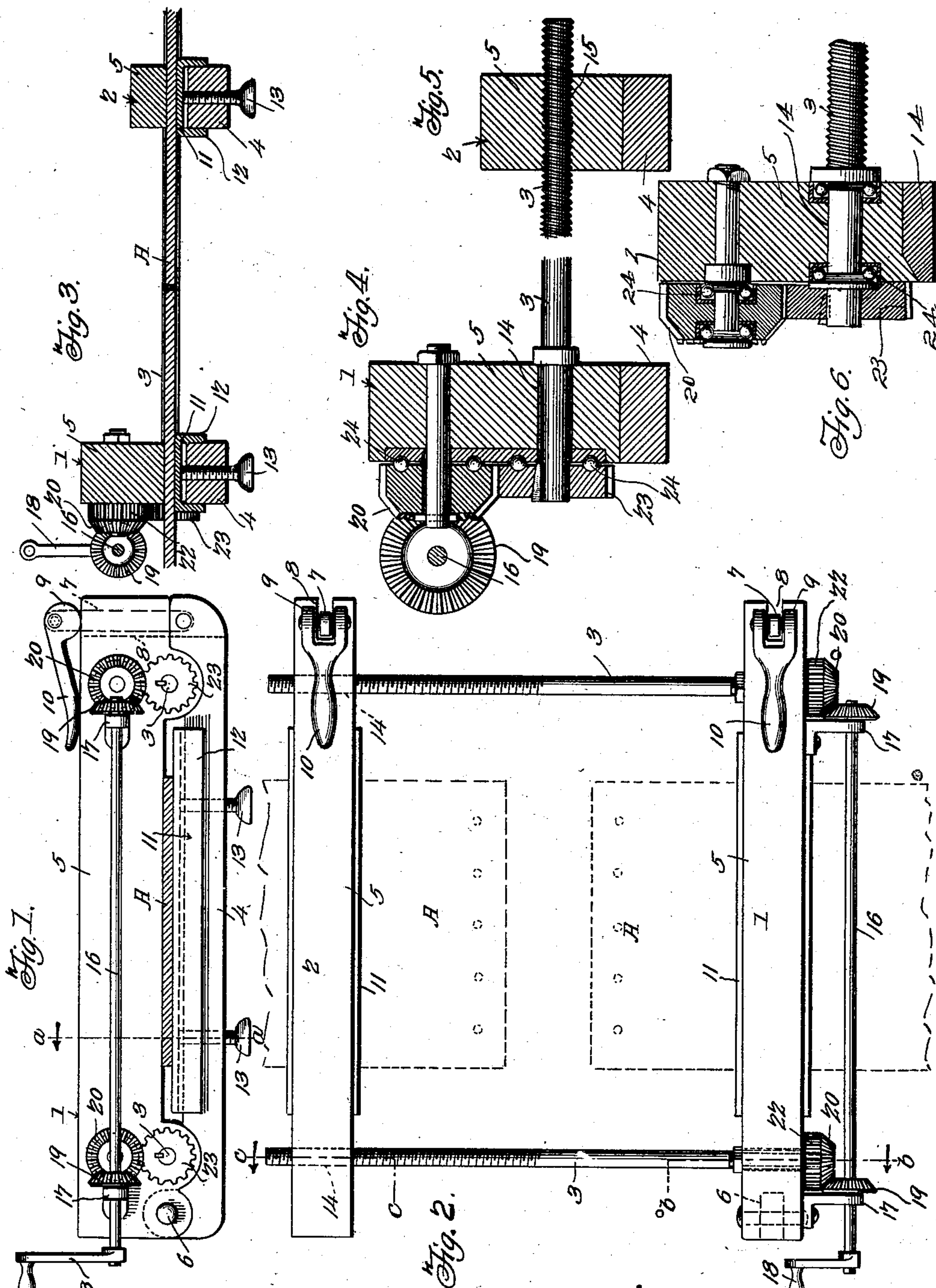
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F. J. FISCHER.
BELT ADJUSTER.

APPLICATION FILED FEB. 7, 1901.

NO MODEL.



Witnesses
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UNITED STATES PATENT OFFICE.

FRANK JOSEPH FISCHER, OF MILLERSVILLE, OHIO.

BELT-ADJUSTER.

SPECIFICATION forming part of Letters Patent No. 724,837, dated April 7, 1903.

Application filed February 7, 1901. Serial No. 46,429. (No model.)

To all whom it may concern:

Be it known that I, FRANK JOSEPH FISCHER, a citizen of the United States, residing at Millersville, in the county of Sandusky and State of Ohio, have invented a new and useful Belt-Adjuster, of which the following is a specification.

My invention is an improved belt-adjuster adapted for use in tightening or loosening a driving-belt and for holding the ends thereof while being laced or otherwise secured together without the necessity of removing the belt from the pulleys.

My invention consists in the peculiar construction and combination of devices herein-after fully set forth and claimed.

In the accompanying drawings, Figure 1 is an elevation of my improved belt-adjuster. Fig. 2 is a top plan view of the same. Fig. 3 is a vertical sectional view of the same, taken on a plane indicated by the line *a a* in Fig. 1. Fig. 4 is a detail sectional view of the same, taken on a plane indicated by the line *b b* in Fig. 2. Fig. 5 is a similar view taken on a plane indicated by the line *c c* in Fig. 2. Fig. 6 is a sectional elevation of one of the yokes, illustrating a modification.

1 and 2 designate a pair of clamping-yokes, which are connected together by adjusting-screws 3. Each of the clamping-yokes comprises a lower jaw or bar 4 and an upper jaw or bar 5, the latter being designed to support the adjusting-screws and the operating mechanism therefor. The two jaws are hinged together at one end by a pin 6, arranged in alinement with the clamping or belt-receiving opening between the jaws. To the end of each lower jaw or bar 4, opposite the pin 6, is pivotally connected a link 7, and each upper jaw or bar is provided with an open slot in its free end for the reception of said links. At the free end of each link is a locking-cam 9, having an operating-arm 10, by which the jaws may be locked together upon the belt.

It will be observed by reference to Figs. 1 and 3 of the drawings that the opposing edges of the jaws between which the belt *A* is clamped do not come into contact with each other at points intermediate of the ends thereof and that on each of the lower jaws 4 is a saddle-plate in the form of a channel-bar, the

depending flanges 12 of which engage the sides of the said lower jaws, the entire length of the saddle-plate being in contact with said lower jaw and forming a rigid structure which will evenly distribute the strain throughout the entire length of the clamping-surface. The lower jaws 4 are further provided with adjusting-screws 13, by means of which the said saddle-plates may be adjusted to compensate for variations in the thicknesses of belts.

By referring to the drawings it will be noted that the upper bar 5 of the clamping-yoke 1 is much wider than that of the clamping-yoke 2. The adjusting-screws 3 have their unthreaded portions swiveled in the upper bar 5 of clamping-yoke 1, as at 14, and their threaded portions engage threaded openings in the upper bar or jaw of clamping-yoke 2, as at 15. Hence by rotating said adjusting-screw said clamping-yokes may be moved from or toward each other. The said adjusting-screws pass through depending lugs formed integral with the upper jaws and are arranged in the plane occupied by the belt when the latter is clamped in position, thus avoiding any lateral strain or binding of the screws. The depending lugs which carry the screws are seated in correspondingly-shaped recesses in the lower jaws 4 and in a measure act to prevent any independent longitudinal play of the said jaws.

A shaft 16 is journaled in bearings 17 on the outer side of the upper jaw 5 of clamping-yoke 1 and is arranged at a point considerably above the plane of the belt, so as not to interfere with the latter. The shaft 16 is provided at one end with a hand-crank 18, and said shaft is further provided with miter-gears 19, which engage similar gears 20 on stud-shafts 21, secured in the bar 5, as shown. Secured to or formed integral with said miter-gears 20 are spur-gears 22, which intermesh with similar gear 23, keyed or otherwise secured on the swiveled ends of the adjusting-screws 3. In order to reduce friction between the opposing sides of the gears 22 23 and the upper jaw 5 of the yoke 1, I provide ball-bearings 24, as shown in Fig. 4, such bearings being of the construction illustrated in Fig. 4 or of the modified construction illustrated in Fig. 6. The gears 23 on the screws 3 form lat-

erally-extending heads therefor, which stiffen and brace said screws.

It will be observed that all of the operating parts are carried by the upper jaws 5 of the
5 respective clamping-yokes. This feature is of value when the device is to be applied to a belt having connected ends, in which said ends are to be drawn toward each other for taking up slack. The operator by opening the jaws
10 can place the upper jaws upon the belt, the belt holding the jaws in position while the lower lighter jaws 4 are swung up singly and clamped in position.

I am aware that various belt-adjusting devices having screw-operated clamping-jaws
15 have heretofore been employed; but in none of these devices with which I am familiar have the structural elements been so combined and arranged as to form a practical device having
20 all the features of advantage herein set forth.

Having thus described my invention, what I claim is—

1. A belt-adjuster having a pair of clamping-yokes, adjusting-screws connecting the
25 yokes, and having gears 23 at one end thereof, said gears forming laterally-extending heads on the screws to brace the latter, the opposing sides of said gears and the yoke to which they are approximate being plane and
30 parallel and having registering ball-races concentric of the screws, bearing-balls in said

races, a crank-shaft having its bearings on the last-mentioned yoke and disposed out of line with and to one side of the adjusting-screws, miter-gears on said crank-shaft, and
35 gears 22 mounted in line with the crank-shaft, engaging the gears 23 and having miter-sections engaging the miter-gears on the crank-shaft, substantially as described.

2. In a belt-adjuster the combination of a
40 pair of clamping-yokes, each comprising a pair of jaws hinged together at one end, adjusting-screws connecting the yokes, a saddle-plate on one of the jaws of each yoke, said saddle-plates being provided with longitudinal chan-
45 nels on their under sides to receive the lower jaws of the yokes and flanges that bear on opposite sides of said lower jaws and extend from end to end of the saddle-plates, to stiffen the latter, for the purpose set forth, and ad-
50 justing-screws in the lower jaws to engage the channeled lower sides of the saddle-plates, to clamp the belt between the latter and the upper jaws of the clamping-yokes, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

FRANK JOSEPH FISCHER.

Witnesses:

A. P. GABEL,
E. T. COYLE.