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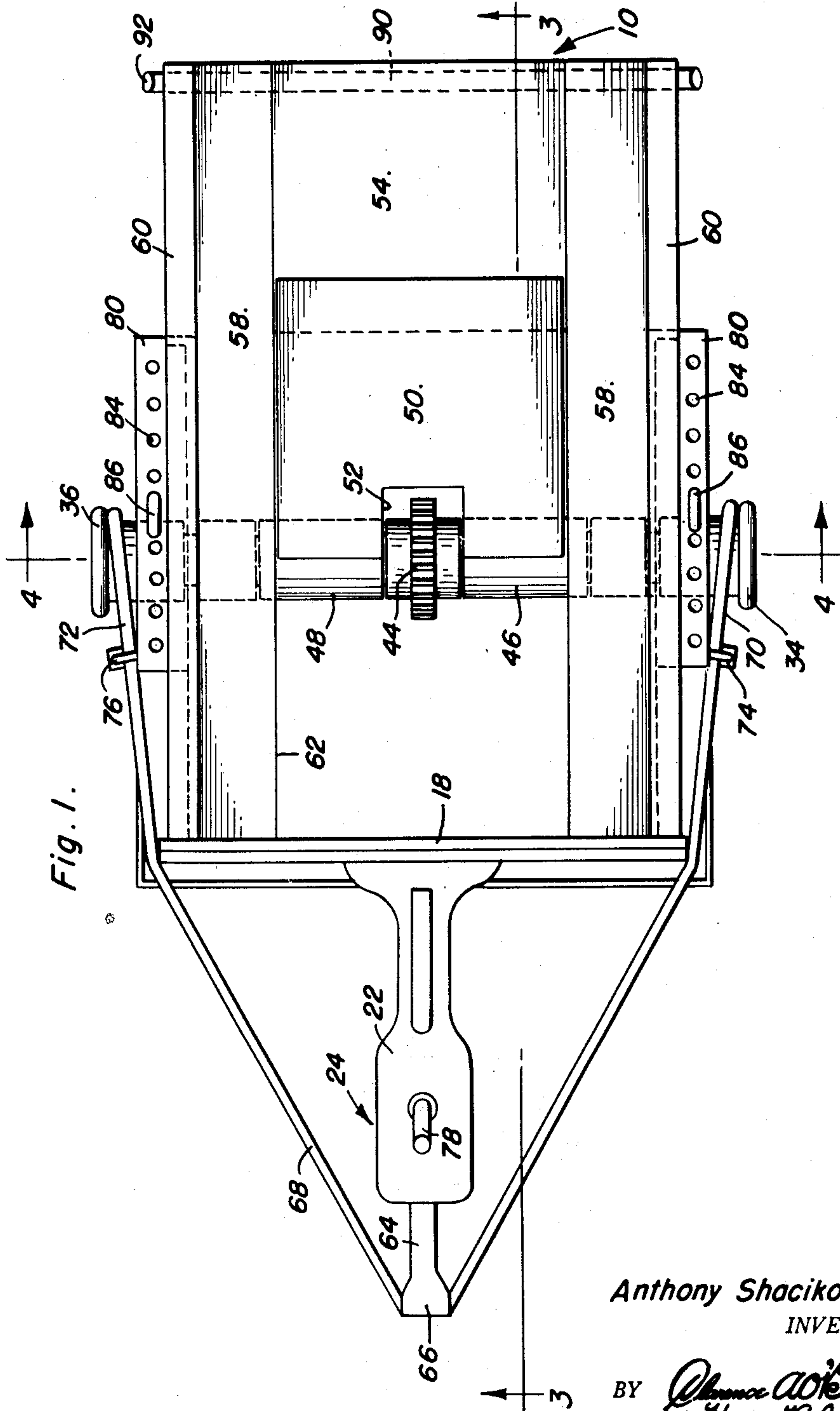
A. SHACIKOSKI

2,628,707

SLACK ADJUSTER FOR CONVEYERS

Filed Oct. 28, 1949

2 SHEETS—SHEET 1



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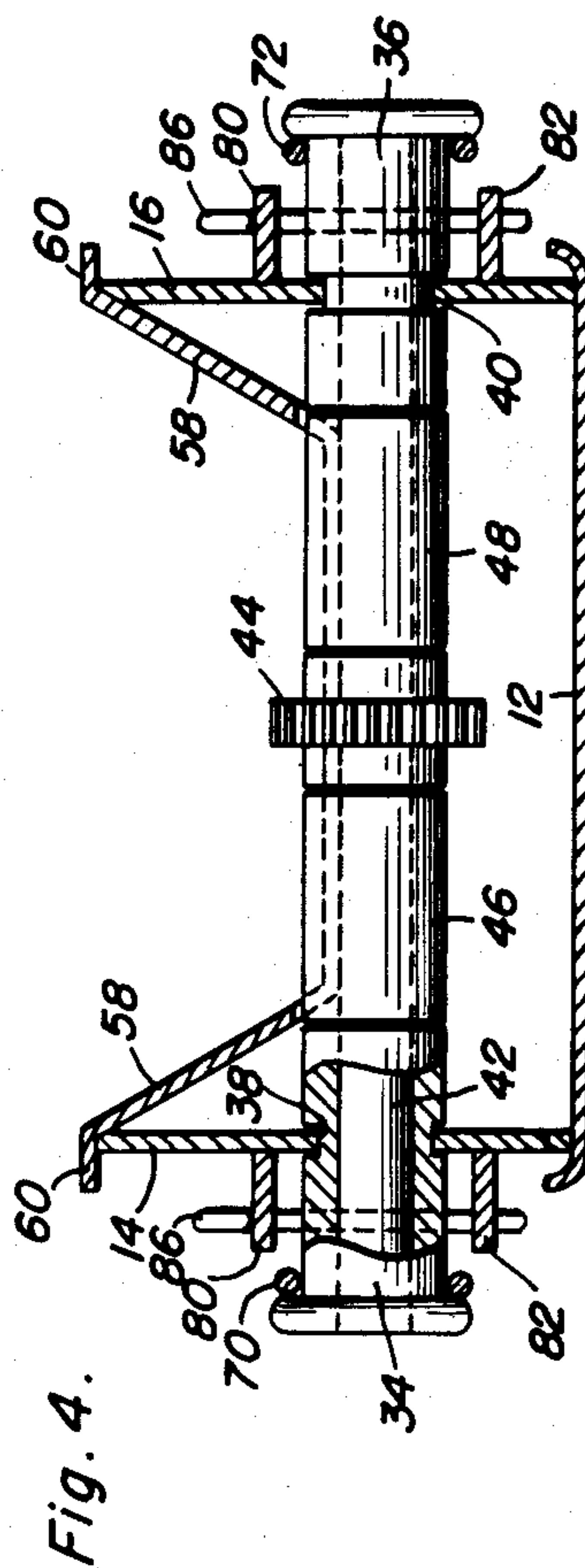
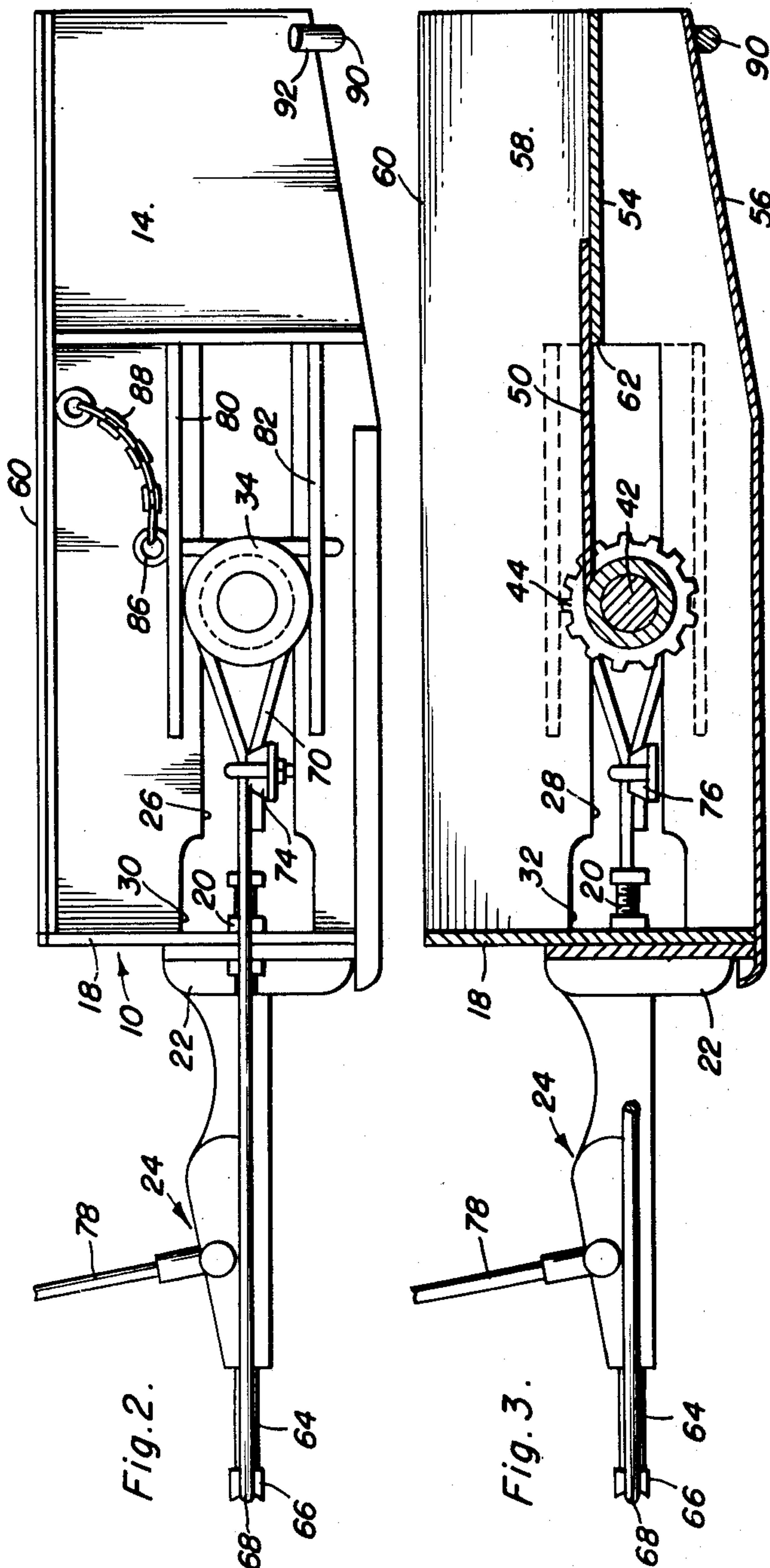
A. SHACIKOSKI

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SLACK ADJUSTER FOR CONVEYERS

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2 SHEETS—SHEET 2



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UNITED STATES PATENT OFFICE

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SLACK ADJUSTER FOR CONVEYERS

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5 Claims. (Cl. 198—208)

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This invention relates to new and useful improvements in conveyors and the primary object of the present invention is to provide a slack adjuster for conveyors.

Another important object of the present invention is to provide a slack adjuster for conveyors, drive chains, belts and the like, including a laterally movable and rotatable roller and a manually actuated jack for adjusting the roller to remove the slack from a member trained thereabout.

A further object of the present invention is to provide a tail end structure for conveyors including a laterally adjustable roller and a wear plate movable with the roller for slidably supporting a conveyor associated with the roller.

A still further aim of the present invention is to provide a slack adjuster that is simple and practical in construction, strong and reliable in use, efficient and durable in operation, small and compact in structure, relatively inexpensive to manufacture, and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a plan view of the present invention;

Figure 2 is a side elevational view of Figure 1;

Figure 3 is a longitudinal vertical sectional view taken substantially on the plane of section line 3—3 of Figure 1; and,

Figure 4 is a transverse vertical sectional view taken substantially on the plane of section line 4—4 Figure 1.

Referring now to the drawings in detail, wherein for the purpose of illustration, there is disclosed a preferred embodiment of the present invention, the numeral 10 represents an elongated substantially channel shaped support including a web portion or bottom wall 12 and spaced parallel leg portions or side walls 14 and 16 that are joined and spaced by the bottom wall 12.

The rear end portions of the side walls 14 and 16 are connected by a rear wall 18 on which there is supported by fasteners or the like 20, the base portion 22 of a suitable type of jack 24.

The side walls 14 and 16 are provided with longitudinally extending guide slots 26 and 28 having enlarged rear end portions 30 and 32. Bearings 34 and 36 are slidably received in the slots 26 and 28 and include external grooves 38

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and 40 that receive the edges defining the slots 26 and 28. The bearings are removable from the side walls when the bearings are moved to the enlarged end portions 30 and 32 of the slots 26 and 28.

The end portions of a shaft or roller 42 are received within the bearings 34 and 36 for rotation and a gear or sprocket 44 is keyed on the central portion of the shaft 42 for rotation therewith.

Spacer collars or sleeves 46 and 48 are journaled on the shaft 42 between the gear 44 and the bearings 34 and 36. A wear plate 50 is fixed on the upper surfaces of the sleeves 46 and 48. The wear plate 50 is provided with a notch 52 for receiving the gear 44. A cross plate 54 is fixed between the side walls 14 and 16 above the forward upwardly and forwardly inclined forward end portion 56 of the bottom wall 12 and slidably supports the wear plate 50.

The plate 54 includes outwardly and upwardly sloping side portions 58 having upper flanges 60 that rest upon the upper edges of the side walls 14 and 16, as shown in Figure 4 of the drawings. The rear portion of the plate 54 is provided with an opening 62 extending past the gear 44 and which opening is partially closed by the plate 50.

The movable feed shaft 64 of the jack 24 is provided with a head 66 having a recess for receiving a flexible element or cable 68. Loops 70 and 72 are formed at the ends of the flexible element through the medium of cable clamps 74 and 76, and the loops 70 and 72 receive the bearings 34 and 36 so that as the jack 24 is actuated by a hand lever 78, the bearings 34 and 36, and the shaft 42 will be moved toward the rear wall 18.

Means is provided for limiting sliding movement of the bearings and the shaft away from the rear wall 18. This means consists of a pair of upper and lower plates 80 and 82 that are fixed to the side walls 14 and 16. The bearings 34 and 36 are slidably received between the plates 80 and 82. The plates 80 and 82 are provided with longitudinally displaced apertures 84 that selectively receive abutment members or stop pins 86. The pins 86 are secured to the side walls by flexible members or chains 88.

A cross bar 90 having upwardly extending end portions 92 is secured to the undersurface of the portion 56 to prevent overtipping of the member 10.

In practical use of the present invention, a conveyor (not shown) or drive chain or belt is trained about the gear 44 and the upper flight

of the conveyor rides upon the wear plate 50. By actuating the jack 24, the shaft 42 will be moved relative to the rear wall 18 to remove the slack from the conveyor.

In view of the foregoing description taken in conjunction with the accompanying drawings, it is believed that a clear understanding of the construction, operation and advantages of the device will be quite apparent to those skilled in this art. A more detailed description is accordingly deemed unnecessary.

It is understood, however, that even though there is herein shown and described a preferred embodiment of the invention, the same is susceptible to certain changes fully comprehended by the spirit of the invention as herein described and the scope of the appended claims.

Having described the invention, what is claimed as new is:

1. A slack adjuster for conveyors, said slack adjuster comprising a support including a pair of spaced side walls, a conveyor receiving roller slidably carried by said side walls, a jack mounted on said support and disposed perpendicular to said roller, said jack including a feed shaft, an elongated flexible element trained over the feed shaft of the jack and terminally secured to the ends of the roller, upper and lower plates secured to each of said walls, said roller having end portions received between said upper and lower plates, said plates having longitudinally spaced apertures, and stop pins received in selected of said apertures and engaging the roller throughout adjustment of the roller for limiting sliding movement of said roller away from said jack and for retaining the roller in an adjusted position.

2. A slack adjuster for conveyors, said slack adjuster comprising a channel shaped support including a web portion and a pair of spaced leg portions joined by said web portion, said leg portions having longitudinal slots therein, a pair of bearings slidably received in said slots, a shaft journaled for rotation in said bearings, a conveyor receiving gear keyed on said shaft, spacer sleeves journaled on said shaft and interposed between said bearings and said gear, a cross plate fixed between said leg portions and spaced above and parallel to said web portion, said cross plate being spaced from said shaft, a wear plate secured to said sleeves and slidably mounted on said cross plate, said wear plate having a notch receiving said gear, a rear wall joining said leg portions, a jack mounted on said rear wall and including a feed shaft, a flexible element extending about the feed shaft of said jack and terminally secured to said bearings, and adjustable stop means adjustably carried by said leg portions and engaging said bearings for limiting sliding movement of said bearings and said shaft away from said rear wall and for retaining the bearing adjusted by said jack.

3. A slack adjuster for conveyors comprising a channel shaped support including a web portion and a pair of leg portions joined by said web portion, said leg portions having elongated registering slots therein, said slots having enlarged rear ends, a pair of bearings slidably received in said slots and having peripheral grooves accommodating the long edges of the slot, said bearings being removable from the leg portions through the enlarged ends of the slots, a shaft extending between the leg portions and having ends received in the bearings, a conveyor receiving gear fixed on the shaft and disposed between

and spaced from the bearings, and means connected to the bearings for adjusting the shaft within the slots.

4. A slack adjuster for conveyors comprising a channel shaped support including a web portion and a pair of leg portions joined by said web portion, said leg portions having elongated registering slots therein, said slots having enlarged rear ends, a pair of bearings slidably received in said slots and having peripheral grooves accommodating the long edges of the slot, said bearings being removable from the leg portions through the enlarged ends of the slots, a shaft extending between the leg portions and having ends received in the bearings, a conveyor receiving gear fixed on the shaft and disposed between and spaced from the bearings, upper and lower strips fixed to each leg portion above and below the slots in the leg portions, each of said strips having a plurality of longitudinally spaced apertures therein with the apertures in the upper strips being in registry with the apertures in the lower strips, said bearings extending between said upper and lower strips, a pin attached to each leg portion and extending through selected registering apertures in the upper and lower strips, said bearings abutting said pins, and jack means at the rear of the support and connected to both bearings for adjusting the bearings and hence the shaft toward the rear end of the support.

5. A slack adjuster for conveyors comprising a channel shaped support including a web portion and a pair of leg portions joined by said web portion, said leg portions having elongated registering slots therein, said slots having enlarged rear ends, a pair of bearings slidably received in said slots and having peripheral grooves accommodating the long edges of the slot, said bearings being removable from the leg portions through the enlarged ends of the slots, a shaft extending between the leg portions and having ends received in the bearings, a conveyor receiving gear fixed on the shaft and disposed between and spaced from the bearings, said support including forward and rear ends, a cross plate fixed to and extending between the leg portions at the forward end of the support and paralleling the web portion, a wear plate overlying the cross plate, sleeves surrounding the shaft, said wear plate being secured to said sleeves and having a slot accommodating the gear, said support including a rear end wall, a jack secured to and projecting laterally from said end wall, and a flexible element trained over the jack and secured to said bearings for adjusting the bearings and hence the shaft toward said end wall.

ANTHONY SHACIKOSKI.

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