(No Model.)

H. A. BEIDLER.

DEVICE FOR TAKING UP WEAR.

No. 477,831. Patented June 28, 1892.

Fig 1.

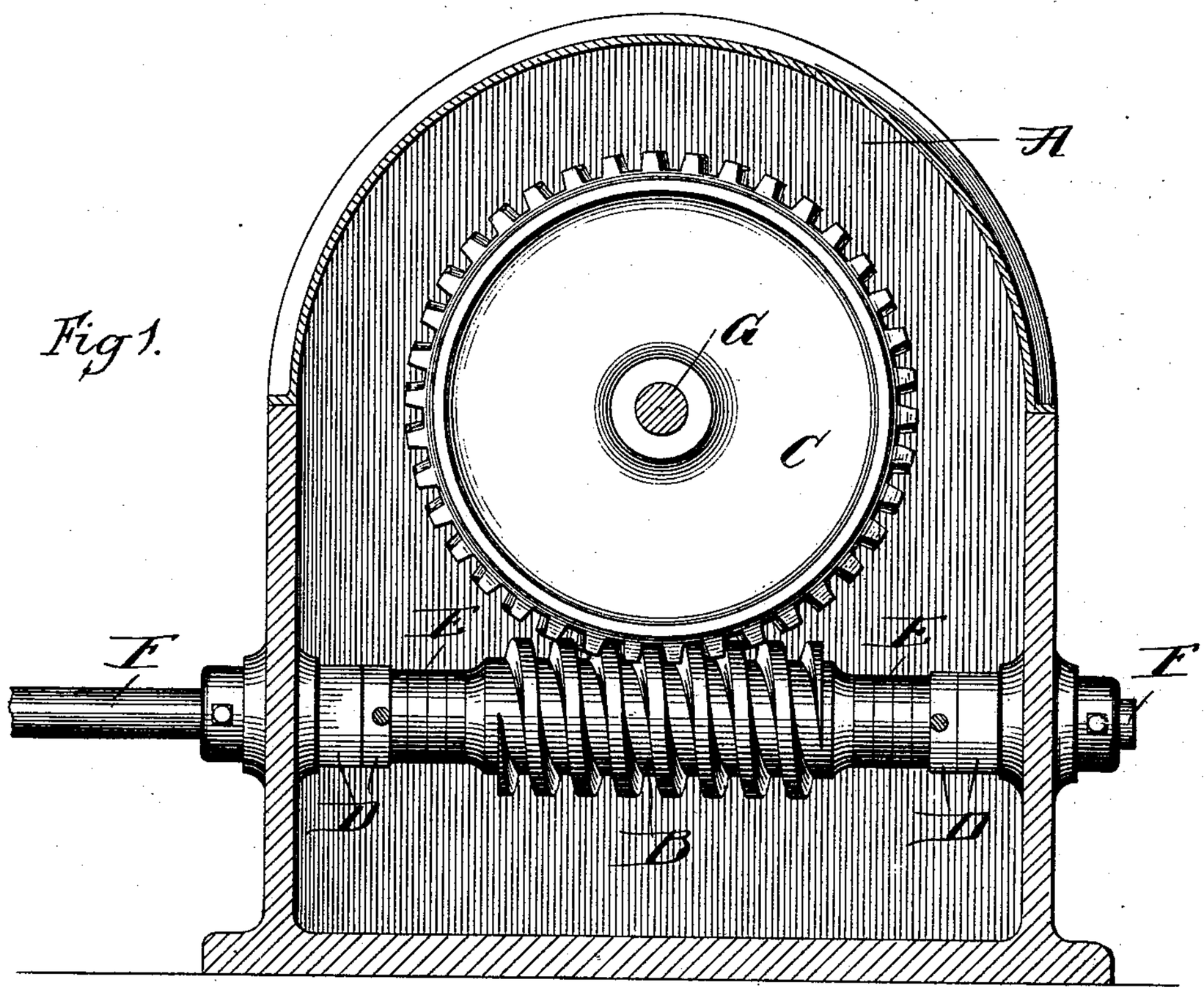
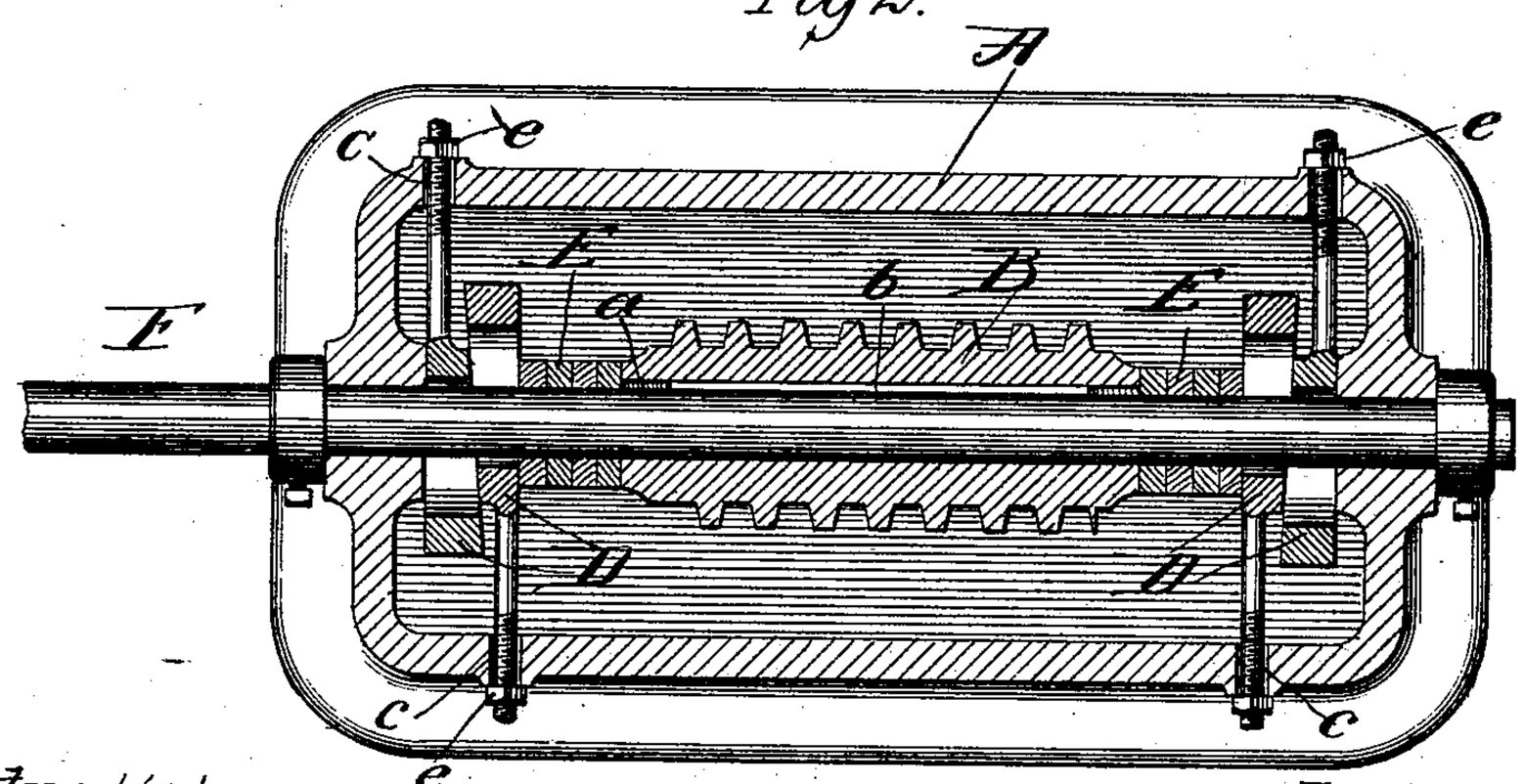
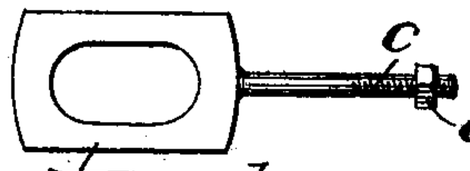


Fig 2.



Witnesses
Wm. M. Rheem.
Wm. J. Fleming.

Fig 3.



Inventor
Herbert A. Beidler
by Hall, Brown
Attorneys

UNITED STATES PATENT OFFICE.

HERBERT A. BEIDLER, OF CHICAGO, ILLINOIS.

DEVICE FOR TAKING UP WEAR.

SPECIFICATION forming part of Letters Patent No. 477,831, dated June 28, 1892.

Application filed January 21, 1892. Serial No. 418,774. (No model.)

To all whom it may concern:

Be it known that I, HERBERT A. BEIDLER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Devices for Taking Up Wear, of which the following is a specification.

My invention relates to devices for taking up wear; and it consists in the construction and arrangement of parts herein shown and described, and more particularly pointed out in the claims.

Like letters of reference are used to designate the same parts in the several figures of the drawings, in which—

Figure 1 represents a vertical longitudinal section of the gear-box, showing a perpetual screw and wheel and my invention applied. Fig. 2 is a horizontal longitudinal section of the same, showing the position of the wedges; and Fig. 3 is a detail view of one of said wedges.

It is essentially necessary for the easy operation of any mechanism that there be no difference of motion between the driving parts of the motor and the driven machine—that is, between the parts of the mechanism communicating power from one portion of the machine to another. Thus, for instance, in the operation of steam-elevators, to which my invention is preferably applied, though of course it is evident that it can be applied to any apparatus, should there be any lost motion between the parts transmitting power at each reversal of the movement of the car there is a slip of the parts and consequent jerk of the car proportionate to the extent of such wear or lost motion. To prevent this, and at the same time preserve the original position of the parts with relation to each other, I have provided the mechanism shown in the accompanying drawings, in which—

A represents any ordinary gear-box, and B and C, respectively, a perpetual screw and wheel, by means of which power is communicated from the engine through the shaft F to the drum (keyed to the shaft G) carrying the cable that supports the elevator-car. This screw B is held rigidly on the shaft F in any suitable and convenient manner, such as is shown in the feather and keyway *a b*.

On the shaft F are mounted the collars or washers E E E, &c., and also the wedge-shaped pieces D D D D, which latter are provided with stems *c*, screw-threaded at their outer extremities. These stems *c* pass through openings in the casing A, and are held against backward movement by means of the nuts *e*. The wedge-shaped pieces D D are constructed in such form that only one side is beveled or inclined, so that when two of them are laid side by side, as shown in the illustrations, with their respective stems in opposite directions, the outer or exterior sides of the wedge-shaped pieces will be in parallel planes, and these planes will be at right angles to the axis of the shaft on which they are located. In this construction these two outer faces of the wedge shaped pieces will meet the corresponding faces of the collars and inclosing parts of the frame and permit their revolution without undue friction and wear from the end bearings.

The operation of my invention is quite evident from the foregoing description of its parts. When there has been any wear in the parts, or rather in the washers E E, &c., for these are preferably made of a somewhat softer material than the screw B or wedges D, by means of the nuts and screw-threaded stems of the wedges D they are so moved that their large or extended portions are drawn toward each other, and in this manner any wear is taken up. For instance, if the washers have worn away to the extent of, say, an eighth of an inch, the wedges on one side of the screw B are screwed toward each other sufficiently to take up one-sixteenth of such wear and those at the other side of the screw B are caused to take up the remaining sixteenth. Thus the whole amount of the wear of the washers is taken up, and at the same time the very important object of retaining the screw in absolutely central position with relation to the wheel is attained.

It is evident that there may be changes and variations in the construction and arrangement of parts, and I therefore do not limit myself to the exact construction and arrangement shown and described.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a device for taking up wear, the combination of a gear-box, a perpetual screw and

wheel, a set of two wedge-shaped pieces located at each end of said screw between it and the casing of said gear-box, said wedge-shaped pieces being beveled or inclined upon one side only and at such angle that their exterior opposite faces will be in parallel planes, and means whereby said wedge-shaped pieces may be relatively adjusted and thereby fix and preserve the adjustment of the screw, all substantially as described.

2. In a device for taking up wear, the combination of a gear-box, a perpetual screw and wheel, and a set of two wedge-shaped pieces located at each end of said screw between it and the casing of said gear-box, said pieces being beveled or inclined upon one side only and at such angle that their exterior or opposite faces will be in parallel planes, each wedge-shaped piece provided with a screw-threaded stem passing through the casing of the gear-box and secured by nuts, whereby said wedge-shaped pieces may be relatively adjusted and thereby fix and preserve the adjustment of the screw, all substantially as shown.

In testimony whereof I have hereunto set my hand in the presence of two witnesses.

HERBERT A. BEIDLER.

Witnesses:
JOHN FORMAN,
JULIAN M. RUMSEY.