

No. 813,335.

PATENTED FEB. 20, 1906.

A. WALKER.
DRILLING MACHINE.
APPLICATION FILED OCT. 14, 1905.

Fig. 1.

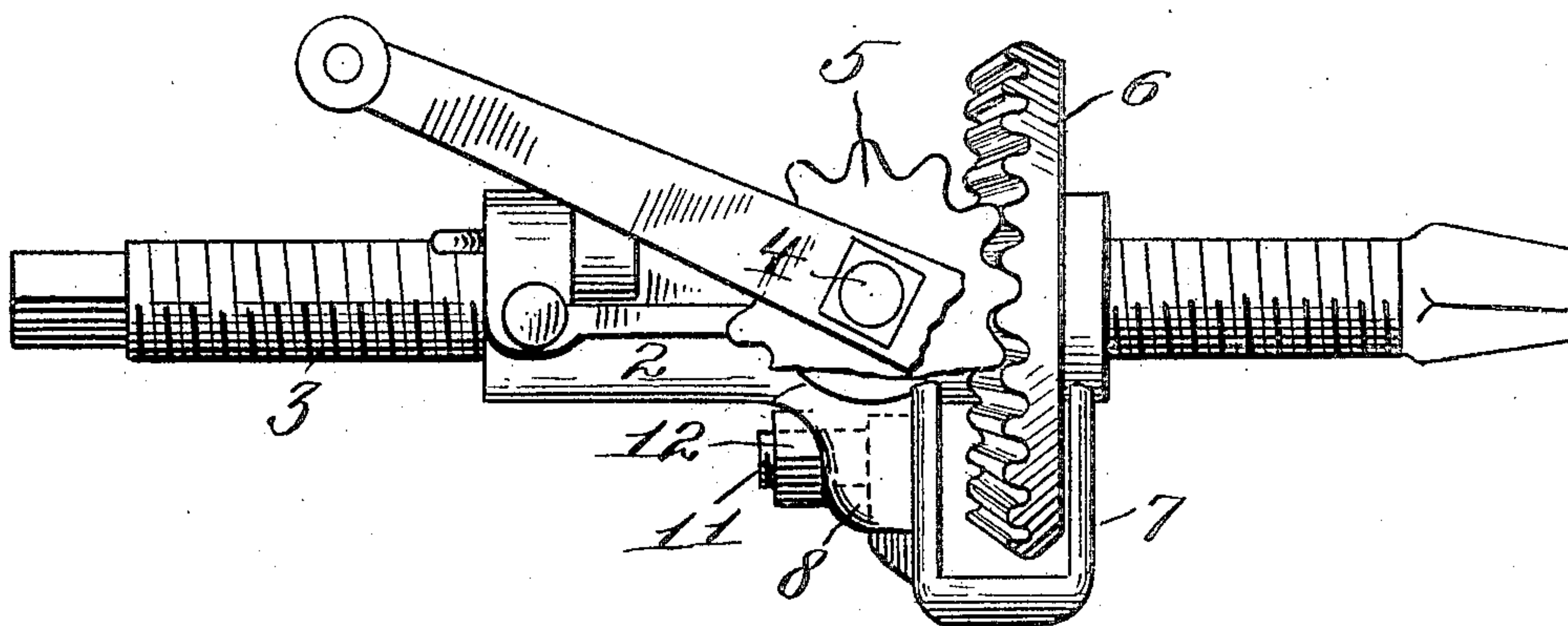


Fig. 2.

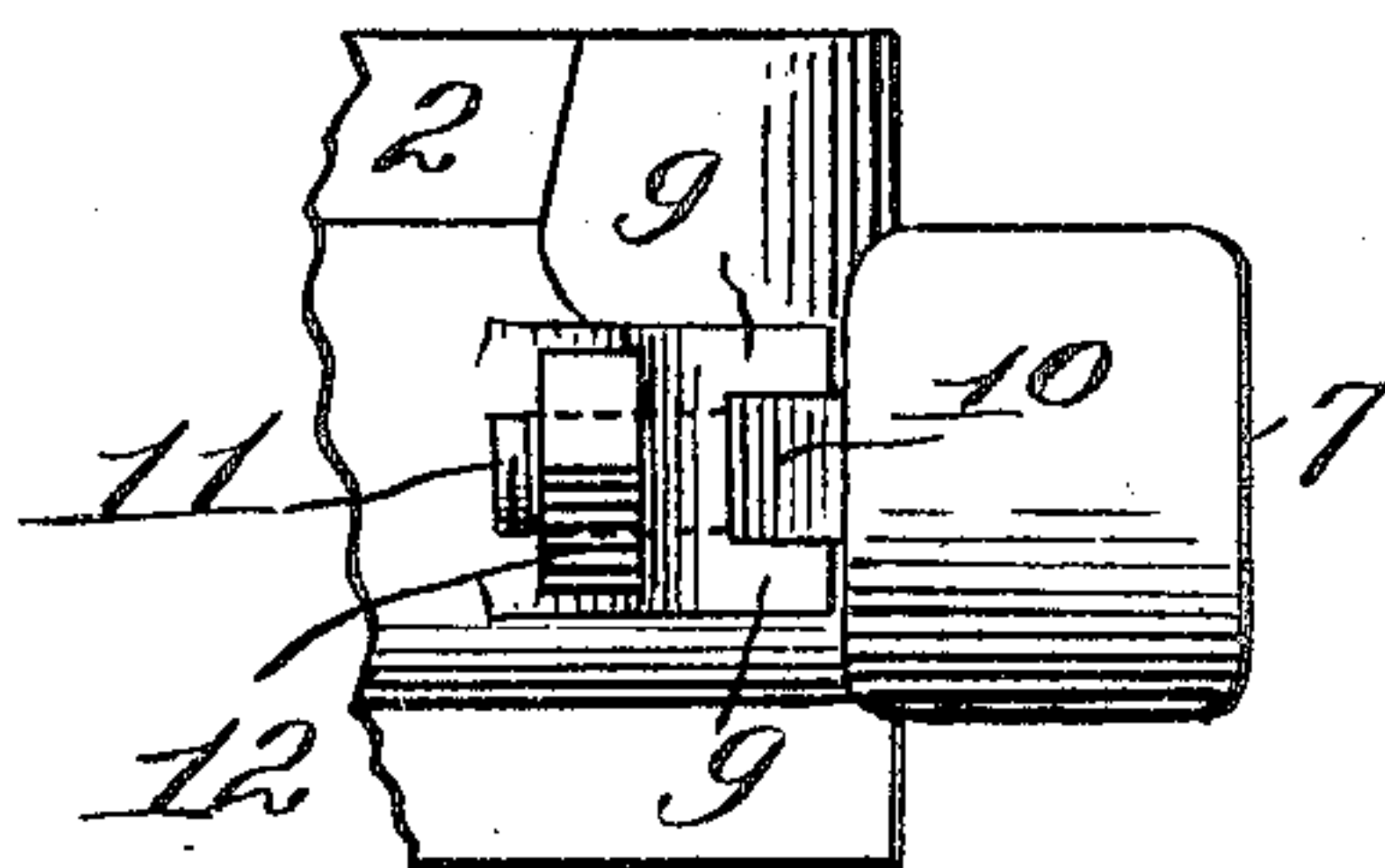


Fig. 3.

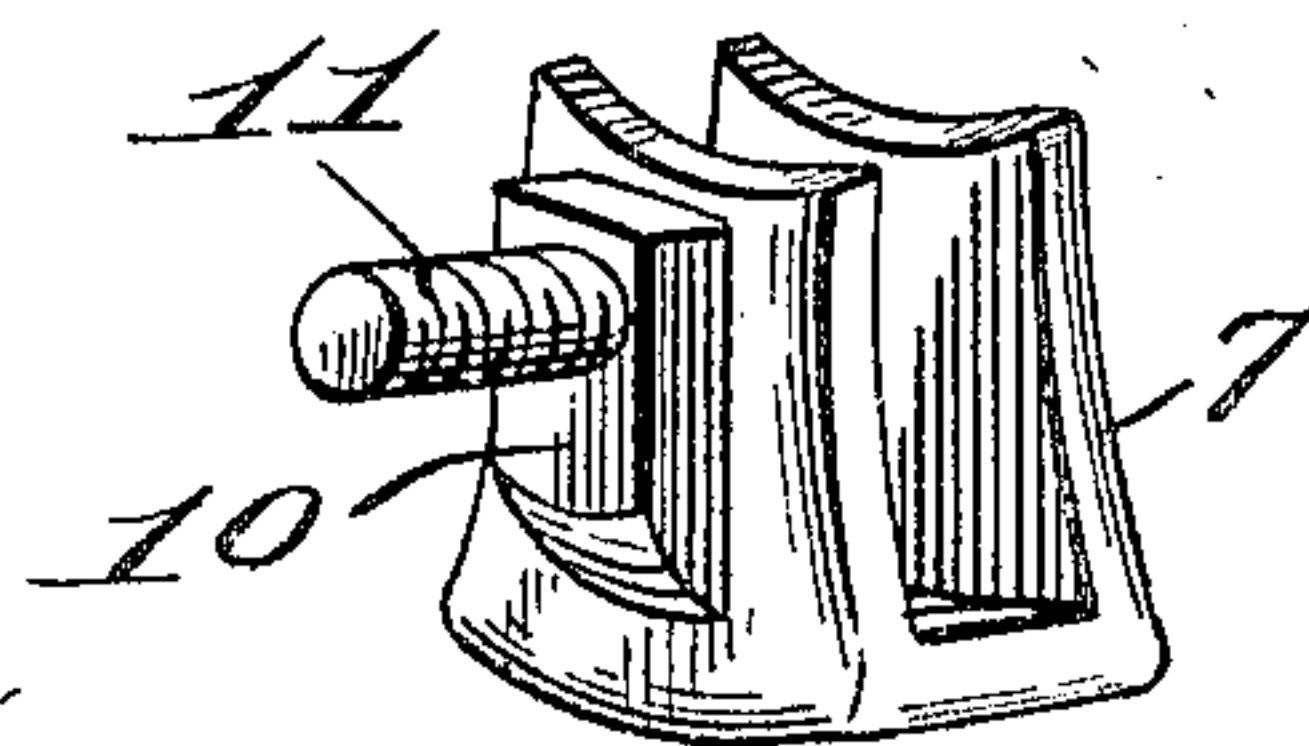
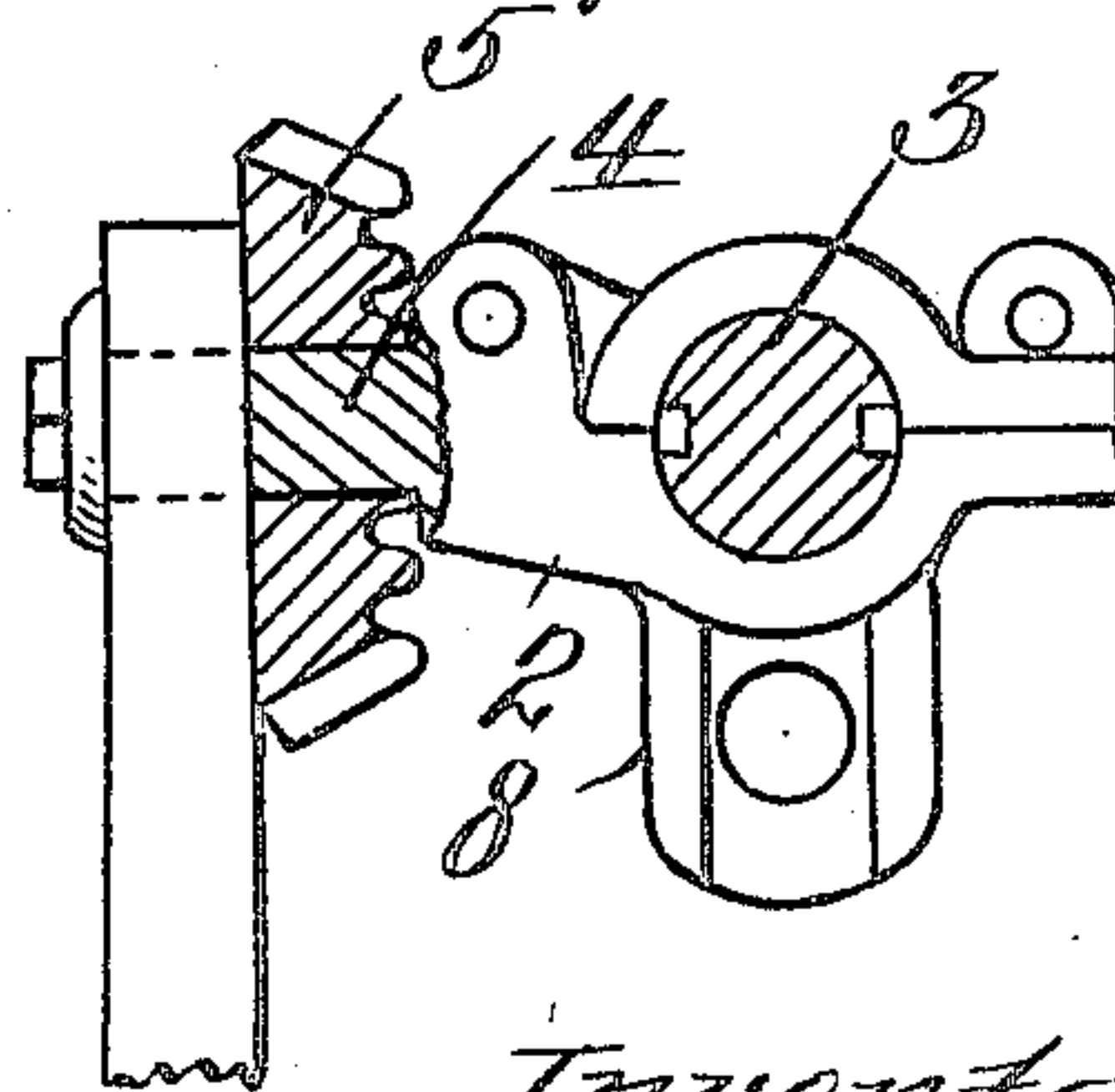


Fig. 4.



Witnesses:
C. G. Kessler
J. B. Kessler

Inventor
Alexander Walker
By *James L. Noy*
Att'y.

UNITED STATES PATENT OFFICE.

ALEXANDER WALKER, OF WHAT CHEER, IOWA, ASSIGNOR TO WHAT CHEER TOOL COMPANY, OF WHAT CHEER, IOWA, A CORPORATION OF IOWA.

DRILLING-MACHINE.

No. 813,335.

Specification of Letters Patent.

Patented Feb. 20, 1906.

Application filed October 14, 1905. Serial No. 282,838.

To all whom it may concern:

Be it known that I, ALEXANDER WALKER, a citizen of the United States, residing at What Cheer, in the county of Keokuk and State of Iowa, have invented new and useful Improvements in Drilling-Machines, of which the following is a specification.

This invention relates to drilling-machines, the improvements being directed particularly to that type of machines for drilling rock, coal, and the like. A drilling-machine of such character involves two meshing gears ordinarily of the bevel form. These gears wear in use, causing backlash and an imperfect mesh. By virtue of my invention I insure at all times a proper mesh of the gears, for I provide means of a simple and feasible nature for taking up all wear between them.

In the drawings accompanying and forming a part of this specification I show a simple form of embodiment of the invention which to enable those skilled in the art to practice said invention I will set forth in detail in the following description, while the novelty of said invention will be included in the claims succeeding said description.

In said drawings, Figure 1 is a side elevation of a drilling-machine involving my invention. Fig. 2 is a detail view hereinafter more particularly described. Fig. 3 is a detail view in perspective of a yoke. Fig. 4 is a cross-sectional elevation, the section being taken substantially centrally through the gear 5.

Like characters refer to like parts throughout the several figures.

The machine illustrated involves in its construction a boxing, as 2, and a shaft, as 3, shown as extending through the boxing. These two parts may be of the ordinary construction and therefore need no specific description. The shaft 3, as is the custom, is longitudinally threaded to fit corresponding threads on the boxing, by reason of which when the shaft is turned it will be given an endwise movement. A stub-shaft, as 4, is carried by the boxing 2 and serves as a convenient support for a bevel-gear, as 5, the latter being adapted to mesh with a bevel-gear, as 6, splined to or feathered upon the shaft or threaded rod 3. In practice a manually-operable device is directly associated with the bevel pinion or gear 5, and when said device is actuated the bevel pinion or

gear 5 will be turned to effect the rotation of the companion bevel-gear 6 and the consequent rotation of the shaft or threaded rod 3. It should be understood that the bevel-gear 6, which directly rotates the shaft 3, is held against longitudinal movement with said shaft, and for this purpose I show a yoke, as 7.

The yoke 7 is associated with the boxing in a novel manner, as will hereinafter appear. The bevel-gear 6 fits between the branches of the yoke 7, what might be considered the outer branch of the yoke, bearing against the outer face of the body of said bevel-gear 6, while said inner branch is concaved to fit against the hub of the gear. The yoke serves as a holding device to positively hold the gear 6 in mesh with the gear 5, and it is so mounted and related with the other parts of the machine that wear between these two gears can be taken up and the same applies to wear between the gear 6 and the boxing, by reason of which I can assure a desirable mesh between the two gears. Upon the boxing is a bracket or projection 8, apertured to produce parallel side flanges or cheeks 9 to snugly receive between them the offstanding lug 10 on the inner branch of the yoke 7. The fit of the lug between these flanges prevents lateral motion of the yoke, the latter bearing solidly against the edges of the flanges. From the lug 10 extends a screw 11, projecting through a perforation in the bracket or projection 8, and which is provided with a nut, as 12, to draw the yoke solidly against the lug, whereby the yoke in turn will press the gear 6 into accurate mesh with the gear 5. Should it be desired to take up any wear between the two gears or between the gear 6 and the boxing, the nut 12 will be removed and the yoke taken from place, following which the edges of the flanges 9 will be filed away sufficient to compensate for the wear, after which the yoke will be put in place and the nut 12 applied to its screw and then tightened. It requires but a very short space of time to remove the yoke and to file away the flanges 9.

Having described the invention, what I claim is—

1. The combination of a boxing, a shaft rotatably connected with the boxing, the latter having an apertured projection, a gear for turning the shaft, a second gear in mesh with the first gear, a yoke to receive and to hold the second gear in mesh with the first

gear, said yoke having a lug to fit the aperture of said projection, and a screw extending from said lug, the projection being perforated to receive the screw, and a nut upon
5 the screw to jam the yoke against the projection.

2. The combination of a boxing, a shaft rotatably connected with the boxing, the latter having a projection, a gear for turning
10 the shaft, a second gear in mesh with the first gear, a yoke to receive and to hold the second gear in mesh with the first gear, said yoke

having a lug to engage against said projection, and a screw extending from the lug, the projection being perforated to receive the
15 screw, and a nut upon the screw to jam the yoke against the projection.

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

ALEXANDER WALKER.

Witnesses:

HENRY PARKER THOMPSON,
AIME BOHY.