

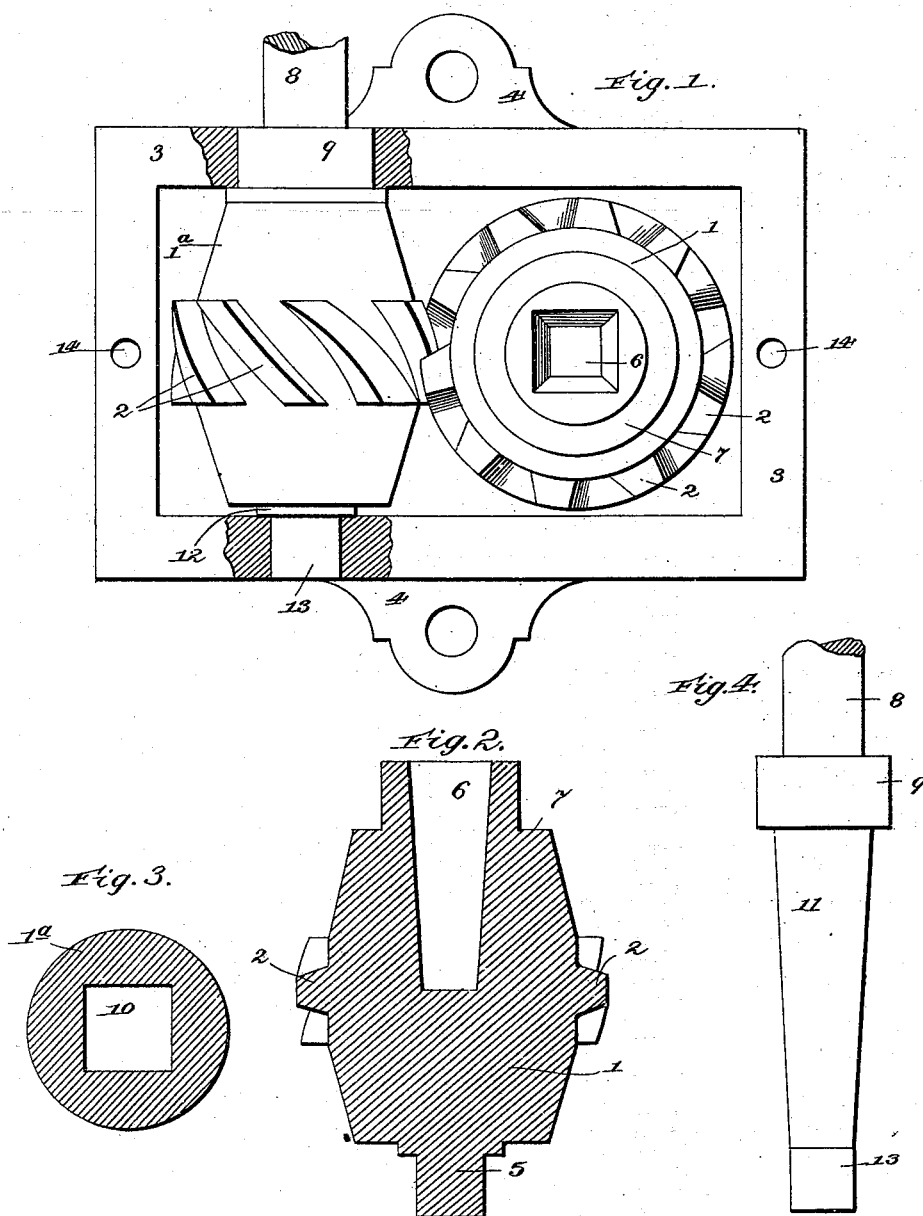
No. 648,478.

Patented May 1, 1900.

W. H. ARNOLD.
ACTUATING MECHANISM FOR AWNINGS.

(Application filed July 6, 1899.)

(No Model.)



Witnesses:

E. H. Lauder
J. H. Crony

Inventor

William H. Arnold.
By James J. Sheehy

Attorney

UNITED STATES PATENT OFFICE.

WILLIAM H. ARNOLD, OF OAKLAND, CALIFORNIA.

ACTUATING MECHANISM FOR AWNINGS.

SPECIFICATION forming part of Letters Patent No. 648,478, dated May 1, 1900.

Application filed July 6, 1899. Serial No. 722,935. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. ARNOLD, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented certain new and useful Improvements in Actuating Mechanism for Awnings; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates more particularly to that class of mechanics adapted for use particularly in manipulating and regulating awnings, but may be used for many other purposes, including the transmission of motion from electric motors in cars to the traction-wheels thereof, the operation of hoisting machinery in mines, the operation of turrets and guns on war vessels, the operation of capstans on vessels, &c.

My object is to furnish a gear suitable for raising and manipulating awnings, &c., which may be easily manipulated, effective in its operation, and durable and cheap in its construction. This I accomplish by the use of the peculiar construction, novel combination, and adaptation of parts hereinafter described, and particularly pointed out in the claim hereunto annexed, reference being had to the accompanying drawings for a better comprehension hereof, in which—

Figure 1 is a front elevation of my invention having the front plate removed. Fig. 2 is a longitudinal section of the driving-gear. Fig. 3 is a cross-sectional view of the driven gear. Fig. 4 is an elevation of the end of the driven shaft, showing the journals thereon.

Similar figures of reference indicate corresponding parts in the several views.

My invention consists of two angular toothed or worm gears 1 and 1^a, arranged with their axes at right angles to one another, the teeth 2 of said gears being arranged at an angle of forty-five degrees (45°) with relation to the line of the axis, said teeth 2 being located at suitable intervals on the periphery of the body of said gears. The teeth 2 are arranged over the center longitudinally of

the gears and the ends are tapered slightly. The gears 1 and 1^a are located in a metallic casing 3 of the required shape and size, preferably square or in the general form of a parallelepiped and having lugs 4 rigidly attached to its base, wherewith it may be attached in position. A face-plate (not shown) may be attached over the front of the casing for the purpose of keeping out dust and also to support the outer or front end of the gear 1. The gear 1 is arranged horizontally in one end of the casing 3 and has its rear end 5 journaled in the rear wall of the casing, there being an opening therein for that purpose. The front end of the said gear 1 has a square opening 6 therein, which extends to near the center, as shown in Figs. 1 and 2. The front end of the gear has a shoulder 7 formed thereon, against which the front plate (not shown) rests, thereby forming a journal and bearing.

A shaft 8 has a collar 9 rigidly attached to the same at a suitable point thereon, which said collar 9 is adapted to rest and rotate in an opening in the top side of the casing therefor. The lower or extreme end 13 of said shaft 8 is round and adapted to be inserted in a smaller opening in the lower side of the casing 3 for that purpose. The intermediate portion 11 between the end of the shaft 8 and the collar 9 is square and tapering toward the end and is adapted to fit closely into a square opening 10, which extends the entire length of the gear 1^a. The collar 9 is adapted to engage with the top end of the gear 1^a, thereby preventing the same from passing too far through the said gear, which has a circular shoulder 12 on its lower end, which engages with the casing, as shown in Fig. 1.

My invention differs from the screw or worm gear as heretofore applied in that the teeth or cogs 2 are constructed at the same angle on each wheel, which gives more facility in operation and combines durability, speed, and efficiency.

The advantage of my invention is that its compactness renders it more desirable for locating on the sides of buildings, as those now in use are obstructive and dangerous to pedestrians.

The mode of operating my improved actuating mechanism for awnings is as follows:

The casing 3 is rigidly attached to the wall of a building in a suitable locality within easy reach of the ground by the lugs 4. The gear 1^a is then inserted in position within the casing 3 and the shaft 8 inserted from the top into the seats in the casing therefor and through the opening 10 in the gear 1^a aforesaid. As will be seen, the opening 10 in the gear 1^a and the portion 11 of the shaft 8 both being square motion is readily imparted from one to the other. The gear 1 is then placed in position, with its rear end 5 seated in the rear wall of the casing 3 and the teeth 2 of both gears engaging with one another. The face-plate is then placed in position over the gears and against the shoulder 7 of the gear 1 and attached by screws in the holes 14. A suitable crank or handle may be inserted into the square opening 6 in the gear 1, where- with the gears may be manipulated forwardly or rearwardly, as is desired.

I am well aware that wheels have been constructed with teeth adapted to engage with a shaft having a screw-thread formed thereon;

but these are not adapted for speed or compactness and I therefore do not claim such broadly; but

What I do claim as new, and desire to secure by Letters Patent, is—

In an actuating mechanism, the combination of the casing 3, the gear 1^a having its teeth 2 at an angle with its axis, inserted in one end of the casing 3, the shaft 8, provided with the square portion 11 and the collar 9, inserted through the gear 1^a and seated in the casing 3, the gear 1 having angular teeth thereon inserted in the casing 3 at right angles to the gear 1^a and seated in the casing 3, suitable means for closing said casing and suitable means for operating said gear 1, all arranged and operating substantially as shown and described and for the purposes set forth.

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

WILLIAM H. ARNOLD.

Witnesses:

F. J. WOODWARD,
C. B. TACKLE.