

(No Model.)

E. G. WATKINS.
WORKMAN'S TIME RECORDER.

No. 570,241.

Patented Oct. 27, 1896.

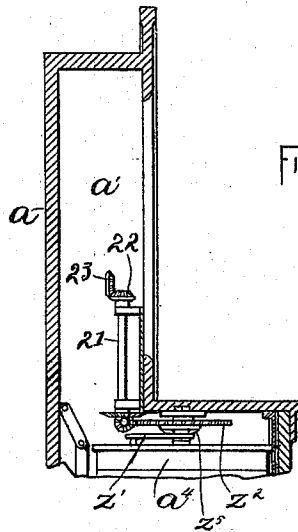


Fig. 1.

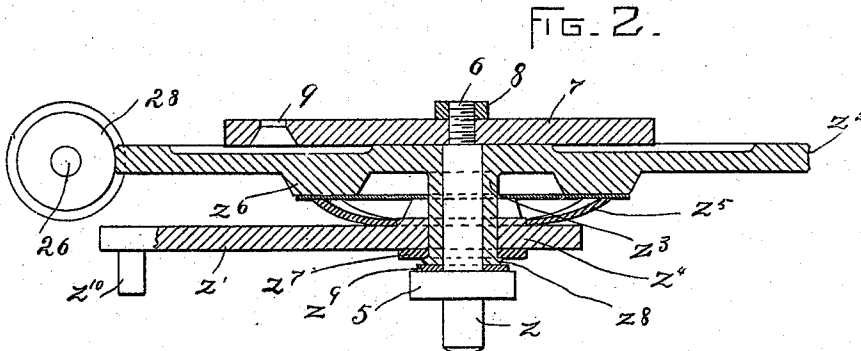


FIG. 2.

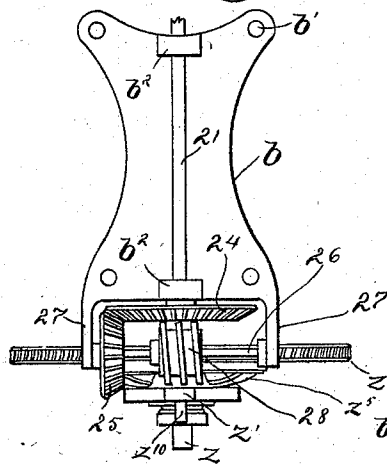


FIG. 3.

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UNITED STATES PATENT OFFICE.

EDWARD G. WATKINS, OF GARDNER, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO HEYWOOD BROTHERS & CO., OF SAME PLACE.

WORKMAN'S TIME-RECORDER.

SPECIFICATION forming part of Letters Patent No. 570,241, dated October 27, 1896.

Application filed August 17, 1895. Serial No. 559,630. (No model.)

To all whom it may concern:

Be it known that I, EDWARD G. WATKINS, of Gardner, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Workmen's Time-Recorders, of which the following is a specification.

This invention relates to a new and useful improvement in workmen's time-recorders; and it consists in certain novel features of construction and arrangement of parts, which will be hereinafter fully described in the specification, clearly illustrated in the drawings, and particularly pointed out in the claims.

Reference is to be had to the accompanying drawings and the characters marked thereon, which form a part of this application, like characters designating like parts or features wherever they occur.

In the drawings, Figure 1 represents in front elevation a portion of a workman's time-recorder equipped with my invention, the casing being shown in section. Fig. 2 represents a vertical section of the driving member. Fig. 3 represents in front elevation the connections between the motor-driven member and the driving member.

This invention has to do with the mechanism situated between the motor-driven member—that is, the member directly connected with the motor (usually a clock mechanism)—and the recording-cylinder. It is necessary to adjust the latter at different times by turning it on its axis, and to get accurate results it is necessary that this adjustment be made without affecting the motor-driven member.

This invention has in view, further, provisions to reduce the friction between the driving member and its support or spindle.

a represents a portion of the casing of a recorder, the motor or clock mechanism (not shown) being located in the portion a' of this casing.

a^{23} represents the motor-driven member, here shown as a bevel-gear and adapted to be driven by any motor mechanism, (not shown,) preferably a clock.

a^4 represents the recording-cylinder, adapted to be driven by the motor, and upon which the records are made in the usual way. This

cylinder is supported in the casing a by spindles, one at the bottom, (not shown,) and at its upper end by a spindle z , having a collar 5 and a screw-threaded exterior 6, arranged in a plate 7 and held in said plate by a nut 8. This plate is secured to the top of the casing by suitable screws passing through screw-apertures 9.

b represents a bracket provided with screw-holes b' , by which it can be secured to the casing, as shown in Fig. 1. On its front side this bracket is provided with lugs b^2 , in which is mounted a shaft 21. At its upper end this shaft is provided with bevel-gear 22, meshing with the motor-driven member or gear 23. At its lower end this shaft is provided with a bevel-gear 24, meshing with a similar gear 25, fast upon a shaft 26, that is mounted in ears 27, that depend from the lower part of the bracket b .

28 represents a worm fast on the shaft 26 and meshing with a worm-gear z^2 , having a hub z^3 , mounted to turn on the spindle z .

z' represents a crank-arm having an enlarged apertured boss z^4 loosely mounted upon the hub z^3 .

z^5 represents a spring mounted on the square boss of hub z^4 between the gear z^2 and crank-arm z' . This spring is made fast to the crank-arm z' by heading over the square hub after the spring has been slipped on. It bears upon the crank-arm and upon a circular friction-ring z^6 of the gear z^2 .

z^7 represents a collar secured upon the hub z^3 by upsetting the lower end of the latter, as at z^8 . This collar serves to support the crank-arm and maintain the spring z^5 under any desired tension.

z^9 represents an antifriction-washer mounted on the spindle z between the collar 5 and the end of the hub z^3 .

By this construction and arrangement it will be seen that the driving member, made up of the gear z^2 , arm z' , and spring z^5 , will turn upon the spindle z regardless of the amount of tension of the spring z^5 , the effect of the latter being to hold the gear and crank-arm together; but owing to the collar z^7 the crank-arm cannot be pushed against the collar 5, so that the driving member moves as one piece.

The power is transmitted by means of the shaft 21 to the screw 28, thence to the wheel z^2 of the driving member, whence by reason of friction caused by the spring power is transmitted to the crank-arm z' .

z^{10} represents a pin on the end of the crank-arm arranged to engage a depression in the cylinder a^4 , thereby causing the cylinder to travel in unison with the crank-arm. When it is desired to adjust the cylinder so that the time-sheet will correspond with the time of the clock, the cylinder may be rotated back and forth until the direct point upon the sheet is in proper position. This movement is permitted by means of the spring connection between the crank-arm z' and wheel z^2 permitting the crank-arm to slip. Moreover, by reason of the screw 28 this adjusting movement of the cylinder cannot be transmitted back to the motor or clock, disarranging the latter.

The construction and arrangement above described permits motion being transmitted to the driving member from the shaft 21, but prevents motion being communicated to the shaft 21 from the driving member.

Moreover, by the construction and arrangement of the driving member I am enabled to place the parts thereof under any desired tension without affecting the frictional contact with the spindle.

Having thus explained the nature of my invention and described a way of constructing and using the same, although without attempting to set forth all of the forms in which it may be made or all of the modes of its use,

what I claim, and desire to secure by Letters Patent, is—

1. In a driving member in combination, a rotary worm, a gear in mesh therewith, and adapted to be driven thereby, said gear being formed with a hollow hub, a spindle on which said hub is mounted, a crank-arm loosely mounted on said hub adjacent said gear, means for holding said crank-arm against movement away from said gear, a spring arranged upon said hub between said arm and gear, and adapted to yieldingly hold said gear and arm together.

2. In a driving member, in combination, a rotary worm, a gear in mesh therewith, and adapted to be driven thereby, said gear being formed with a hollow hub and a friction-ring, a spindle on which said hub is mounted, a crank-arm having an apertured boss loosely mounted on said hub, means for retaining said boss on said hub, a spring interposed on said hub between said gear and arm, one portion of said spring being arranged to bear upon said boss, the other portion of said spring being arranged to engage and bear upon said friction-ring.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 2d day of August, A. D. 1895.

EDWARD G. WATKINS.

Witnesses:

GARDNER A. WATKINS,
HENRY MINER.