

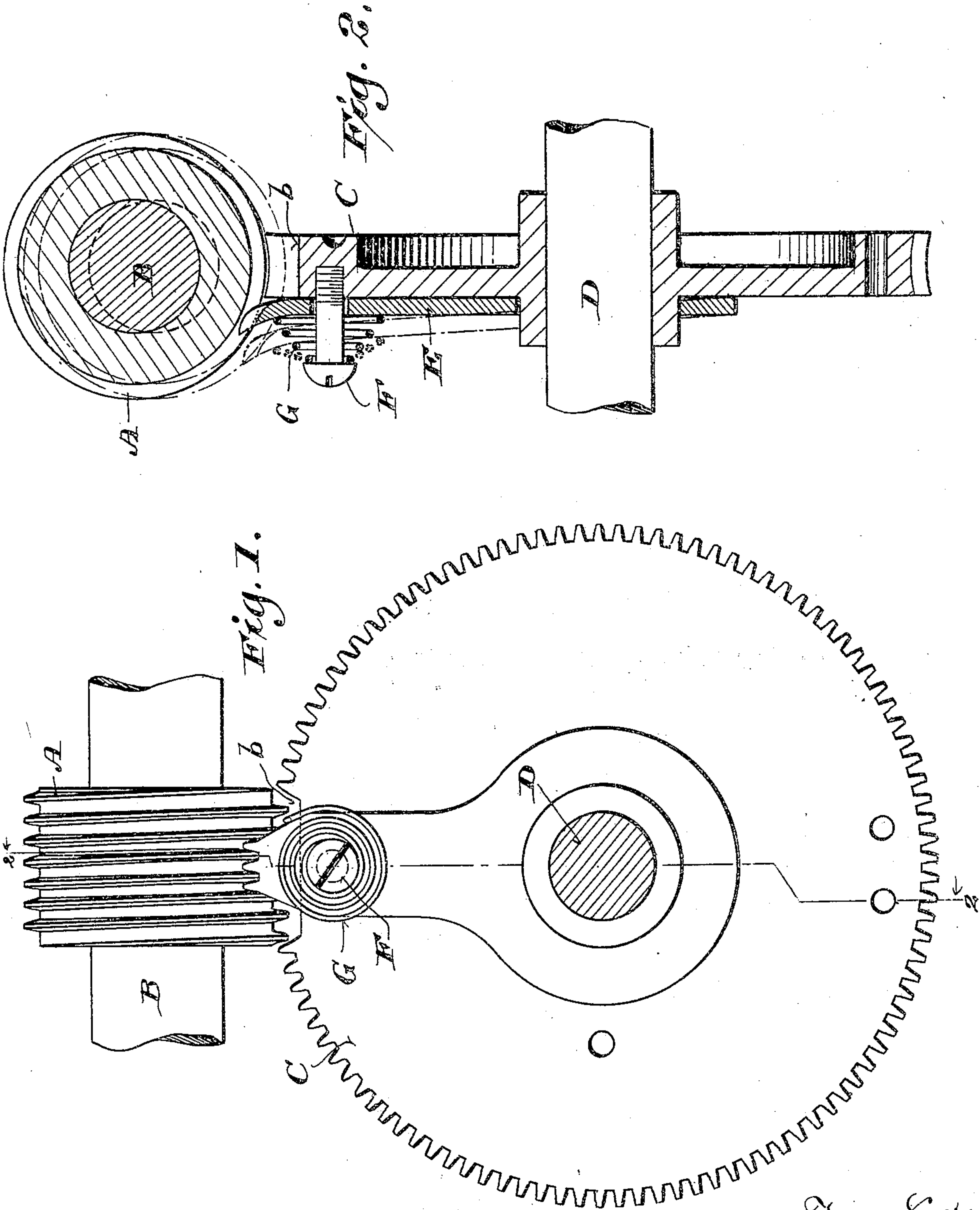
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M. J. DEELEY & A. E. QUINLAN.

TIME WHEEL MECHANISM.

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Witnesses
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UNITED STATES PATENT OFFICE.

MICHAEL J. DEELEY AND ALFRED E. QUINLAN, OF SHEBOYGAN FALLS, WISCONSIN.

TIME-WHEEL MECHANISM.

SPECIFICATION forming part of Letters Patent No. 792,572, dated June 13, 1905.

Application filed November 14, 1904. Serial No. 232,560.

To all whom it may concern:

Be it known that we, MICHAEL J. DEELEY and ALFRED E. QUINLAN, citizens of the United States, and residents of Sheboygan Falls, in the county of Sheboygan and State of Wisconsin, have invented certain new and useful Improvements in Time-Wheel Mechanism; and we do hereby declare that the following is a full, clear, and exact description thereof.

Our invention consists in certain peculiarities of construction and combination of parts hereinafter particularly set forth, with reference to the accompanying drawings, and subsequently claimed, the object being to insure accurate meshing of the worm and worm-gear that have automatic intermittent engagement as parts of a time-wheel mechanism such as is common in spinning-mules, this accuracy of meshing serving to prevent injury to the thread of said worm or to the cogs of said gear.

Figure 1 of the drawings represents a plan view of the worm and worm-gear of a time-wheel mechanism, said gear and parts in connection therewith being in accordance with our invention. Fig. 2 of said drawings represents a sectional view on the planes indicated by lines 2 2 in Fig. 1.

Referring by letter to the drawings, A indicates the worm, B the worm-shaft, C the chambered worm-gear, and D the gear-arbor, in a time-wheel mechanism, such as is common in spinning-mules. The gear C is provided with a circumferential recess deeper than its cogs and of a length sufficient to receive the worm A, with which it is normally in register.

Loose on the hub of the gear C and facing the flush side of said gear is a plate E, having an outwardly-bent and toothed outer end that crosses the recess in the aforesaid gear and projects a suitable distance beyond the same. Engaging the gear C is a screw F, that extends through a longitudinal slot in the plate E, and a preferably conical spiral spring G is confined between said plate and the screw-head.

In practice a starting swing of the shaft B causes the worm A to engage the recess *b* in the gear C, the pitch-line of said worm passing that of said gear when this engagement takes place. At the same time there is en-

gagement of the worm with the tooth end of the plate E, there being yield of this plate against resistance of the spring in opposition thereto. Upon subsequent automatic recovery of the shaft B to bring the pitch-lines of the worm A and gear C into proper relation the engagement of said worm with the plate E will cause said gear to start on its rotary movement, and this movement is continued by the subsequent engagement of the gear-cogs with the aforesaid worm. At a predetermined time there is automatic return of the worm and gear to normal position.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The worm-gear of a time-wheel mechanism provided with a circumferential recess of greater depth than its cogs and of a length sufficient to receive a worm with which it is normally in register, a plate loose on that portion of the hub that extends from the flush side of the gear, the outer end of the plate being toothed, laterally bent and projected beyond the gear-recess which it crosses to be in the path of said worm; a screw extending through a longitudinal slot in the plate into said gear, and a spring arranged between said plate and the screw-head.

2. The worm-gear of a time-wheel mechanism provided with a circumferential recess of greater depth than its cogs and of a length sufficient to receive a worm with which it is normally in register, and a laterally-yielding plate arranged in connection with the gear opposite the flush side of same to extend across the recess aforesaid and beyond the same in the path of said worm, the outer end of the plate being toothed and laterally bent.

In testimony that we claim the foregoing we have hereunto set our hands, at Sheboygan Falls, in the county of Sheboygan and State of Wisconsin, in the presence of two witnesses.

MICHAEL J. DEELEY.
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Witnesses:

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