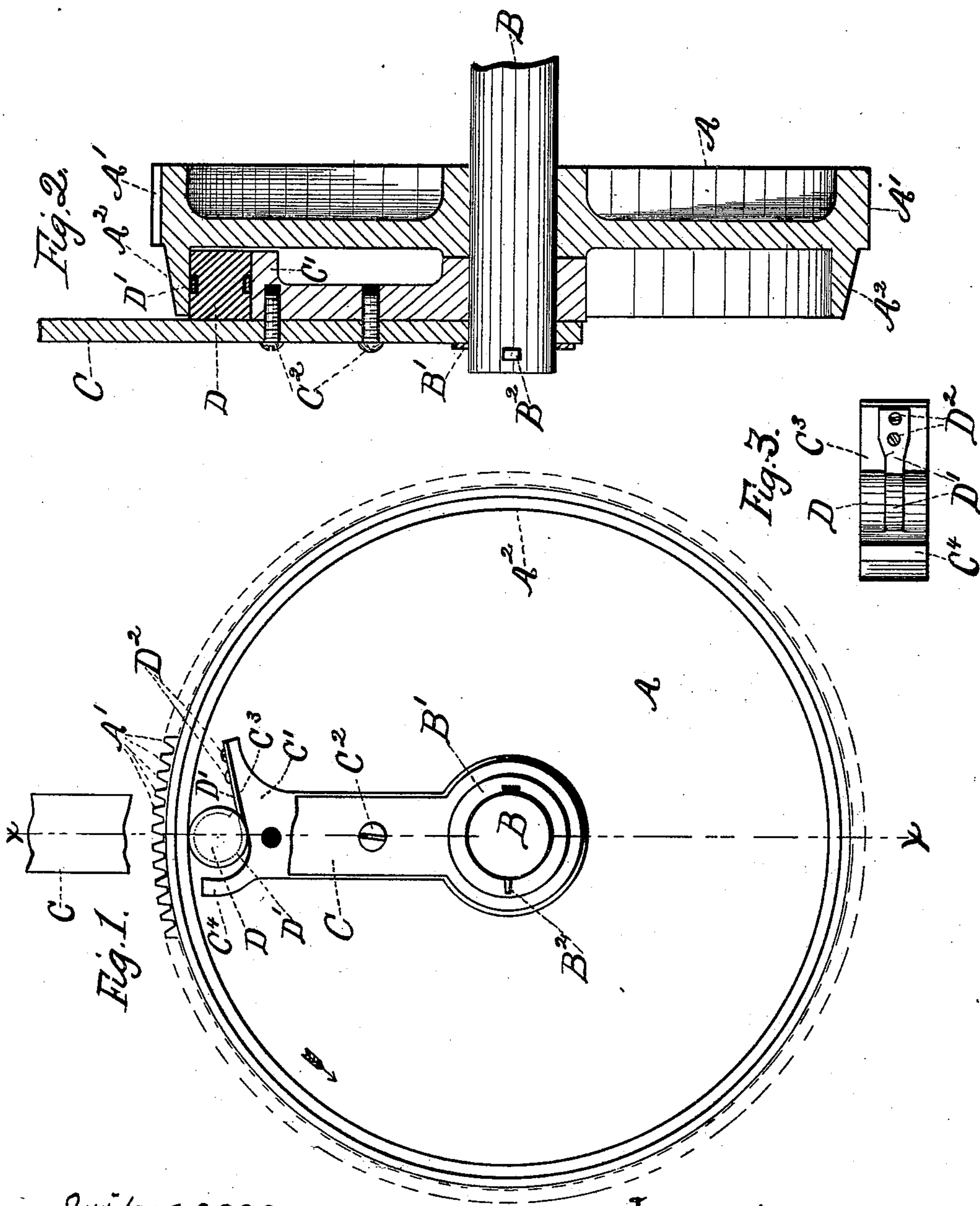


(No Model.)

W. H. WILD.
INTERMITTENT GRIP DEVICE.

No. 405,140.

Patented June 11, 1889.



Witnesses:
Frank Curtis.
John T. Booth

Inventor=
William H. Wild
by Geo. A. Mooker
Atty.

UNITED STATES PATENT OFFICE.

WILLIAM H. WILD, OF VALATIE, NEW YORK.

INTERMITTENT GRIP DEVICE.

SPECIFICATION forming part of Letters Patent No. 405,140, dated June 11, 1889.

Application filed February 20, 1889. Serial No. 300,607. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. WILD, a resident of Valatie, in the county of Columbia and State of New York, have invented certain new and useful Improvements in Intermittent Grip Devices; and I do hereby declare that the following is a full, clear, and exact description of the invention, that 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 letters of reference marked thereon, which form a part of this specification.

Similar letters refer to similar parts in the several figures therein.

My invention relates to improvements in intermittent grip devices; and it consists of the novel construction and combination of parts, hereinafter described, and pointed out in the claim.

Figure 1 of the drawings is a side elevation of the clutch with a portion of the operating-handle broken away to show the friction-roller. Fig. 2 is a central vertical section of the same, taken on the broken line xx in Fig. 1. Fig. 3 is a top plan view of the friction-roll and carrier detached.

The drive-wheel A, fixed upon the supporting-shaft B, is provided with the gear-teeth A', extending entirely around the wheel, as indicated by the two circular dotted lines in Fig. 1, and with an annular concentric flange A². The operating-lever C is loosely pivoted at one end upon the shaft and secured thereon, as by washer B' and pin B². The lever is provided with a roll-carrier C', which may be integral with the operating-lever or a separate piece secured to the lever, as by screws C². The roll-carrier has a way or track C³ for the roll, which is inclined relatively to a line drawn tangent to the annular flange and with a stop C⁴ at the foot of the incline. The roll D is provided with an annular groove, located about midway between the ends of the roll, adapted to receive the single-coil spring D', which encircles the roll, as shown by solid lines in Figs. 2 and 3 and by the dotted lines in Fig. 1. The spring is secured at one end to the carrier, as by screws D², the other end being coiled upon the roll. The resilient force of

the spring tends to force the roll up the incline, and the carrier is so located relatively to the annular flange that the roll can be inserted between and engage with the carrier and the flange at a point near the foot of the inclined way, as shown in Fig. 1.

The operation of the device is as follows: When it is desired to communicate rotary movements to the shaft, the operating-lever is moved to the left in the direction of the arrow, as shown in Fig. 1, and the roll, engaging with both the flange A² and the carrier C', is bound so tightly between these parts as to cause the flange and wheel A to partake of the movements of the lever and rotate the shaft. The movement of the lever is then reversed, and the roll runs down the incline until the flange rides lightly over it with little or no friction so long as the reversed or backward movement of the lever is maintained. The spring has served during this backward movement of the lever to urge the roll up the incline and keep it in light contact with the flange, as well as the track on the carrier, so that the moment the lever is stopped and given a forward movement faster than that of the flange the roll immediately binds the parts until the lever drives the wheel, as before explained.

It will be readily seen that very little movement relative to that of its carrier will be given the roll, so little as to be hardly capable of representation. The lost motion, therefore, is equally small. As the only work required of the spring is to hold the roll in position on the inclined way and urge it up the incline into engagement with the flange, it can be made very light, and the movement of the roll relative to that of the carrier is so slight that the spring can be constantly in use for a very long period without material deterioration. By inserting the coil of the spring in the annular groove located at or near the longitudinal center of the roll the parts are easily and cheaply made and adjusted in position for use.

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

In an intermittent grip device, a shaft and drive-wheel provided with a roll-engaging

flange, in combination with a friction-roll, a
roll-carrier having an inclined roll-track, car-
rier-operating lever fulcrumed upon the
shaft, and roll-controlling spring D', having
5 one end fixed to the carrier and the other end
coiled around the roll, substantially as de-
scribed.

In testimony whereof I have hereunto set
my hand this 12th day of February, 1889.

WILLIAM H. WILD.

Witnesses:

GEO. A. MOSHER,
W. H. HOLLISTER, Jr.