(No Model.)

H. BURTON.

REVERSING GEAR.

No. 318,598. Patented May 26, 1885.

Fig. 1

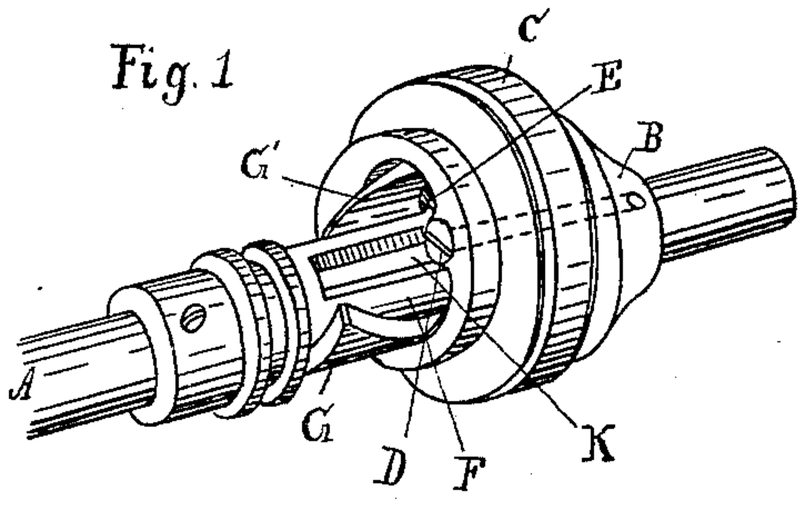


Fig. 2

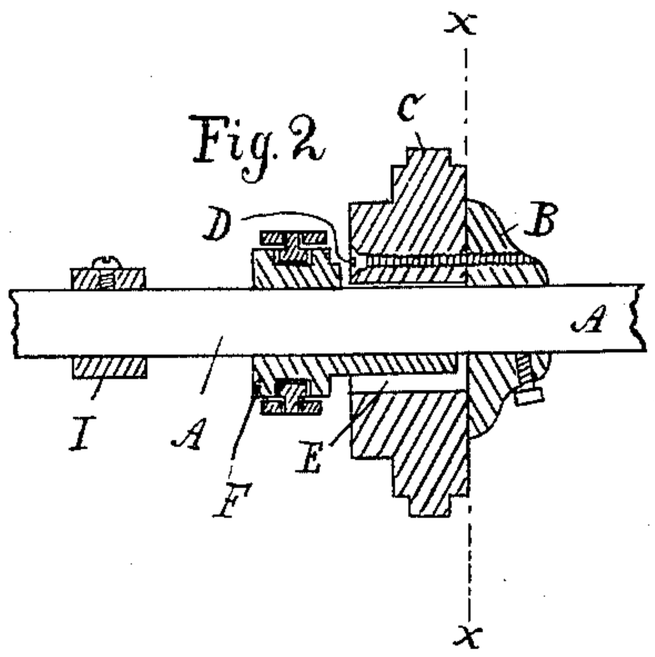


Fig. 3

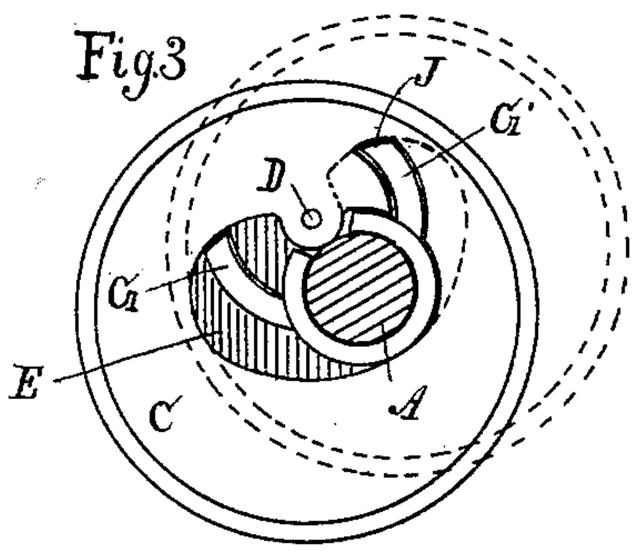
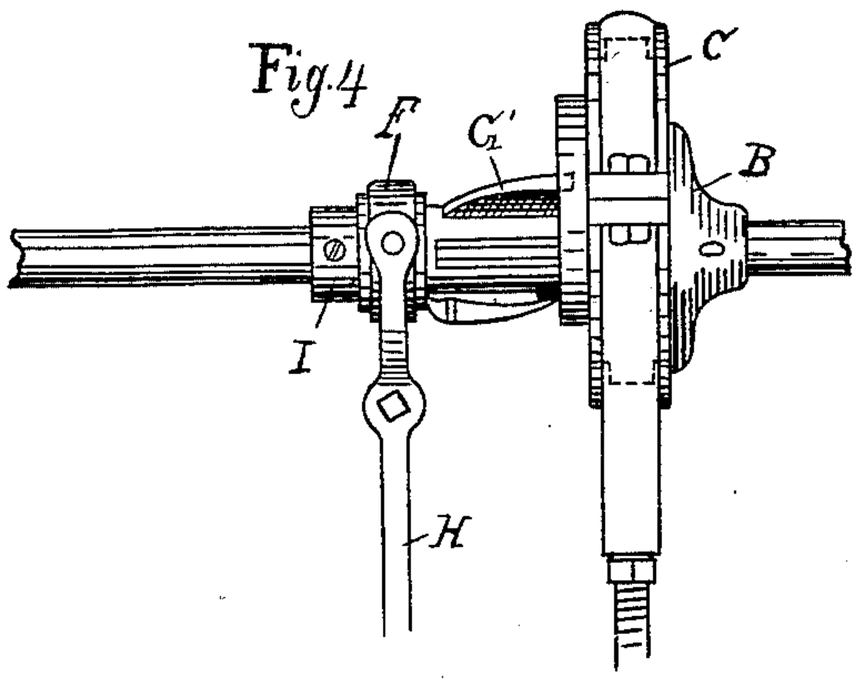


Fig. 4



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UNITED STATES PATENT OFFICE.

HENRY BURTON, OF PORT HURON, MICHIGAN.

REVERSING-GEAR.

SPECIFICATION forming part of Letters Patent No. 318,598, dated May 26, 1885.

Application filed January 14, 1885. (No model.)

To all whom it may concern:

Be it known that I, HENRY BURTON, of Port Huron, in the county of St. Clair and State of Michigan, have invented new and useful Improvements in Reversing-Gear; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to an improvement in reversing-gear; and it consists in the peculiar combination and the construction and arrangement of parts, more fully hereinafter described and claimed.

In the accompanying drawings, which form a part of this specification, Figure 1 is a perspective view of my device, showing the sliding sleeve with its wedges withdrawn. Fig. 2 is a vertical central longitudinal section through the axis of the shaft. Fig. 3 is a cross-section on line *x x* in Fig. 2. Fig. 4 is a plan.

A is the shaft of the valve-eccentric. B is a collar fixed upon said valve-eccentric shaft, and C is the valve-eccentric, pivotally secured at D to the fixed collar B, so that it may be oscillated around that pivot in the plane of its motion. The eccentric is provided with the opening E through its body, through which the shaft A passes, and which is of proper size and shape to admit of oscillating the eccentric to a sufficient degree to reverse the valves.

F is a sliding sleeve fitted upon the shaft A, and is connected with the reversing-lever H, as shown, and by means of which the sliding sleeve may be projected into the opening E of the eccentric or withdrawn therefrom as far as the stop I will admit.

G G′ are two wedges secured upon opposite sides of the sliding sleeve, and are inversely inclined to each other. These wedges G G′ are preferably spiral-shaped, with their center at the pivot D, as shown in Fig. 3. A recess, J, of the same shape and form as the spiral wedge G′, is constructed in the body of the eccentric, so that when the sleeve is projected within the opening E of the eccentric the wing G′ may enter into said recess J. The spiral wedges G and G′ have such relative positions upon the sliding sleeve that when the latter is withdrawn as far as the stop I will permit the wedge G′ projects a short distance within the opening E, while the wedge G is entirely withdrawn and the eccentric is firmly locked in position. When the sliding sleeve is projected from this position into the opening E, the wedge G, in entering the opening E, must oscillate the eccentric around its pivot, while the wedge G′ gradually enters the recess, thus permitting the oscillation of the eccentric. In withdrawing the sleeve the wedge G′, in withdrawing from its recess J, must oscillate the eccentric, while the wedge G withdraws in the same degree to permit such oscillation. During the whole range of the operation of the sliding sleeve the wedges G G′ always keep the eccentric locked in position, as the incline to the two wedges is made to perfectly correspond with each other. At the two extreme positions of the sliding sleeve one side of the opening E finds its bearing against the sleeve. While the operation of one wedge produces the oscillation, the joint operation of both in each case locks the eccentric, and also keeps the sliding sleeve from turning upon its shaft, so that it will have a simple sliding motion. To get a large degree of oscillation, the pivotal point of the eccentric is preferably placed as near the shaft A as convenient, and for this purpose a slot, K, may be cut into the sleeve, and such slot may be even extended into the shaft, if necessary.

I am aware of the Patent No. 274,436, and make no claim to the construction shown therein as forming part of my invention.

What I claim as my invention is—

1. In a reversing-gear, a sliding sleeve upon the shaft of the eccentric, operated by the reversing-lever, and having two spiral wedges inverse to each other upon its face, in combination with an eccentric pivotally secured upon the shaft, and having an opening through it, through which the shaft and the spiral wedges pass, and of suitable size to oscillate the eccentric to effect the reversal by the operation of the spiral wedges upon the sliding

sleeve directly upon the eccentric, substantially as and for the purposes described.

2. In a reversing-gear, the shaft A, having fixed collar B, the eccentric C, having pivot D, and opening E, the sliding sleeve F, having inverse spiral wedges G G′, operating directly upon said eccentric, the reversing-lever H, operating the sliding sleeve, and the stop I, all combined, constructed, and operating substantially as specified.

HENRY BURTON.

Witnesses:
E. J. SCULLY,
E. W. ANDREWS.