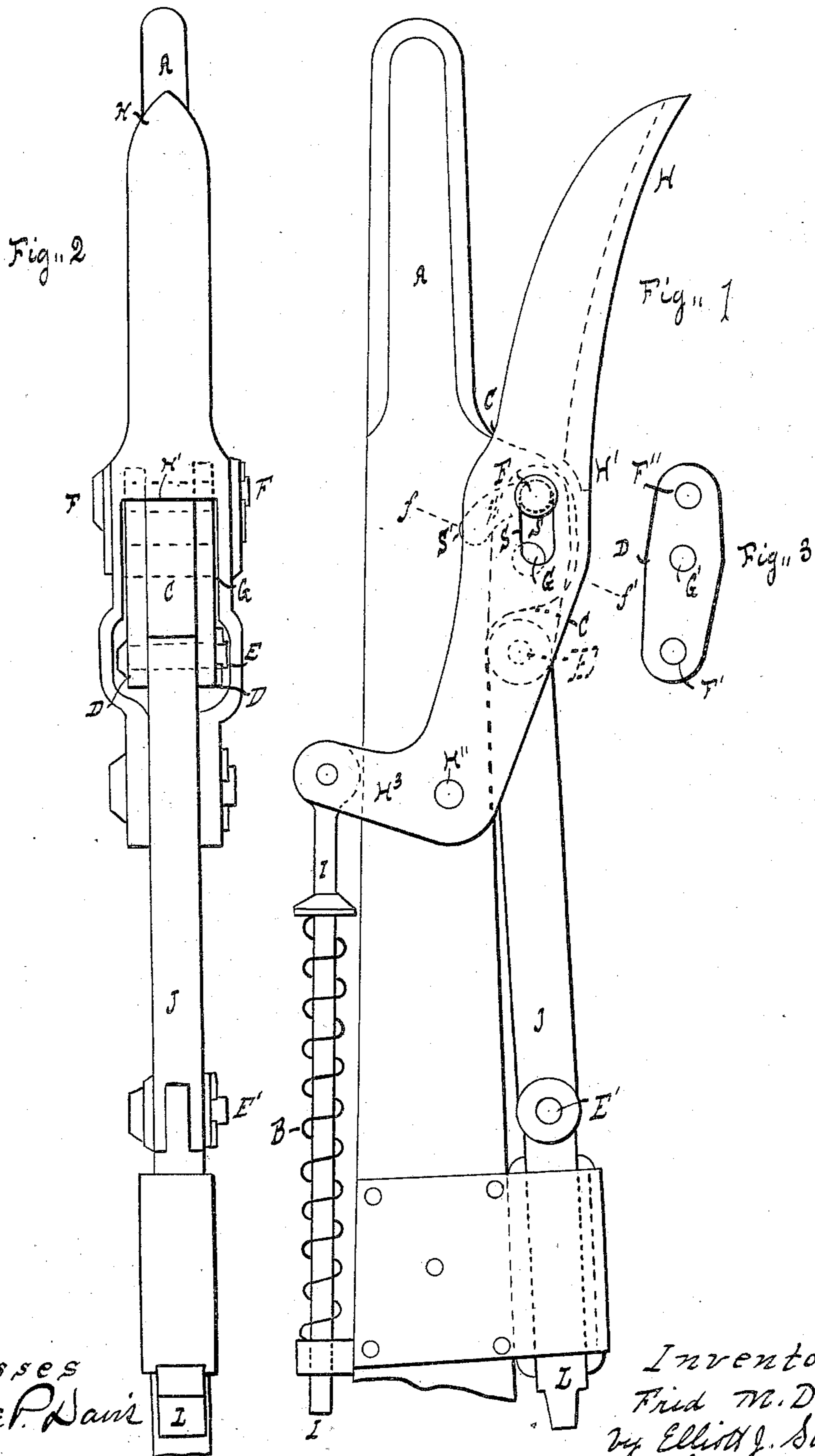


(No Model.)

F. M. DWELLEY.
REVERSING LEVER.

No. 427,560.

Patented May 13, 1890.



Witnesses
George F. Davis
Robert W. Webb

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UNITED STATES PATENT OFFICE.

FRED. M. DWELLEY, OF JACKSON, MICHIGAN.

REVERSING-LEVER.

SPECIFICATION forming part of Letters Patent No. 427,560, dated May 13, 1890.

Application filed August 30, 1889. Serial No. 322,490. (No model.)

To all whom it may concern:

Be it known that I, FRED. M. DWELLEY, of Jackson, in the county of Jackson and State of Michigan, have invented a new and useful
5 Improvement in Reversing-Levers, of which the following is a specification.

My invention relates to reversing-levers for steam-engines; and the object of my improvement is to provide a latch-lever which shall
10 not be liable to accidental displacement. I attain this object in the device illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the upper portion of a latch-lever embodying my invention. Fig. 2 is an elevation looking from the
15 right of Fig. 1, and Fig. 3 is a detail view in elevation of a portion of the lock-operating mechanism.

Similar letters refer to similar parts throughout the several views.

A is a latch-lever, made in the usual form, except that it is provided with a projection or lug C, extending from one of its edges just below the handle.

25 D is a plate of the form shown in Fig. 3, provided at its ends with the bolt-holes F' F'' and near its center with the bolt-hole G'.

G is a bolt extending through the lug C and protruding a distance therefrom on both
30 sides equal to the thickness of the plate D. A plate D is secured to each of the protruding ends of the bolt G, said bolt passing into the holes G'. S' is a slot cut through the lug C and having the form of an arc of a circle of
35 which the bolt G is the center. A headed bolt F passes through slots S in the forks of the hand-piece H and the bolt-holes F'' in the plates D upon both sides of the lug C and through the slot S', and is secured in place by
40 a split key. The head of the bolt F on one side and the split key on the other side secure said bolt in place. L is the latch, which enters the notches in the quadrant or sector to secure the latch-lever in position.

15 J is a pitman pivotally secured to the plates D by the bolt E, which bolt passes through the bolt-holes F'. Said pitman is pivotally secured to the latch L by the bolt E'. The plates D are secured together at their ends
50 by the bolts F and E, said plates forming together a lever adapted to be turned about the bolt G.

H is a lever pivoted at H'' to the latch-lever A. The lever H is forked at its lower end, one fork extending on each side of the latch-lever A. Said forks are joined from H' to
55 the upper end of the lever H, and are shaped to form a handle.

S is a slot cut through each fork of the lever H. The protruding ends of the rivet F extend into the slot S, in which slot they are free to move, said bolt being secured by its head and a split key, as above described.

B is a spring passing around the rod I and pressing upward upon the arm H³ of the lever H.
65

The operation of the above-described device is as follows: When it is desired to withdraw the latch L from a notch in the quadrant, the operator forces the handle of the lever
70 H over to the handle of the latch-lever A. The lever H in moving carries with it the bolt F and turns the plates D to the position indicated by the dotted line *ff'*, thus raising the upper end of the pitman J and withdrawing
75 the latch L from the notch in the quadrant. When the lever H is released, the spring B forces it back into the position shown in the drawings. It will be noticed that inasmuch as the bolt E is to the left of the pivot-bolt
80 G and is prevented from turning to the left by the latch-lever A it will be impossible that the latch L should be accidentally forced out of engagement with the notch in the quadrant by any pressure upward on said latch.
85

Having fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a latch-lever, the combination of the latch L, a pitman J, secured to said latch, and
90 a lever secured to the upper end of said pitman, said lever being free to move in one direction a distance sufficient to withdraw said latch from its notch in the quadrant and being limited in its motion in the other direction to a point beyond the line between its center and the center of the bolt by which
95 said pitman is secured to said latch, and means, substantially as described, for forcing said lever into the last-mentioned position, substantially as shown and described.
100

2. In a latch-lever for steam-engines, the combination of a lever H, pivoted to said latch-lever, a lever D, adapted to be operated

by the lever H, the latch L, the pitman J, secured at its upper end to the lever D, the lever D being free to move in one direction a sufficient distance to withdraw said latch
5 from its notch in the quadrant and being limited in its motion in the other direction to a point beyond the line of centers of the pivot of the lever D and the pivotal attachment of said pitman to said latch, and a spring for
10 forcing the lever D into the last-mentioned position, substantially as and for the purpose described.

3. The combination, with a latch-lever provided with the projection C, having the slot
15 S' therein, of the latch L, the pitman J, a

lever made up of two plates D, one upon each side of the projection C, said last-mentioned lever being pivoted to a bolt G, set out from the latch-lever in the projection C, a bolt F, passing through the slot S' and securing the
20 plates D together, a forked lever H, pivoted to said latch-lever and provided with slots S, the ends of the bolts F extending into the slot S and serving as crank-pins to turn the
plates D, and the spring B, substantially as
25 and for the purpose described.

FRED. M. DWELLEY.

Witnesses:

JOSIAH B. FROST,
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