

(No Model.)

J. PLAYER.
REVERSING LEVER.

No. 489,264.

Patented Jan. 3, 1893.

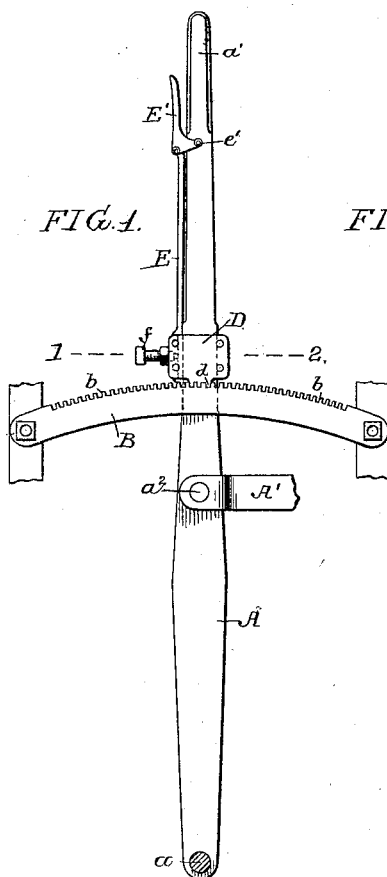


FIG. 1.

FIG. 2.

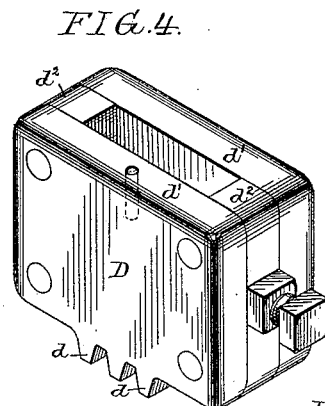


FIG. 4.

FIG. 5.

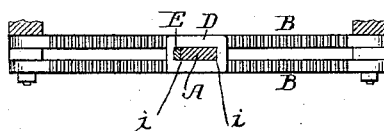


FIG. 3.

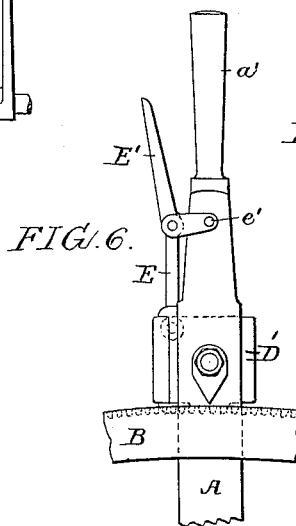
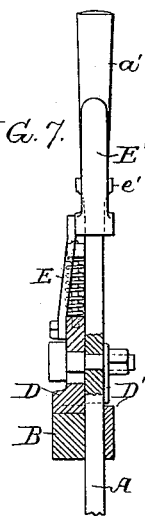


FIG. 6.

FIG. 7.



Witnesses:
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JOHN PLAYER, OF DUNKIRK, NEW YORK.

REVERSING-LEVER.

SPECIFICATION forming part of Letters Patent No. 489,264, dated January 3, 1893.

Application filed August 17, 1892. Serial No. 443,303. (No model.)

To all whom it may concern:

Be it known that I, JOHN PLAYER, a subject of the Queen of Great Britain and Ireland, and a resident of Dunkirk, Chautauqua county, New York, have invented certain Improvements in Reversing-Levers, of which the following is a specification.

The object of my invention is to so construct a reversing lever for steam engines that the catch block can be readily applied to the lever and in which the wear upon the same can be readily taken up, and the further object of the invention is to so arrange the parts that when the block is in engagement with the segment the lever will be held rigidly in a central position. These objects I attain in the following manner: Reference being had to the accompanying drawings, in which:

Figure 1 is a side view of my improved reversing lever; Fig. 2 is an end view, the segments being in section. Fig. 3 is a sectional plan on the line 1—2, Fig. 1. Fig. 4 is a perspective view of the catch block; Fig. 5 is a view of the connecting rod; Figs. 6 and 7 are views of a modification of my invention.

In describing my invention I will allude to it as a reversing lever, especially adapted for locomotive engines, but it will be understood that the device can be used in connection with any lever mechanism in which a segment and catch are used.

Referring to Figs. 1 and 2, A is a lever pivoted at a and having a handle a' . Attached at a^2 to the lever is a rod A' connecting it with the reversing mechanism of the engine. On each side of the lever is a segment B. These segments are secured together and to any permanent portion upon the engine, the segments being on a radius struck from the pivot point a of the lever. Each segment has on its upper surface a series of teeth b with which engage teeth d upon the catch block D. This catch block D, as shown in Fig. 4 consists of two plates d' d'' separated by spacing pieces d^3 , the plates being a sufficient distance apart to allow the block to slide freely. The lever A has slide-ways i, i , at each edge upon which the block D is adapted to slide, as clearly shown in Figs. 1 and 2. The plates are secured together by rivets or bolts. It will thus

be seen that by making the block in two sections, the sections can be clamped together and their teeth cut at one operation, thus insuring accuracy, after which the filling pieces can be mounted between the plates and the parts riveted together.

Fitting between one end of the block D and the lever is a connecting rod E, the lower portion of which forms a gib, the rod having projections $e e$ fitting over the block D so that the block will move with the rod. A setscrew f passing through one end of the block bears upon the gib so that when the parts become worn the gib can be readily set up by the screw. The upper end of the rod E is connected to a small lever E' pivoted at e' to the upper end of the reversing lever A. When this lever is pressed against the reversing lever by the operator the rod E is raised, lifting the block D throwing it out of engagement with the teeth of the segments B. As soon as the lever E' is released the block is thrown into engagement with the teeth of the segments by a spring g mounted on a rod g' carried by the block. This rod passes through and is steadied by a lug a^3 of the lever A and the spring g is confined between this lug and the block.

In Figs. 6 and 7, I have illustrated a form of reversing lever in which the block D' is mounted upon one face of the lever, and has flanges which extend around the edges of the lever and embrace the same. The block is provided with teeth which engage the teeth of a single segment. A plate D^2 is mounted upon the opposite side of the lever to indicate the position of the lever in respect to the segment. The block slides upon the lever A, and is held in position by a bolt passing through a slot in the block, but in this instance the gib does not form part of the connecting rod, the rod being secured directly to the block.

I claim as my invention:

1. The combination of the lever A having slide ways at each edge, a block D embracing the lever and adapted to slide upon said slide-ways, a segment B having teeth in its upper edge, said block having teeth adapted to engage with the teeth of the segment, a connecting rod E, a lever E' pivoted to the lever

A, and a spring for depressing the block and throwing it into engagement with the segment B, substantially as described.

2. The combination of the lever A, the segments B, B, one on each side of the lever, said segments having teeth, a slidable block mounted upon the lever and having teeth on each side to engage with the segments, with mechanism for throwing the teeth of the block into and out of engagement with the teeth of the segments, substantially as described.

3. The combination of a pivoted lever A, toothed segments B mounted on each side of the lever, a slidable block upon the lever, having teeth at each side engaging with the teeth of the segments, a rod E extending into the space between one end of the block and the lever and forming a gib, means for adjusting said gib, and means for raising and lowering the block, substantially as described.

4. The combination of a pivoted lever A, segments B mounted on each side of the lever, a block D made up of two toothed plates

d' and filling pieces d^2 , a connecting rod and a lever E', pivoted to the main lever A, substantially as described.

5. The combination of a pivoted lever A, the toothed segments B mounted on each side of the lever, a block D made up of plates d' and pieces d^2 secured together, each of said plates having teeth, a connecting rod E, the lower end of which forms a gib and is adapted to the space between one end of the block and the lever, a set screw for adjusting said gib, a lever E' attached to the connecting rod and pivoted to the main lever A, with a spring mounted between the block and the lug on the lever A, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN PLAYER.

Witnesses:

HENRY HOWSON,

WILLIAM D. CONNER.