

(No Model.)

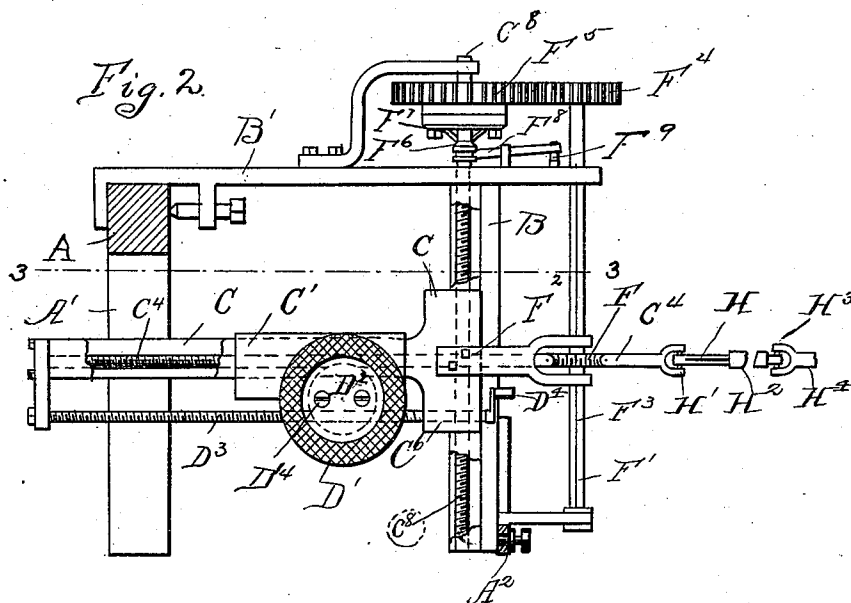
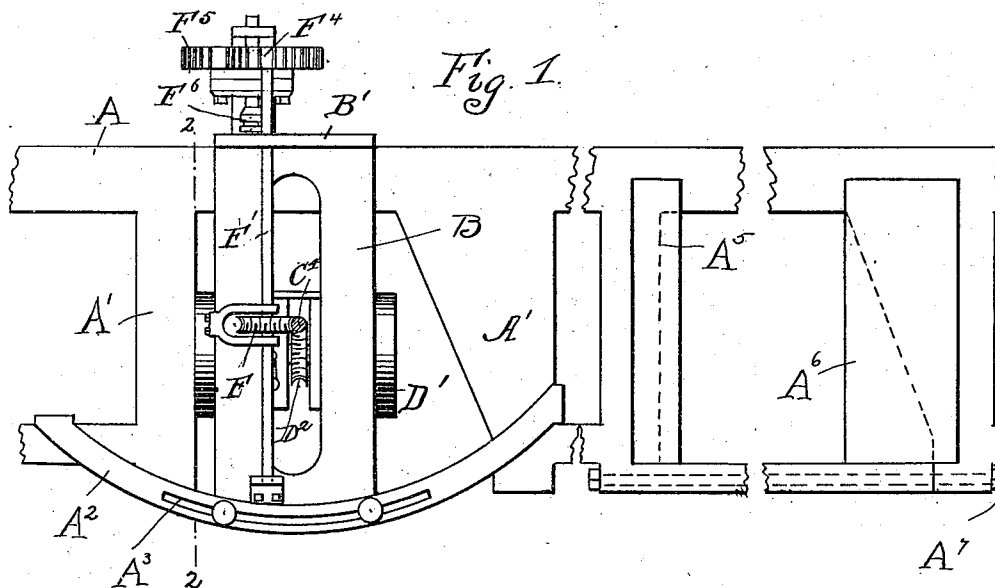
2 Sheets—Sheet 1.

C. MELROSE.

MACHINE FOR FACING JAWS OF LOCOMOTIVE JOURNAL BOXES.

No. 549,244.

Patented Nov. 5, 1895.



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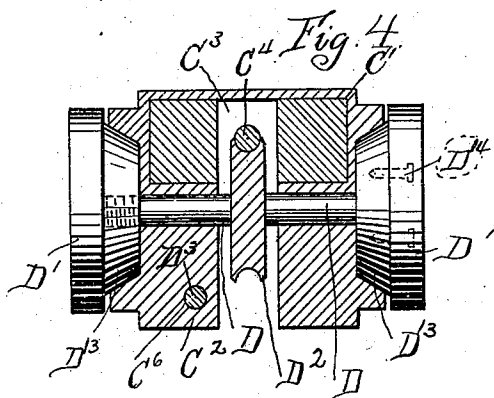
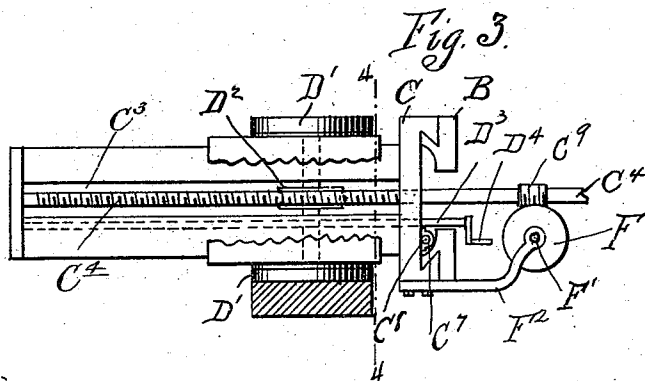
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UNITED STATES PATENT OFFICE.

CHARLES MELROSE, OF AURORA, ILLINOIS.

MACHINE FOR FACING JAWS OF LOCOMOTIVE JOURNAL-BOXES.

SPECIFICATION forming part of Letters Patent No. 549,244, dated November 5, 1895.

Application filed April 21, 1894. Serial No. 508,451. (No model.)

To all whom it may concern:

Be it known that I, CHARLES MELROSE, a citizen of the United States, residing at Aurora, in the county of Kane and State of Illinois, have invented certain new and useful Improvements in Jaw-Facing Machines, of which the following is a specification.

My invention relates to jaw-facing machines, and has for its object to provide a machine for quickly and easily facing the jaws and wedges by which locomotive journal-boxes are held in position.

The following is a description of my device, reference being had to the accompanying drawings, wherein—

Figure 1 shows the device in position on the frame of a locomotive. Fig. 2 is a cross-section on line 2 2, Fig. 1. Fig. 3 is a cross-section on line 3 3, Fig. 2. Fig. 4 is a cross-section on line 4 4, Fig. 3.

Like letters represent like parts throughout the several figures.

Referring to Fig. 1, I have shown the device attached to a locomotive-frame and in position to smooth up the pedestal or jaw A'. An upright frame or support B is provided with an arm B', Fig. 2, by means of which it is attached to the locomotive-frame A. The lower end of the frame B is held in place by the arm or support A', provided with the slot A'. An arm C is attached to the support B, so that it can be moved up and down, and carries a movable or sliding box C'. Said box has a projecting lower part C', through which passes a shaft D, to which are attached the facing-tools. I have shown as the facing-tools the milling-wheels D' D'; but it is evident that other devices may be used. The arm C is provided with a slot C', in which works the worm-screw C', Fig. 3. This screw drives the mill-shaft by means of the worm-wheel D' on said shaft. Motion may be given to said screw C' in any convenient manner, as by a pulley or by a universal joint. As shown, a rod H is connected by the universal joint H' to the screw C'. Said rod works in a hollow tube H', which is connected by the universal joint H' to the power-shaft H'.

The rod H is provided with a feather-way in which works a feather on the inner surface of the tube H'. This construction allows the rod H to be revolved by the tube H', and also

allows the distance between the two universal joints H' and H' to vary as the worm-screw C' moves up and down.

The box C' is moved back and forward on the arm C by means of the screw D', working in a threaded hole C' in the lower part of the box C', Fig. 4. This screw may be turned in any manner, being shown in the drawings as provided with the crank D'.

Attached to the arm C is a block C', Fig. 3, having a threaded hole in which works the screw C', by which the arm and attachments are moved up and down. This screw may be worked by hand; but I prefer to move it by means of the screw-shaft C'. Said screw-shaft is provided with a worm C', which engages the worm-wheel F upon the shaft F'. Said worm-wheel F is supported by the bracket F', which is attached to the arm C, and slides up and down on the shaft F' and feather F'. Said shaft passes through a hole in the arm B' and is provided with a pinion F', which meshes with a gear F' on the screw C'. The mill-shaft D is provided with the heads D' D', one or both of which may be threaded onto the shaft D.

The mills D' D' may be attached to the heads or shaft in any convenient manner, as by means of screws D' D'. The distance between the outer surfaces of the mills D' D' may be varied by putting washers between the mills D' D' and the heads D' D'.

The jaws A' A' at the right of Fig. 1 are shown with the shoes or wedges A' A', which hold the journal-box in position.

A' is the binder-bolt, by which the box and wedges are kept in place.

The gear F' is loose on the shaft C' and is made to revolve with said shaft, when desired, by any convenient clutch. I have shown an ordinary friction-clutch operated by the sliding cone F', being forced between the arms F' F', so as to spread said arms apart. This sleeve is controlled by the lever F'. The lever is held in position to keep the cone between the arms F' F' by the notched arm F'.

It is evident that the several parts may be altered in form, arrangement, and construction without departing from the spirit of my invention, and I therefore do not wish to be limited to the exact construction shown.

The use and operation of my invention are

as follows: When it is desired to face up the pedestals or jaws of a locomotive-frame, the device is attached to the frame, as shown in Figs. 1 and 2. When the jaws proper are being faced, only one milling-wheel will be in use at one time. Power is then applied to the shaft or screw C⁴, which causes the mills D² to revolve by means of the worm-wheel D². The box C⁷ and mills D⁷ D⁷ are then moved toward the jaw A', Fig. 2, by the screw D³ and crank D⁴. At this time the screw C⁸ is stationary. When the mill comes in contact with the jaw A', it faces up a portion of said jaw equal to the diameter of the mill, and when it has advanced far enough, so that it will cover the entire width of the jaw, its motion in this direction is stopped. The cone F⁶ is then moved in between the arms F⁷ F⁷, so as to operate the friction-clutch. When this is done, motion is given to the shaft C⁸ by means of the said clutch, the gear F⁵, pinion F⁴, shaft F⁷, worm-wheel F, worm C⁹, and screw C⁴. As this screw revolves, the arm C, and hence mills D⁷ D⁷ are lowered, and since they are revolving at the same time, the jaw A' is faced up. The wedge-shaped jaw A' is faced in the same manner by moving frame B so that it will be parallel with the inner face of said jaw. After the jaws A' A' are faced up the shoes or wedges A⁵ A⁶, which hold the journal-box in place, are inserted between the jaws, as shown, Fig. 1, and are held in place by the binder-bolt A⁷. The inner surfaces of said wedges are then both faced at one time by the mills D⁷ D⁷, as described above. The distance between the outer faces of said mills is just sufficient to allow them to pass between the two wedges and take off a facing cut from each.

It will be seen that I have here a device

for quickly and easily facing the jaws and wedges by which locomotive journal-boxes are held in position.

It is also evident that this machine may be used for many other purposes, and I therefore do not wish to be limited to the use described.

I claim—

1. A portable jaw facing machine comprising one or more mills or facing tools, rigidly connected to a shaft that is journaled to a sliding box, an arm along which said box is adapted to slide, a screw shaft passing longitudinally through said arm and adapted to engage a worm gear on the shaft to which the mills are attached, a second screw shaft passing through said sliding box and adapted to move it along the said arm and a third screw shaft connected with said arm and adapted to move it along a supporting standard and a clamping device for attaching said machine to the frame of a locomotive, whereby the jaws and wedges that hold the journal boxes in position are faced up while in place.

2. A portable jaw facing machine comprising a revolving shaft having a mill or facing tool on each end, means by which said mills or facing tools are given two lineal motions at an angle to each other while they are revolving, and a clamping device by which said machine is attached to the frame of a locomotive, whereby the jaws and wedges that hold the journal boxes of a locomotive in position are faced up while in place substantially as described.

CHARLES MELROSE.

Witnesses:

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WILLIAM F. FORBES.