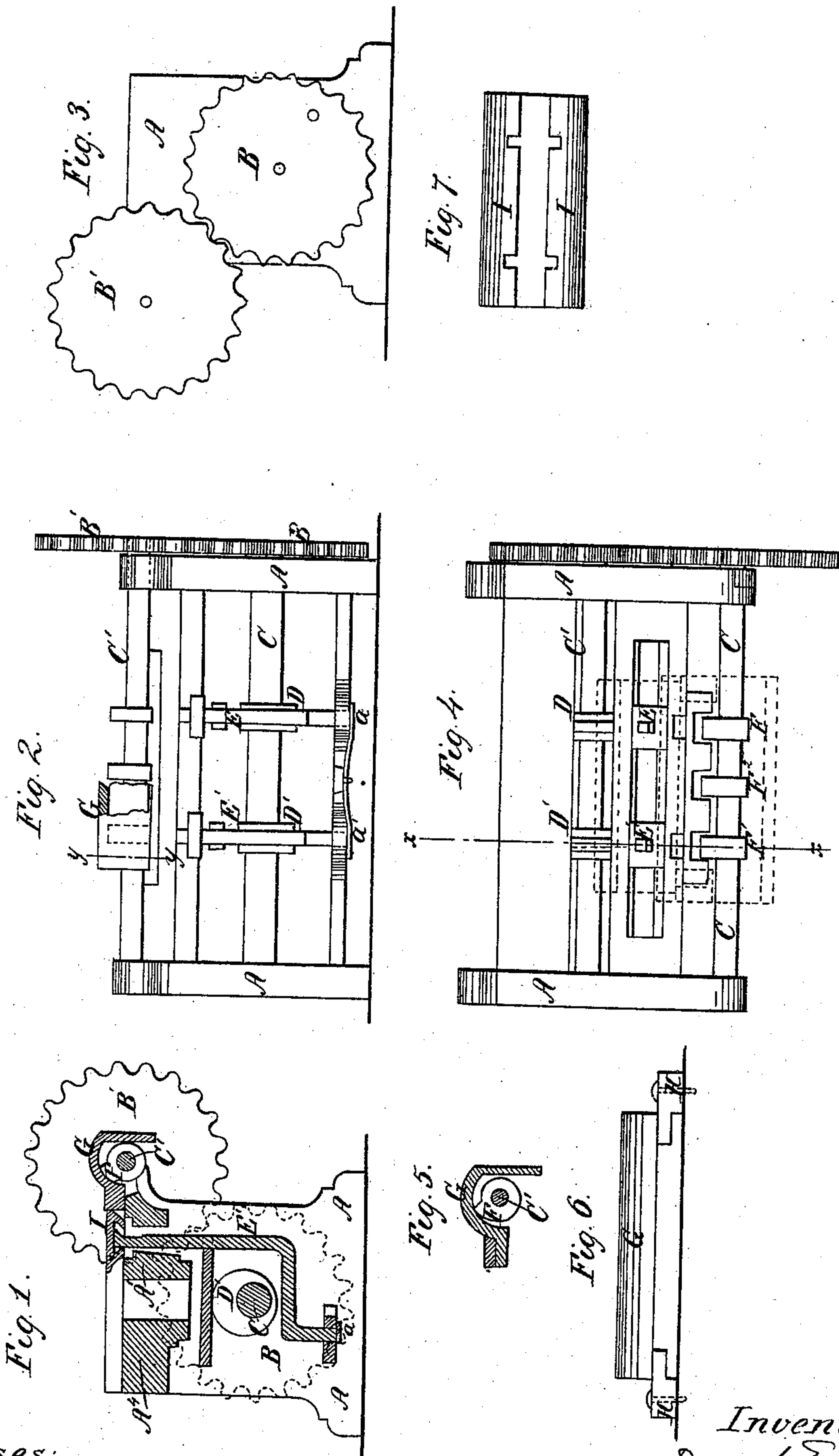


D. Eymon.

Slotting Railroad Chairs.

N^o 99,869.

Patented Feb. 15, 1870.



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DAVID EYNON, OF RICHMOND, VIRGINIA.

Letters Patent No. 99,869, dated February 15, 1870; antedated February 7, 1870.

IMPROVED MACHINE FOR SLOTTING RAILROAD-CHAIRS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, DAVID EYNON, of Richmond, in the county of Henrico, and State of Virginia, have invented a new and useful Improvement in Machines for Slotting Railroad-Chairs; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings making part of this specification, in which—

Figure 1 is a vertical sectional elevation on line xx of fig. 4, showing the chair in position and the cutter or punch for slotting the same, together with movable guide for keeping the chair in position while being slotted.

Figure 2 is a front elevation of the machine, showing the eccentrics for moving the guide and for moving the cutters or punches.

Figure 3 is an end view showing the gear-wheels which drive the shafts upon which the eccentrics are placed.

Figure 4 is a top or plan view showing the upper ends of the cutters or punches and the arrangement of the eccentric for moving the guide.

Figure 5 is a transverse vertical section through the guide, as at zz , of fig. 3, showing the clamp for keeping the same in position.

Figure 6 is a longitudinal elevation of the movable guide and of its clamps.

Figure 7 is a top or plan view of a chair as it appears after having been slotted.

Corresponding letters refer to corresponding parts in the several figures.

This invention relates to that class of machines which are used for slotting or nicking the lips of railroad-chairs, it being designed as an improvement upon the machine for which Letters Patent were granted to me on the 15th of October, 1867, and consisting of an arrangement of cams for giving a backward and forward movement to the guide which holds the chair while being slotted, the arrangement being such that the chair is carried into position for being slotted or nicked while the cutters or punches are in their elevated position, and there held until such slot or nick has been formed by the downward movement of the cutters, and then carried back to its original position.

A A in the drawings represent the ends of the frame of the machine, which may be of metal, and of any form which will adapt them to receive and support the shafts which have their bearings therein, and the necessary beams which unite such end portions of the frame.

A¹ represents a bar or beam, which extends longitudinally across the machine, it being provided with a slot through its center for the passage of the cutters or punches, as shown in figs. 1 and 4.

A² represents an additional bar or beam, which ex-

tends across the machine in a line parallel with the one above described, it being for the purpose of giving additional support to the ends of the frame.

B B' represent gear-wheels, which are to be placed upon the outer ends of the shafts to which the eccentrics are secured. The lower one of these wheels, or the one designated by B, may have a crank in it for the purpose of imparting thereto a rotary motion, which may be derived from any suitable driving-shaft, or it may have a pulley attached to its outer face to receive a belt for the same purpose.

C represents a shaft which has its bearings in the ends of the frame through which it extends, and at one of its ends far enough to receive the gear or driving wheel B which is to be firmly secured thereto.

C' represents a similar shaft which rests in bearings formed in the ends of the frame near its top, and which has the wheel B' secured to its outer end in such a manner as to be driven by the wheel B.

D D' represent eccentrics or cams, which are to be secured to the shaft C, and so arranged as to be in the proper position for operating the punches or cutters, as shown in figs. 1, 2 and 4. These eccentrics are to have an amount of throw sufficient to carry the punches or cutters up to the position shown in fig. 1, and from that position down far enough to carry the punch or cutter through the lip of the chair, so that the same may be readily removed after it has been nicked.

E E' represent the cutters or punches, the lower ends of which work in guides formed in a bar which extends longitudinally across the machine, their upper ends being provided with a projection upon one of their sides, which serves as the cutter or punch. This cutting portion is made beveling upon its under surface for the purpose of causing it to conform to the inner surface of the lip of the chair. The form and arrangement of these cutters or punches are clearly shown in figs. 1 and 2.

F F¹ F² represent eccentrics, which are secured to the shaft C' and near the central portion thereof, they being for the purpose of giving a backward and forward movement to the guide G, and through it to the chair I. The relation of these eccentrics or cams to those upon the shaft C is such that when the eccentrics D D' have raised the cutters or punches to their most elevated position, the eccentrics or cams F F¹ will quickly carry the guide G forward or toward the cutters, which movement will press the chair or the top thereof firmly against the cutters, as shown in fig. 1, where it will be held by the continued movement of the shaft C, which will bring the full side of the cam or eccentric in contact with the guide G, and thus retain it in its position until the movement of cams or eccentrics D D' has carried the cutters or punches

down through the top of the chair, thus forming the required nick therein, and thus releasing it from the control of the guide G and punches or cutters.

H H represent the clamps which secure the guide G to the frame, and prevent its shifting its position longitudinally on the bed upon which it works.

a a represent springs, which are secured to the lower surface of the bar which supports the lower ends of the cutters or punches, and are so arranged that they press upward upon the ends of such cutters or punches for the purpose of raising them after they have been depressed by the action of the cams or eccentrics.

Having thus described my invention,

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

1. The removable guide G in combination with the

cams F F¹ F², when arranged to operate substantially as and for the purpose specified.

2. The arrangement of the movable guide G with reference to the cutters or punches E E, when such guide is operated by the cams F F¹ F² or their equivalents, substantially as and for the purpose set forth.

3. The arrangement of the eccentrics or cams D D' with reference to those designated by the letters F F¹ F², in combination with the cutters E E' and guide G, substantially as and for the purpose set forth.

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

DAVID EYNON.

Witnesses:

JOHN H. BAPTIST,
LAWRENCE CUSHING.