

No. 756,067.

PATENTED MAR. 29, 1904.

R. G. SIEGEL.
CLAMPING DEVICE.

APPLICATION FILED MAY 22, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

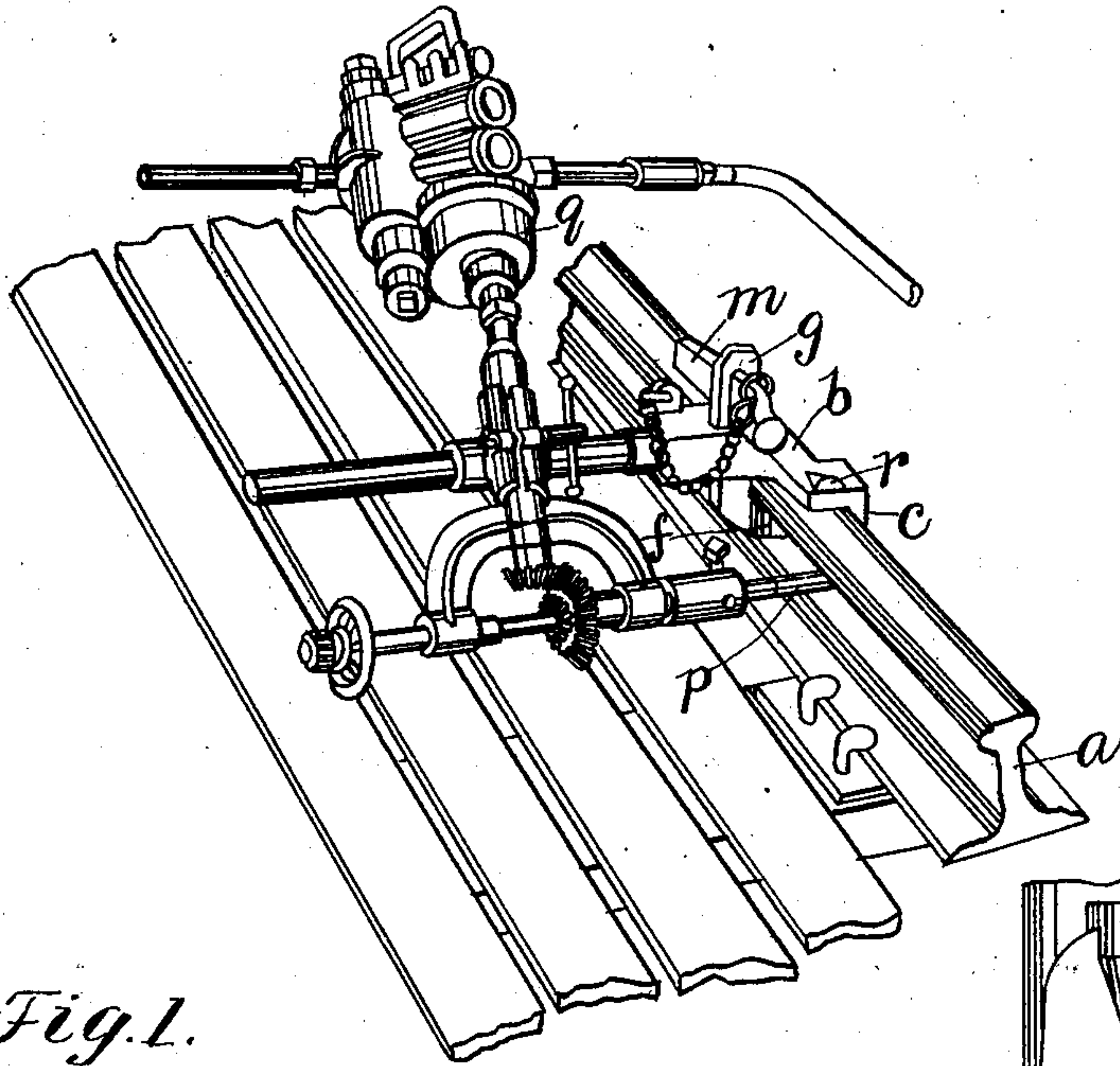


Fig. 1.

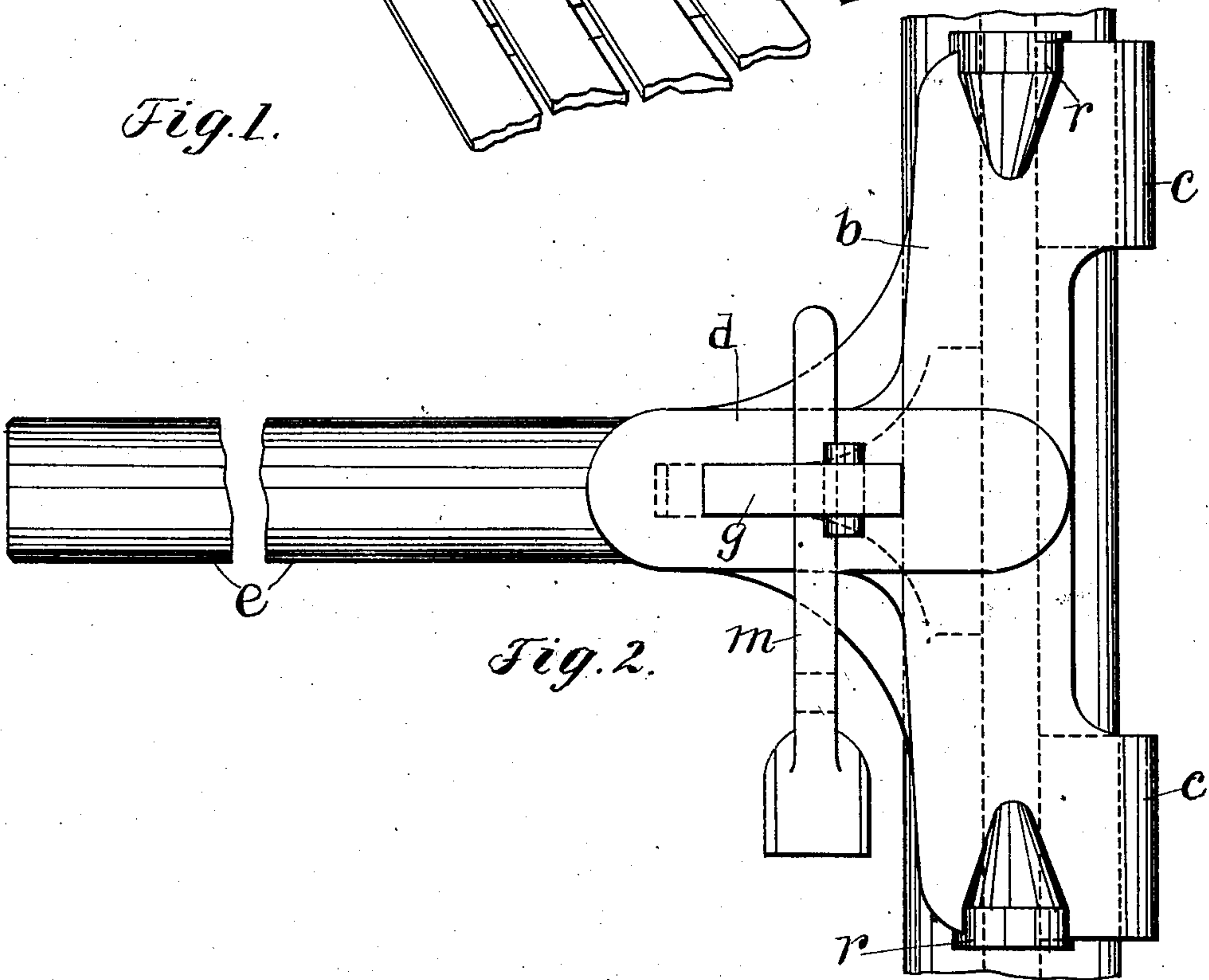


Fig. 2.

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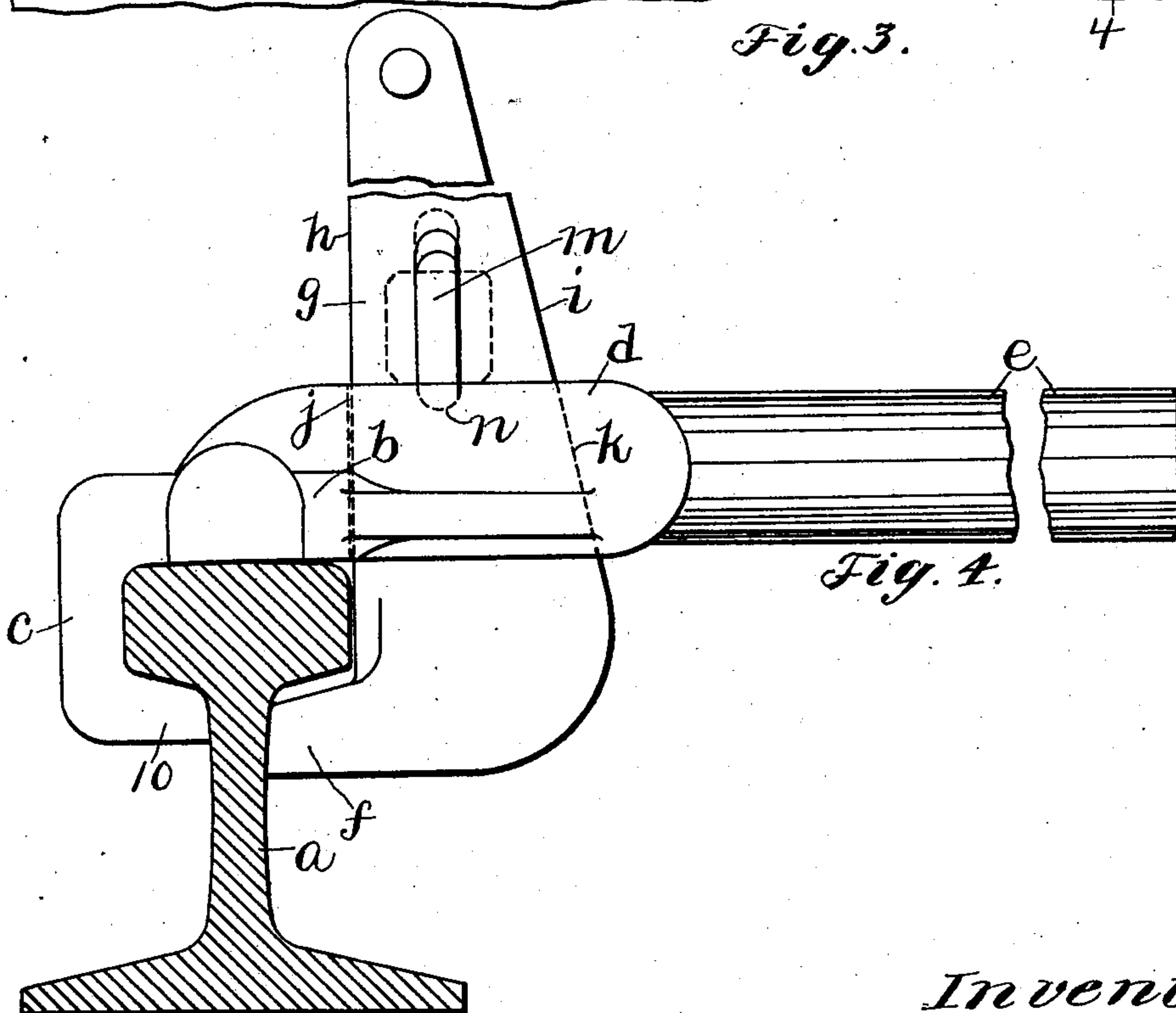
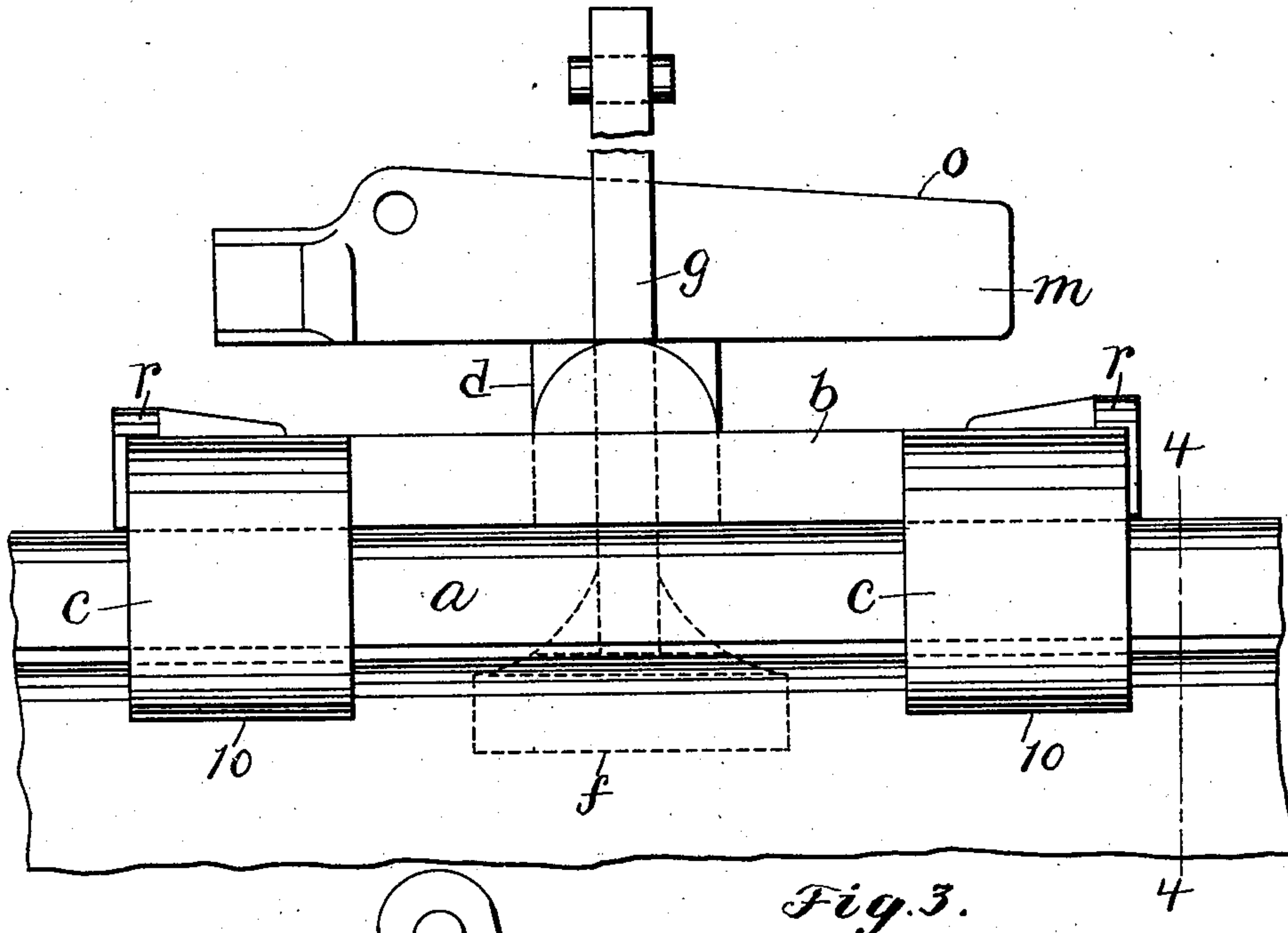
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

RICHARD G. SIEGEL, OF SOMERVILLE, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO WILLIAM R. BUTTERFIELD, OF SOMERVILLE, MASSACHUSETTS.

CLAMPING DEVICE.

SPECIFICATION forming part of Letters Patent No. 756,067, dated March 29, 1904.

Application filed May 22, 1903. Serial No. 158,338. (No model.)

To all whom it may concern:

Be it known that I, RICHARD G. SIEGEL, a citizen of the United States, residing in Somerville, in the county of Middlesex and State of Massachusetts, have invented an Improvement in Clamping Devices, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

10 This invention relates to a novel clamping device or mechanism especially adapted, among other uses, to be employed in connection with the rails of an electric railway as a support for a hand or power operated tool, such as a drill, with which the webs of the rails are perforated for the attachment of rail-

bonds and other devices.

The invention has for its object to provide a clamping mechanism which can be readily applied to the rail and which can be so firmly engaged therewith as to insure the tool, especially when driven by power, being properly presented to the rail. These and other features of this invention will be pointed out in the claims at the end of this specification.

Figure 1 is a perspective of a sufficient portion of a power-operated drill secured in operative position with relation to a rail by a clamping mechanism embodying this invention to enable it to be understood; Fig. 2, a plan view, on an enlarged scale, of the clamping mechanism shown in Fig. 1; Fig. 3, a side elevation of the clamping mechanism looking toward the left in Fig. 2; and Fig. 4, a section on the line 4-4, Fig. 3, looking toward the left.

The clamping mechanism herein shown as embodying this invention comprises, essentially, two gripping members adapted to engage the web *a* of the rail on opposite sides thereof and a locking device by which the gripping members may be secured in their operative position. The gripping members, which may be distinguished by reference to them as the stationary and movable members,

may and preferably will be made as herein shown and as will now be described.

Referring to Figs. 2, 3, and 4, the stationary member consists of a bar *b*, adapted to rest upon the top or tread of the rail and provided near its opposite ends with jaws *c*, having fingers 10 extended substantially parallel to the bar *b*, so as to extend under the tread of the rail and engage the web *a* on one side thereof. The bar *b* is further provided with a lug or ear *d*, extended from substantially the center of the same on the opposite side from the jaws *c*, and the said lug has secured to or forming part of it a spindle or rod *e*. The movable gripping member consists, as herein shown, of a jaw or finger *f*, (see Fig. 4,) which projects at an angle from a wedge-shaped shank or bar *g*, provided in the present instance with a substantially straight front face *h* and with an inclined rear face *i*. The wedge-shaped shank or bar *g* extends upward through a slot *j* in the lug *d*, which slot is provided with an inclined rear face *k*, with which coöperates the inclined rear face *i* of the shank, so that when the shank *g* is moved upward the inclined rear face *k* of the slot coöperating with the inclined rear face *i* of the shank will move the jaw *f* forward and cause the said jaw to engage the web of the rail on the side opposite to that engaged by the fingers 10 of the jaws *c* and intermediate of said fingers. The movable member may and preferably will be moved upward by a wedge-shaped locking device or key *m*, which is extended through a vertical slot *n* in the shank of the movable member and which is provided with an inclined upper surface *o*, which engages the inclined upper wall of the slot *n*, the lower surface of the key being made straight, as herein shown, and adapted to engage the upper surface of the lug or ear *d*. It will thus be seen that the clamping mechanism herein shown is provided with a double wedge by means of which the said mechanism may be very securely and firmly fastened to or en-

gaged with the rail without liability of the clamping mechanism becoming loose on the rail or moved out of its proper position during the manipulation of the drill or other tool, either by power or by hand. In the present instance the clamping mechanism is represented as supporting a power-operated drilling mechanism (see Fig. 1) comprising, essentially, a drill *p*, a pneumatic engine *q*, and intermediate mechanism for connecting said drill with said engine, which mechanism may be of any suitable or usual construction, such as now commonly employed, and which as it constitutes no part of the present invention need not be specifically described, except that the mechanism intermediate the drill and engine is supported upon the rod *e*, secured to or forming part of the stationary member of the clamping mechanism. The stationary member may be provided at its opposite ends with enlargements or heads *r*, which afford convenient surfaces to strike against with a hammer when it is desired to move or adjust the clamping mechanism longitudinally along the rail without removing the said clamping mechanism therefrom.

By reference to Fig. 4 it will be observed that the jaws on the clamping members engage the web of the rail on opposite sides thereof and below the tread of the rail, and, further, that the jaws of the stationary member engage not only the web of the rail, but also the tread of the same at two points separated at a distance from each other, so that when the movable member is forced or wedged into engagement with the web of the rail at a point intermediate the jaws on the stationary member, but on the opposite side of the rail, the supporting spindle or rod *e* for the tool is firmly secured in its proper position substantially at right angles to the rail, thereby insuring the hole made in the web of the rail being true and at right angles to the said web, which is very desirable.

I have herein described one form of clamping mechanism embodying this invention; but I do not desire to limit my invention to the particular construction shown, for while I have shown the clamping mechanism of a construction which adapts it especially for the rails of railways I do not desire to limit my invention in this respect, as the said clamping mechanism may be used to advantage with I-beams, angle-bars, &c., in which case the jaws of the clamping members may be shaped to adapt them to this latter work.

I claim—

1. A clamping mechanism of the class described, consisting of a stationary member comprising a bar provided with a slot and having jaws provided with fingers extended substantially parallel to said bar, a movable mem-

ber comprising a jaw and a shank provided with a slot and extended through the slot in the stationary member, said latter slot having an inclined wall and said shank having an inclined face coöperating with the inclined wall of said slot, and a wedge-shaped key extended through the slot in the shank of said movable member, substantially as described.

2. A clamping mechanism of the class described, consisting of a stationary member adapted to engage the tread of a rail and provided with a jaw constructed to engage the web of said rail, of a movable member comprising a jaw constructed to engage the web of the rail on the opposite side and a shank extended substantially at right angles with said jaw and engaging the stationary member, and a wedge coacting with the stationary and movable members on the side of the rail opposite to that with which the jaw of said stationary member is engaged to move said movable member and place its jaw in fixed engagement with said rail, substantially as described.

3. A clamping mechanism of the class described, consisting of a stationary member provided with a jaw constructed to engage the web of a rail, and having a slot provided with an inclined wall, of a movable member comprising a jaw constructed to engage the web of the rail on the opposite side and having a shank extended through the slot in the stationary member and provided with a slot and with an inclined face adapted to engage the inclined wall of the slot in said stationary member, and a wedge extended through the slot in the shank of said movable member and engaging said stationary member, substantially as described.

4. A clamping mechanism of the class described, comprising a stationary member consisting of a bar *b* having extended from one side of it the jaws *c* provided with fingers extended substantially parallel to the said bar, and a lug or ear extended from the opposite side of said bar and provided with a slot having an inclined rear wall, a movable member comprising a bent finger and a shank or bar extended through the slot in the lug or ear of said stationary member and having an inclined face, and means for moving the shank on the movable member through the slot on the bar to move the jaw on said movable member toward the jaws on the stationary member, substantially as described.

5. A clamping mechanism of the class described, comprising a stationary member consisting of a bar *b* having extended from one side of it the jaws *c* provided with fingers extended substantially parallel to the said bar, and a lug or ear extended from the opposite side of said bar and provided with a slot having an inclined rear wall, a movable member

comprising a bent finger and a shank or bar
extended through the slot in the lug or ear of
said stationary member and provided with an
inclined rear face cooperating with the inclined
5 wall of said slot, said shank having in it a slot,
and a wedge-shaped key extended through
the slot in said shank, substantially as and for
the purpose specified.

In testimony whereof I have signed my name
to this specification in the presence of two sub- 10
scribing witnesses.

RICHARD G. SIEGEL.

Witnesses:

JAS H. CHURCHILL,
J. MURPHY.