

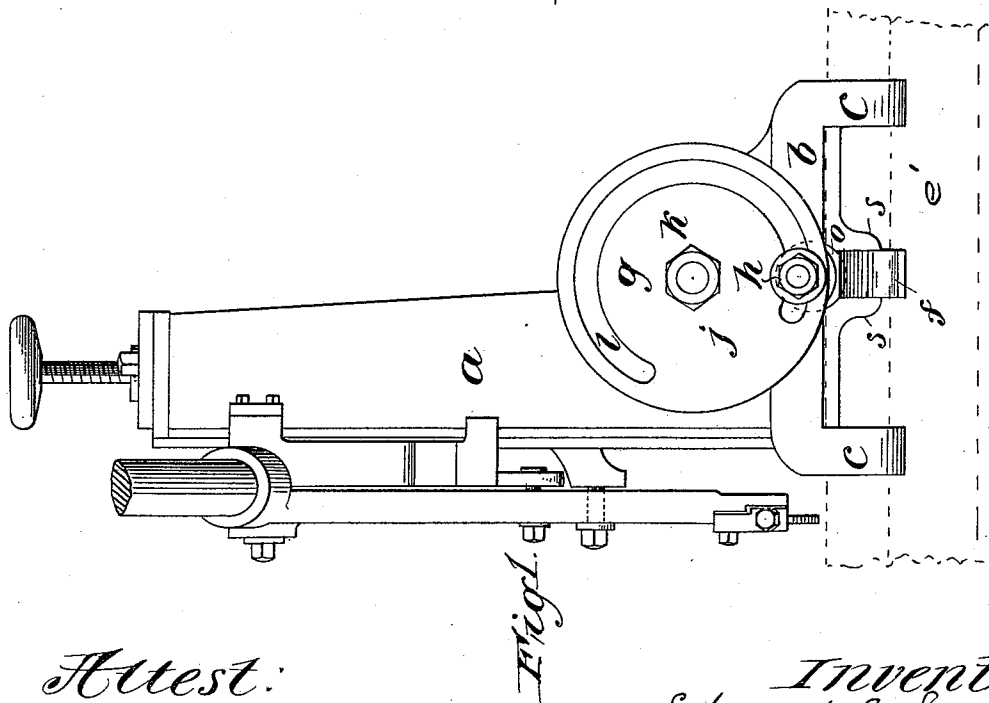
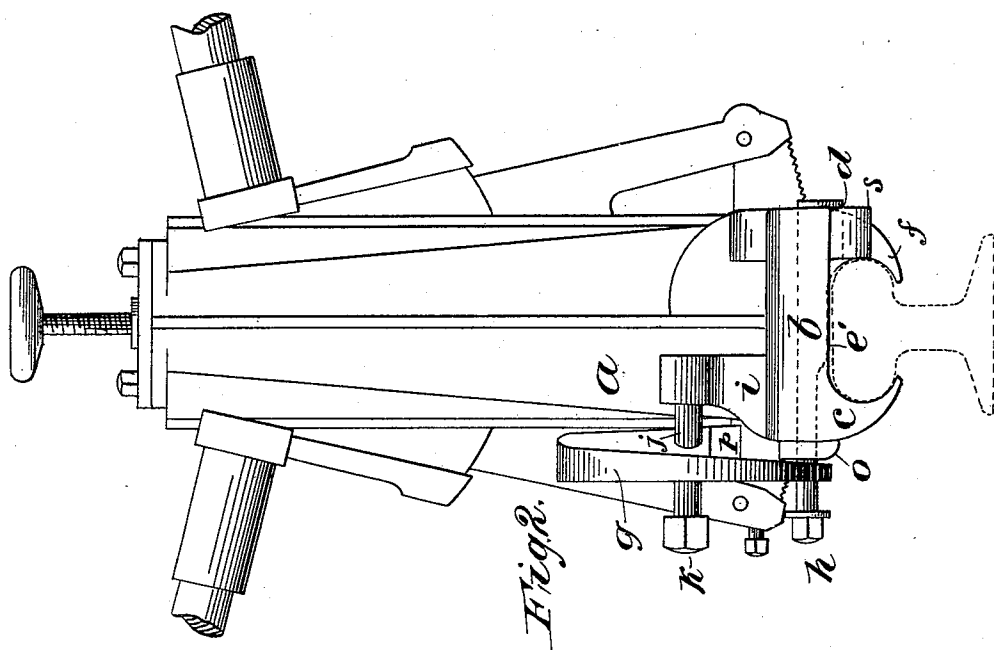
(No Model.)

2 Sheets—Sheet 1.

E. C. SMITH & J. BRADY.
RAIL SAWING MACHINE.

No. 481,874.

Patented Aug. 30, 1892.



Attest:
C. Wellington Benjamin
John Keim Jr.

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Edward C. Smith
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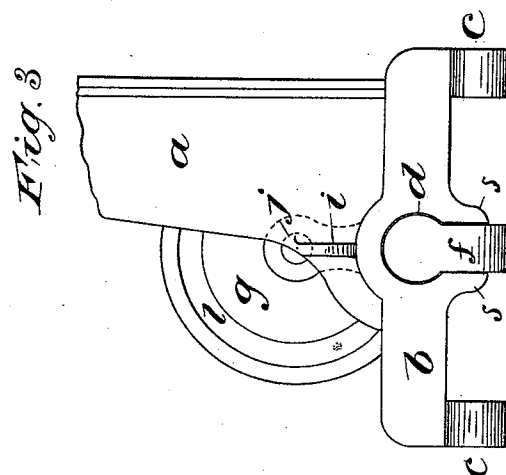
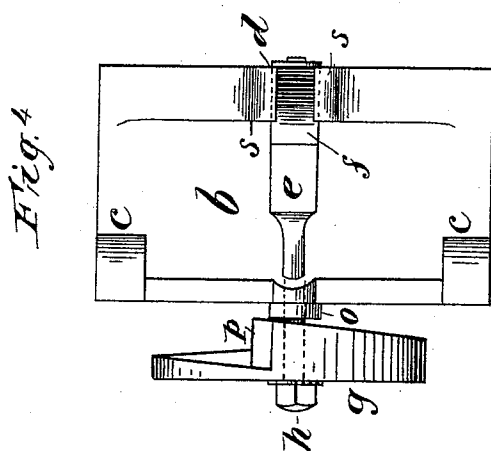
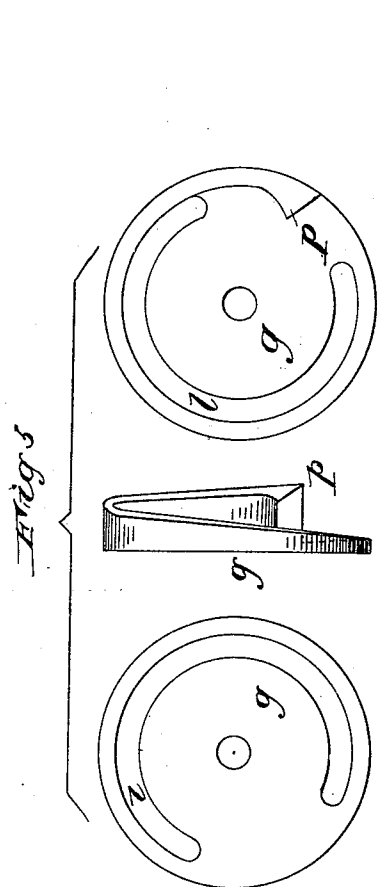
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UNITED STATES PATENT OFFICE.

EDWARD C. SMITH, OF NEW YORK, AND JAMES BRADY, OF BROOKLYN, NEW YORK, ASSIGNORS TO THE SMITH PORTABLE RAIL SAW COMPANY, OF NEW JERSEY.

RAIL-SAWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 481,874, dated August 30, 1892.

Application filed May 28, 1890. Serial No. 353,500. (No model.)

To all whom it may concern:

Be it known that we, EDWARD C. SMITH, residing at New York, county of New York, and JAMES BRADY, residing at Brooklyn, Kings county, State of New York, citizens of the United States, have invented certain new and useful Improvements in Rail-Sawing Machines, of which the following is a specification.

Our invention relates to machines for sawing or cutting off railroad-rails; and the object of the present invention is to provide a clamping device whereby the machine may be easily and quickly clamped fast to the rail to be cut, be held firmly and immovably to the rail during the cutting operation, and be readily released from the rail when the cutting has been effected.

In the accompanying drawings, which fully illustrate the novel features of our invention, Figure 1 is a side elevation of a rail-sawing machine provided with our improved clamping mechanism. Fig. 2 is a similar view taken from the rear of the machine, showing the clamp-jaws applied to the rail. Fig. 3 is a side view of the lower part only of the machine, taken from the side opposite to that seen in Fig. 1. Fig. 4 is a view of the under side of the machine. Fig. 5 shows an edge view and two side views of the rotatable wedge used in connecting with the removable jaw of the clamp.

a represents the rail-sawing machine, which it will not be necessary to describe in detail, as our improvement is confined to the clamping or gripping mechanism with which said machine is provided. The rail-sawing machine is portable and is fitted over or on the rail *e'*, which latter is indicated in dotted lines in Figs. 1 and 2. The base *b* of the machine is provided with a pair of pendent inwardly-turned or hooked jaws *c c* at one of its sides, adapted to take under and about the flanged rail-head, as clearly shown. Between the jaws *c* is a transverse keeper groove or way *d*, formed in the base *b*, and in this groove is fitted to slide a bar or shank *e*, provided at one end with a pendent jaw *f*, having substantially the same form as the jaws *c* and adapted to embrace the flanged rail-head on

the side opposite to the jaws *c*. The jaw *f* is embraced by pendent cheek-pieces *s*, between which it plays, and its operating-shank *e* has a reduced portion, which passes through a flange on the bed *b*, the aperture in the flange having a boss *o* about it on the outside of the bed opposite to that where the jaw *f* is situated.

From the side of the machine-bed, above the boss *o*, a stud *j* projects, and on this stud is loosely mounted a rotatable wedge *g* in the nature of a disk, with a snail-cam *p* formed on its inner face adjacent to the bed. The form of the wedge *g* is clearly illustrated in Fig. 5. This wedge is of such proportions or diameter that the concentric cam *p* bears against the boss *o*, and the reduced extremity of the bar *e*, which projects out through the boss *o*, passes through a slot *b* in the wedge, which is parallel with the cam *p*, and consequently concentrically arranged. The wedge *g* is free to slide along as well as rotate about the stud *j* and is kept in place on the stud by a head or nut *h* on the latter. On the screw-threaded end of the bar *e*, exterior to the wedge *g*, is a clamping-nut *h*, adapted to be brought to bear against the outer face of the wedge.

The operation of the clamp is as follows: When the machine is placed on the rail and the jaws *c* engaged, the movable jaw *f* must be drawn out far enough to permit its in-turned portion to pass the rail-head, and this has the effect to bring the nut *h* on the bar *e* in near to the outer face of the wedge *g*, which will then have its thinnest portion adjacent to the boss *o*, as seen in Fig. 2. Rotation of the wedge forces its cam *p* in between the boss *o* and the shoulder formed by the nut *h*, which has the effect, as will be readily understood, of drawing the jaw *f* up snugly to the rail. When this has been effected, the nut *h* is tightened, and this serves to clamp the wedge fast. The tightening of the nut serves, also, to some extent as a means of forcing the jaw *f* up the more firmly against the rail. By loosening the nut *h* and rotating the wedge back again the jaw *f* may be moved out far enough to clear the flange on the rail-head and permit the machine to be lifted off.

Fig. 2 shows the position of the parts when the machine has been set on the rail and the jaw *f* pushed up to the rail, but before the wedge *g* has been brought into play. Of course it is not essential that the jaw *f* shall be pushed primarily up against the rail, as represented in Fig. 2. If not pushed up, the wedge will draw it up, as before described.

We do not confine ourselves to the construction of the wedge *g* as herein shown, as in some cases a block having inclined or beveled faces may be similarly mounted on a shaft and be made to rotate in the same way as the wedge here employed.

Having thus described our invention, we claim—

1. A mechanism for clamping a rail-sawing machine to the flanged head of the rail to be cut, comprising fixed jaws of hooked form on the machine-base, a movable hooked jaw mounted in guides on the said base and provided with an operating-stem, a movable wedge arranged between a shoulder on said shank and the machine-base, and means, substantially as described, for guiding said wedge in its movements, substantially as set forth.

2. As a means for clamping a rail-sawing machine to the rail to be cut, the combination, with fixed jaws on the machine-base, having a hooked form to take under the flanged rail-head, and a movable jaw also of a hooked form and provided with an operating-shank

and a clamping-nut, of a movable slotted wedge arranged between the nut on the jaw-shank and the bed of the machine, substantially as set forth.

3. In a rail-sawing machine, the combination, with the base of the machine provided with the pendent fixed jaws of the clamp, of the movable jaw of the clamp, mounted in guides in the base and provided with an operating-shank, a nut on the projecting end of said shank, and a movable wedge provided with a cam and a slot parallel therewith, said wedge being arranged within the base of the machine and the nut on said shank, which latter projects through the slot in the wedge, substantially as set forth.

4. As a means for clamping a rail-sawing machine to the rail, the combination, with fixed jaws on the machine, of a movable jaw having an operating-shank, a rotatable wedge having a snail-cam and a concentric slot through which the extremity of said shank projects, said wedge being loosely mounted on a stud projecting from the machine, and a clamping-nut on the end of said shank adapted to be set up to said wedge, substantially as set forth.

EDWARD C. SMITH.
JAMES BRADY.

Witnesses:

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F. S. HYATT.