(No Model.)

3 Sheets—Sheet 1

W. CLARK.

ROLLING MILL RAIL CARRIER.

No. 258,377. Patented May 23, 1882.

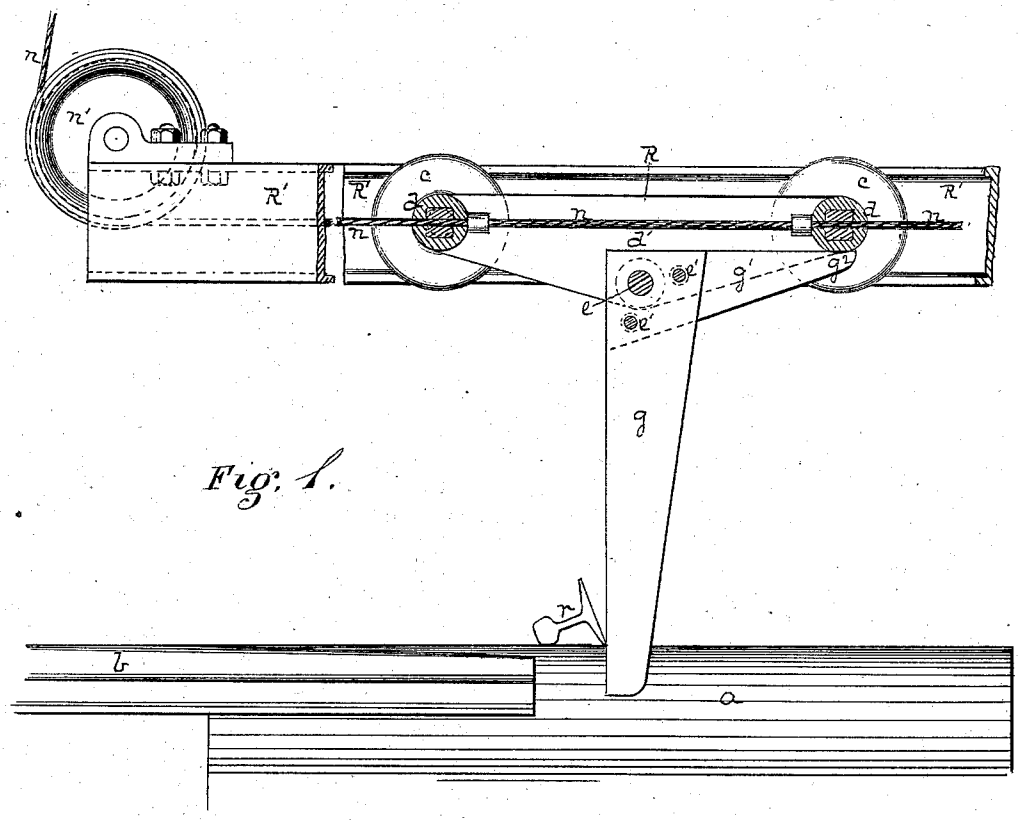


Fig. 1.

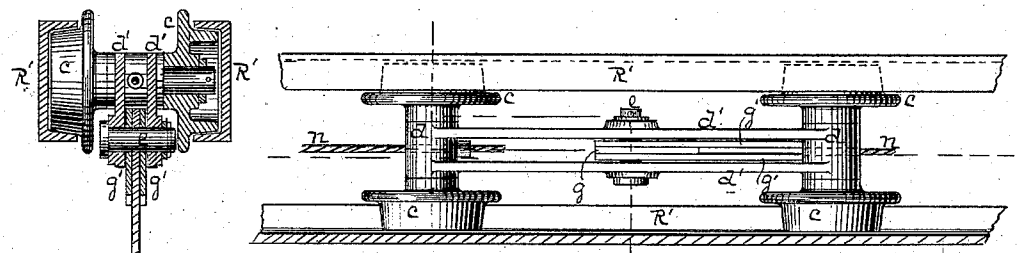


Fig. 2.

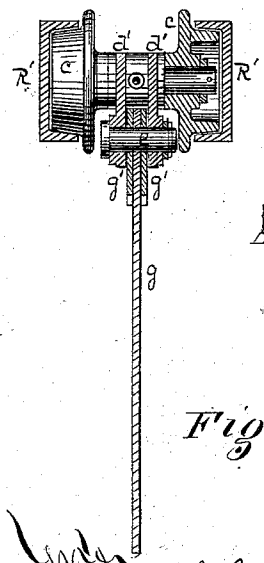


Fig. 3.

Witnesses
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(No Model.) 3 Sheets—Sheet 2.

W. CLARK.

ROLLING MILL RAIL CARRIER.

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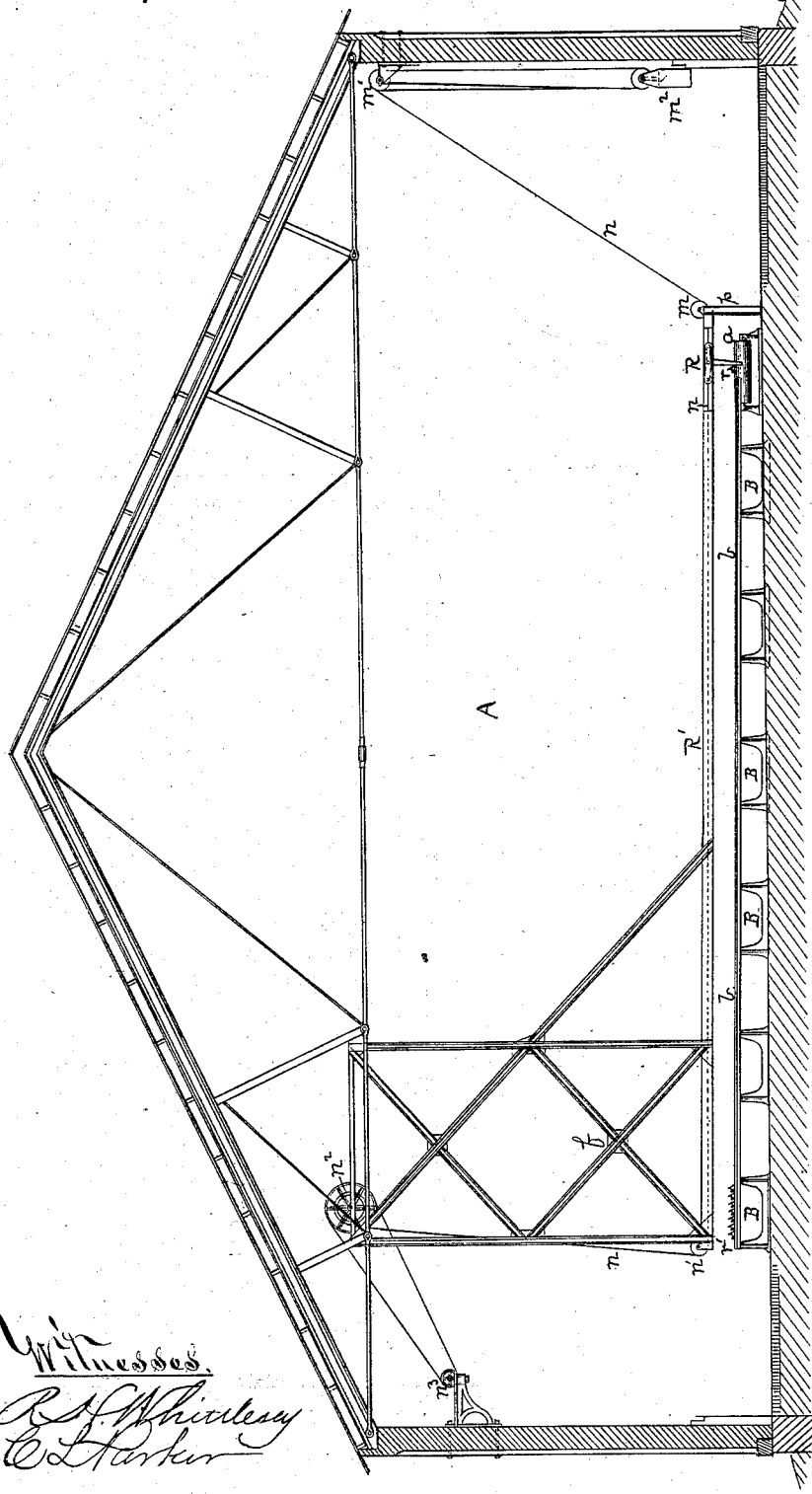


Fig. 1.

Witnesses.
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(No Model.) 3 Sheets—Sheet 3.

W. CLARK.

ROLLING MILL RAIL CARRIER.

No. 258,377. Patented May 23, 1882.

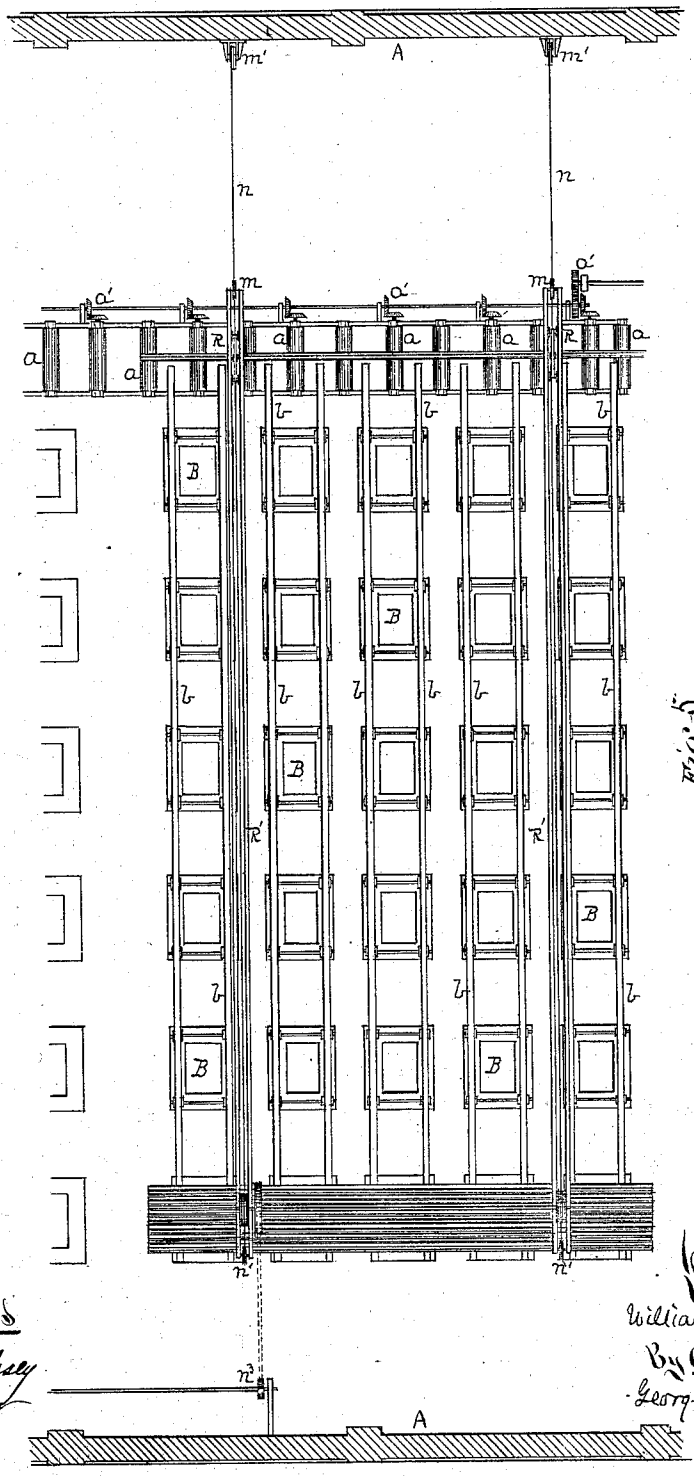


Fig. 5.

Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM CLARK, OF PITTSBURG, PENNSYLVANIA.

ROLLING-MILL RAIL-CARRIER.

SPECIFICATION forming part of Letters Patent No. 258,377, dated May 23, 1882.

Application filed October 26, 1881. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM CLARK, of Pittsburg, county of Allegheny, State of Pennsylvania, have invented or discovered a new and useful Improvement in Rolling-Mill Rail-Carriers; and I do hereby declare the following to be a full, clear, concise, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—like letters indicating like parts—

Figures 1, 2, and 3, Sheet 1, show detail views to an enlarged scale of portions of the apparatus employed in moving rails, as illustrated in Fig. 4, Sheet 2, which represents a cross-section of a building furnished with my improved appliances, and also in Fig. 5, Sheet 3, which shows a plan view of the same.

My invention relates to an improved apparatus for transferring railway-rails after being rolled and cambered to a cooling bed or frame, preliminary to cold-straightening. Such rails leave the rolls at a comparatively high temperature, and where they are made in large quantities considerable space must be provided, in which they may be allowed to cool sufficiently to be handled for cold-straightening.

Any suitable cooling bed or frame may be employed; but it should be open to as great an extent as possible, in order that cooling may be facilitated by a free circulation of air. Such a bed constructed in a cooling shed or room, A, adjacent to the rolling-mill, may be formed of hollow cast-iron pillars B, Figs. 4 and 5, and on these rack or supporting bars *b* may be laid. Preferably two or more such frames should be provided, so that they may be used alternately or in succession.

The rails, having been rolled, cut to length, and having received the proper camber, are delivered onto a table composed of rollers *a*. In fact, such rollers may constitute the delivery apparatus, and in such case they may be operated by any suitable gearing and shafting, as illustrated at *a'*, Fig. 5. The rail-supports *b* are even, or nearly so, with the tops of these rollers, Figs. 1 and 4, so that the rails *r* as delivered may readily be slid onto the supports *b* and slid across the bed, so as to be laid in compact and regular order, as illustrated at *r'*, Figs. 4 and 5. In order to move the rails *r* thus along or across the cooling-frame, I employ a truck or carriage, (shown at R, Figs. 4 and 5, and the details of which are shown in Figs. 1, 2, and 3,) and such truck or carriage is arranged to run on or in an elevated or raised track, which in this case is formed of two track-rails, R' R', which extend from end to end of the bed, Figs. 4 and 5, and are suitably supported at their ends, and, if need be, between their ends, by posts *p* and a hanger-frame, *f*, and at the proper height above the cooling-frame. This supporting-track may be of any suitable construction, as devices adapted to such work are well known in the art; but preferably I use the two track-rails R' R', each of which is of U-shaped iron or steel, Figs. 1 to 3, with the open sides of the U facing each other, and in these channels the wheels *c* of the truck or carriage play back and forth. Between the wheels and on the axles thereof is a truck-frame composed of end bearings, *d*, and one or more connecting-webs, *d'*, arranged at such distance apart (if two be used) as to have pivoted between them, by a pivot-pin, *e*, a bent lever, *g g'*, which consists of a depending leg, *g*, and one or more stop-arms, *g'*, such parts being secured together by rivets *e'*.

The device thus made may properly be termed a "pusher," since it is intended for use in pushing the rails *r* across from the roller-table *a* onto and across the bed; and for this purpose it, with the truck or carriage of which it forms a part, has a reciprocating motion forward and back along the cooling-frame, so as to push one or more rails across into position and then return for another. This pusher is by preference so hung by its pivot-pin *e* that when the depending leg *g* bears against a rail, *r*, for the purpose of sliding it along from right to left, as illustrated in Figs. 1, 4, and 5, it will be held rigidly in place by the ends g^2 of the arms *g'* engaging the under side of what is then the rear axle, though other equivalent stop may be employed; but there is nothing to prevent the pusher from swinging in the other direction, so that after one rail has been slid across to its proper place on the bed the pusher may in coming back swing over the next rail, which by that time may have been delivered onto the roller-table *a*.

One such apparatus should be arranged at

or near each edge of the bed, as illustrated in Fig. 5, and the two trucks should be arranged to operate simultaneously on any rail or rails, as it is obvious that one, two, or more rails may be so moved onto the bed at once.

As a means of moving the trucks any suitable device attached overhead or suspended from above may be employed, that shown in the drawings being on some accounts preferable. For this purpose I connect a rope, *n*, with the truck and carry one end of the rope forward between the side plates, R′, over a pulley, *n′*, then up to a drum, n^2, Fig. 4, which may be driven by belt or otherwise from a power-shaft, n^3. The other end, passing under a pulley, *m*, and over a pulley, *m′*, may have connected with it a counter-weight, m^2, so as to effect a return motion.

In order to enable the truck or carriage to come back after having slid a rail or rails across, the power may be reversed, or, what is better, the winding-drum n^2 may be made to run free on its shaft, except when thrown into gear by a clutch or frictional contact. Such device will enable it to do its work in drawing the trucks and rails across, and the clutch being released, the counter-weight will cause its return motion.

If the apparatus is so organized that the return motion will be effected before another rail is delivered, the depending leg *g* may be made rigid instead of swinging.

It is an important feature of the apparatus that the operative mechanism is arranged above the cooling-frame, instead of below, since thus, in addition to the other advantages, I avoid the liability of having the operation interfered with by dirt, dust, or scale dropping down.

I claim herein as my invention—

1. As an improvement in mechanism for removing rails from the rolling-mill, the arrangement of the moving mechanism above and distinct from the cooling-bed, in the manner substantially as described.

2. The truck R, composed of wheels *e*, frame *d*, pivoted swinging pusher-leg *g*, and a stop to limit the swinging of the pusher in one direction and support it against the force brought to bear to move the rail, substantially as set forth.

3. In combination with a cooling bed or frame and raised or elevated channeled guide-rails R′, a truck, R, carrying a pusher-leg, *g*, and connected to a power drawing mechanism at one end and to a counter-weight at the other, substantially as set forth.

In testimony whereof I have hereunto set my hand.

WILLIAM CLARK.

Witnesses:
R. H. WHITTLESEY,
GEORGE H. CHRISTY.