

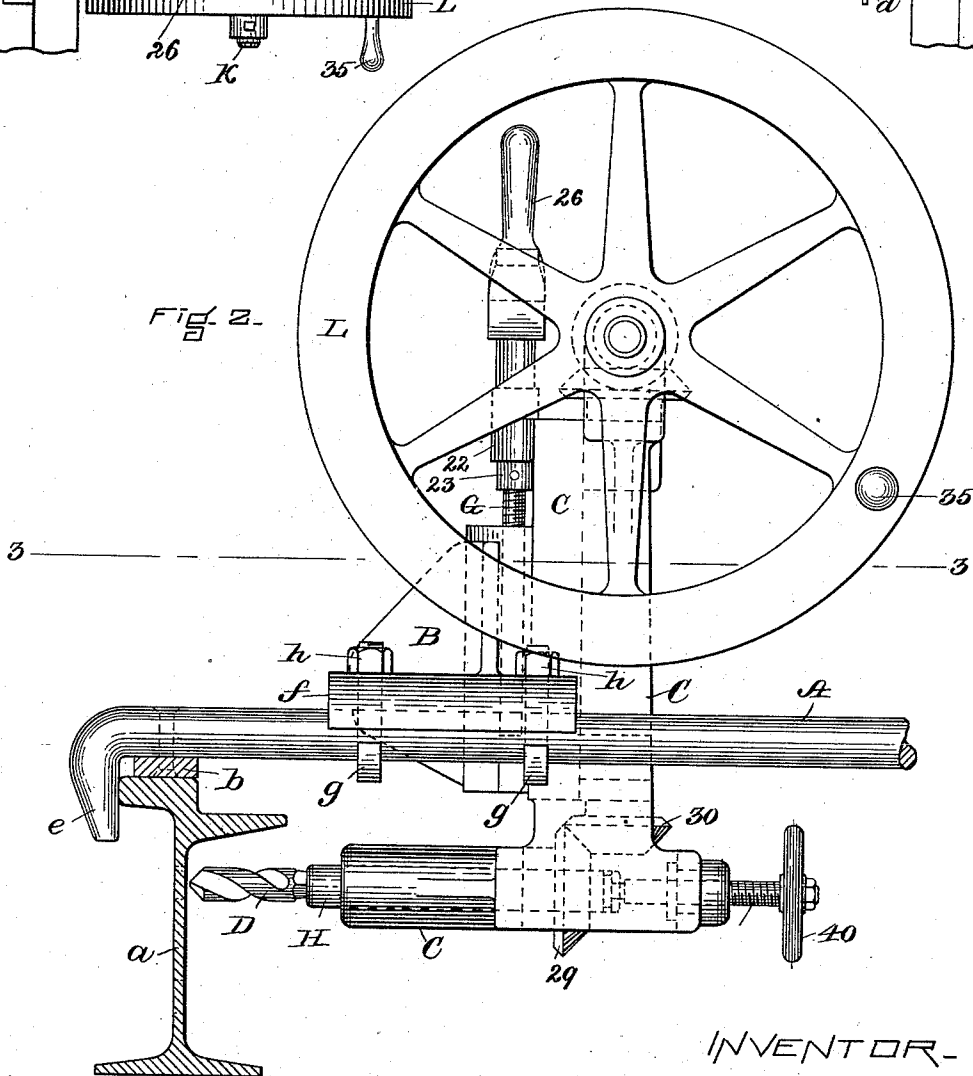
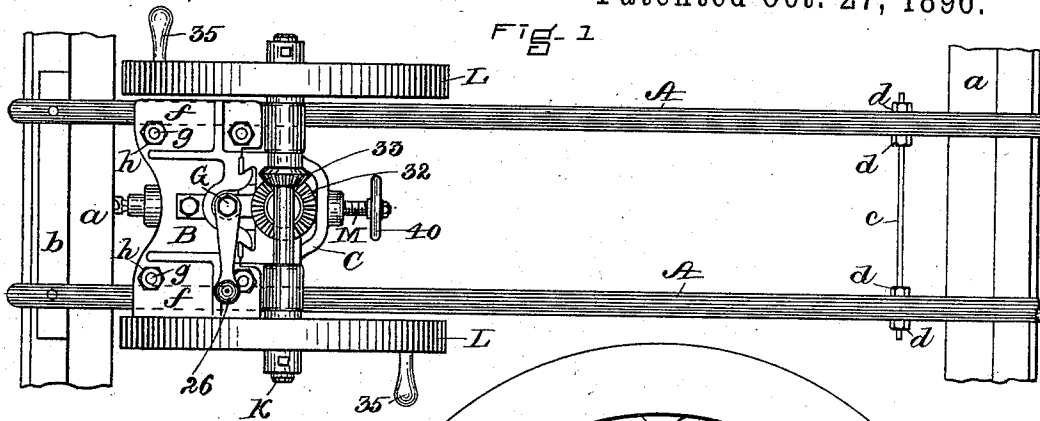
(No Model.)

3 Sheets—Sheet 1.

A. D. GORE.
MACHINE FOR DRILLING RAILWAY RAILS.

No. 570,427.

Patented Oct. 27, 1896.



WITNESSES.

A. D. Gore.

J. B. L. Warden.

INVENTOR.

Alfred D. Gore

by J. B. L. Warden

(No Model.)

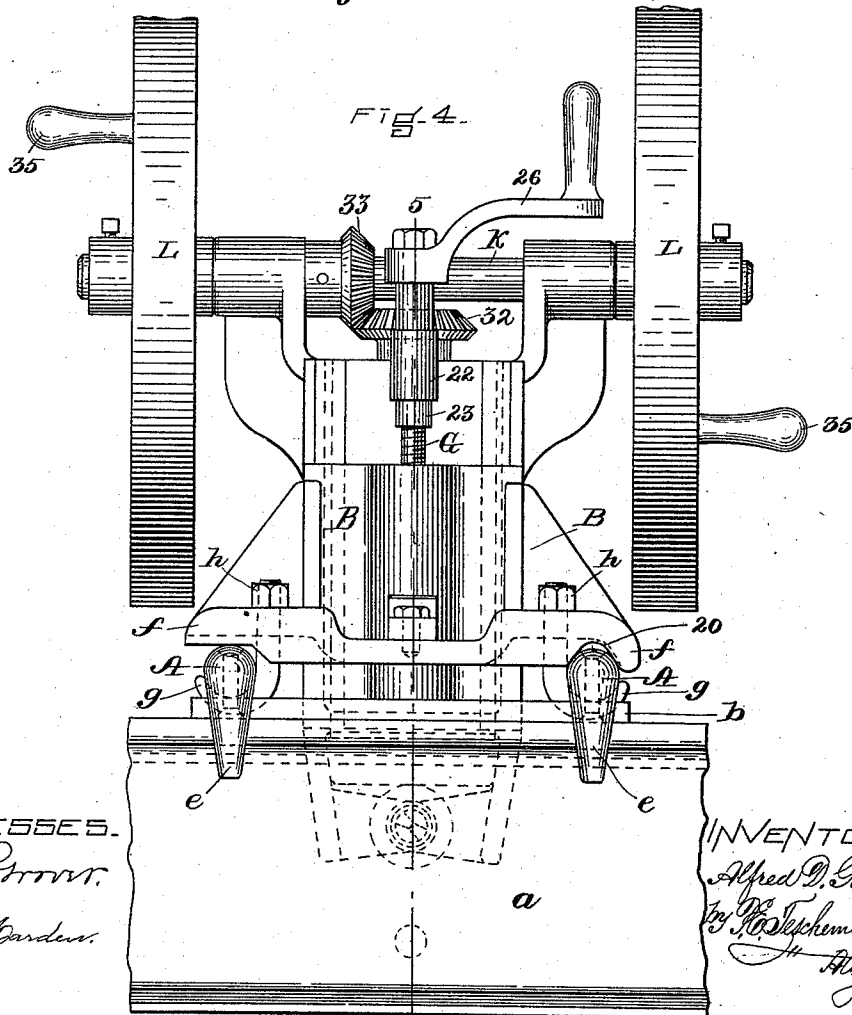
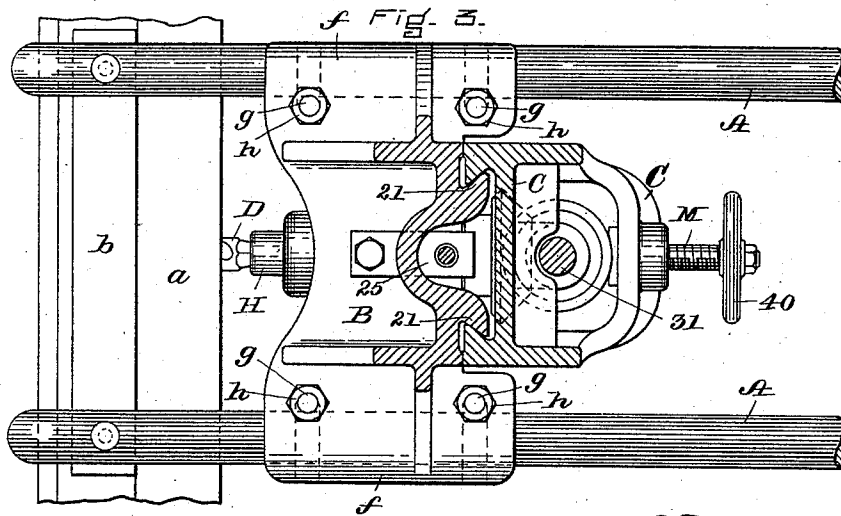
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A. D. Gore.

B. L. Gardner.

INVENTOR.

Alfred D. Gore
By R. S. Chapman
Att'y

(No Model.)

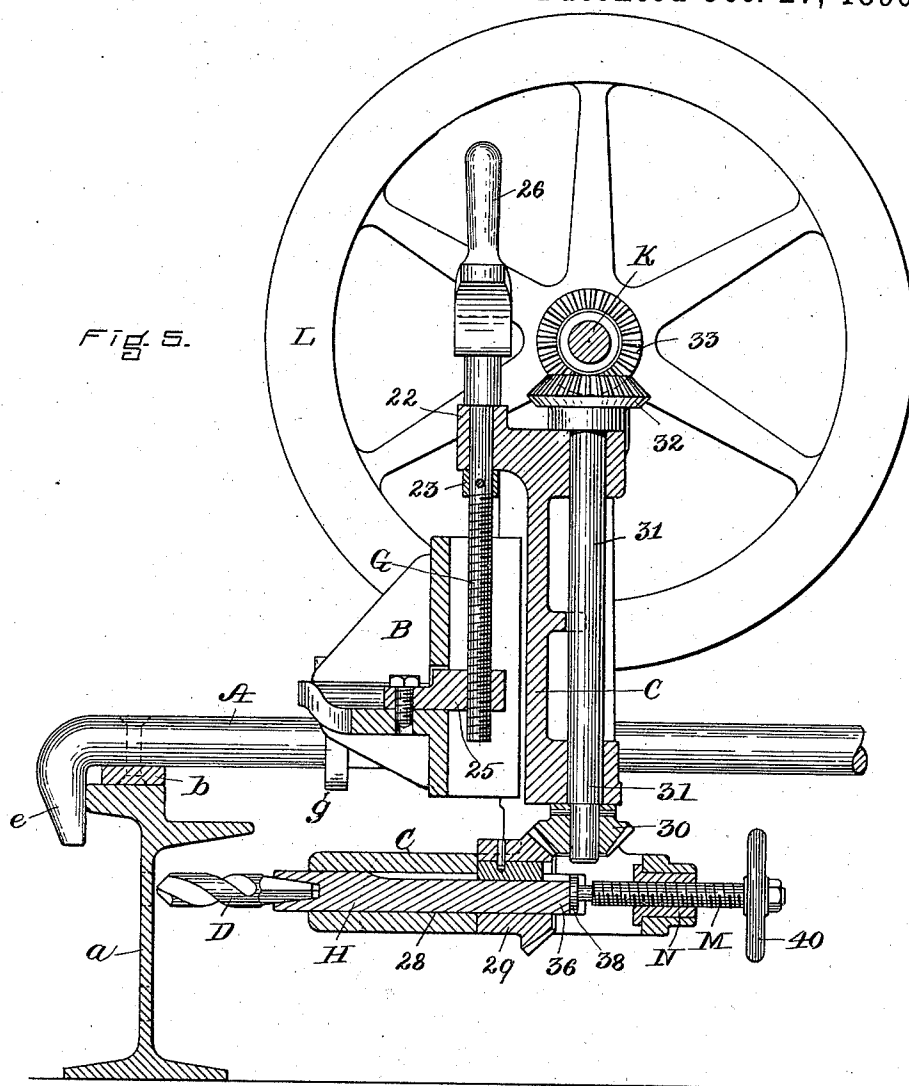
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A. D. Gore

B. L. Menden

INVENTOR-

Alfred D. Gore

By J. E. Stephmacher
Atty

UNITED STATES PATENT OFFICE.

ALFRED D. GORE, OF BOSTON, MASSACHUSETTS.

MACHINE FOR DRILLING RAILWAY-RAILS.

SPECIFICATION forming part of Letters Patent No. 570,427, dated October 27, 1896.

Application filed September 4, 1896. Serial No. 604,902. (No model.)

To all whom it may concern:

Be it known that I, ALFRED D. GORE, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Machines for Drilling Railway-Rails, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a plan of my improved drilling-machine and its supporting-bars, the latter resting on a railway-track. Fig. 2 is an enlarged side elevation of the machine. Fig. 3 is a horizontal section on the line 3 3 of Fig. 2. Fig. 4 is a rear elevation of the machine. Fig. 5 is a central vertical section on the line 5 5 of Fig. 4.

My invention has for its object to provide a simple, convenient, and easily-operated portable machine for drilling bolt-holes in railway-rails when laid in position upon their ties or supports; and to this end my invention consists in certain novel combinations of parts and details of construction, as hereinafter fully set forth, and specifically pointed out in the claims.

In the said drawings, A A represent a pair of parallel supporting-bars, which are adapted to be laid transversely across the two rails *a a* of a track, as shown in Fig. 1, said bars being connected together at one end by a flat transverse bar *b*, riveted thereto, and at the opposite end by a rod *c* and nuts *d*. Each bar A is provided at the end next to the bar *b* with a hook *e*, which fits down on the outside of the adjacent rail to hold the bar in place, the cross-bar *b* lying on top of the rail, as shown in Figs. 3 and 5.

B is a standard, which is provided at its base with two laterally-extending feet *f*, adapted to rest on the supporting-bars A A, to which they are clamped by hook-shaped bolts *g* and nuts *h*, one of the feet *f* being provided on its under side with a V-shaped groove 20, Fig. 4, fitting over the bar A beneath, whereby the standard is centered and held more firmly in place.

C is an upright frame, which slides vertically on dovetailed ways 21, Fig. 3, on the standard B and carries the horizontal drill D and its operative mechanism, said drill being

adapted to drill bolt-holes in the web of the rail. The drill-frame C is made adjustable vertically on the standard B, to enable the drill to bore holes at different heights, by means of a screw G, supported in a bearing 22 on the frame C, within which it is held by a collar 23, said screw engaging a nut 25, secured to the standard B, the screw being provided at its upper end with a crank-handle 26, by which it may be turned by the operator to raise or lower the drill-frame C, as desired. The shank of the drill D fits a socket made to receive it in the outer end of a shaft or spindle H, which is fitted to slide longitudinally in a long bearing 28 at the lower end of the frame C. This spindle slides through a bevel-gear 29, provided with a spline or key which fits a longitudinal groove in the spindle and permits it to pass through the gear 29 and be rotated thereby.

The gear 29 fits up against the bearing 28 and meshes with a bevel-gear 30 on a vertical shaft 31, having its bearings in the frame C and carrying at its upper end a bevel-gear 32, which in turn meshes with a bevel-gear 33 on the crank or driving shaft K, which is supported in suitable bearings at the top of the frame C, and is preferably provided at its opposite end with two balance-wheels L L, having crank-handles 35, whereby as the shaft K is rotated by means of said handles its motion is communicated to the drill D. The end 36 of the drill-spindle H is connected by means of a swivel-joint 38 with a feed-screw M, which turns within a nut N, secured to the frame C, outside of which it is provided with a hand-wheel 40, by turning which the drill is fed forward as it is rotated by the means described.

I prefer to employ the two balance-wheels L L, as they enable the machine to be turned over and trundled like a wheelbarrow by taking hold of the supporting-bars A A, thereby greatly facilitating the transportation of the machine from place to place; but these wheels may be replaced by ordinary crank-handles, if desired.

The clamping-bolts *g*, which hold the feet *f* to the bars A A, afford a convenient means whereby the machine can be set at different distances from the rail to correspond to the length of the drill-bit employed, it being

merely necessary to loosen these bolts, when the machine can be readily moved on the bars A A toward or away from the rail to be bored, according to the requirements of the case.

5 The above-described machine can be easily and rapidly operated, and is simple, durable, and free from liability to get out of order.

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

10 1. A machine for drilling railway-rails, consisting of a standard, means for adjustably supporting the same between the rails of the track, a drill-frame sliding vertically on the standard, a screw provided with a handle for
15 vertically adjusting the drill-frame, a horizontal drill-spindle carrying a drill and rotating in a bearing at the lower end of the drill-frame, a horizontal driving-shaft at the upper end of the drill-frame provided with
20 crank-handles, a vertical shaft connected by bevel-gears with the driving-shaft and drill-spindle, and a hand-operated feed-screw connected with the drill-spindle for producing the feed of the drill, all constructed to operate
25 substantially as described.

2. In a drilling-machine, the combination with a pair of parallel supporting-bars connected together and adapted to be laid transversely upon the two rails of a railway-track,
30 of a standard provided with feet adapted to be clamped to said bars, a drill-frame sliding vertically on the standard between said bars, a screw provided with a handle for vertically adjusting the drill-frame, a horizontal drill-
35 spindle, carrying a drill and rotating in a bearing at the lower end of the drill-frame, a horizontal driving-shaft at the upper end

of the drill-frame provided with crank-handles, a vertical shaft connected by bevel-gears with the driving-shaft and drill-spindle, 40 and a hand-operated feed-screw connected with the drill-spindle for producing the feed of the drill, all operating substantially as described.

3. In a drilling-machine, the combination 45 with a pair of parallel supporting-bars connected together and adapted to be laid transversely upon the two rails of a railway-track, of a standard provided with feet adapted to be clamped to said bars, a drill-frame sliding 50 vertically on the standard between said bars, a screw provided with a handle for vertically adjusting the drill-frame, a horizontal drill-spindle, carrying a drill and rotating in a bearing at the lower end of the drill-frame, 55 a horizontal driving-shaft at the upper end of the drill-frame provided at its opposite ends with balance-wheels L, L, having operative crank-handles, said wheels being so located as to permit the machine when turned 60 over to be trundled thereon by taking hold of the ends of the supporting-bars to which it is clamped, a vertical shaft connected by bevel-gears with the driving-shaft and drill-
65 spindle, and a hand-operated screw connected with the drill-spindle for producing the feed of the drill, all operating substantially as set forth.

Witness my hand this 2d day of September, A. D. 1896.

ALFRED D. GORE.

In presence of—

P. E. TESCHEMACHER,
B. L. MARDEN.