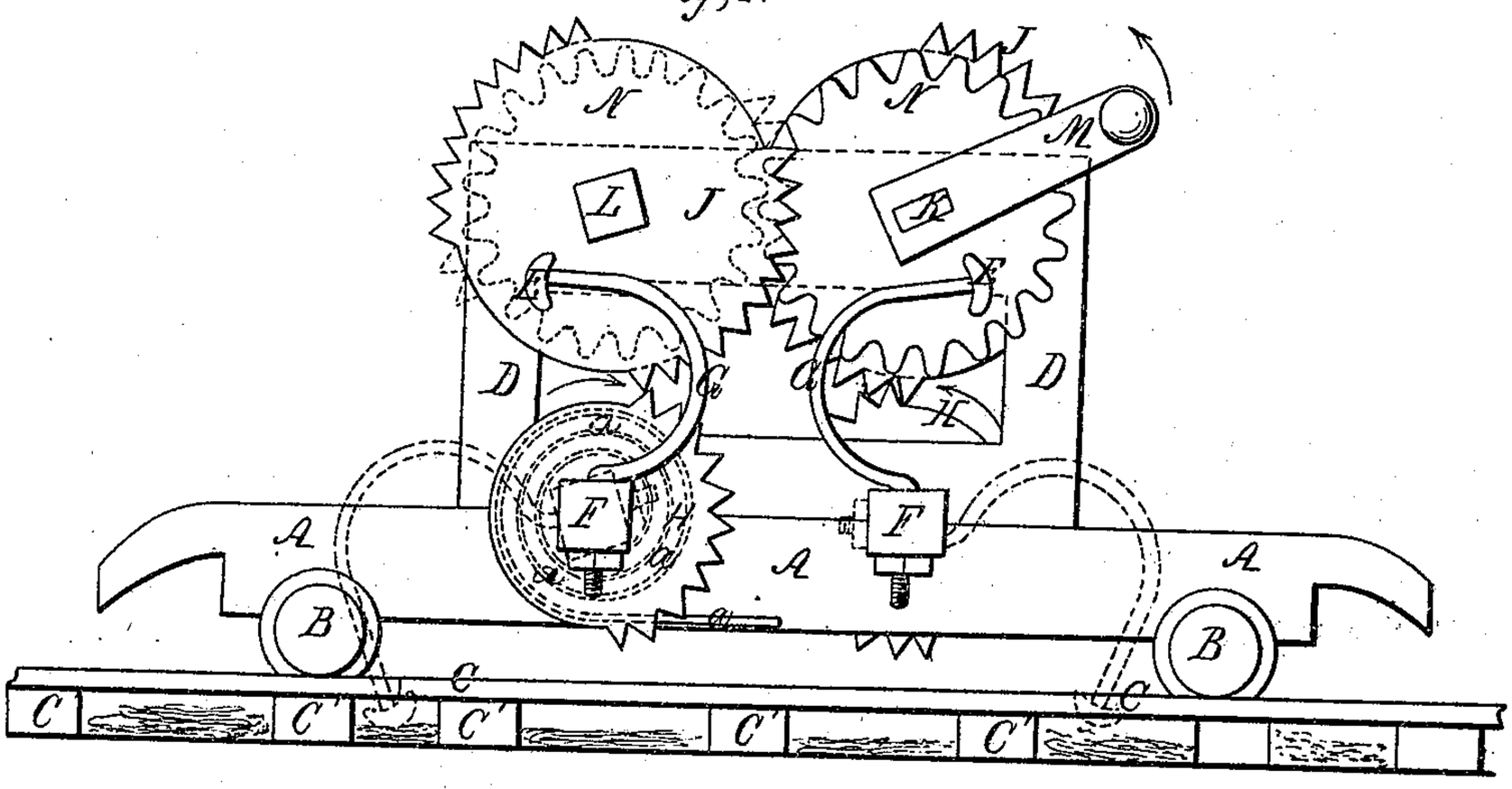
R. C. BAILEY.

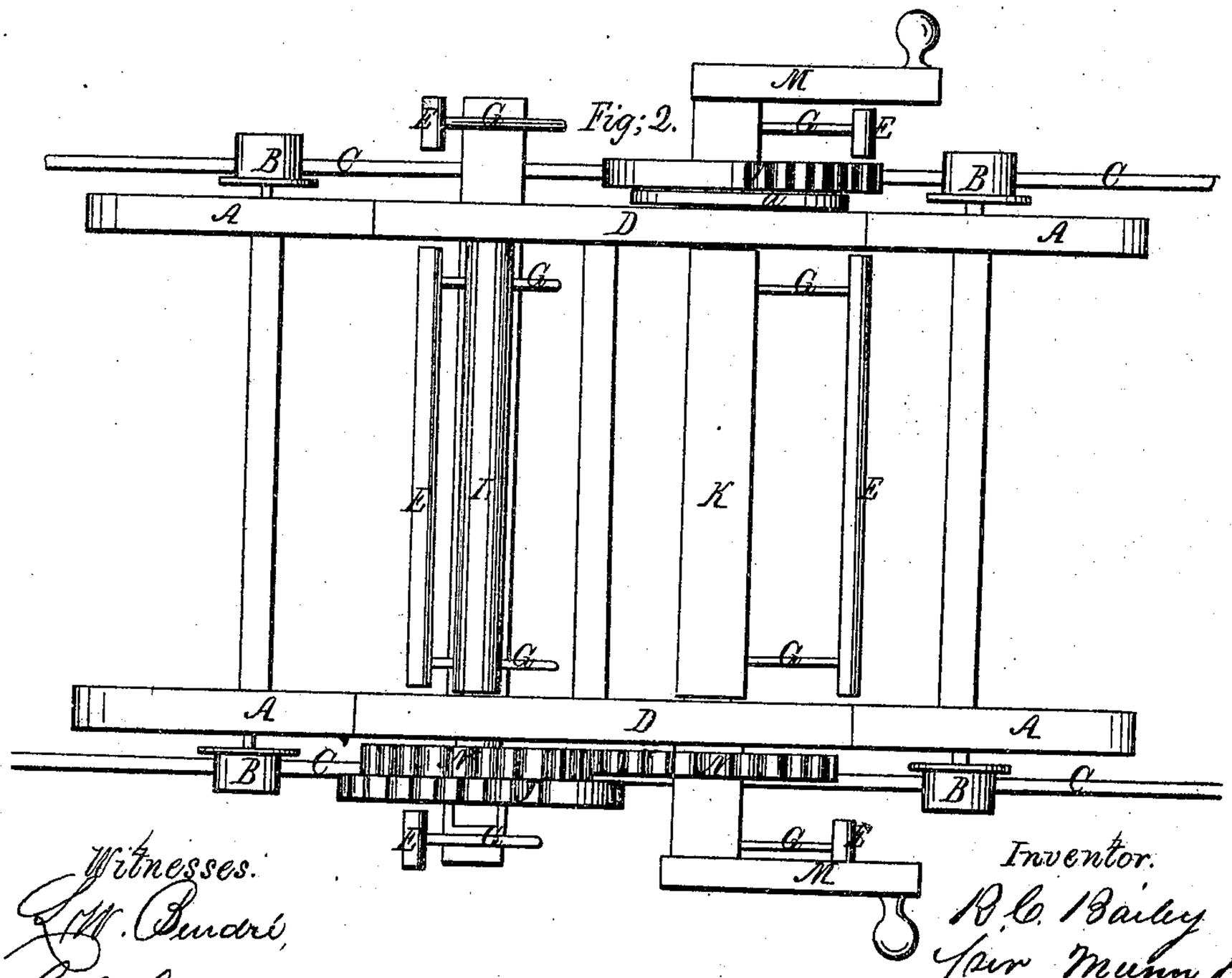
MACHINE FOR RAMMING EARTH ABOUT RAILROAD CROSS TIES.

No. 30,792. Patented Dec. 4, 1860.

Fig; 1.



Fig; 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

ROBERT C. BAILEY, OF GREENSBORO, NORTH CAROLINA.

MACHINE FOR RAMMING EARTH AROUND RAILROAD CROSS-TIES.

Specification of Letters Patent No. 30,792, dated December 4, 1860.

To all whom it may concern:

Be it known that I, R. C. BAILEY, of Greensboro, in the county of Guilford and State of North Carolina, have invented a new and Improved Machine for Ramming Earth About Railroad Cross-Ties; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side elevation of the improved machine representing the rammers in two positions, and the machine mounted on railroad rails. Fig. 2 is a top view of the same.

Similar letters of reference indicate corresponding parts in both figures.

The object of this invention is to combine with a machine which may be moved about on railroad rails, two reciprocating spring rams, which are operated by certain gearing hereinafter described for the purpose of ramming earth about the cross-ties of railroad rails in a more rapid and efficient manner than can be done by the means hitherto employed for this purpose.

To enable those skilled in the art to make and use my invention I will proceed to describe its construction and operation.

A is a truck frame which is mounted on flanged car wheels B, B, B, B, and constructed in a strong and substantial manner to support the rammers and the mechanism for operating them. The longitudinal side timbers of the frame A, extend out a short distance from each end thereof and form handles by means of which the entire machine may be lifted off the rails C, C, out of the way of an approaching train of cars.

D, D are two side frames which are suitably secured to the top of each longitudinal timber of the truck frame, and project up from this truck frame a suitable distance to contain and support the gearing for operating the rammers E, E, which are secured to the two horizontal oscillating shafts F, F. These shafts pass transversely across the truck frame, on which they have their respective bearings, and project out a short distance from each side of the frame, A. The rammers E, E, are straight semi-cylindrical bars of iron, in length equal to the length of the cross-ties C′, C′, on which the rails C, C, are laid, and to which they are spiked. These bars E, E, are secured to their shafts F, F, by the curved arms G, G, G, G, which arms, being all of an equal length the bars E, E, are kept parallel with their shafts. The rammers E, E, are placed both on the inside, and on the outside of the truck frame so that they will operate between the rails C, C, and also on the outside of these rails.

The shafts F, F, each carry on one of their ends a half spur wheel H, which wheels engage with teeth on the two wheels J, J, one of which wheels is on the main crank shaft K, and the other is on an independent shaft L, both of which shafts have their bearings above the shafts F, F, in the side frames D, D. The shaft L, is rotated by the spur wheels N, N, which are of an equal diameter, so that the two shafts have the same speed, but rotate in opposite directions.

The two large spur wheels J, J, have their teeth arranged on them in such a manner that at each rotation they will give two upward movements to the rammer shafts F, F; but if it is found desirable the wheels J, J, may be made like the wheels H, H, on the rammer-carrying-shafts F, F, and of the same diameter as these wheels, so that at each rotation of the main shaft K, the rammers will receive one upward movement. The hand cranks M, on each end of shaft K, are used to rotate this shaft.

From this description it will be seen that by rotating the main shaft in the direction indicated by the arrow in Fig. 1, of the drawings, the wheels J, J, will partially rotate the two shafts F, F, in opposite directions, and raise the rammers E, E, to the positions indicated in black lines, in Figs. 1, and 2, where the rammer shafts will be released from the wheels J, J, and allowed to return to the positions indicated in red lines, Fig. 1. Each rammer shaft F, is acted upon by a common (scrawl) spring *a*, which spring is coiled around its respective shaft F, and one end of the spring is secured to the shaft, and the other is secured to the frame A, so that when the shafts F, F, are partially rotated by the wheels J, J, and H H the springs *a*, *a*, will be wound up then when the shafts F, F, are released from wheels J, J, as above described, the recoil of the springs *a*, *a*, will bring the rammers E, E, down with a force commensurate with the strength of these springs (*a*, *a*,), and the spurs on wheels H, H, will now be brought in a position to be again acted upon

by the spur wheels J, J. The rammers thus receive a reciprocating motion, being raised by the spurred gearing J, J, to a proper height, and brought down by the springs *a*, *a*, after being released from the gearing J, J.

The operation of the machine is as follows: The entire truck frame represented by the letters A, D, is mounted on wheels, which wheels rest on the rail track C, C, and allow the frame to be moved about on the track like a common hand car. The rammers E, E, are adjusted in such a relation to the cross-ties C′, C′, that they will strike on opposite sides of one cross-tie, or every other cross-tie, according to the distance of the cross-ties apart. The machine being thus arranged over the cross-ties, earth is thrown around them, and the main shaft K, is rotated by manual power, this being the most convenient. The rammers receive from this main shaft K, through the medium of the spurred gearing hereinbefore described, and the springs *a*, *a*, an alternate reciprocating motion; and at each down stroke of the runners they ram the earth compactly about the cross-ties. When the work of ramming one or two cross-ties is completed the machine is moved to other cross-ties, and so on along the entire line of road.

The ramming bars E, E, may be constructed either of metal or of wood, and made of any shape found best adapted to the purpose. The arms G, which connect the rammers with their shafts F, F, may be made adjustable, so that the machine may be adapted to different kinds of work.

I do not claim broadly combining with a movable machine, the reciprocating rammers E, E, for ramming earth about the cross-ties of rail-roads. But

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

Combining with a movable truck frame A, and D, the reciprocating rammers E, E, as herein set forth, when the same are actuated by the gearing J J, and H, H, and the springs *a*, *a*, substantially as described.

ROBT. C. BAILEY.

Witnesses:
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