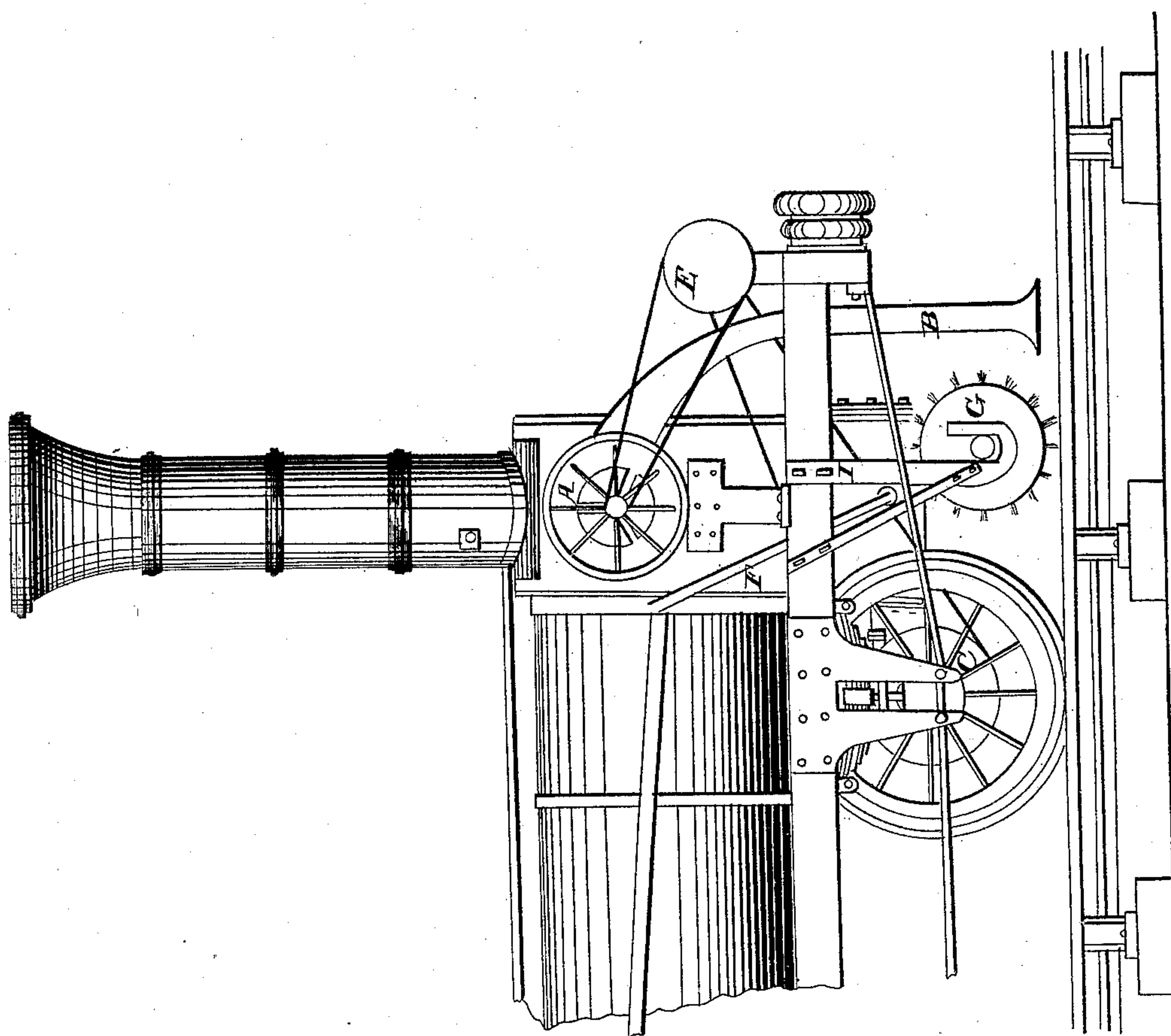
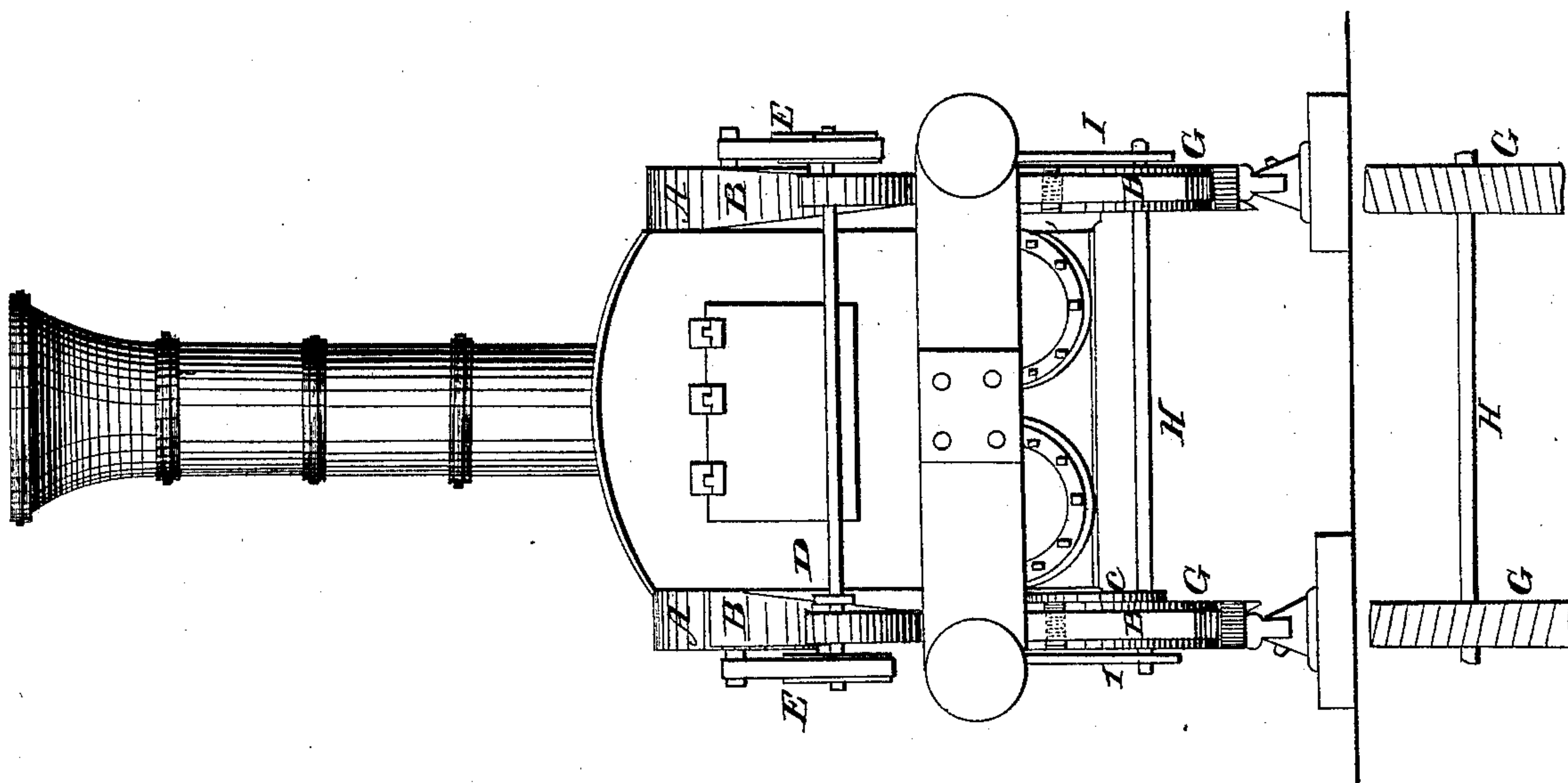


T. RIDGWAY, Jr.
Car-Track Clearer.

No. 1,384.

Patented Oct. 31, 1839.

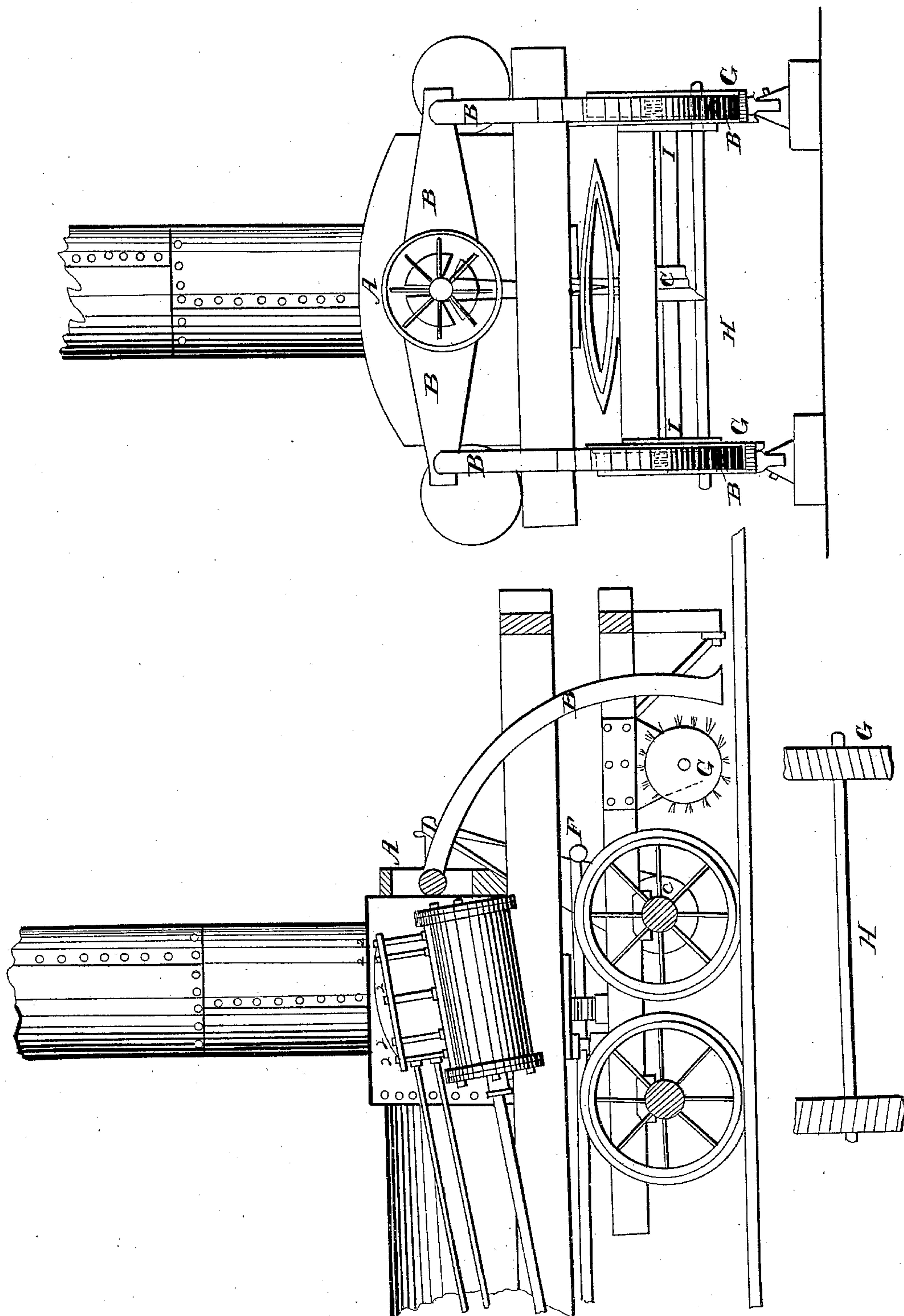


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2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

THOMAS S. RIDGWAY, JR., OF POTTSVILLE, PENNSYLVANIA.

CLEANING THE RAILS OF RAILROADS FROM ICE AND SNOW.

Specification of Letters Patent No. 1,384, dated October 31, 1839.

To all whom it may concern:

Be it known that I, THOMAS S. RIDGWAY, Jr., of Pottsville, in the county of Schuylkill, State of Pennsylvania, have made a new and useful Improvement in Locomotive-Engines for the Purpose of Cleaning the Rails of Railroads of Snow and Ice and Drying them When Wet with Rain; and I do hereby declare that the following is an exact description thereof.

The nature of my invention consists in having heated air or flame forced in front of the wheels of a locomotive engine (while running) on top of the rails of the road to melt the snow and ice that may lie upon them.

The model and drawings Plate 1 represent the fore part of an eight-wheeled engine, with the steam cylinder attached to the sides of the smoke box. The revolving fan wheel A, which is inclosed in a box of its own, is placed against the front part of the smoke box. The axle of the fan passing through its box admits of a small band wheel for the reception of a band which passes over a larger band wheel C, which is affixed to the fore axle-tree of the engine. On that side of the fan which comes in contact with the smoke-box there is an aperture around its axle through into the smoke box for the admission of hot air, &c.

The drawings in Plate 2 shows the fore part of a locomotive engine that has the steam cylinder in the bottom of the smoke-box. In these engines I purpose using two fans A, A, one on each side of the smoke box; a fan and separate pipe for each rail. When only one fan is used, there must be branch pipes from it to divide the hot air as shown in the drawings, Plate 1. There is a band leading from the large band wheel C, and passing over a smaller band wheel upon the axle-tree D. This axle-tree has two larger band wheels E, E, one at each end of it, for bands passing from smaller band wheels, which are fastened to that part of the axles of the fans that project through the boxes.

The ice cutters G, G, are two heavy cast iron wheels, one for each rail, having an axle-tree H, and fastening I, to be pushed

in front of the engine and to cut the ice by means of their weight. They have a number of wrought iron teeth, short, broad and strong steel edged, inserted obliquely into their peripheries at a convenient distance apart. The oblique insertion of the teeth is to drive the ice off of the rail after it is cut. When the engine is in motion, these fans will revolve rapidly, exhausting the smoke box of its contents and propelling it through the rail pipes B, B. A vacuum being produced in the smoke box, will cause the air to rush from the fire box to fill up the space, effecting, perhaps, draft enough to do away with the use of the blast pipe, during the use of the fans. The waste steam might be used to turn these fans, but I think the former mode preferable in which the damper of the chimney is closed (if necessary) and the egress of the waste steam is at liberty. Still there must be an expenditure of some of the power of the engine to force the hot air down upon the rails, and if a sufficient draft is produced without the use of the blast pipe, the extra power that is requisite is beyond that which the resistance the waste steam met with serving as a blast pipe. During the use of these fans they have three advantages:—First. The exhausting the smoke box of its carbonic acid gas, smoke and sparks, and driving it upon the rails out of the way of the passengers; secondly, the forcing the hot air upon the snow to melt it, and to soften the ice for the ice-cutters; thirdly, the effecting a draft which is essentially necessary in the using of anthracite as fuel.

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

The forcing of hot air, sparks, &c., in the manner herein described upon the rails of a rail-road for the purpose of melting the snow and ice that may lie upon them, and drying the rails when wet, also the accompanying ice-cutters as described.

THOS. S. RIDGWAY, JR.

Witnesses.

THOMAS S. RIDGWAY,
CHARLES POTTS.