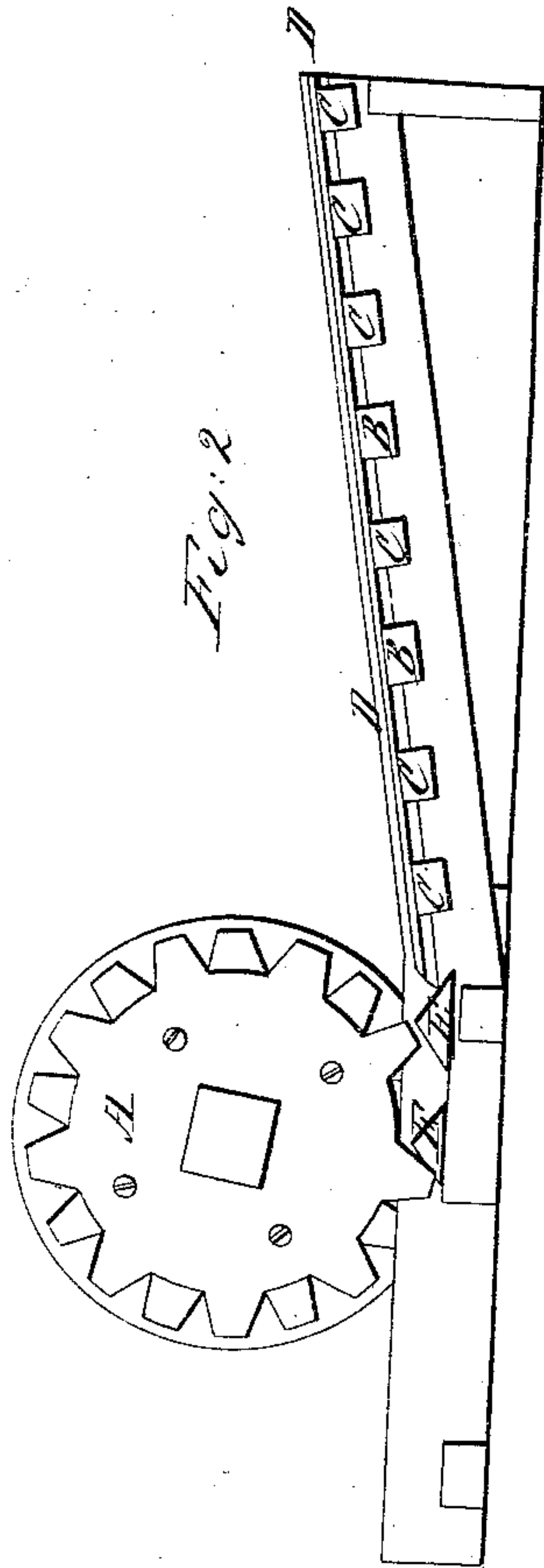
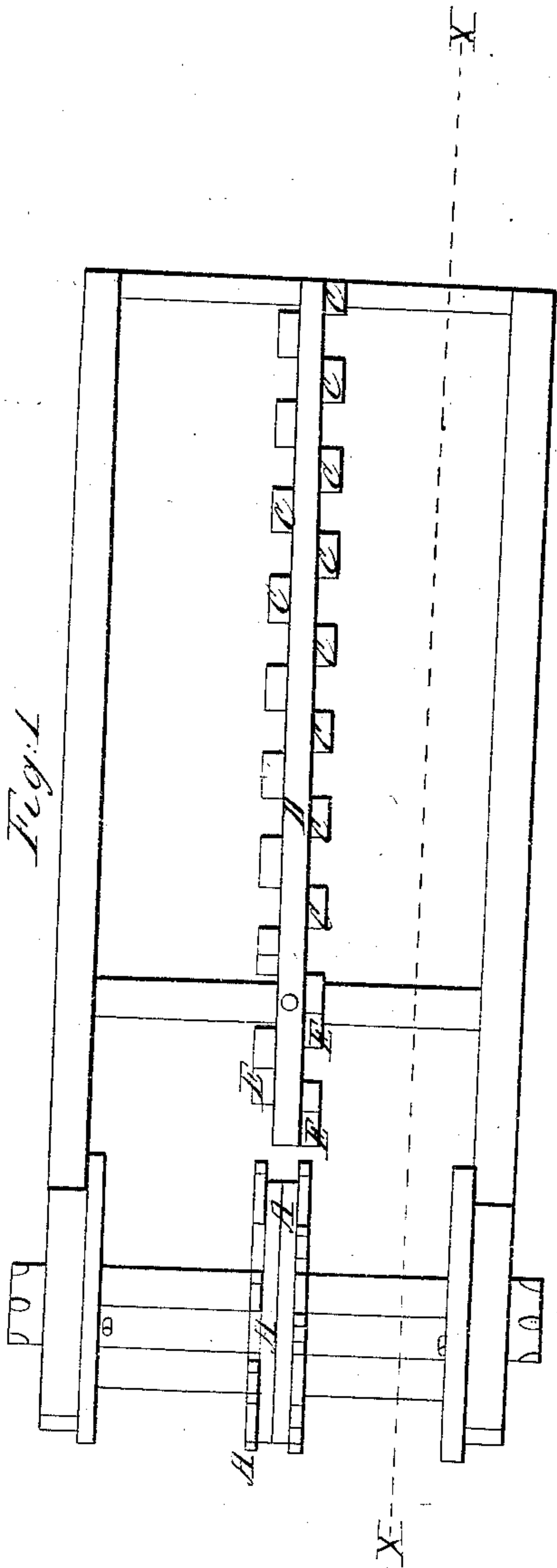


J. Mercer.

Inclined Railroad.

N^o 1,182.

Patented Jun. 21, 1839.



UNITED STATES PATENT OFFICE.

JNO. MERCER, OF HARRISVILLE, OHIO.

MODE OF ASCENDING AND DESCENDING INCLINED PLANES ON RAILROADS.

Specification of Letters Patent No. 1,182, dated June 21, 1839.

To all whom it may concern:

Be it known that I, JOHN MERCER, of Harrisville, in the county of Harrison and State of Ohio, have invented a new and useful Improvement, being a new Mode of Ascending and Descending Inclined Planes of Railways, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1, top view of the cogwheel and rack; Fig. 2, side view of ditto, or vertical section through the line $x x$ of Fig. 1.

Similar letters refer to similar parts in the figures.

The nature of this improvement consists in fastening to the center of one of the axles of the locomotive engine a cog wheel A, of a peculiar formation, which takes into a rack B, of a peculiar construction, placed in the center of the track, or by placing the cog wheel and rack at the side, or other situation.

The central rack of the inclined plane, which is raised from the ground, is made by inserting the cogs C in each side of the rail at a proper distance apart, leaving the top D smooth, by which arrangement of the cogs no obstructions or accumulations can lodge between them to prevent the working of the cog wheel, besides giving the cog wheel A a vertical bearing on the central rail B by having it smooth in the center and the cogs cast on each side thereof of nearly a triangular figure and the cogs of one side placed opposite the spaces between the cogs of the other side.

The wheel is cast in two equal parts and

united at the center secured by screw bolts or otherwise.

The cogs E of the section of the center rail at the commencement of the inclined plane are made of a triangular shape, so that the cog wheel shall enter upon the central rack without jar. The other cogs C are as wide as the spaces between the cogs of the wheel at their bases.

The rack may be placed on the outside of the side rails and the cog wheels placed on the ends of the axle of the locomotive. The racks may likewise be arranged on a separate rail elevated outside the track. The cogs on one side of the center rail must be placed opposite the spaces between the cogs on the other side.

The invention claimed and desired to be secured by Letters Patent consists—

In the before described peculiar construction of the center wheel being in two parts united together so as to bring the cogs of one wheel opposite the spaces of the other, and the peculiar construction of the cogged rail (into which the cog wheel takes) in having the cogs projecting from the side thereof to prevent the lodgment of obstructions on the rack, the cogs on one side being opposite the spaces between those on the other and the section of the rail at the commencement of the inclined plane having its teeth made triangular for the gradual and easy introduction of the cog wheel to the rack.

JOHN MERCER.

Witnesses:

WM. P. ELLIOT,

WM. BISHOP.