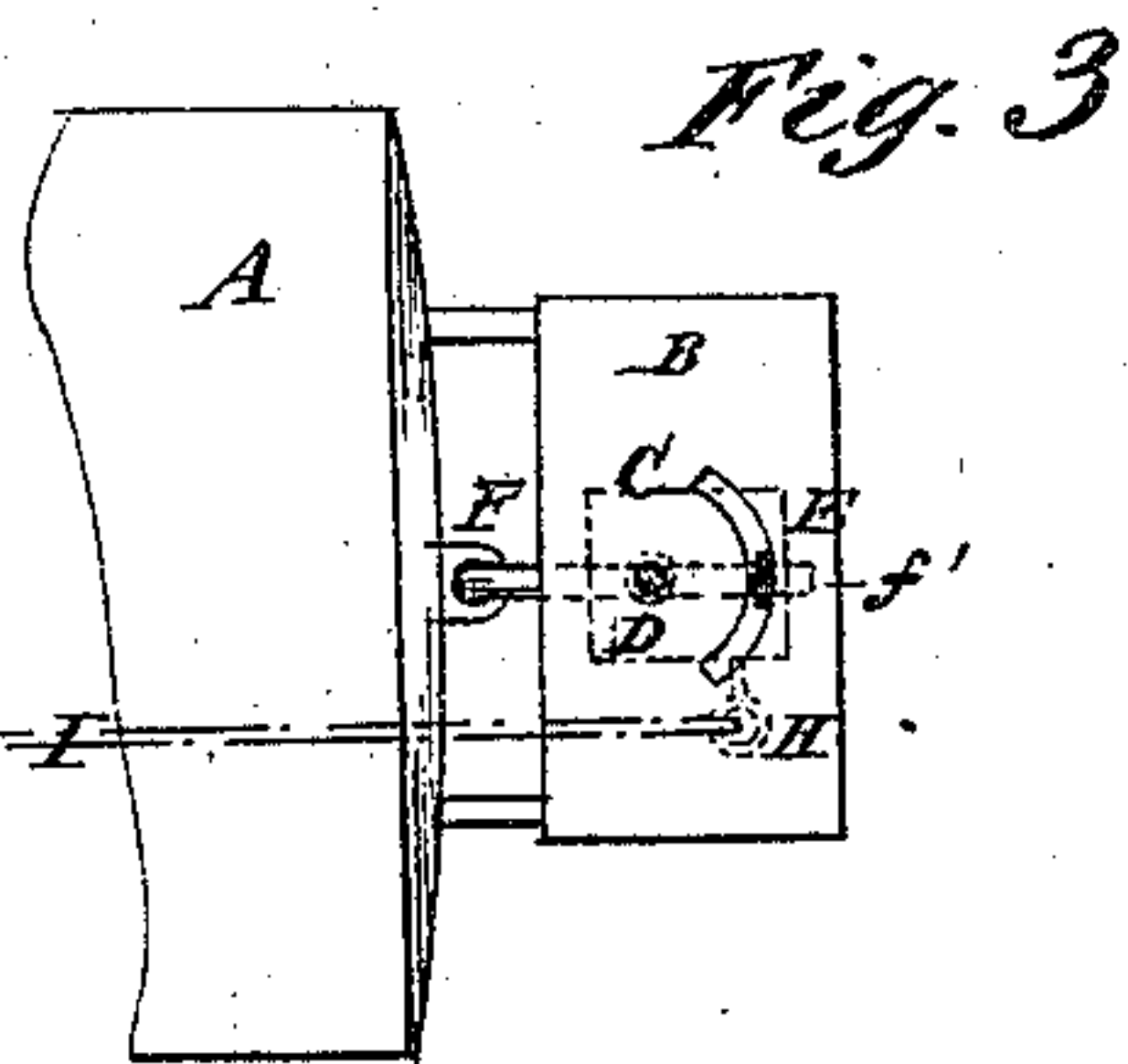
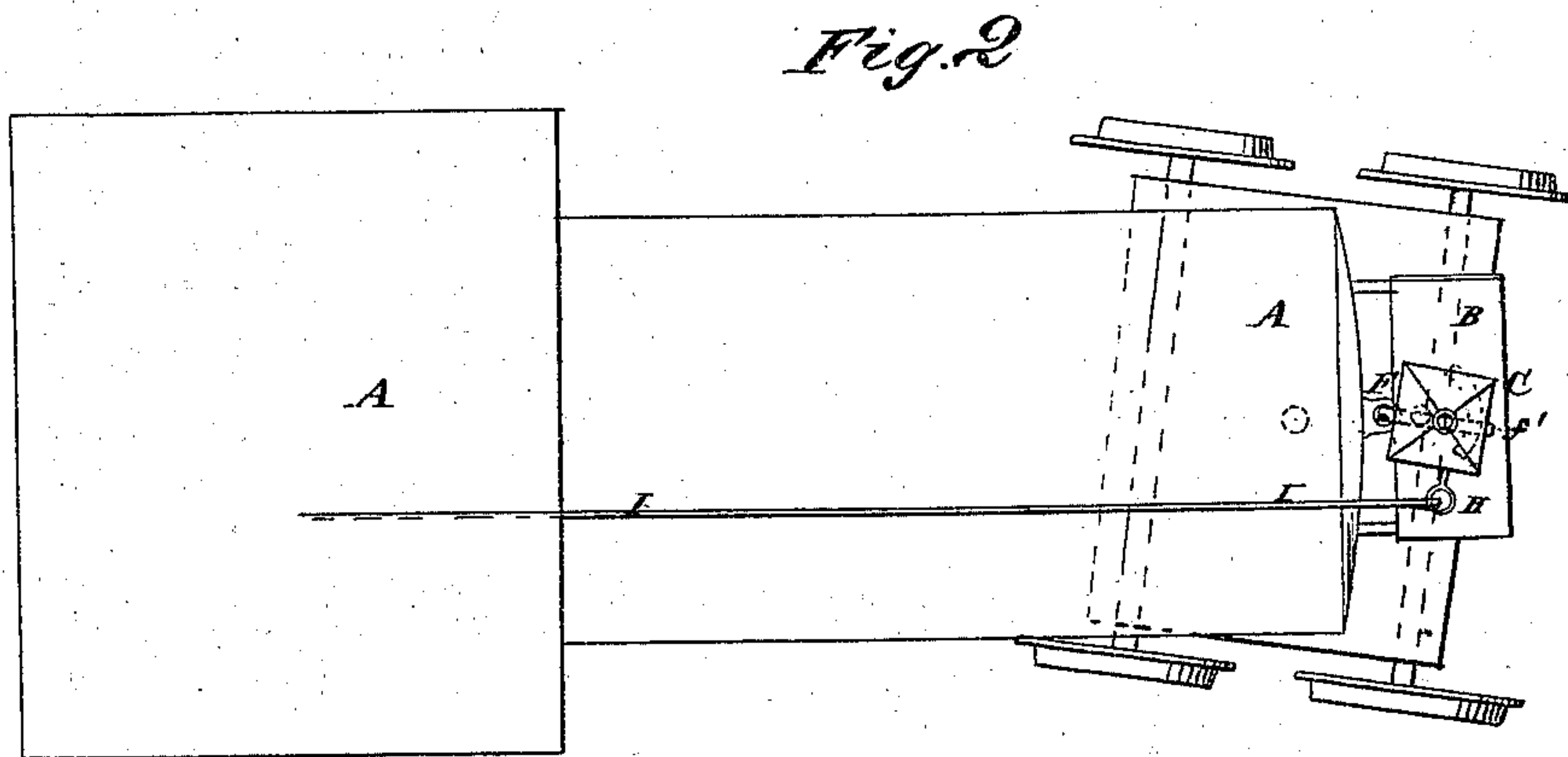
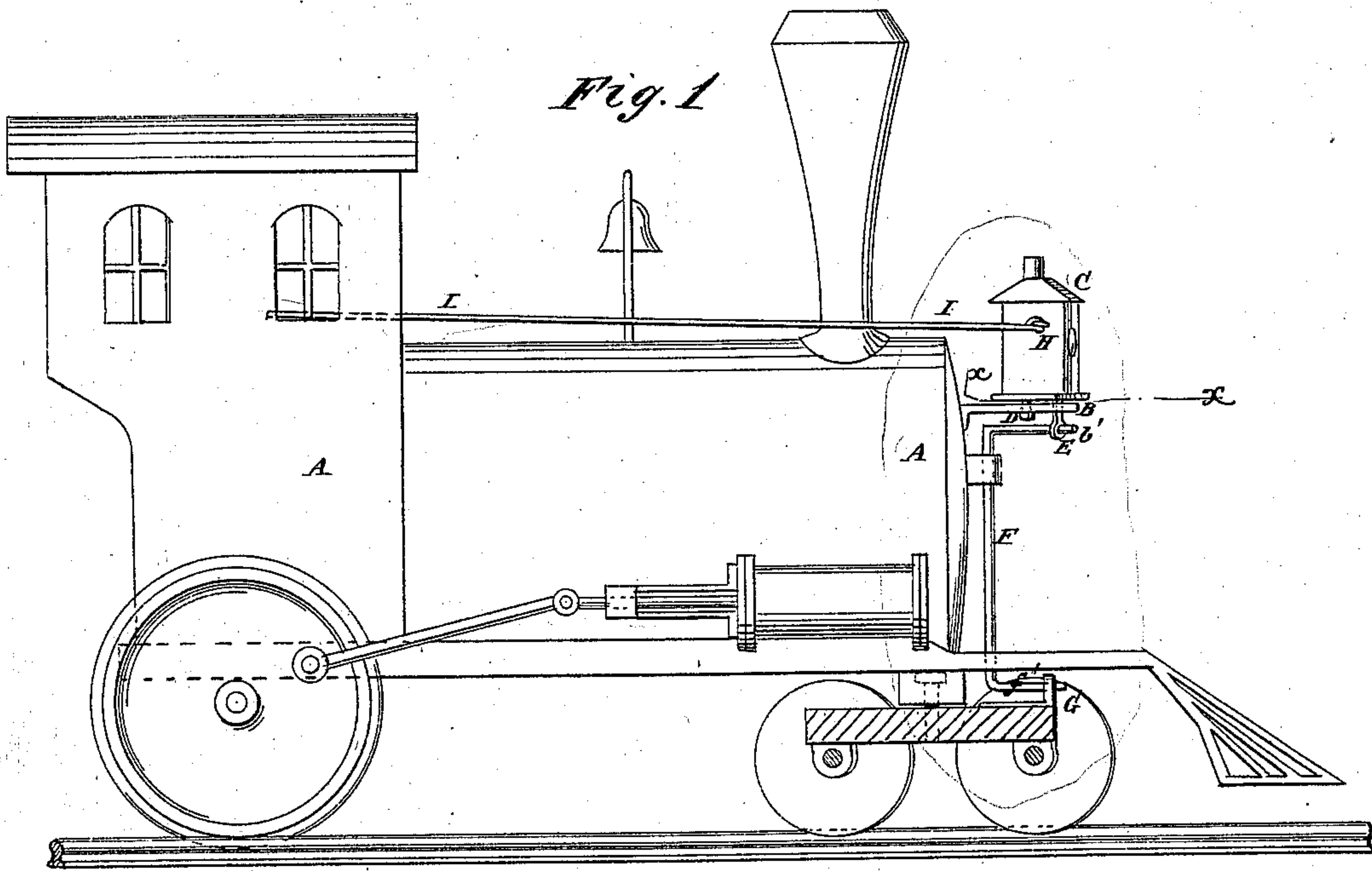


H. G. ANGLE.
Movable Head-Lights.

No. 150,457.

Patented May 5, 1874.



WITNESSES:

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INVENTOR:

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BY

Wm. L. ...

ATTORNEYS.

UNITED STATES PATENT OFFICE.

HORATIO G. ANGLE, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN MOVABLE HEAD-LIGHTS.

Specification forming part of Letters Patent No. 150,457, dated May 5, 1874; application filed February 21, 1874.

To all whom it may concern:

Be it known that I, HORATIO G. ANGLE, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Movable Head-Lights, of which the following is a specification:

Figure 1 is a side view of my improved device, shown as applied to a locomotive, the truck being shown in section. Fig. 2 is a top view of the same. Fig. 3 is a detail section taken through the line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The invention will first be fully described, and then pointed out in the claim.

A represents a locomotive-engine, about the construction of which there is nothing new. To the front of the locomotive is attached the shelf B, upon which the head-light C stands, and to which it is secured by a bolt, D, which also serves as a pivot to said head-light. To the bottom of the head-light C, in front of the pivoting-bolt D, is attached a pin or eyebolt, E, which passes down through a curved slot in the shelf B, and with its lower end is connected a crank-arm, f^1 , formed upon the upper end of the vertical rod F; which works in bearings attached to the front of the engine A. Upon the lower end of the rod F is formed a crank-arm, f^2 , which passes between the forks of a slotted arm, G, attached to the truck-frame of the engine. With this construction, as the truck turns in passing around a curve, the head-light C is also turned, so that the stream of light may always be thrown upon the track. By lengthening or shorten-

ing either of the crank-arms $f^1 f^2$, the light from the lamp may be thrown more or less from a straight line to adapt it to the curvatures of the road. To one side of the head-light C is rigidly attached a short arm, H, to the outer end of which is pivoted the forward end of a rod, I, which passes back along the top of the engine, so that it may be readily reached and operated by the engineer. The devices H I enable the engineer to turn the head-light a little farther or not so far as it would be turned automatically by the truck, to guide the stream of light as may be desired, the elasticity of the rod F allowing it to be twisted sufficiently for the purpose. The automatic feature need not be used, in which case the head-light is operated by, and is under the full control of, the engineer by means of the rod I and arm H. With some engines the upper crank-arm f^1 of the rod F need not be used. In some cases, also, the head-light may stand over the pivotal center of the truck-frame, in which case the cranks upon both ends of the rod F might be dispensed with and the same results obtained.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The combination, on a locomotive, in the manner described, of a slotted shelf, B, a rod, F, having crank-arms $f^1 f^2$, and the slotted arm G on the truck-frame.

HORATIO G. ANGLE.

Witnesses:

JAMES T. GRAHAM,
T. B. MOSHER.