

(Model.)

2 Sheets—Sheet 1.

S. T. BRYANT.
LINK FOR STEAM ENGINES.

No. 322,415.

Patented July 21, 1885.

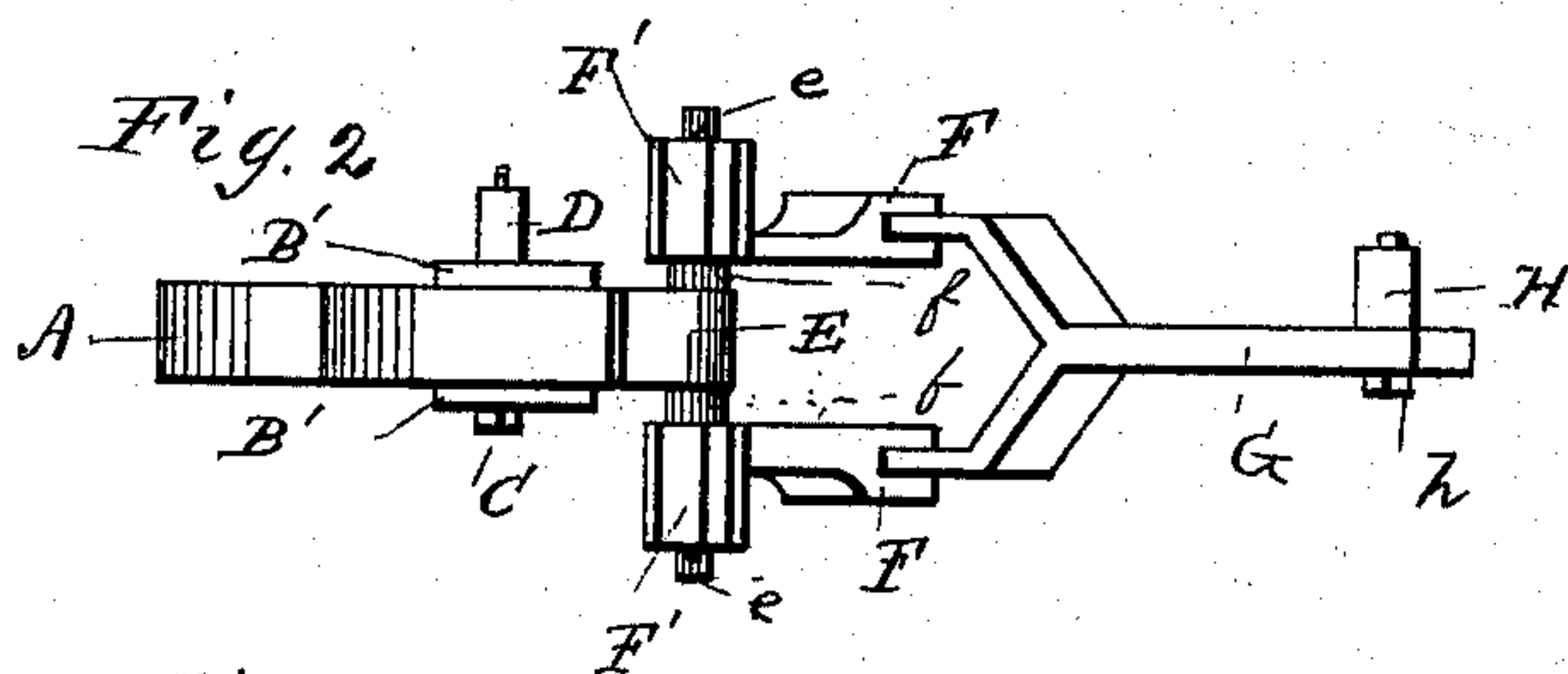
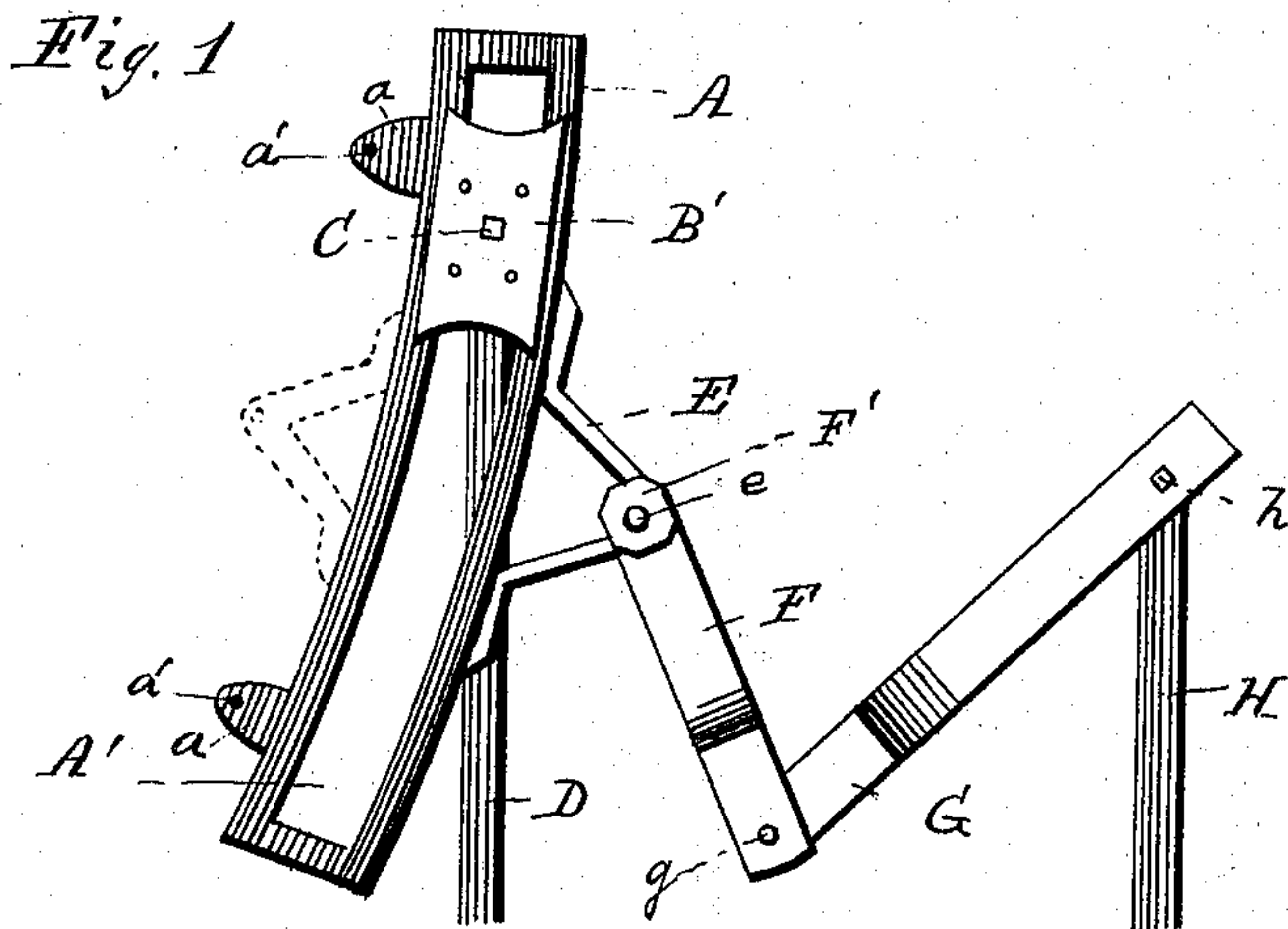
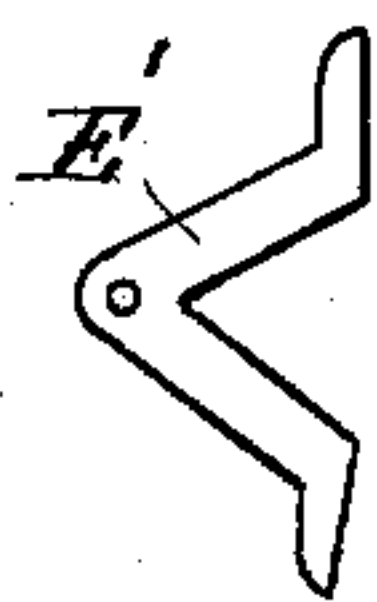


Fig. 3.



WITNESSES

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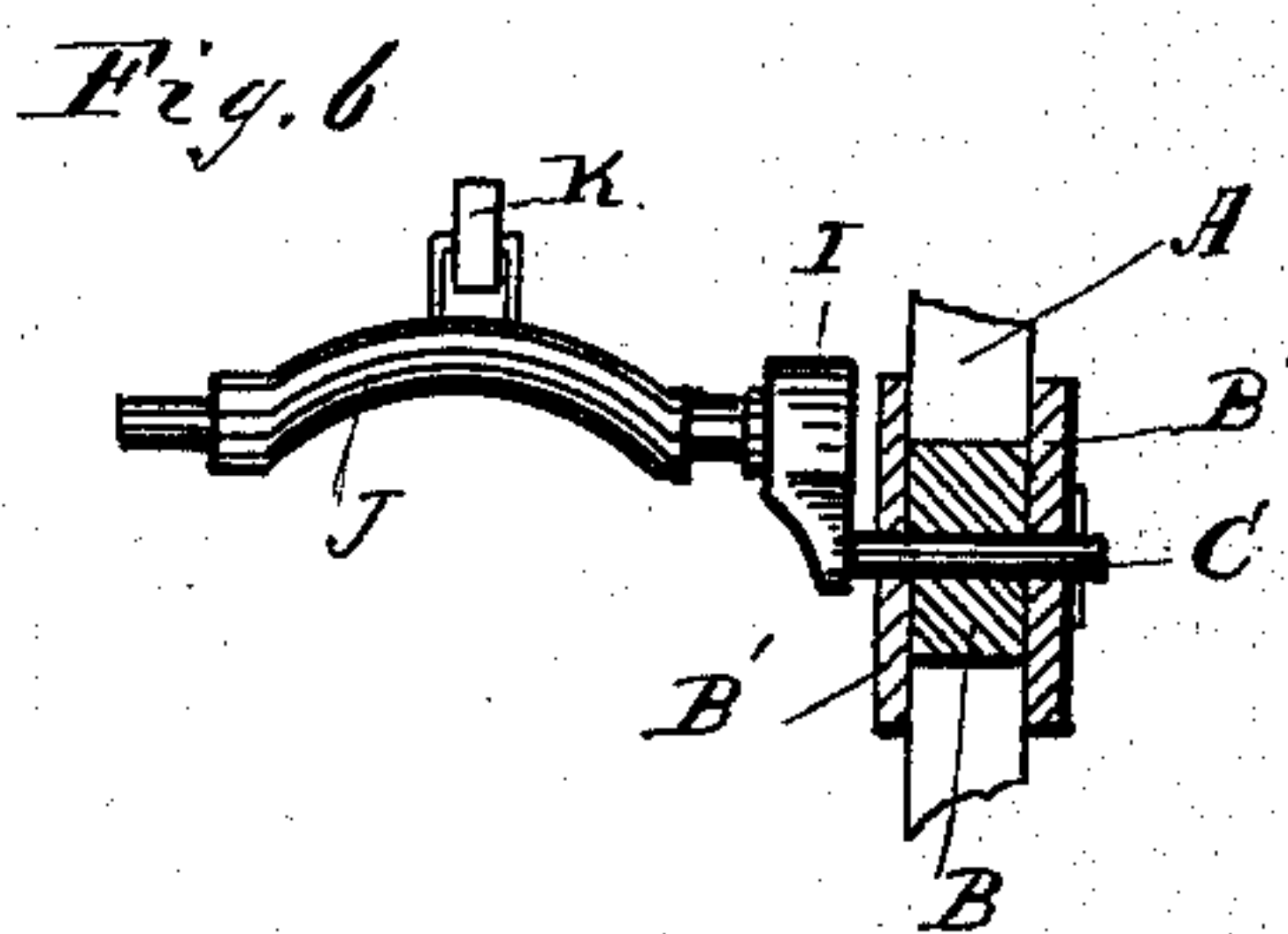
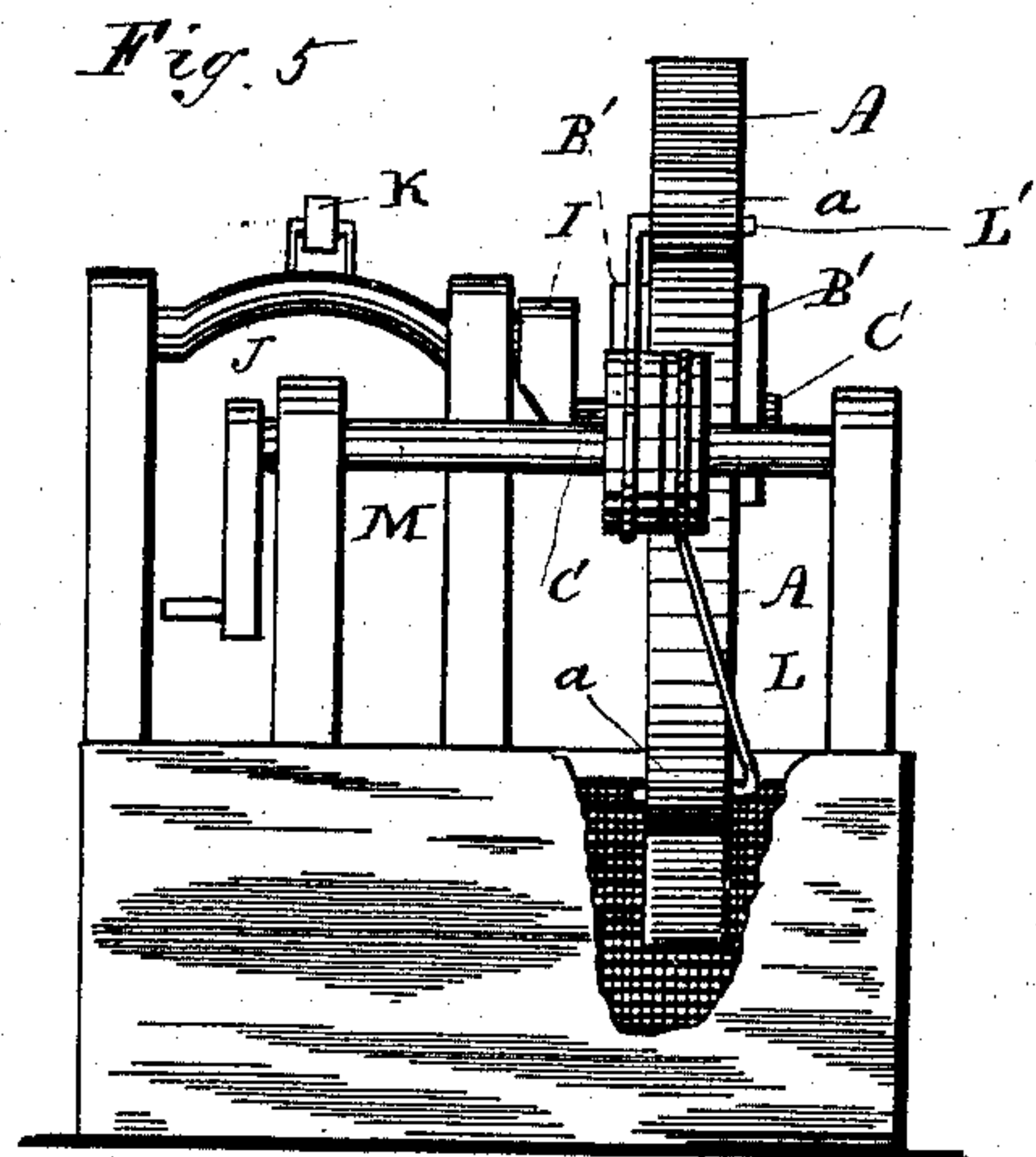
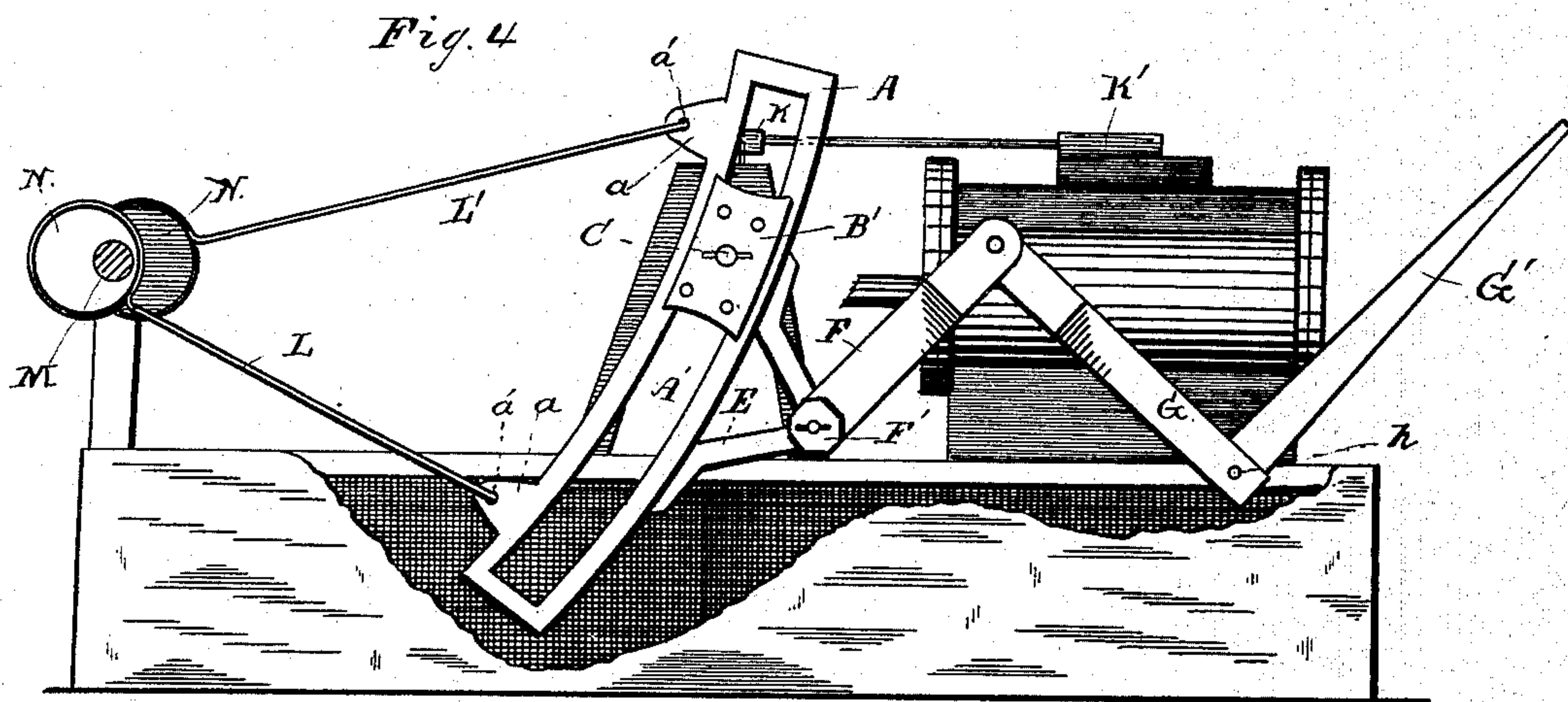
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UNITED STATES PATENT OFFICE.

SAMUEL T. BRYANT, OF SHELburn, INDIANA.

LINK FOR STEAM-ENGINES.

SPECIFICATION forming part of Letters Patent No. 322,415, dated July 21, 1885.

Application filed March 31, 1885. (Model.)

To all whom it may concern:

Be it known that I, S. T. BRYANT, a citizen of the United States, residing at Shelburn, in the county of Sullivan and State of Indiana, have invented certain new and useful Improvements in Links for Steam-Engines, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to improvements in links for steam-engines; and it has for its object to cut off all side pressure upon the link and lift it perpendicularly. These objects are attained by the mechanism illustrated in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side elevation, Fig. 2 is a plan, and Fig. 3 is a detached view, of an attachment to be secured to the concave side of the link when to be used on locomotives, indicated in dotted lines in Fig. 1. Fig. 4 is a side elevation of the link and its connections mounted upon a base a part of which is broken away. This view shows the engine-shaft in section. Fig. 5 is an end view with some of the parts removed. Fig. 6 is a detached view of the rock-shaft and shows the manner in which it is connected with the link which in this view is partly broken away.

30 The letter A indicates the link, which is of curved form, and is provided with a longitudinal opening, A', which slides freely upon a block, B, having secured to it on each side a guide-plate, B', which maintain the block B in its proper position within the slot or opening A', and between which the link slides up and down, thus forming guides thereto. A wrist-pin, C, passes through the plates B' and block B, which is attached to a crank, I, placed on one end of a rock-shaft, J, supported in suitable bearings, and preferably of arched form. At the top of this arch is secured one end of a valve-rod, K, the other end of which is attached to the valve K'. On the 45 concave side of the link A are lugs α , having openings α' , which are for the purpose of attaching the eccentric-rods L L', which extend

from the link to two eccentrics, N, secured to the shaft M.

E is a triangular piece of metal attached to the convex part of the link A, and forms a bearing for the bolt e , by means of which the double lift-bars F are pivoted and secured to the link A. Washers f are placed on each side of the triangular bracket-piece E, between said piece and the double lift-bars F. The double lift-bars F have a boss, F', on their upper ends, which gives a longer bearing to the bolt e than it would otherwise have, and the lower ends of these lift-bars are slotted to receive the lower ends of bifurcated lever G, which is pivoted thereto by the bolts g . The lever G is pivoted to the post H, or other means of support, by the bolt h , which forms the fulcrum thereof. The lever G is provided with a handle, G', by means of which the link A may be moved in an upward or downward direction, and thereby reverse the movement of the valve-rod K, together with its valve K'. The forked or bifurcated portion of the lever G is found to give greater ease in handling the lever, to increase its durability, and also to prevent lost motion.

E' (shown in Fig. 3) is a metal bracket, and is intended to be attached to the concave side of the link A when the link is applied to locomotives, as the lever G is placed on the concave or back side of the link when used on locomotives.

Having described my invention, what I desire to secure by Letters Patent and claim is—

The curved link A, having slot A' and bracket E, the block B, having guide-plates B' and wrist-pin C, in combination with lift-bars F, pivoted thereto, and bifurcated lever G, as described, and for the purposes set forth.

In testimony whereof I affix my signature in presence of two witnesses.

SAMUEL T. BRYANT.

Witnesses:

HARDEY McCLANAHAN,
W. D. SNIDER.