T. L. CROWLEY.

Reversing Link-Motion Engines.

No. 135,410. Patented Feb. 4, 1873.

Fig. 1.

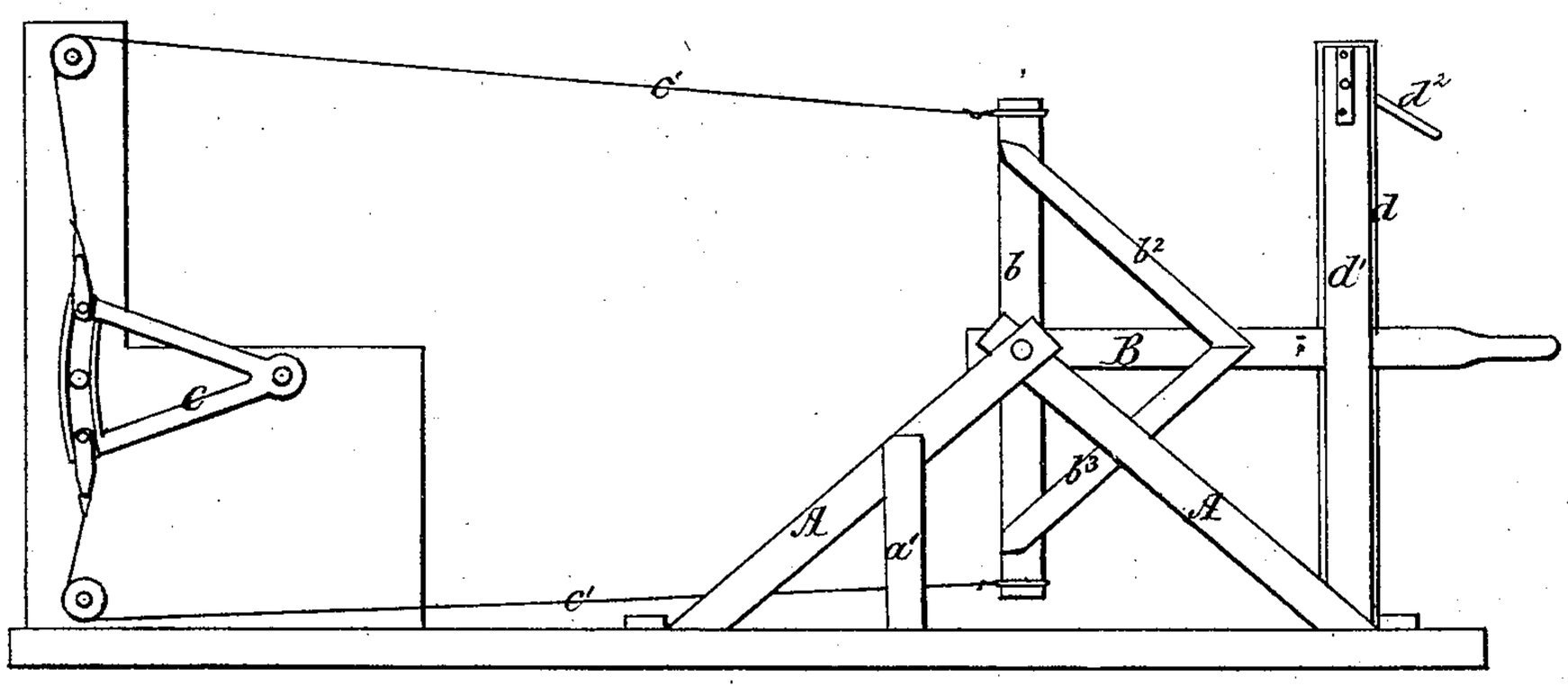
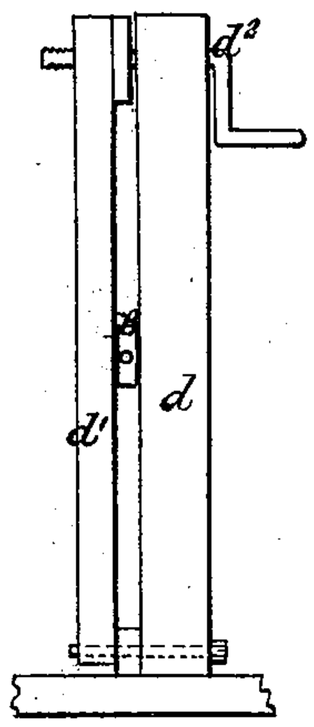


Fig. 2.



WITNESSES
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UNITED STATES PATENT OFFICE.

THOMAS L. CROWLEY, OF PARKER TOWNSHIP, BUTLER COUNTY, PA.

IMPROVEMENT IN REVERSING-LINK-MOTION ENGINES.

Specification forming part of Letters Patent No. **135,410**, dated February 4, 1873.

To all whom it may concern:

Be it known that I, THOMAS L. CROWLEY, of Parker township, in the county of Butler and State of Pennsylvania, have invented certain new and useful Improvements in Reversing-Link-Motion Engines at a distance; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to the regulation and control of the motion of steam-engines at a distance therefrom.

In the accompanying drawing, Figure 1 is a side elevation, showing all the devices used in my improvement. Fig. 2 is a detail, showing the construction of device for holding the lever in position.

Located in the derrick, in any suitable position, are two pairs of cross-legs, A A, with a shaft, a', connecting them, and supported with stays a or other means. The lever B is borne by the said shaft. To the extremity, or thereabout, of said lever B is attached a cross-piece, b, of about the same length, and which is held in position by stays b^2 b^3. The said lever B and the cross-piece b are perforated at the point of their connection, through which perforation the shaft a' passes, thus supporting the said lever and cross-piece, and forming a bearing for them. The said lever B is held in any desired position by means of an upright leg, d, together with a movable leg, d^1, attached to it at the lower extremity by means of a bolt and at the top by a threaded spindle, d^2, with a handle attached. Running from each extremity of cross-piece b is a stiff rope, wire, or chain, C^1, or other suitable means of connection, to the link C of the steam-engine. This rope, wire, or chain C^1 runs over pulleys or other device situated above and below said link. The mode of attaching the rope, wire, or chain C^1, or their equivalent, to the upper and lower ends of said link is accomplished by means of clamps bolted thereon, with a pin or other suitable projection on each side, to which a doubled strip of iron or other metal, C^2, is loosely attached.

It will be clearly seen that by raising or lowering the lever B the link of the engine, to which the connecting-ropes C^1 are attached, is also raised and lowered at will, thus securing complete control over the motions of the engine, holding it stationary, if necessary, by placing the lever B in a horizontal position.

I do not confine myself to the particular form of lever, or to the means of connecting the same to the link of the engine.

By the use of my invention a great saving in labor is effected, as the engineer can assist in the operations in the derrick and still have control over his engine.

My improvement renders unnecessary the set-screw upon the link now in general use upon oil-well engines.

My improvement gives instantaneous reversal or stoppage of the engine. It is easy of construction, of small cost, and of great service at an oil-well.

The said lever B, cross-piece b, support A, and legs d and d^1, with their attachments, may be constructed of iron, wood, or any suitable material.

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

1. The link C of a steam-engine, in combination with the ropes or chains C^1 C^1 and lever B b, arranged to operate substantially as specified.

2. The elements enumerated in the first claim, in combination with the clamping devices composed of the bars d d^1 and screw d^2, substantially as and for the purpose specified.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

THOMAS L. CROWLEY.

Witnesses:

JOHN B. GEYSER,

JOSEPH JENNING.