W. JACKSON.
Link and Cross Head.

No. 200,915. Patented March 5, 1878.

Fig: 1.

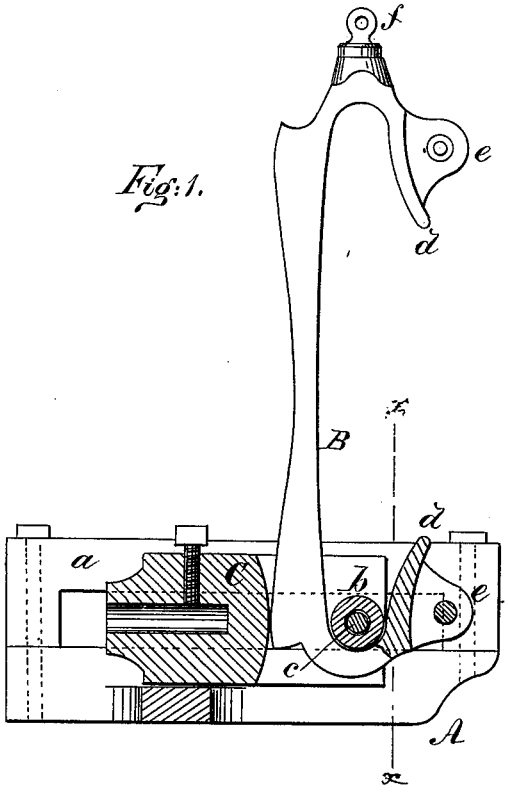


Fig: 2.

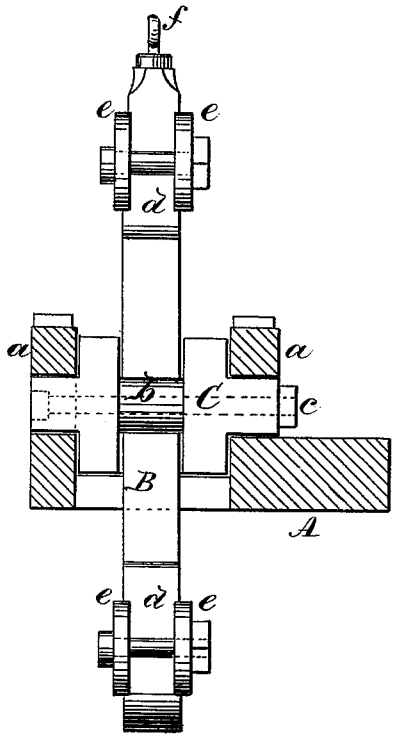
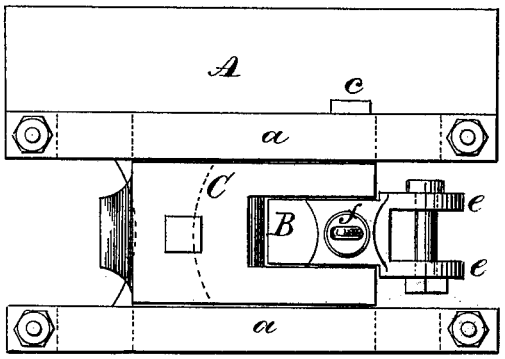


Fig: 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM JACKSON, OF MILLERSTOWN, (BARNHART'S MILLS, P. O.,) PA.

IMPROVEMENT IN LINK AND CROSS-HEAD.

Specification forming part of Letters Patent No. **200,915**, dated March 5, 1878; application filed November 26, 1877.

To all whom it may concern:

Be it known that I, WILLIAM JACKSON, of Millerstown, (Barnhart's Mills P. O.,) in the county of Butler and State of Pennsylvania, have invented a new and Improved Link and Cross-Head, of which the following is a specification:

Figure 1 is a side elevation in section. Fig. 2 is a transverse section taken on line *x x* in Fig. 1, with link lowered. Fig. 3 is a plan view.

Similar letters of reference indicate corresponding parts.

My invention relates to the valve-reversing mechanism of steam-engines; and it consists in a link and cross-head of novel construction, whereby the controlling of the engine may be effected from a distant point.

Referring to the drawing, A is a portion of the engine-bed, which is offset to afford space for the link B and cross-head C. The lower guides for the cross-head are formed on the offset portion of the engine-bed, and the upper guides *a* are secured to the lower guides in the usual way.

The cross-head C is secured to the end of the slide-valve rod, and it is provided with a roller, *b*, which is placed on the bolt *c*, that passes transversely through the cross-head. This roller takes the place of the usual link-pin. It obviates friction, and facilitates repair, as when it becomes worn it may be readily removed and replaced.

The surface of the cross-head at the end of the slot in which the roller *b* is placed is made convex, to form a bearing-surface for the link. The link B is open upon the side to which the eccentric-rods are attached, and has formed upon its opposite ends the hooks *d*, which both project inward or toward each other.

Upon the outer face of the hooks *d* there are ears *e*, between which the ends of the eccentric-rods are pivoted. The back of the link is concaved in the direction of its length, and is rounded slightly at its ends, forming a surface at either end that engages the convex portion of the cross-head when either hook is upon the roller *b*.

When the link is in a median position the steam is shut off from both ends of the cylinder, and the valve is not moved.

At the upper end of the link there is an eye, *f*, for receiving a cord, which may run over pulleys to a distant point, for moving the link and thus reversing the engine.

This link and cross-head are designed to be used on engines for oil-wells, for drilling and pumping. The cord, which is attached to the link, runs to the derrick through a distance of from seventy to ninety feet.

The advantages claimed for my invention are, that the link is easily handled by means of the cord from the derrick, and the engine may be stopped by raising the link half-way. The engine may be stopped, started, and reversed without the attention of an engineer at the engine.

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

1. A hook-link, in combination with a cross-head having a slotted opening, a convexity in said opening, a roller, *b*, and a pin, *c*, as shown and described, for the purpose set forth.

2. The hook-link B, having a convexed surface on the back, declining toward the middle of link, in combination with a cross-head convexed in its slotted opening, as and for the purpose specified.

WILLIAM JACKSON.

Witnesses:
J. C. MCKINNY,
JNO. H. COSFORD.