(No Model.)

P. MUNDT.

STEAM ENGINE.

No. 587,595. Patented Aug. 3, 1897.

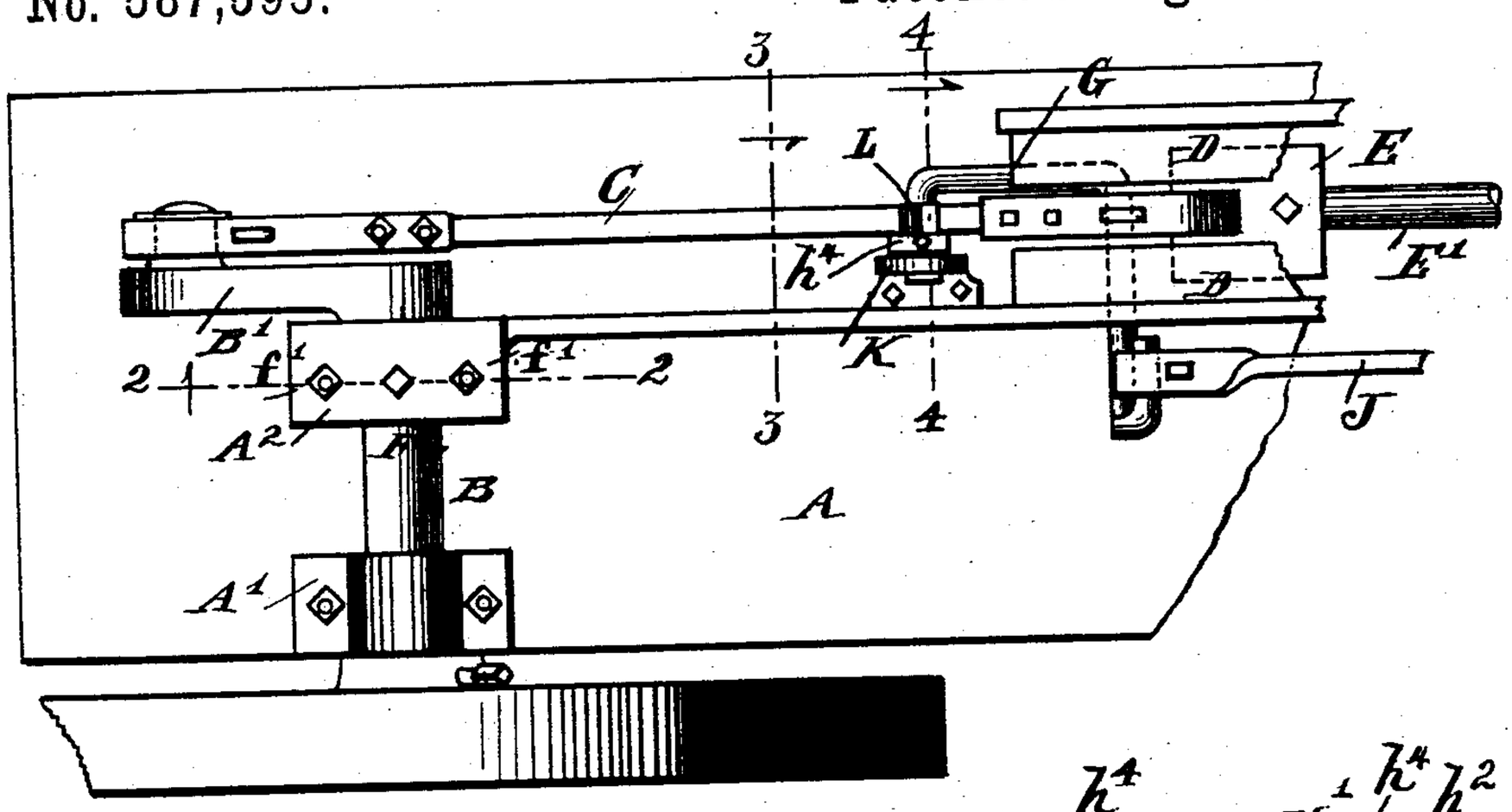

FIG. 1

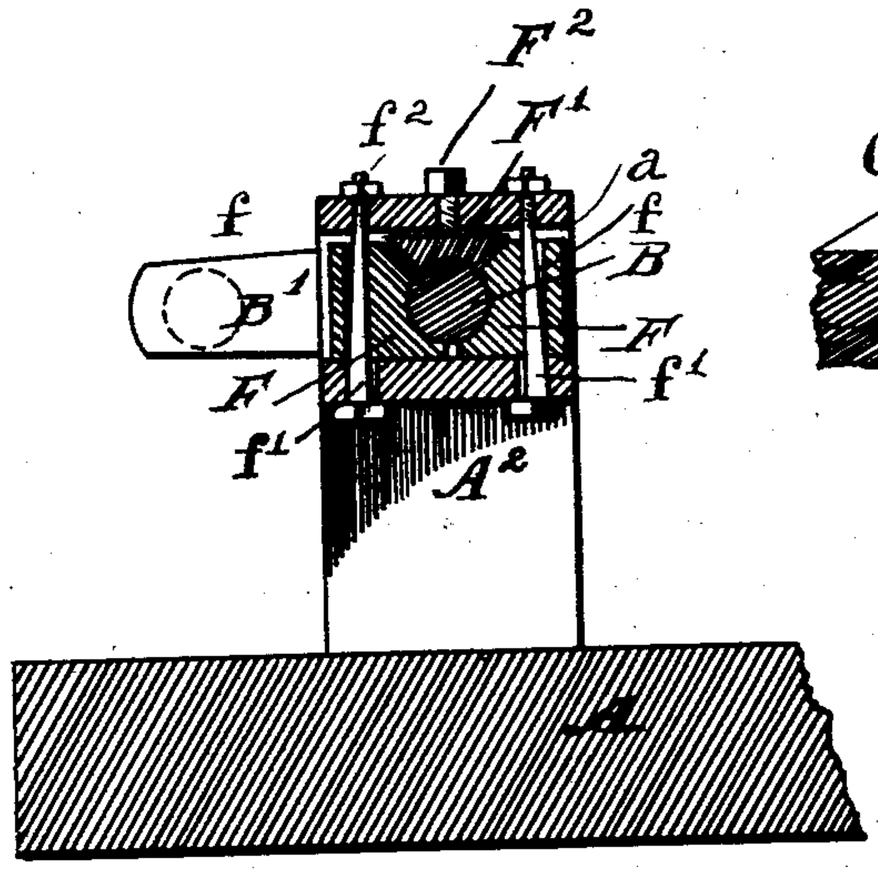

FIG. 2.

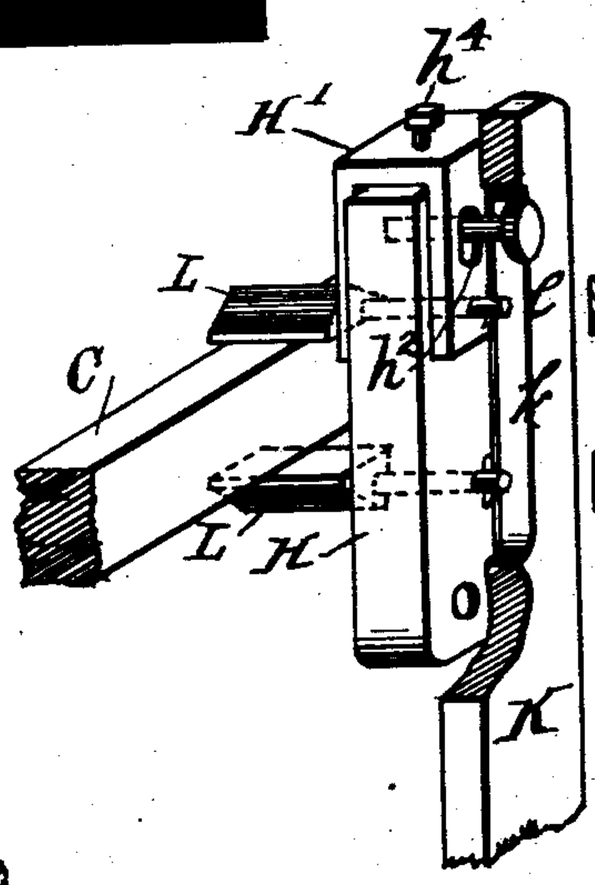

FIG. 3.

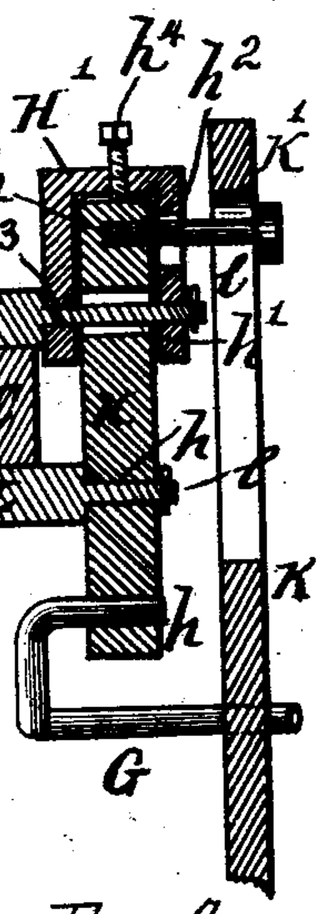

FIG. 4.

Witnesses.
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R. F. Court

Inventor.
Paul Mundt,

UNITED STATES PATENT OFFICE.

PAUL MUNDT, OF LINCOLN, ILLINOIS.

STEAM-ENGINE.

SPECIFICATION forming part of Letters Patent No. 587,595, dated August 3, 1897.

Application filed December 24, 1896. Serial No. 616,929. (No model.)

To all whom it may concern:

Be it known that I, PAUL MUNDT, a citizen of the United States, residing at Lincoln, in the county of Logan and State of Illinois, have invented certain new and useful Improvements in Steam-Engines, of which the following is such a full, clear, and exact description as will enable others skilled in the art to which it appertains to make and use my said invention.

My present invention is a modification and improvement of the mechanism shown and described in United States Letters Patent No. 573,100 for improvements in valve-gears for engines, granted to me December 15, 1896.

The purposes of my invention are to provide mechanism of novel and improved form adapted to operate the slide-valve of an engine; also to provide simple and effective means for the adjustment of the crank-shaft of the engine.

With these ends in view my invention consists in certain novel features of construction and combinations of parts shown in the annexed drawings, to which reference is hereby made, and hereinafter particularly described and specifically claimed.

In the drawings I have shown only such parts of the steam-engine as are necessary to properly illustrate the construction and the connection of my improvements therewith.

Referring to the drawings, Figure 1 is a top plan view showing my improvements in position on the engine. Fig. 2 is a partial vertical section on the line 2 of Fig. 1. Fig. 3 is an enlarged combined elevation and sectional view of the link-block, its supporting-standard, and the connecting-rod in position between the pivoted guide-blocks as taken on the line 3 of Fig. 1. Fig. 4 is an enlarged vertical section through the standard and the link-block on the line 4 of Fig. 1.

Similar letters of reference designate like parts in all of the views.

The main frame A of the engine may be of any suitable and convenient form and need not be particularly described. The crank-shaft B, the crank B′, the connecting-rod C, the guides D, the cross-head E, and the piston-rod E′ are all of the usual well-known form.

The shaft B is supported and turns in boxes on the standards A′ and A^2. The box on the standard A′ is of the usual well-known form.

I will now describe the construction of the box on the standard A^2.

Near the top of the standard A^2 is a rectangular opening *a*, adapted to accommodate the adjustable side blocks F and the adjustable top block F′. These blocks, which may be of any suitable material, have concave surfaces conforming to the perimeter of the shaft B, as shown in Fig. 2. Vertical holes *f* extend through the blocks F. Tapering bolts *f′* extend upwardly through the bottom wall of the opening *a*, through the holes *f* in the blocks F, and through the top wall of the opening *a* and are provided with nuts f^2. By tightening or loosening the nuts f^2 the bolts *f′* may be raised or lowered, so that the tapering sides of the bolts *f′* will engage with the side walls of the holes *f*, so as to slide the blocks F toward or to permit them to move away from the shaft B in an obvious manner.

The block F′ is placed on top of the shaft C and is connected with a screw F′, passing through the top wall of the opening *a* in such manner that the block may be raised or lowered by turning the screw up or down, as the case may be.

The bent link G has its lower end connected with the block H, its upper end connected with the valve-rod J, and its central part is supported and turns in suitable bearings, exactly as shown and described in my said patent, No. 573,100.

A vertical standard K, having a longitudinal slot *k*, is secured to the bed-plate of the engine in any suitable manner or, if desired, may be cast integral with the bed-plate.

In the block H are three transverse holes *h* and a transverse slot *h′*. A rectangular cap H′ fits on the upper end of the block H, and has a transverse slot *h* extending through one side of said cap and a transverse hole h^3 extending through both sides of said cap.

The guide-blocks L, the upper one of which is flat on its lower side and the lower one of which is flat on its upper side, have cylindrical stems *l*.

The stem *l* of the upper guide-block L turns in the holes h^3 in the cap H′ and passes through the slot *h′* in the block H.

The stem *l* of the lower guide-block L turns

in the central hole *h* in the block H. The lower end of the link G fits in the lower hole *h* in the block H. The bolt K′ passes through the slot *k* in the standard K and screws into the upper hole *h* in the block H and slidably connects the block H with the standard K. When the block H and the connected parts are in position on the engine, the blocks L are in contact with the upper and lower surfaces of the connecting-rod C, and the connecting-rod slides between the blocks L in such manner that the reciprocating connecting-rod imparts an alternating vertical movement to the block H, thereby rocking the link G so as to alternately push and pull the valve-rod J in an obvious manner.

In the upper end of the cap H′ is a screw h^4, the lower end of which abuts against the upper end of the block H in such manner that by turning the screw up or down, as the case may be, the cap H′ may be moved up or down, so as to adjust the upper block L with respect to the rod C, as may be required.

I do not herein claim, broadly, a link-block connected with the connecting-rod of the engine, also connected with a link operating the valve-rod, as that feature is described and claimed in my Patent No. 573,100.

What I claim as new, and desire to secure by Letters Patent, is—

1. The herein-described improved link-block for engines, consisting of a block slidably connected with a standard, a lower guide-block pivotally connected with said first-named block and a pivoted upper guide-block vertically adjustable relative to said lower guide-block, as set forth.

2. In a link-block for steam-engines, the combination of a block H having transverse holes *h* and a transverse slot *h′*, a cap H′ fitting on said block H and having a slot h^2 and a hole h^3, a screw h^4 adapted to vertically adjust the cap H′, a bolt K′ passing through the slot h^2 and screwing into the upper hole *h* in the block H and adapted to slidably connect said block with a slotted standard, a link fitting in the lower hole *h* in said block H and adapted to operate the valve-rod of an engine, a lower guide-block L having a stem *l* turning in the central hole *h* in the block H and an upper guide-block L having a stem *l* turning in the hole *h* in the block H, and an upper guide-block L having a stem *l* turning in the hole h^3 in the cap H′ and passing through the slot *h′* in the block H, as set forth.

In witness whereof I have hereunto subscribed my name, at Springfield, Illinois, this 21st day of December, 1896.

PAUL MUNDT.

Witnesses:
N. DU BOIS,
R. T. COURT.