D. S. STOMBS.

Link-Motion.

No. 217,650. Patented July 15, 1879.

Fig: 1.

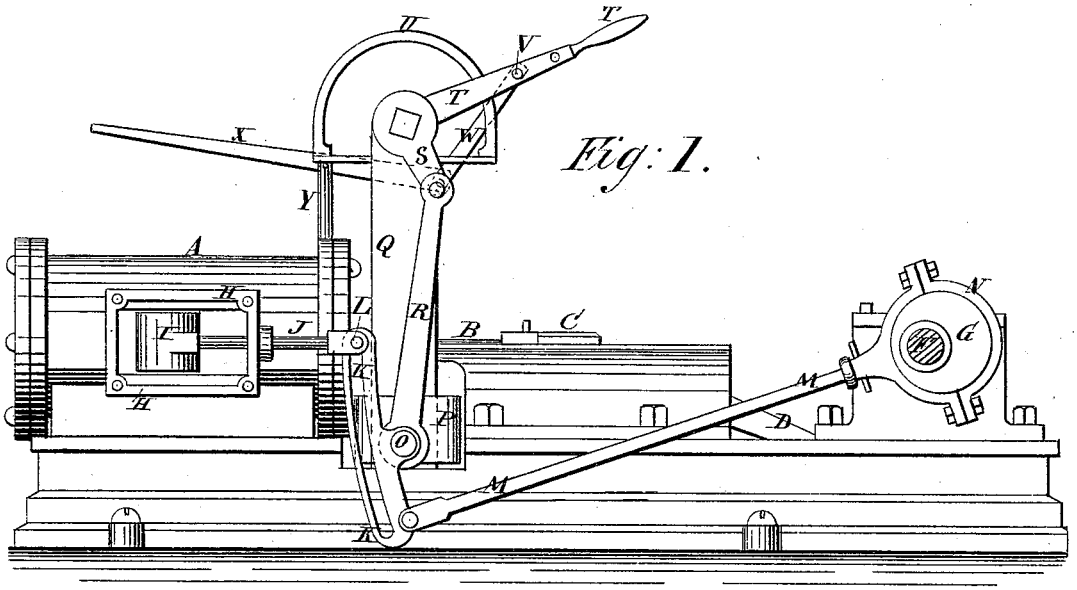
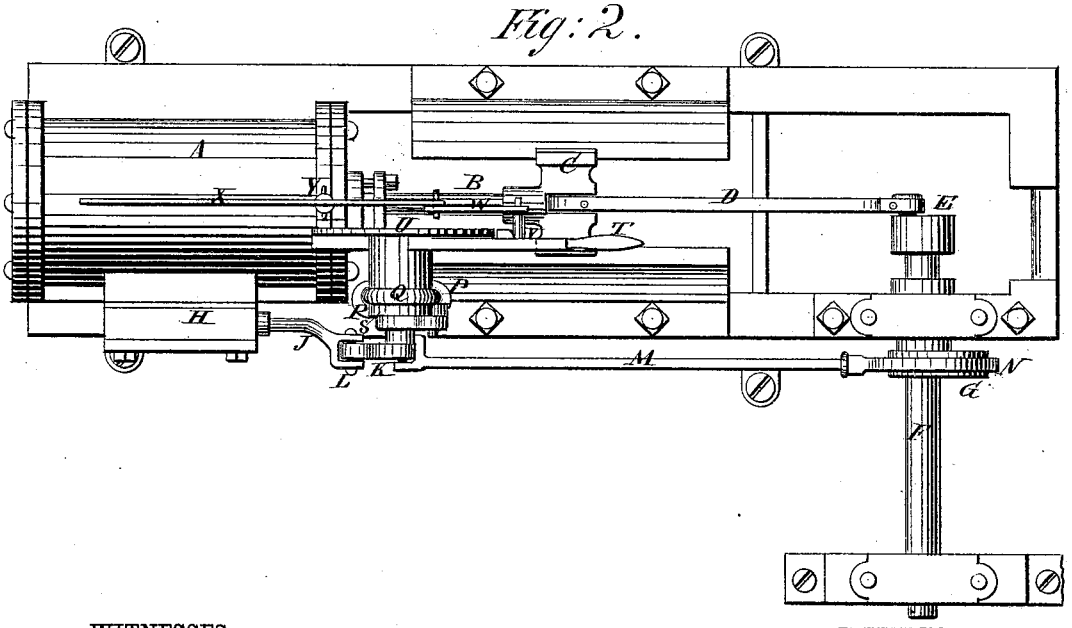


Fig: 2.



WITNESSES:

Achilles Schehl.

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UNITED STATES PATENT OFFICE.

DANIEL S. STOMBS, OF STILLWATER, MINNESOTA.

IMPROVEMENT IN LINK-MOTIONS.

Specification forming part of Letters Patent No. **217,650**, dated July 15, 1879; application filed March 18, 1879.

To all whom it may concern:

Be it known that I, DANIEL S. STOMBS, of Stillwater, in the county of Washington and State of Minnesota, have invented a new and Improved Link-Motion, of which the following is a specification.

Figure 1 is a side view of my improved link-motion. Fig. 2 is a top view of the same.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an improved link-motion for steam-engines, which shall be so constructed that the motion may be readily reversed, and the throw of the valves may be readily regulated to cut off steam at any desired point of the stroke.

The invention consists in the combination of the lever and the pivoted connecting-rod with the lever, the crank-arm, the connecting-bar, and the slide provided with the pivot and with the link, the valve-stem, and the eccentric-rod, to adapt the adjustment of the link to be regulated from the governor of the engine, as hereinafter fully described.

A represents the steam-cylinder of an engine; B, the piston-rod; C, the cross-head; D, the connecting-rod; E, the crank, and F the driving-shaft, to which is attached the eccentric G, that operates the valve. H is the valve-chest, I is the valve, and J is the valve-stem. About the construction of all these parts there is nothing new.

The outer end of the valve-stem J is forked to receive the link K, to which it is pivoted by a bolt, L, passing through the said forked end and through the slot of the link K.

To the lower end of the link K is pivoted the forked end of the connecting-rod M, the other end of which is connected with the eccentric G by an eccentric-strap, N, in the usual way.

The link K is pivoted at its middle part to a pivot, O, attached to a block, P, which slides up and down upon a stationary standard, Q, attached to the bed of the engine, so that the motion may be reversed by sliding the block P up and down upon the standard Q, and by adjusting the said sliding block P upon the said standard Q the valve I may be adjusted to cut off steam at any desired point of the stroke.

To the pivot O of the sliding block P is pivoted the lower end of a connecting-bar, R, the upper end of which is pivoted to the lower end of the crank-arm S. The upper end of the crank-arm S is pivoted to the upper end of the standard Q, and to the other end of its pivot is attached the end of the lever T, so that the slide P may be adjusted, as may be required, by adjusting the said lever T.

The lever T moves along an arched bar, U, supported from the standard Q, and which may be provided with a scale of division-marks to serve as a guide in adjusting it. The lever T may also be provided with a catch to hold it in any position into which it may be adjusted.

To the lever T is attached a short stud, V, to the outer end of which is pivoted the end of a connecting-bar, W. The other end of the connecting-bar W is pivoted to the end of a lever, X, which is pivoted to a standard, Y, attached to the cylinder A, or to some other suitable support.

The free end of the lever X is designed to be connected with the vertical rod of any ordinary governor. By this arrangement the valve I will be adjusted to cut off steam quicker or slower by the movement of the engine, the admission of steam being thus regulated by the speed of the engine.

The automatic device may be used or not, as may be desired.

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

The combination of the lever X and the pivoted connecting-rod W with the lever T, the crank-arm S, the connecting-bar R, and the slide P, provided with the pivot O and with the link K, the valve-stem J, and the eccentric-rod M, to adapt the adjustment of the link to be regulated from the governor of the engine, substantially as herein shown and described.

DANIEL SIMKINS STOMBS.

Witnesses:
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