3 Sheets--Sheet 1.

H. H. MEYER.

Improvement in Governor Cut Offs.

No. 123,500. Patented Feb. 6, 1872.

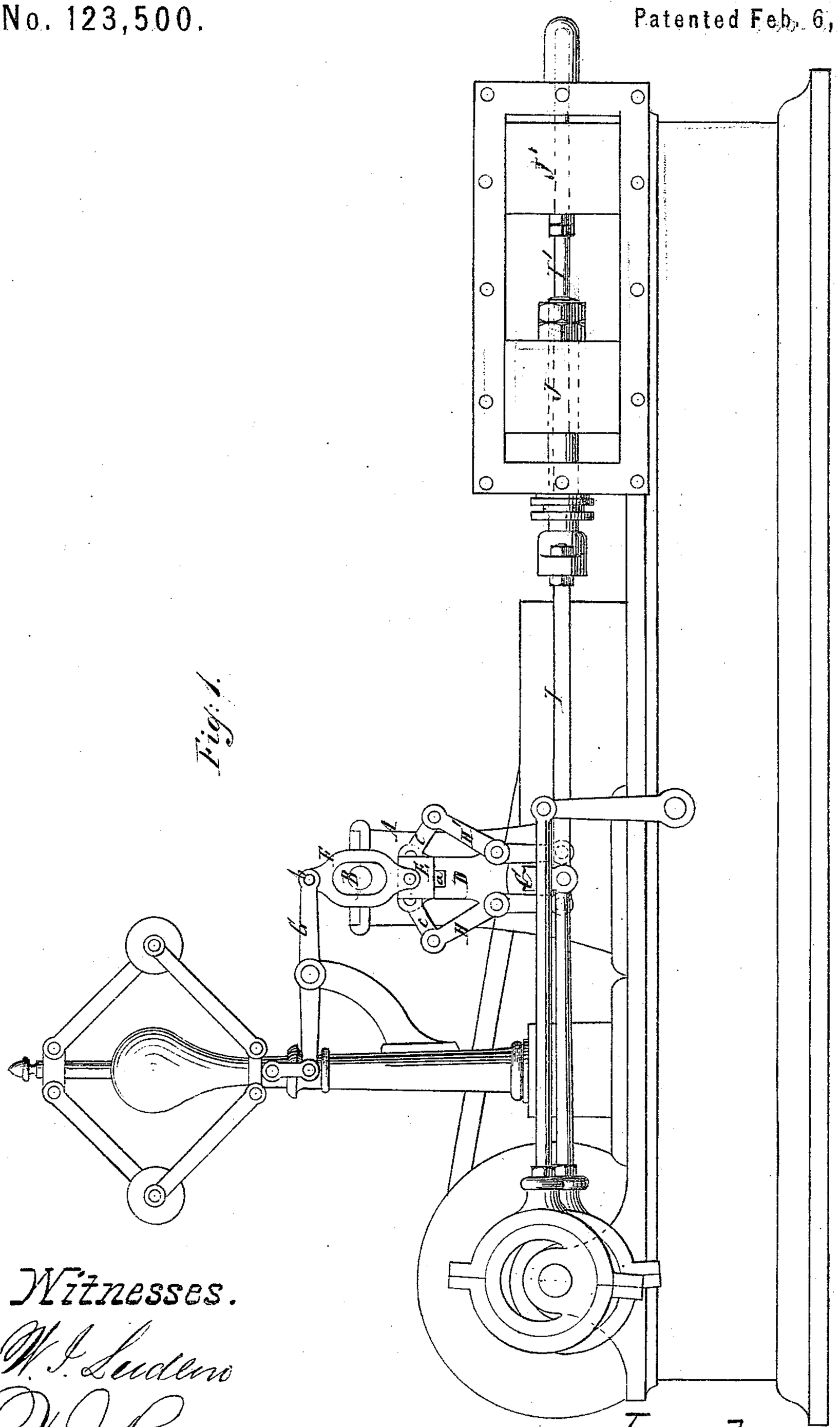

Fig: 1.

Witnesses.

W. I. Ludeno

W. J. Taylor.

Inventor.

Herman H. Meyer.

per Van Santvoord & Hauff

3 Sheets--Sheet 2.

H. H. MEYER.

Improvement in Governor Cut Offs.

No. 123,500. Patented Feb. 6, 1872.

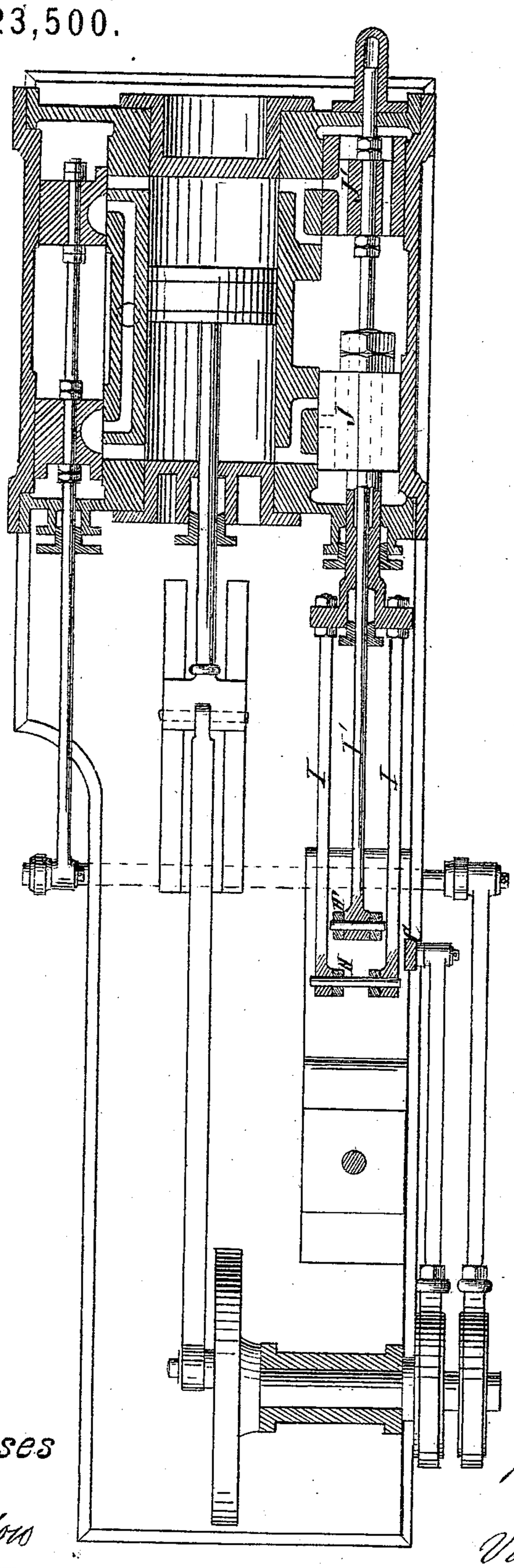

Fig. 2.

Witnesses

W. J. Ludlow

W. J. Peyton.

Inventor:

Herman H. Meyer.

per.

Van Santvoord & Hauff

Attys.

3 Sheets--Sheet 3.

H. H. MEYER.

Improvement in Governor Cut Offs.

No. 123,500. Patented Feb. 6, 1872.

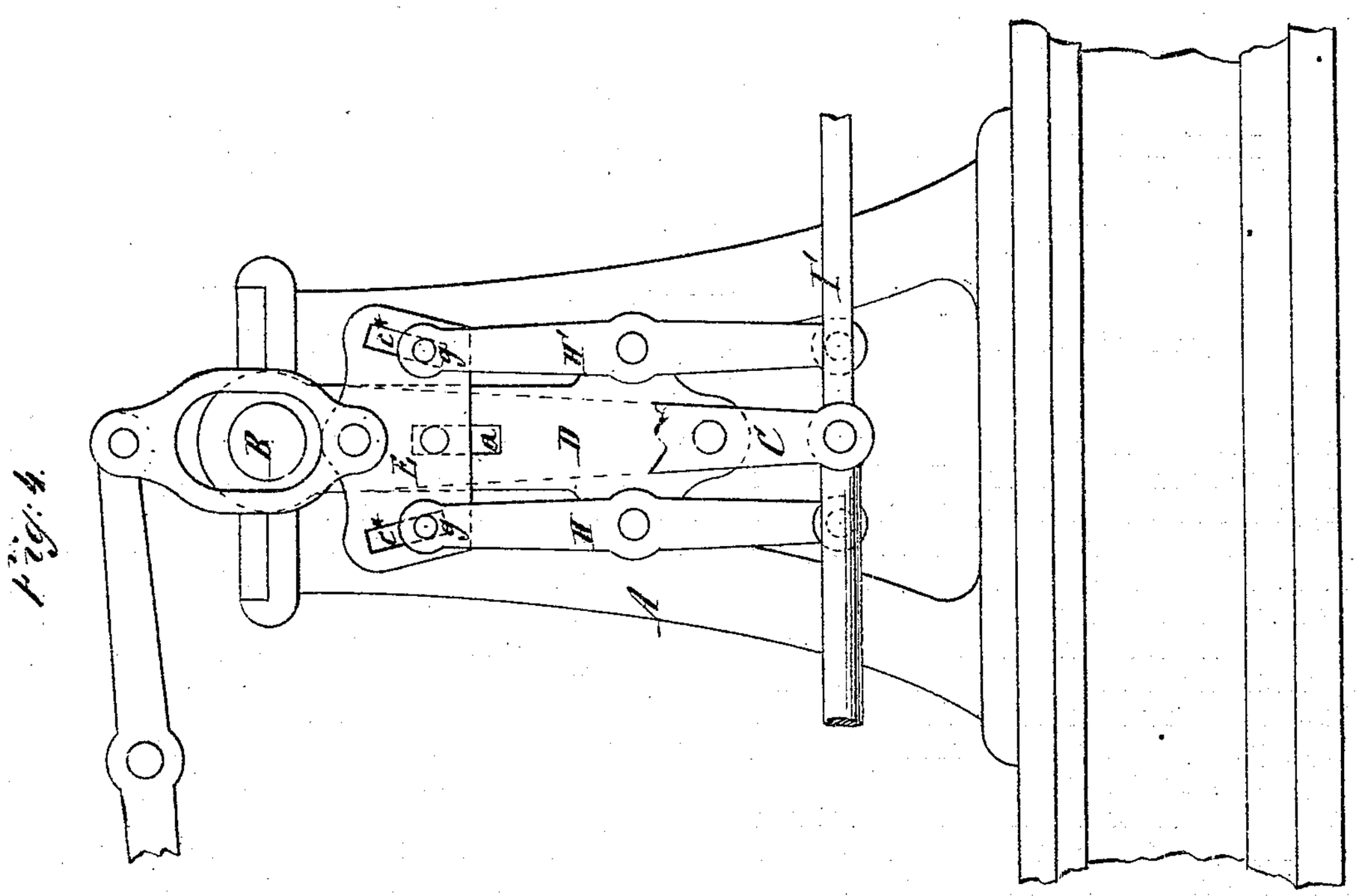

Fig. 2.

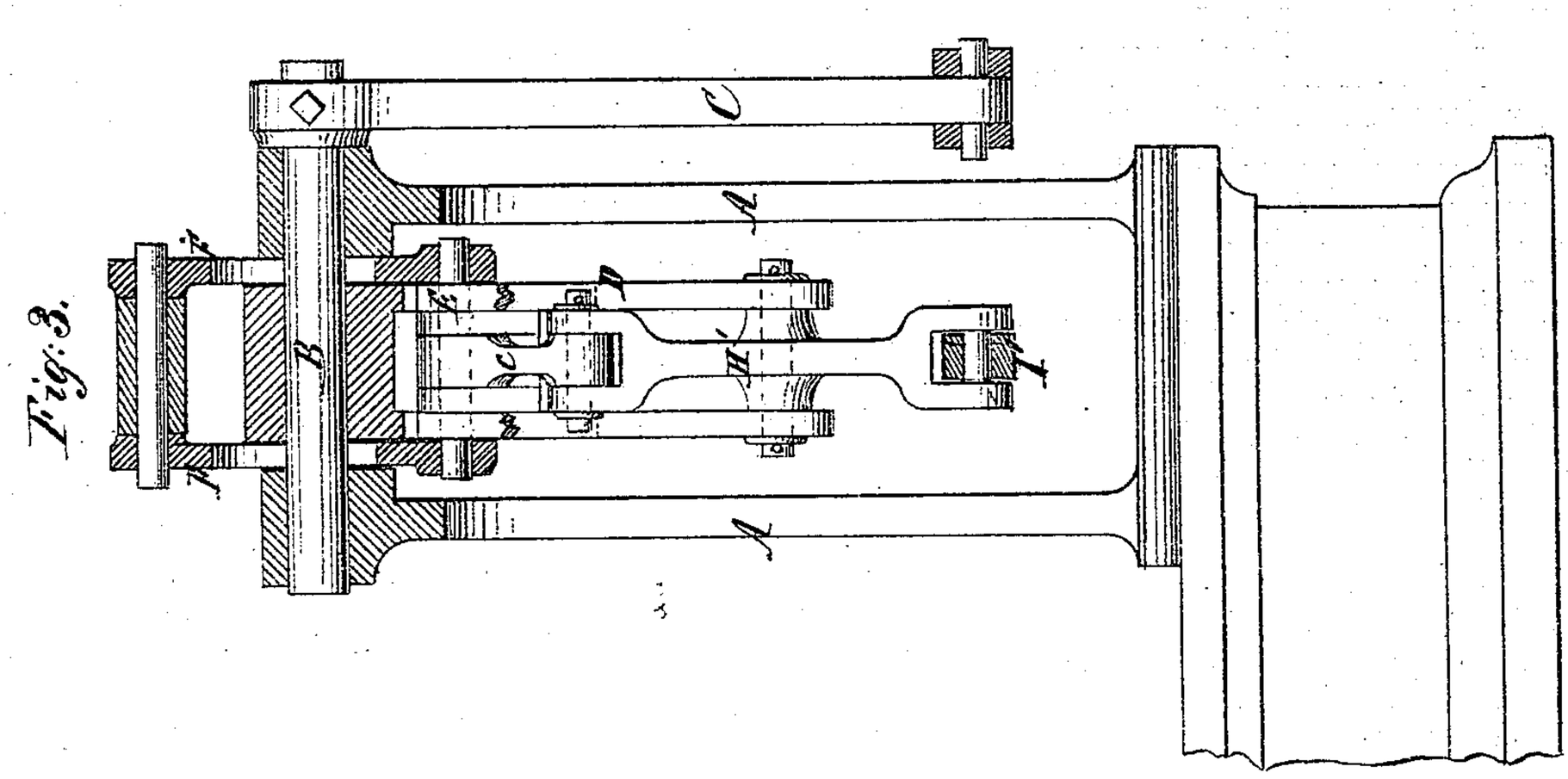

Fig. 3.

Witnesses

W. I. Ludlow

W. J. Peyton.

Inventor.

Herman H. Meyer.

per.

Van Santvoord & Hauff.

Attys.

123,500

UNITED STATES PATENT OFFICE.

HERMAN H. MEYER, OF DENVER, COLORADO TERRITORY.

IMPROVEMENT IN GOVERNOR CUT-OFFS.

Specification forming part of Letters Patent No. 123,500, dated February 6, 1872.

To all whom it may concern:

Be it known that I, HERMAN H. MEYER, of Denver, in the county of Arapahoe, in the Territory of Colorado, have invented a new and useful Improvement in Governor Cut-Offs; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which drawing—

Figure 1 represents a sectional front view of my cut-off mechanism, showing its connection with the governor and with the steam-valves of an engine. Fig. 2 is a sectional plan or top view of the same. Fig. 3 is a detached sectional rear view of my cut-off mechanism. Fig. 4 is a side view of a modification thereof.

Similar letters indicate corresponding parts.

This invention consists in the arrangement of a slide moving in guide-slots in a frame which is suspended from a rock-shaft, and which forms the bearings for the fulcrum-pins of two levers, connecting at their upper ends with the slide, and at their bottom ends with the steam-valve of an engine in such a manner that, by imparting to the rock-shaft an oscillating motion, the steam-valves receive the required motion to admit steam alternately at one and then at the opposite end of the cylinder, and by connecting the slide with the governor the steam-valves are moved toward or from each other, according to the speed of the engine, and steam is cut off sooner or later, as the governor dictates.

In the drawing, the letters A A designate two standards, which are secured to the frame of a steam-engine, as indicated in Fig. 1, and which form the bearings for a rock-shaft, B, on the end of which is mounted an arm, C, that connects with an eccentric on the crank-shaft, so as to impart to the rock-shaft the required oscillating motion. On this rock-shaft is also secured a pendent frame, D, the two side pieces of which are provided with slots *a* to receive a slide, E, which connects, by straps F, pivot *b* and lever G with the governor, as indicated in Fig. 1. The slide E connects, by links *c*, with levers H H′, which have their fulcrums on pivots *d*, secured on opposite sides in the pendent frame D; and from the lower ends of these levers extend rods I I′ to the steam-valves J J′ of the engine. These steam-valves are situated on one side of the cylinder, while the exhaust-valves are situated on the opposite side thereof; and motion is imparted to said exhaust-valves by a separate eccentric.

This arrangement of the steam and exhaust valves forms no part of my present invention; but I prefer to use valves of such a construction that the pressure of the steam acting on them is balanced as near as practicable, so that said valves can be moved with the least possible friction.

The steam-valves J J′, being connected to the levers H H′, receive a reciprocating motion by the action of the eccentric, which imparts motion to the rock-shaft B, and said valves are so arranged that when the same are caused to close up steam is cut off from the cylinder at an earlier part of the stroke than when said valves are moved apart.

By referring to Figs. 1 and 3 of the drawing it will be seen that whenever the slide E is depressed the steam-valves are caused to close up, and when said slide is raised the steam-valves are moved apart.

The connection between the slide E and the governor is such that, when the balls of the governor fly out, the slide is depressed, and since, by this motion, the steam-valves are caused to close up, steam is cut off at an earlier part of the stroke than it is if the balls of the governor sink down, and, consequently, an automatic cut-off is obtained which regulates itself according to the changes in the speed of the engine.

In Figs. 1, 2, and 3 I have shown levers H H′, which are connected to the slide E by means of links *c;* but the connection between the slide and said lever may be effected in different ways—such, for instance, as shown in Fig. 4, where the slide is provided with oblique slots *c** to act on pins *g*, which are secured in the upper ends of the levers H H′—and, by the action of these oblique slots on said pins, an oscillating motion is imparted to the levers H H′ whenever the slide E is raised

or depressed, and the steam-valves are closed up or moved apart, as previously explained.

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

The slide E, connected to the governor of a steam-engine and moving in a pendent frame, D, mounted on a rock-shaft, B, which receives an oscillating motion from the main shaft of the engine, in combination with levers H H′, which have their fulcrums in the pendent frame D and connect with the steam-valves and with said slide, substantially in the manner and for the purpose herein shown and described.

HERMAN HENRY MEYER.

Witnesses:

JOHN W. WEBSTER,

F. JENSEN.