

(No Model.)

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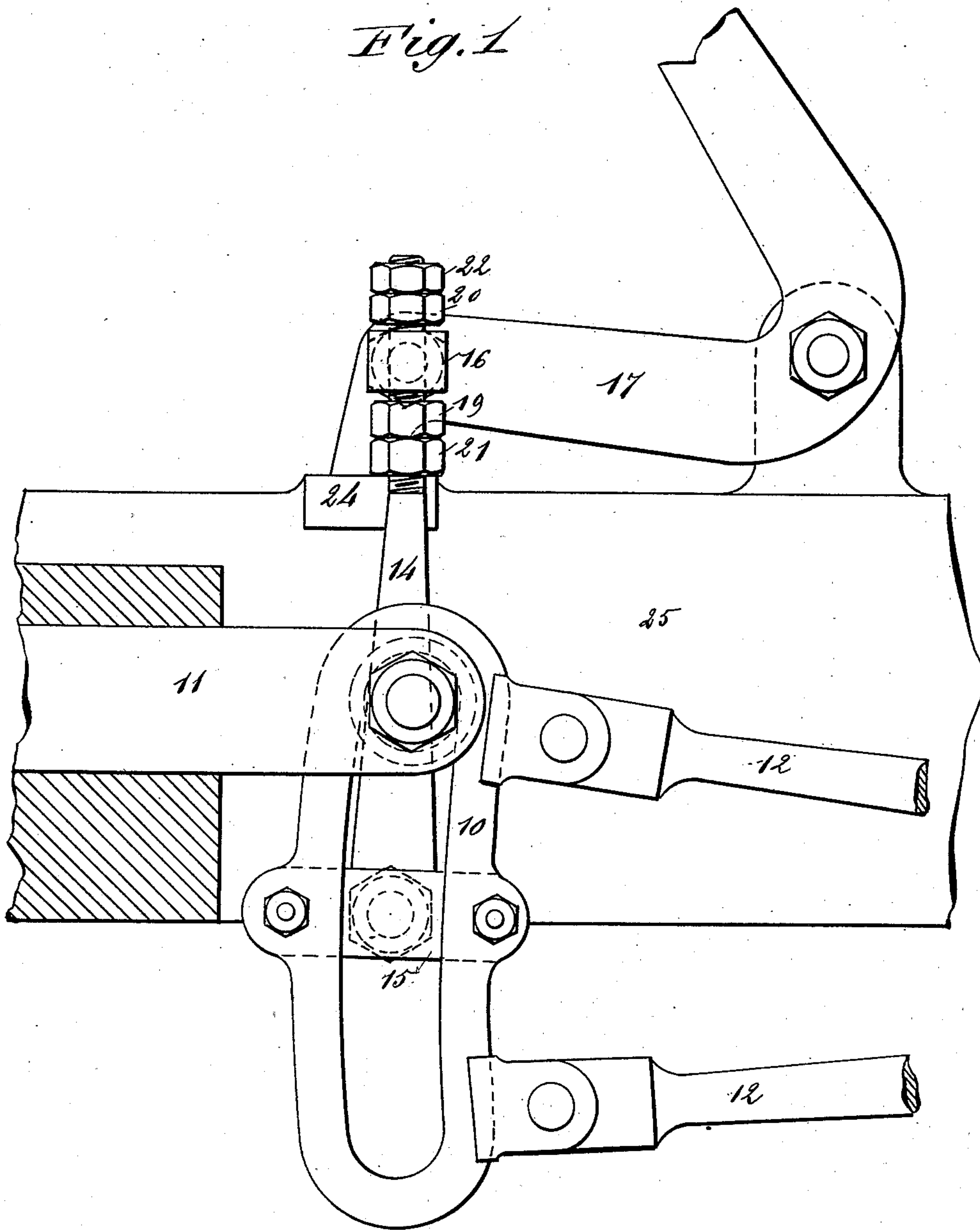
R. MACKAY.

VALVE GEAR.

No. 383,963.

Patented June 5, 1888.

Fig. 1



WITNESSES:

C. Neveu
C. Sedgwick

INVENTOR:

R. Mackay

BY

Munn & Co

ATTORNEYS.

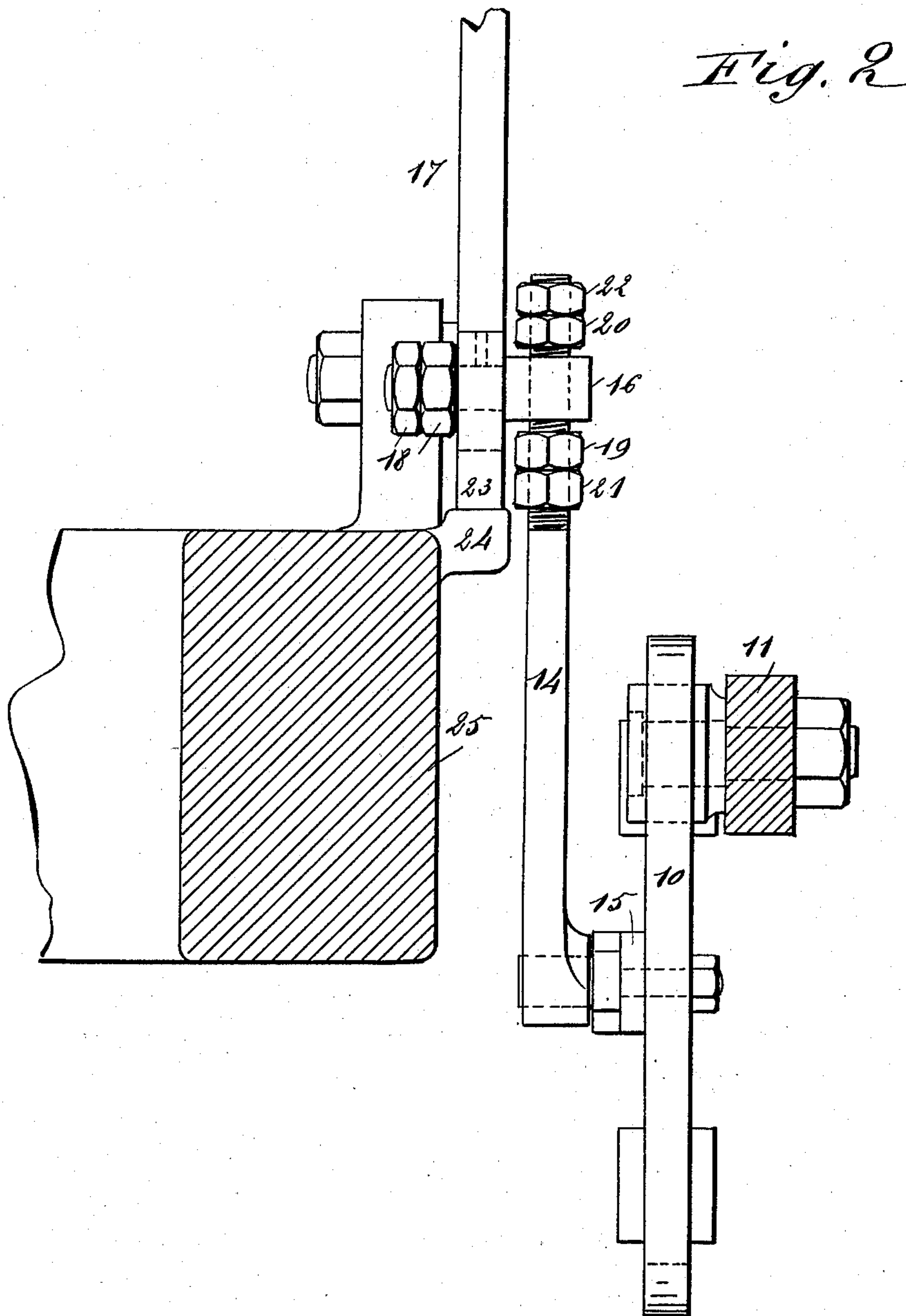
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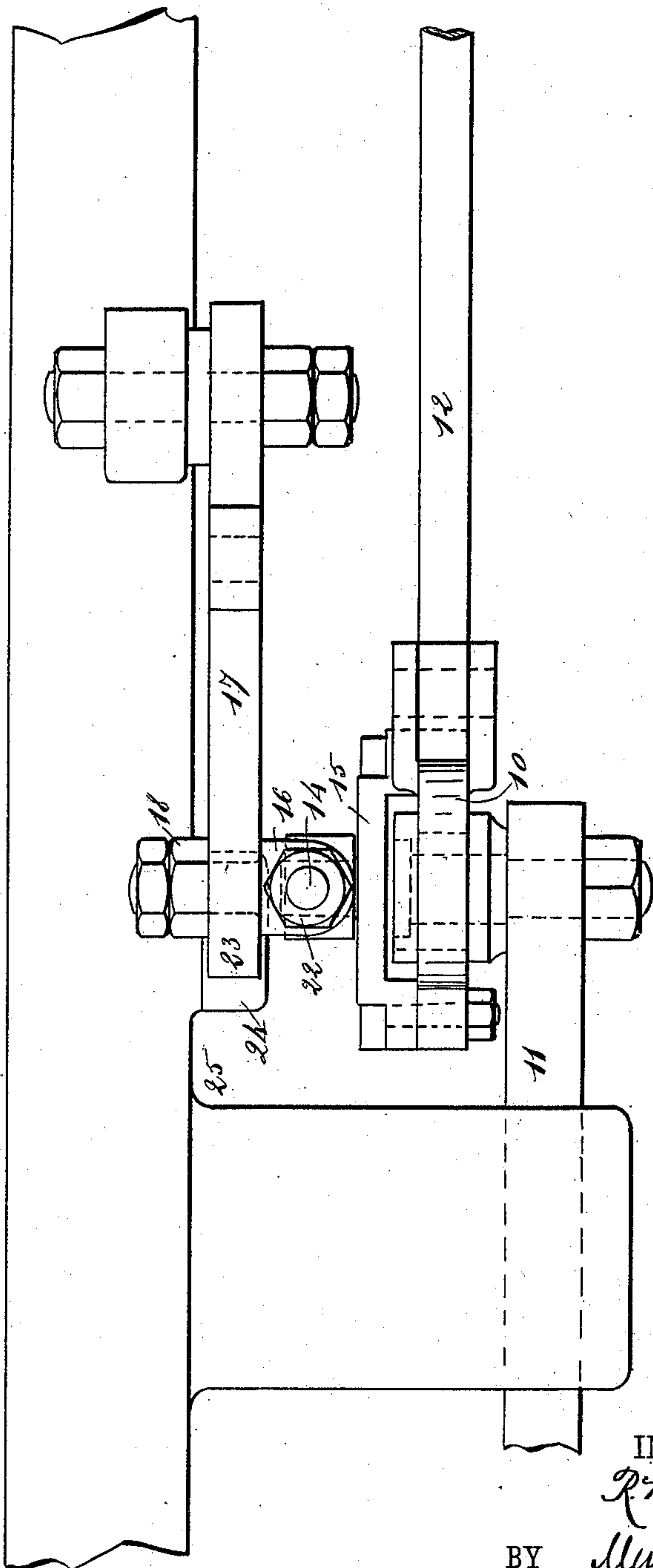
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Patented June 5, 1888.

Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

ROBERT MACKAY, OF WARREN, PENNSYLVANIA.

VALVE-GEAR.

SPECIFICATION forming part of Letters Patent No. 383,963, dated June 5, 1888.

Application filed June 23, 1887. Serial No. 242,783. (No model.)

To all whom it may concern:

Be it known that I, ROBERT MACKAY, of Warren, in the county of Warren and State of Pennsylvania, have invented a new and Improved Valve-Gear, of which the following is a full, clear, and exact description.

This invention relates to valve-gears, the object of the invention being to steady the position of the link and to provide for its quick and ready adjustment, as will be hereinafter more fully described, and specifically pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a side view of a link and operating-lever, representing the same as provided with my improved connection, the link being shown in its lower position. Fig. 2 is an end view of the same, and Fig. 3 is a plan view of the construction illustrated in Figs. 1 and 2.

In the drawings, 10 represents the link, 11 the valve-stem, and 12 the eccentric-rods, which are, as usual, pivotally connected to the link. An upwardly-extending rod, 14, is loosely held to the link-block 15, and this rod passes through a swivel-eye, 16, which is held to the operating-lever 17 by lock-nuts 18, adjusting-nuts 19 and 20 being arranged to engage with the threaded end of the rod 14, and lock-nuts 21 and 22 being arranged in connection with the nuts 19 and 20, respectively.

From the construction above described it will be seen that while the natural play of the link is provided for, the lower nut, 19, and its jam-nut 20 will prevent any accidental upward jumping of the link, for in case of such jumping the weight of the lever 17 and its connections must be overcome, and it will also be seen that the upper nut, 20, and its jam-nut 22 will serve as stops against which the swivel

16 of the operating-lever 17 will bear when it is desired to raise the link and reverse the motion of the engine.

In order that the link may be supported in the position in which it is shown in Figs. 1 and 2—that is, in a position to drive the engine forward—I form the lever 17 with a foot, 23, which rests upon a table, 24, that extends outward from the engine-frame 25, the engine being reversed by throwing the lever 17 in the direction of the arrow shown in connection therewith in Fig. 1.

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

1. The combination, with a link, of an upwardly-extending rod connected thereto, an operating-lever, a swivel-eye, and stops carried by the upwardly-extending rod upon either side of the swivel-eye, substantially as described.

2. The combination, with a link, 10, arranged for connection with a valve-stem and eccentric-rods, of a rod, 14, a lever 17, a swivel-eye, 16, carried by the lever 17, nuts 19 and 20, arranged upon either side of the swivel-eye and engaging the rod 14, and jam-nuts 21 and 22, substantially as described.

3. The combination, with a link arranged for connection with a valve-stem and eccentric-rods, of a rod, 14, connected to the link-block, a lever, 17, formed with a foot, 23, a table upon which said foot rests, a swivel-eye, 16, carried by the lever 17, the rod 14, passing through said eye, and lock-nuts carried by the rod upon either side of the swivel eye, substantially as described.

ROBT. MACKAY.

Witnesses:

J. A. WEIBLE,
JOSEPH A. SCHOFIELD.