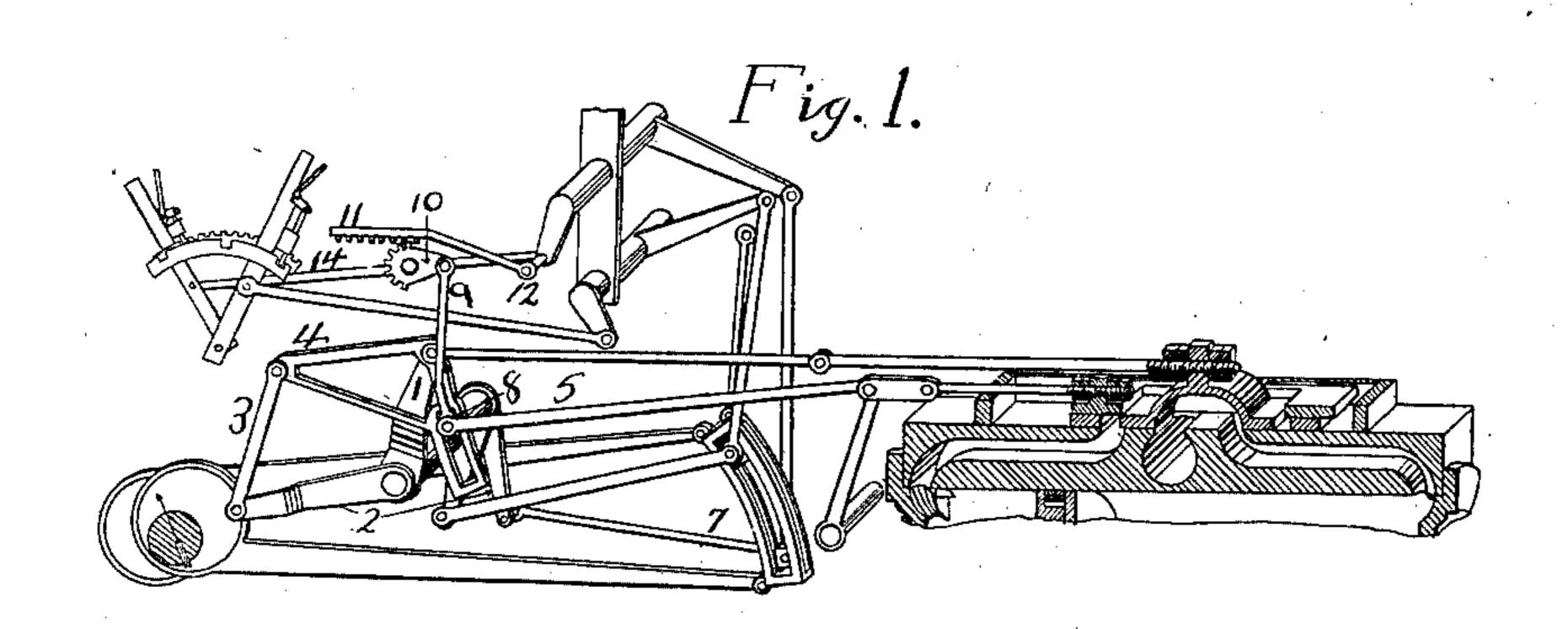
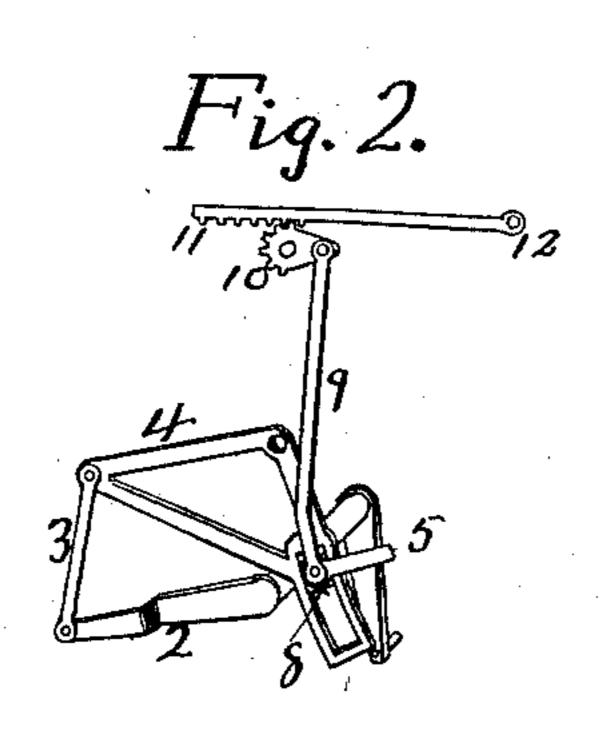
No. 729,244.

PATENTED MAY 26, 1903

J. F. VAN TUYL. CUT-OFF VALVE GEAR. APPLICATION FILED MAR. 4, 1902.

NO MODEL.





Witnesses, D. Watsen R. Mc Kinger

Inventor, John Flan Tayl.

United States Patent Office.

JOHN F. VAN TUYL, OF SAWPIT, COLORADO.

CUT-OFF-VALVE GEAR.

SPECIFICATION forming part of Letters Patent No. 729,244, dated May 26, 1903.

Application filed March 4, 1902. Serial No. 96,612. (No model.)

To all whom it may concern:

Be it known that I, John F. Van Tuyl, a citizen of the United States, residing at Sawpit, in the county of San Miguel and State of Colorado, have invented a new and useful Cut-Off-Valve Gear, of which the following is a specification.

My invention relates to improvements in valve-gear for a cut-off valve controlling ports in a main valve; and the objects of my improvement are, first, to give the cut-off valve a motion similar to the motion of the main valve, together with an independently-controlled motion relating it to the ports in the main valve, and, second, to equalize the independent stroke of the cut-off valve. I attain these objects by the mechanism illustrated in

Figure 1 is a side view of the valve-gear with a valve in section, and Fig. 2 the parts in which invention is claimed.

the accompanying drawings, in which—

Similar numerals refer to similar parts throughout both views.

The main rocker 1 is a customary part of main-valve gear. The rocker or angular lever 2, with stationary fulcrum, converts the longitudinal motion received from the link through the link-rod 7 or from other driving device into vertical motion. The bell-crank or angular lever 4, with its fulcrum attached to the main-valve gear, receives through the link-rod 3 the vertical motion from the rocker 2 and through the fulcrum of the bell-crank the motion of the main valve, and imparts both motions or the resulting combined motion in longitudinal direction to the cut-off valve. The fulcrum of the rocker 2, the bear-

bell-crank 4 should be at the angles of a par-40 allelogram and the fulcrum of the bell-crank attached to some part having the motion of the main valve.

ings of the link-rod 3, and the fulcrum of the

The independent stroke of the cut-off valve |

is equalized by the slider 8, carrying the bearing of the cut-off-valve rod 5 in the valve-arm 45 of the bell-crank 4, the link-rod 9, the pinion and crank 10, and the rack 11, attached at 12 to the cut-off adjusting-gear. If the cut-off reach-rod 14 be moved forward from the extreme back position shown, the rack 11 turns 50 the pinion and crank 10 and drops the slider 8 toward the bottom of its slot as the link-rod 7 approaches the middle of the link and returns the slider toward the top of its slot as the link-rod 7 approaches the opposite end of 55 the link, the varying length of the valve-arm of the bell-crank compensating for the varying oscillation thereof and giving equallyquick closing of the ports at all points of cut off.

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

1. In a valve-gear for a cut-off valve controlling ports in a main valve, the combination of an angular rocker or lever with its 65 fulcrum stationary, a bell-crank with its fulcrum attached to some part having the motion of the main valve, and a link-rod connecting the second with the first; substantially as described, and for the purpose set forth.

2. In a cut-off-valve gear, the combination of a slider carrying the bearing of the cut-off-valve rod in the arm of the lever driving the same, a pinion and crank, a link-rod connecting the slider with the crank, and a rack 75 engaging the pinion and attached to the cut-off adjusting-gear; substantially as described, and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of 8c two subscribing witnesses.

JOHN F. VAN TUYL.

Witnesses:

J. T. FACKLER, S. S. McDaniel.