

No. 667,993.

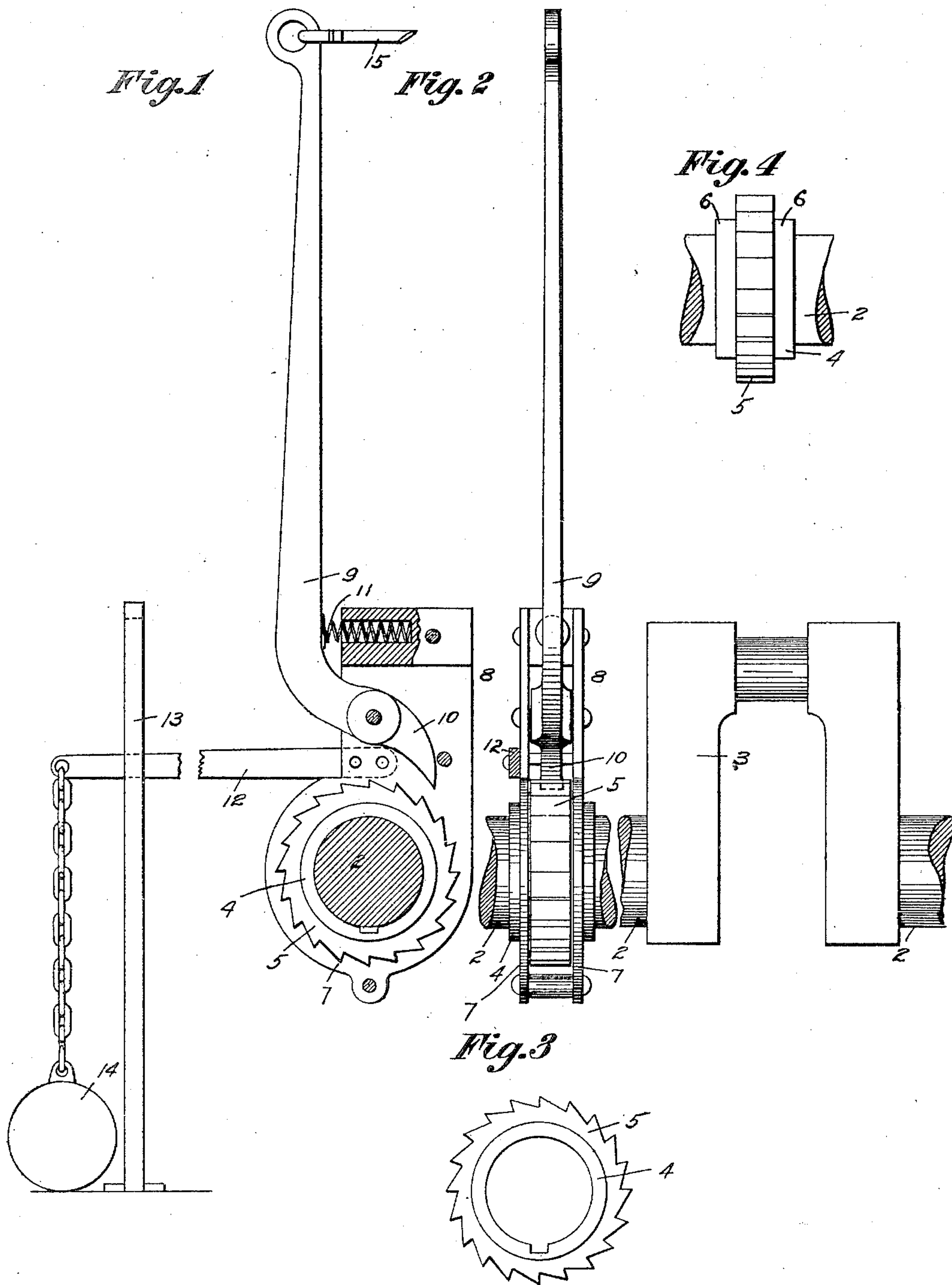
Patented Feb. 12, 1901.

C. F. RIGBY.

MECHANISM FOR MOVING ENGINES OFF DEAD CENTERS.

(Application filed May 19, 1900.)

(No Model.)



Witnesses  
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# UNITED STATES PATENT OFFICE.

CLARK F. RIGBY, OF MANNINGTON, WEST VIRGINIA.

## MECHANISM FOR MOVING ENGINES OFF DEAD-CENTERS.

SPECIFICATION forming part of Letters Patent No. 667,993, dated February 12, 1901.

Application filed May 19, 1900. Serial No. 17,244. (No model.)

*To all whom it may concern:*

Be it known that I, CLARK F. RIGBY, a citizen of the United States, residing at Mannington, in the county of Marion and State of West Virginia, have invented new and useful Improvements in Mechanism for Moving Engines Off Dead-Centers, of which the following is a specification.

In the drilling of oil and gas wells the engine frequently stops on a dead-center, and before it can be started the driller must go from the derrick to the engine and work it off or past the center, involving considerable waste of time.

The object of the present invention is to provide mechanism whereby the engine-shaft may be partially turned sufficient to work the crank past the center without the driller leaving the derrick.

While the invention is designed primarily to meet prevailing conditions attending the drilling of wells, its usefulness is not thus limited, as it may be used to advantage in other classes of work in which the engine is operated at a distance. The shaft-turning mechanism may also be conveniently used when the engineer is stationed at the engine.

The invention consist in the novel features of construction and in the combination and arrangement of parts hereinafter fully described and claimed, and illustrated by the accompanying drawings, in which—

Figure 1 is side elevation, partly in section, of the improved mechanism in position on a shaft. Fig. 2 is an elevation of the shaft, giving an edge view of the mechanism. Figs. 3 and 4 are detail views.

Referring to the drawings, 2 is an engine-shaft of ordinary construction, and 3 the crank, to which the pitman (not shown) is connected in the usual manner. Secured to the shaft is sleeve or collar 4, which carries ratchet 5. The ends of sleeve 4 form bearings 6, upon which side plates 7 of oscillating frame 8 are adapted to turn. The frame is extended above the shaft and constitutes a bearing for the lower end of vertical lever 9, the lower extremity of the latter forming dog 10, which has position immediately above the ratchet-wheel, being held normally out of engagement therewith by spring 11, ar-

ranged in a socket in the upper part of frame 8 and bearing outward on lever 9.

Extending laterally from frame 8 is arm 12, which projects through rest or post 13, and suspended from the end thereof is weight 14, which holds the lever, frame 8, and dog 10 normally in operative position with respect to the ratchet. A cord or wire 15 extends from the upper end of the lever to the derrick or other place where the operator may be stationed.

In operation when it is desired to start the engine which has come to rest on a dead-center wire 15 is drawn upon, and spring 11 being weaker than weight 14 it yields, and dog 10 is engaged with ratchet 5, and further pull on the wire oscillates frame 8 and turns with it the engine-shaft and lifts the weight. When the pull on the wire is relaxed, the weight draws the frame and lever back to normal position and ready for a new hold, and the operation may be repeated as often as may be necessary to get the shaft to position for starting the engine. Normally the shaft and sleeve carrying the ratchet turn freely in frame 8, and the rotation of the shaft is in no wise impeded.

I do not confine my invention to the exact details of construction, as obviously they may be varied in many particulars without departing from the spirit of my invention.

It will be understood that the lever may be grasped by the attendant stationed at the engine, when the mechanism forms a convenient means for getting the shaft into starting position.

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

1. The combination of an engine-shaft, a ratchet fixed thereon, a counterweighted frame rotatably mounted on the shaft, a lever fulcrumed in the frame, and a dog carried by the lever and held normally from engagement with the ratchet but adapted to engage the same upon the forward movement of the lever, substantially as shown and described.

2. The combination of an engine-shaft, a ratchet carried thereby, a frame adapted to oscillate concentrically with the shaft, a



weight for holding the frame to normal position, a dog pivoted in the frame and held normally from engagement with the ratchet by a spring, and means for oscillating the  
; frame against the pull of the weight and throwing the dog into the ratchet, substantially as shown and described.

3. The combination of an engine-shaft, a ratchet carried thereby, a frame, a weight  
10 for holding the frame to normal position with respect to the shaft and ratchet, a lever fulcrumed in the frame with its extremity forming a dog, a spring for holding the dog normally from engagement with the ratchet, the  
15 spring being weaker than the weight, whereby when the lever is drawn upon the dog will be thrown into the ratchet, substantially as shown and described.

4. The combination of an engine-shaft,

a sleeve or collar secured thereto, a ratchet 20 on the sleeve between the ends thereof, the ends of the sleeve forming bearings, a frame bifurcated at the lower end and mounted to turn on said sleeve-bearings, means for holding the frame normally in a given position, 25 a dog pivoted in the frame and held normally from engagement with the ratchet, and means for oscillating the frame which throws the dog into the ratchet, substantially as shown and described. 30

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CLARK F. RIGBY.

Witnesses:

C. P. FAULKNER,

A. A. J. GASKILL.