

(No Model.)

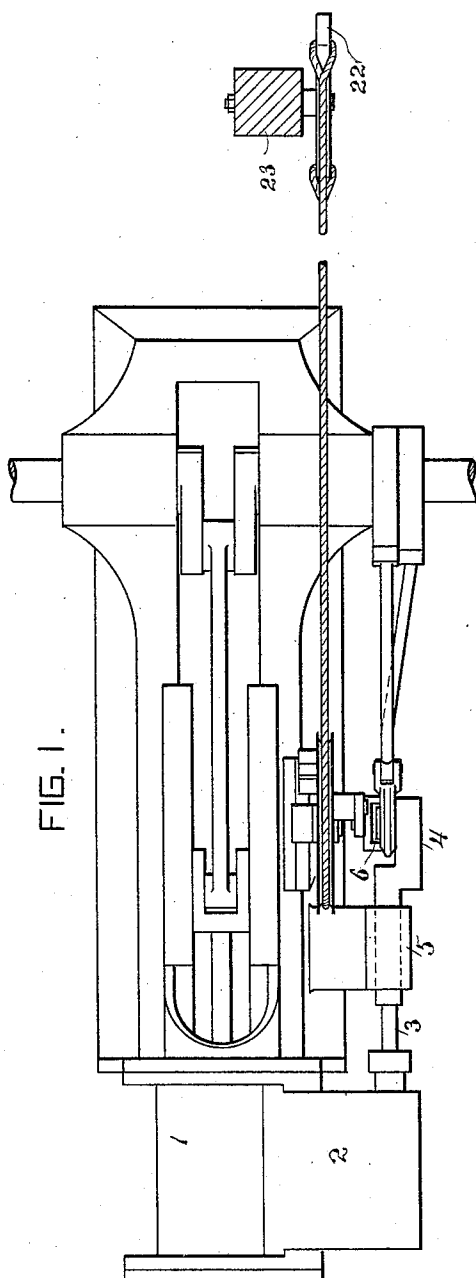
2 Sheets—Sheet 1.

J. L. SEYFANG.

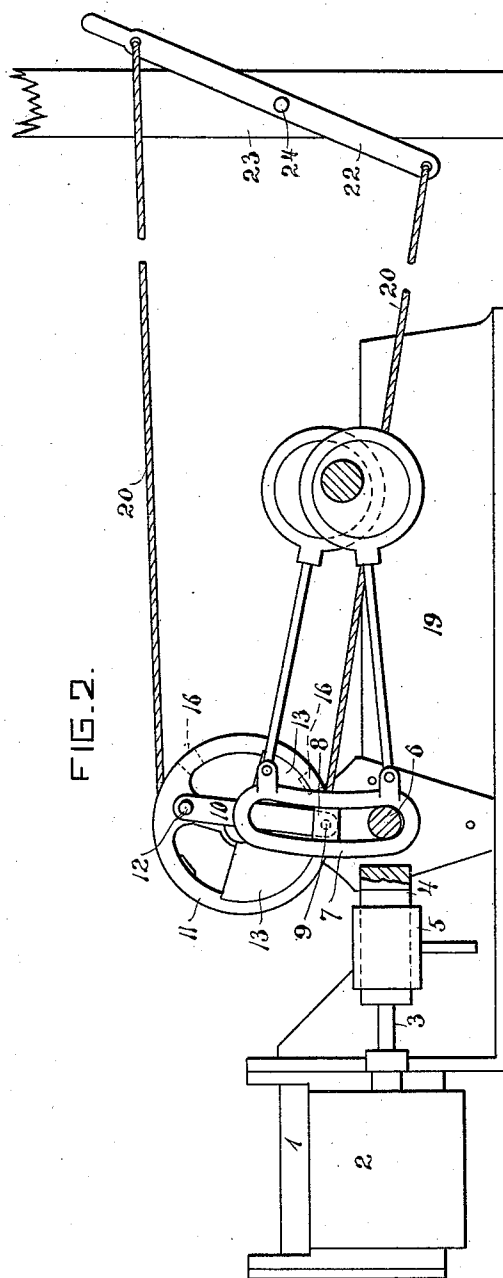
REVERSING GEAR FOR STEAM ENGINES.

No. 536,898.

Patented Apr. 2, 1895.



WITNESSES:  
*Walter E. Allen.*  
*Ed. C. Curran.*



INVENTOR  
*John L. Seyfang.*  
BY *Knight Bros.*  
ATTORNEYS

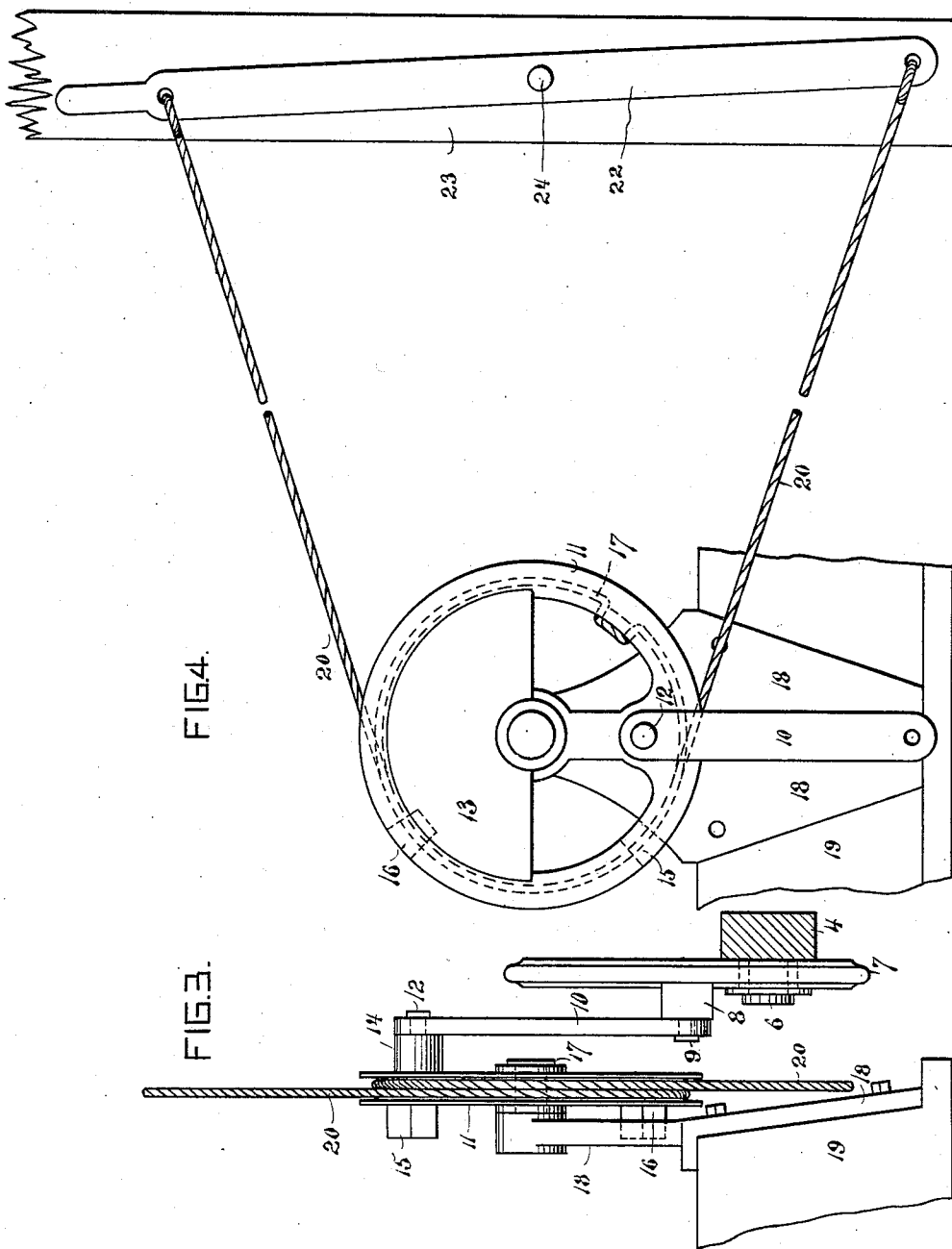
(No Model.)

2 Sheets—Sheet 2.

J. L. SEYFANG.  
REVERSING GEAR FOR STEAM ENGINES.

No. 536,898.

Patented Apr. 2, 1895.



WITNESSES:  
*Walter E. Allen.*  
*Geo. E. Cruise*

INVENTOR  
*John L. Seyfang*  
BY *Smith Bros.*  
ATTORNEYS

# UNITED STATES PATENT OFFICE.

JOHN L. SEYFANG, OF BRADFORD, PENNSYLVANIA.

## REVERSING-GEAR FOR STEAM-ENGINES.

SPECIFICATION forming part of Letters Patent No. 536,898, dated April 2, 1895.

Application filed July 23, 1894. Serial No. 518,391. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN L. SEYFANG, a citizen of the United States, residing at Bradford, in the county of McKean and State of Pennsylvania, have invented certain new and useful Improvements in Reversing-Gears for Steam-Engines, of which the following is a specification.

My invention relates to reversing gears for that class of steam engines that are constructed with links, or their equivalents, which in connection with eccentric rods are used for changing the position of the steam valve and crank for the purpose of reversing the movement of the engine.

The object of my invention is to provide oil and Artesian well engines which are of the above-mentioned class with an inexpensive and quick acting long distance reversing gear that can be operated from the derrick. I attain these objects by the mechanism herein-after fully described and illustrated in the accompanying drawings, in which—

Figure 1 is a top view of a steam engine provided with my long distance reversing gear. Fig. 2 is a side elevation of a steam engine and shows a side view of my long distance reversing gear with the slide block of the valve stem broken away in order to show the link engaged with the slide block pin; Fig. 3, an enlarged end view of my long distance reversing gear, viewed from the cylinder end of the engine. Fig. 4 is an enlarged side elevation of my long distance reversing gear connected up to a lever attached to the dead head post, which is situated in the derrick of an oil or Artesian well rig.

Similar numerals refer to similar parts throughout the several views.

1 represents the engine located on the engine bed 19 and provided with the steam chest 2.

3 represents the stem of the steam valve working in the chest 2; 4, a block secured to the stem and 5 a box located on the engine bed and in which the block 4 slides. The block 4 is connected by means of a pin 5 with the link 7 which link moves the block 4 and valve during the operation of the engine. It is driven by means of the engine eccentrics connected thereto by means of eccentric rods.

The link 7 is provided with a saddle 8 and a saddle-pin 9 to which is movably secured one end of a link of the reversing mechanism.

I will now proceed to describe my improved reversing mechanism.

10 represents a link which is movably secured at its lower end to the pin 9 and at its upper end to a grooved pulley 11 by means of a pin 12. The link 10 is held in alignment by means of the boss 14 on the pin 12. The grooved pulley 11 is journaled on the stud of the bracket 18 which is fixedly secured to the engine bed 19 and it is provided with the counterbalance weight 13 and stops 15 and 16.

20 represents a rope, which is wound around the pulley 11, its ends being passed through openings 20 and 21 in the pulley and secured to the lever 22 which is pivoted on the dead head post of the derrick frame at 24. The rope should be secured to the lever 22 at points equidistant from the pivot point 24.

The operation of the device is as follows: In Figs. 2 and 3, the link 7 is shown as raised, the counterbalance weight of the grooved pulley being on its lower center, the projection 16 bearing against the bracket 18 and the hand lever turned to the right. When it becomes necessary to reverse the engine a movement of the lever to the left causes the grooved pulley to revolve until the projection 15 contacts with the bracket 18 as shown in Fig. 4. The counterbalance weight 13 will then be on its upper center, and the link 10 will be dropped to its lowest point, which by means of its connection with the link 7 will cause it to drop also.

It will be observed that the projections 15 and 16 are so located on the rim of the grooved pulley 11 as to allow the pin 12 which supports the link 10 to swing over beyond the perpendicular line, thus locking the link 7 when the pulley is in the position shown in Figs. 2 and 3.

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

1. In a reversing gear for steam engines the combination of the engine and engine bed, a standard secured to said bed, a grooved and weighted pulley journaled on said standard, a link connecting the grooved pulley and

engine link, a rope surrounding the grooved pulley and connected with an operating lever, substantially as and for the purpose set forth.

2. The combination of a steam engine and  
5 steam engine bed, a standard secured on said bed, a grooved pulley formed with a weighted portion and stops journaled on said standard, a link 10 secured at one end to the pulley and at its other end to the engine link, a boss lo-  
10 cated between the said link 10 and pulley to keep the link in alignment, and a rope passing around the said pulley and having its ends secured to an operating lever, substantially as and for the purpose set forth.

3. In a reversing gear for steam engines 15 the combination of the engine and engine bed, the grooved pulley mounted on said bed and provided with the stops 15 and 16, and the rope surrounding the grooved pulley having its ends connected to a pivot lever, at 20 points equidistant from the pivot point of the lever, substantially as and for the purpose set forth.

JOHN L. SEYFANG.

Witnesses:

R. M. CLOSE,  
J. E. WARD.