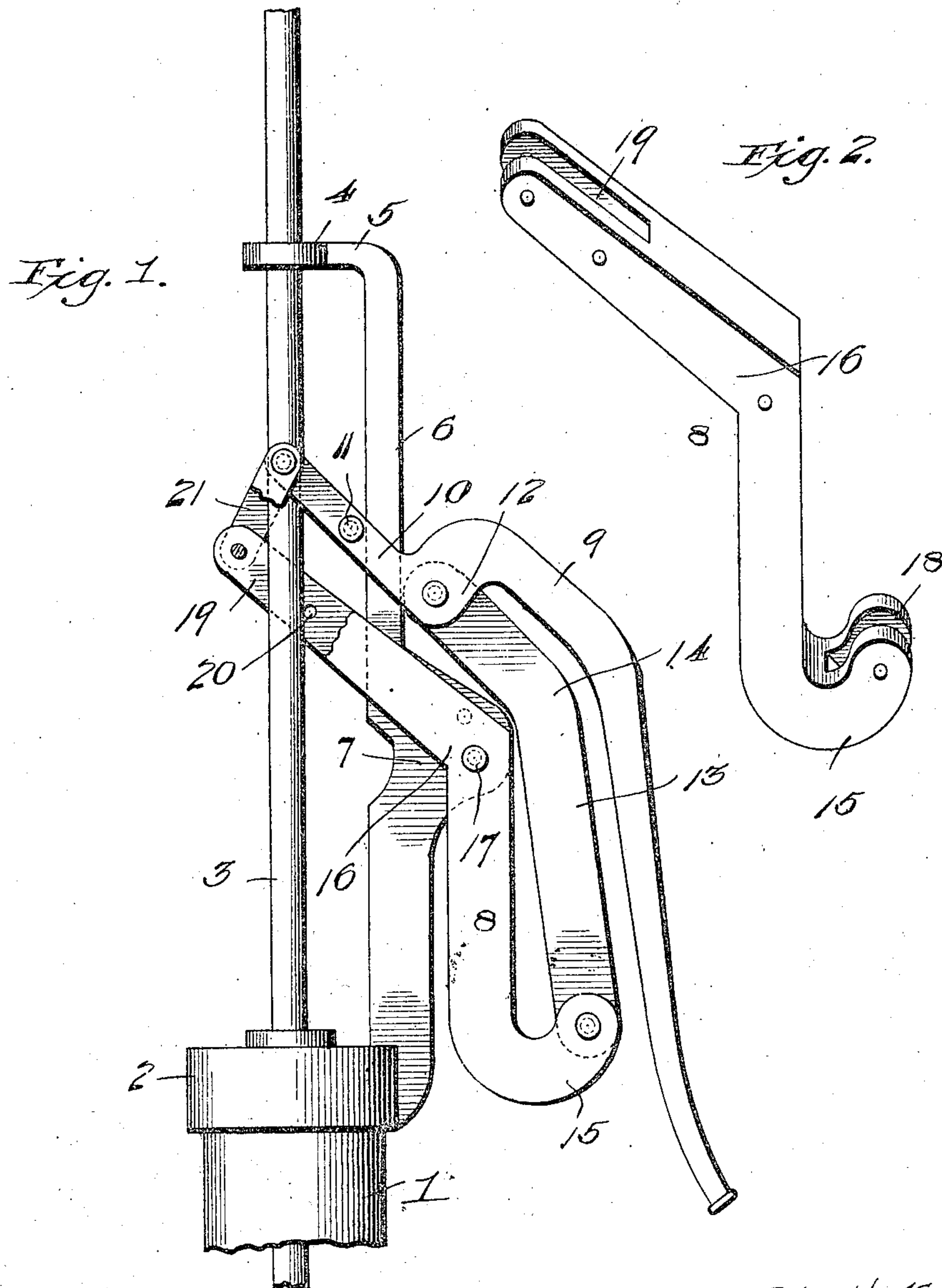


No. 847,004.

PATENTED MAR. 12, 1907.

J. H. KANE.
PUMP OPERATING MECHANISM.
APPLICATION FILED JUNE 5, 1906.



Inventor
John H. Kane

Witnesses

Witnesses
G. L. Hockman
James F. Crown

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Geo. S. Vashon

Attorney

UNITED STATES PATENT OFFICE.

JOHN H. KANE, OF KIOWA, KANSAS, ASSIGNOR OF ONE-HALF TO HENRY H. DAMMAN, OF KIOWA, KANSAS.

PUMP-OPERATING MECHANISM.

No. 847,004.

Specification of Letters Patent.

Patented March 12, 1907.

Application filed June 5, 1906. Serial No. 320,348.

To all whom it may concern:

Be it known that I, JOHN H. KANE, a citizen of the United States, residing at Kiowa, in the county of Barber and State of Kansas, have invented new and useful Improvements in Pump-Operating Mechanism, of which the following is a specification.

This invention relates to pump-operating mechanism; and the primary object of the same is to provide a simple and effective arrangement whereby the operation of the piston or pump-rod will be rendered easy by equalizing the lift and pressure, or, in other words, lifting as much through the interposition of the improved mechanism in proportion to the power utilized in pressing down on the pump-handle.

The improved pump-operating mechanism materially relieves the operator of the resistance ordinarily experienced in actuating pump-rods, especially in driven wells of considerable depth, where the suction or the resistance in the pump, barrel, or tube is considerable.

In the drawing, Figure 1 is a side elevation of the upper portion of a pump, showing the improved mechanism applied thereto. Fig. 2 is a detail perspective view of the essential element of the improved mechanism.

Like characters refer to like parts throughout the views.

The numeral 1 designates a pump-stock of any suitable construction, having a head 2, through which a rod 3 has movement. The rod 3 may be of any length and is guided at a distance above the head 2 by an eye 4, terminally carried by the angular extension 5 of an upright 6, preferably cast integral with the head 2. It will be understood, however, that this upright 6 may be secured in any suitable manner to the head 2. At an intermediate point the upright 6 has a rearward offset 7, and thereto a compensator 8 (shown in detail by Fig. 2) is pivotally attached. The handle 9 of the pump is throughout its major structure similar to ordinary pump-handles and has an angular extremity 10, movably attached to the rod 3 and provided with a cross-pin or analogous limiting device 11, which is adapted to bear against the adjacent edge of the upright 6 and limit the movement of the said handle. At the intersection of the angular extension 10 with the main body of the pump-handle an offset 12

is formed having the upper end of a link 13 pivotally connected thereto, the said link having an intermediate deflection, as at 14, to accommodate the application thereof to the handle and to pass over the offset 7 of the upright 6. The lower end of the link 13 is connected to an arcuate upturned lower extremity 15 of the compensator 8, this compensator being intermediately deflected, as at 16, where it is fulcrumed on the offset through the medium of a fulcrum-pin 17. The lower arcuate extremity 15 of the compensator is bifurcated, as at 18, to receive the lower end of the link, and likewise the upper extremity is formed with an elongated slot 19 to movably embrace the rod 3, a limiting-pin 20 extending through said upper end of the compensator, as shown. The rod 3 is also attached to the upper end of the compensator by a short link 21.

In the operation of the improved mechanism an elevation of the free extremity of the handle 9 will cause a depression of the end of the extension 10 attached to the rod 3, and simultaneously the adjacent end of the compensator will be depressed and freely slide over the said rod 3. On the downward movement, or when pressure is applied to the handle 9, the pump-rod 3 is elevated, and simultaneously the extremity of the compensator 8 engaging said rod is likewise moved vertically and assumes the position shown in Fig. 1.

This mechanism relieves the resistance which is more or less experienced in operating a pump-rod, and it is intended to be applied to any pump now in use. It will be found very convenient, and it is proposed to manufacture the head 2 and upright 6 with the remaining parts and apply them to any pump now in use, care being taken to have the head 2 of such diameter as to fit over various stocks.

The link structure 21 is preferably formed of two straps which are removably attached to the angular extension 10 and the adjacent end of the compensator, so as to facilitate the application of the improved head and mechanism over a pump-rod.

It will be understood also that variations in the proportions and minor details may be adopted to accommodate various applications without departing from the spirit of the invention.

What I claim is—

1. The combination with a pump stock and rod, of a head having an upright, a compensator intermediately fulcrumed to the upright and having one extremity movably embracing the pump-rod, a handle, a link movably attached to the handle and to the lower extremity of the compensator and also movably connected to the pump-rod, and link
10 connecting means between the end of the handle attached to the pump-rod and the adjacent end of the compensator.

2. The combination with a pump stock and rod, of a head carrying an upright with

an intermediate offset, a compensator fulcrumed on the offset, a handle movably attached to the rod, a link movably connected at opposite ends to an intermediate portion of the handle and to the lower extremity of the compensator, and link means connecting the
20 end of the handle attached to the rod and the adjacent end of the compensator.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN H. KANE.

Witnesses:

H. H. DAMMAN,
ZOLA E. IKERD.