

(No Model.)

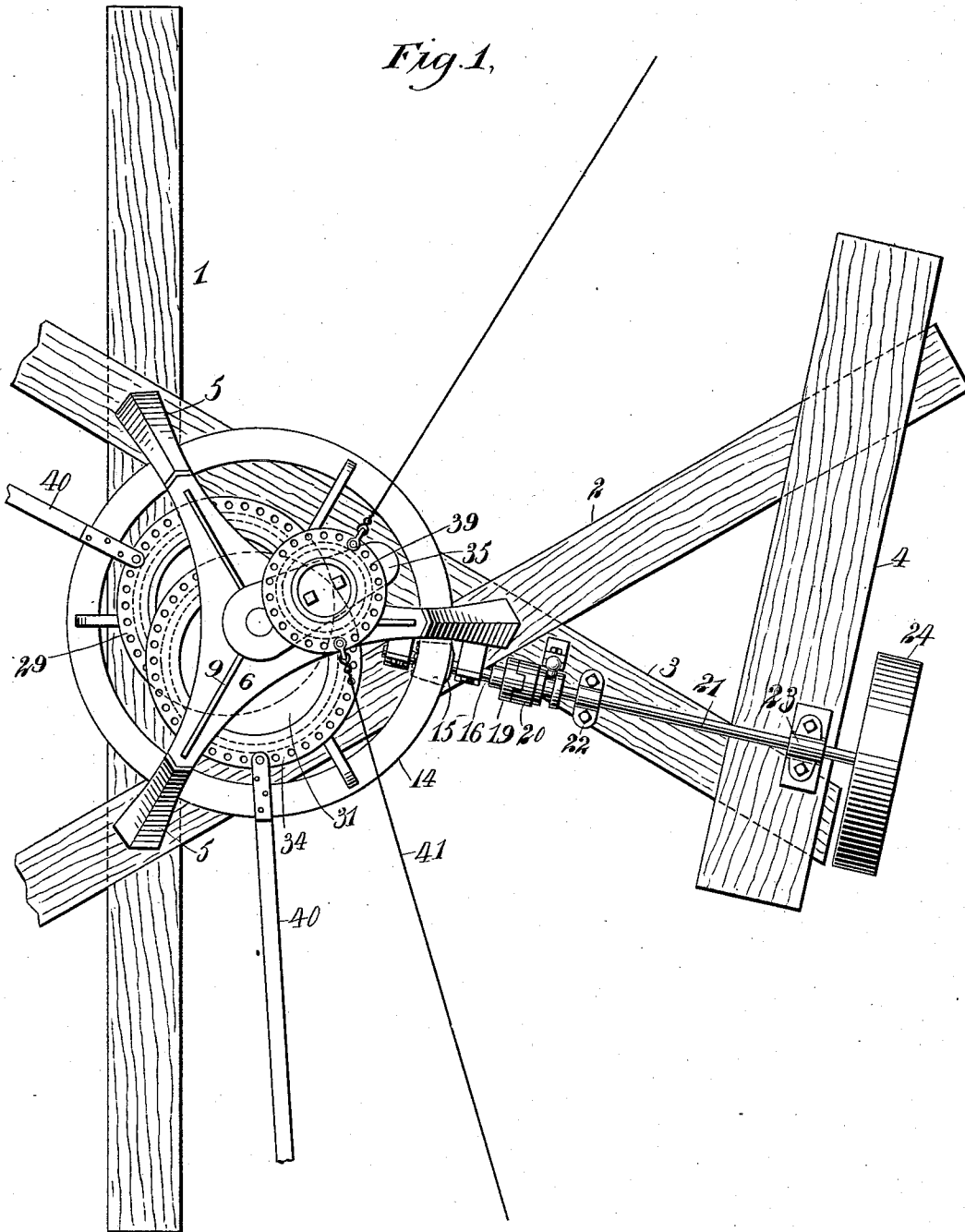
2 Sheets—Sheet 1.

G. W. GRIMES.  
PUMPING POWER.

No. 566,167.

Patented Aug. 18, 1896.

*Fig. 1.*



WITNESSES:

Edward Thorpe.  
C. R. Ferguson

INVENTOR

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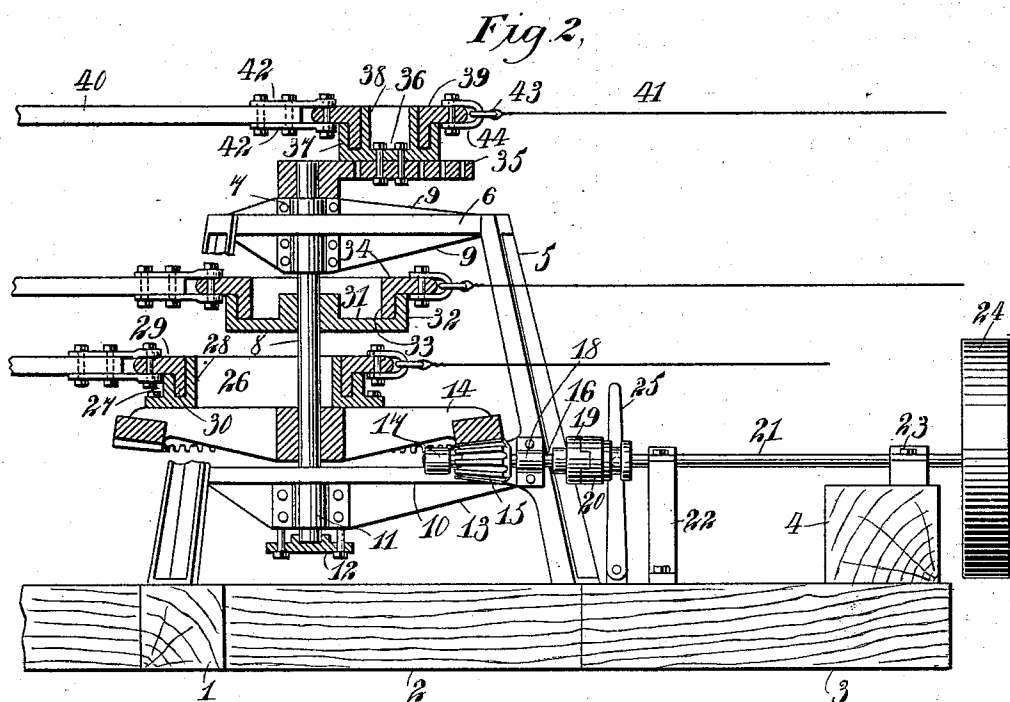
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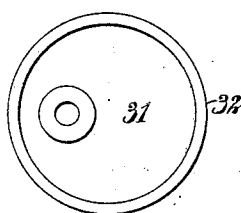
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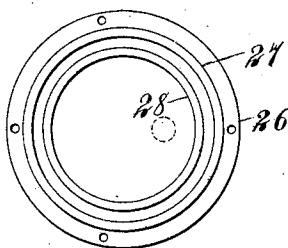
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



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# UNITED STATES PATENT OFFICE.

GEORGE W. GRIMES, OF BLUFFTON, INDIANA.

## PUMPING POWER.

SPECIFICATION forming part of Letters Patent No. 566,167, dated August 18, 1896.

Application filed March 18, 1896. Serial No. 583,733. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE W. GRIMES, of Bluffton, in the county of Wells and State of Indiana, have invented a new and Improved Pumping Power, of which the following is a full, clear, and exact description.

This invention relates to mechanism for pumping oil and water wells, the object being to provide a simple and compact form of construction wherein all the wearing parts will be within restricted limits, so as to be easy of access, and, further, to provide a frame of strong and novel construction in which may be supported a number of devices of different sizes for connection with pump rods or lines, whereby the length of throw of said pump rods or lines may be easily and quickly regulated.

The invention consists in the construction and novel arrangement of parts, as will be hereinafter particularly specified, and pointed out in the appended claims.

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

Figure 1 is a top plan view of a pumping mechanism embodying my improvement. Fig. 2 is a vertical section of the same. Fig. 3 is a plan view of a pump plate-ring employed. Fig. 4 is a plan view of another pump plate-ring employed, and Fig. 5 is a plan view of still another pump plate-ring employed.

The base of the well-pumping power comprises sills 1 2 3, secured together and arranged at such angles with relation to each other as to form a triangular support for the power device. Supported on the outer end of the sills 2 3 is a sill 4, upon which is to be mounted an engine or other motor for operating the device.

Supported on the sills 1 2 3 is a frame comprising three uprights 5, which are here shown as converging toward their upper ends. The upper ends of these uprights 5 are connected by a spider 6, having extended through its central portion a vertical box 7, forming a bearing for an operating-shaft 8. To provide an increased strength for the spider 6, I preferably provide its upper and lower sides with

ribs or braces 9, which of course are cast integrally with the spider.

Within the lower portion of the uprights 5 is supported the lower spider 10, having a central vertical box 11, through which the lower end of the shaft 8 extends and engages in a step-bearing 12, adjustably supported by the spider 10. This spider 10 has on its lower side strengthening flanges or braces 13.

Secured to the shaft 8 above the spider 10 is a master gear-wheel 14, which meshes with a pinion 15 on a shaft 16, having a bearing at one end in a box 17, secured to the spider 10, and also having a bearing at the opposite side of the pinion 15 in a box 18, secured to an upright 5. The outer end of the shaft 16 is provided with a clutch-section 19, adapted for engagement with a clutch-section 20, mounted to move longitudinally on an extension-shaft 21, which has a bearing in a box on the upper end of an upright 22, extended from the sill 3, and also has a bearing in a box 23, mounted on the motor-base 4.

In use the motor will be placed on the base 4 and have a band or other connection with the shaft 21. I have here shown the shaft 21 as provided with a wheel 24, with which a band from the motor may engage. The clutch-sections 19 and 20 may be thrown into and out of engagement by means of a shifting-lever 25, engaging with the movable section 20 of said clutch.

Mounted on the upper side of the master gear-wheel 14 and arranged eccentrically to its axis is a ring-plate 26, having an outer upwardly-extending flange 27 and an inner upwardly-extending flange 28, which form an annular channel in the ring-plate. Mounted to move relatively to the ring-plate 26 is a pump rod or line plate 29, having a downwardly-extended flange 30, adapted to engage in the channel formed between the plates 27 and 28 of the ring-plate 26, and it will be seen that the inner flange 28 of the ring-plate 26 extends upward and is flush with the upper surface of the rod or line plate 29, thus increasing the wearing-surface between the ring-plate 26 and the rod or line plate 29.

Above the ring-plate 26, and mounted eccentrically on the shaft 8, is a plate 31, which has a central hub portion to engage the shaft

8 and an upwardly-extended flange 32 on its periphery, with the interior of which the downwardly-extended flange 33 of a pump rod or line plate 34 engages. The upper end 5 of the shaft 8 is projected above the spider 6 and has secured to it a crank-arm 35, which has adjustably mounted on it a plate 36, having upwardly-extended flanges 37 38, forming an annular channel within which the downwardly-extended annular flange of a pump 10 rod or line plate 39 engages. The parts 36 39 may be adjusted laterally with relation to the axis of the shaft 8. As here shown, for this purpose I provide the crank-arm 35 with a series of holes through which fastening-bolts 15 may pass, the said bolts also passing through openings in the bottom of the ring-plate 36. It will be seen that these reciprocating mechanisms are made successively smaller from 20 the bottom one upward, so that when desired to change the throw of a pump rod or line the same may be changed from one reciprocating mechanism to another.

It is to be understood that either pump-rods 25 40 or pump lines or cables 41 may be extended from the several operating plates or rings, or that both of said devices may be employed, as occasionally may be required. In either event the devices are removably attached to 30 the parts 29, 34, or 39 by means of suitable clips. The pump-rods 40 are shown as connected by means of clip-plates 42, secured, respectively, to the top and bottom sides of the rods by means of bolts, and having a single bolt extended through their ends and en- 35 gaging through openings in the outwardly-extended portion of the rod plates or rings. The fastening devices for the lines 41 may consist of hooks 43, adapted to be removably 40 engaged with clevises 44, each having a single bolt attachment to its plate or ring.

It will be seen by the construction described that the device is very strong and compact, and that the throws of the several rods or lines may be regulated at pleasure. This pump-actuating mechanism will run quite smoothly to operate the rods or lines without jerking or sudden pulls, which would be apt to break the same.

Having thus described my invention, I 50 claim as new and desire to secure by Letters Patent—

1. A well-pumping power, comprising a frame, a vertical shaft mounted therein, a master-gear on the shaft, a ring-plate mounted 55 eccentrically on the master-gear and having upwardly-extending flanges forming an annular channel, and a pump rod or line ring having a flange engaging in said channel, the upper surface of said line-ring being flush 60 with the upper edge of the inner flange of the ring-plate substantially as specified.

2. A well-pumping power, comprising a frame, a vertical shaft mounted therein, a master-gear on the shaft, a ring-plate mounted 65 eccentrically on the master-gear, a rod or line ring engaging with said plate, an arm extended laterally from the upper end of the shaft, and a pump rod or line actuating device adjustably mounted on said arm, sub- 70 stantially as specified.

3. A well power pumping mechanism, comprising a vertical shaft, a plate mounted eccentrically thereon and having an elongated hub portion engaging with the shaft and also 75 having an upwardly-extending annular flange, and a rod or line ring engaging with said flange, substantially as specified.

GEORGE W. GRIMES.

Witnesses:

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