W. H. TEEL.

PUMPING POWER.

APPLICATION FILED AUG. 26, 1919.

1,351,267.

Patented Aug. 31, 1920.

4 SHEETS—SHEET 1.

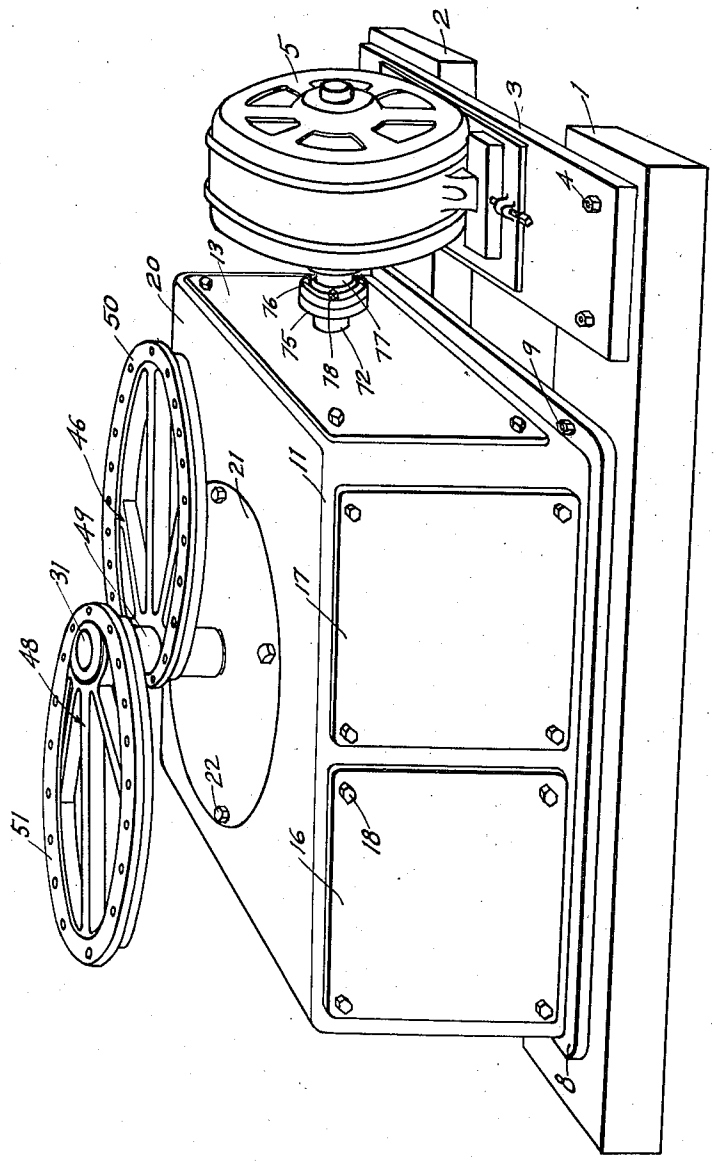


FIG. 1.

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BY Hazard & Miller

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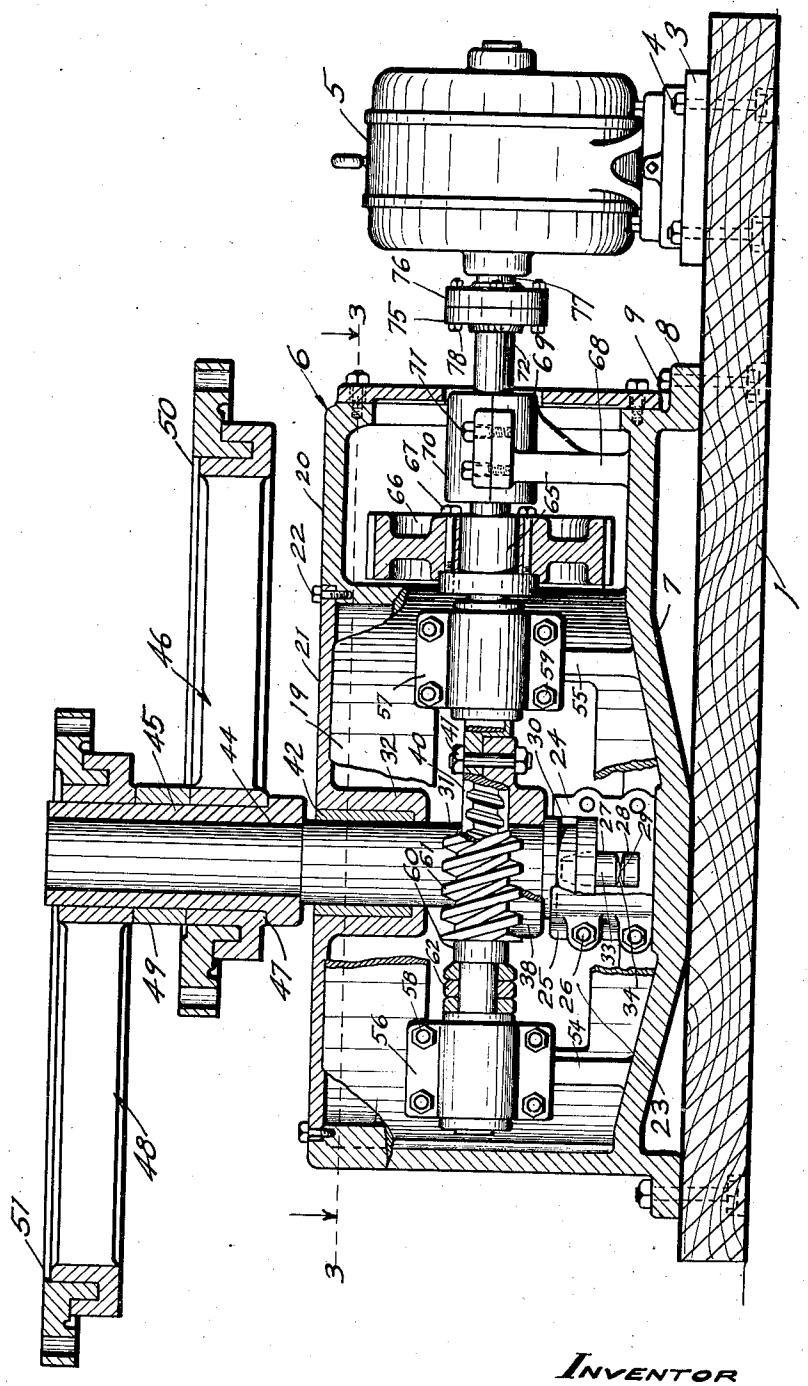


FIG. 2.

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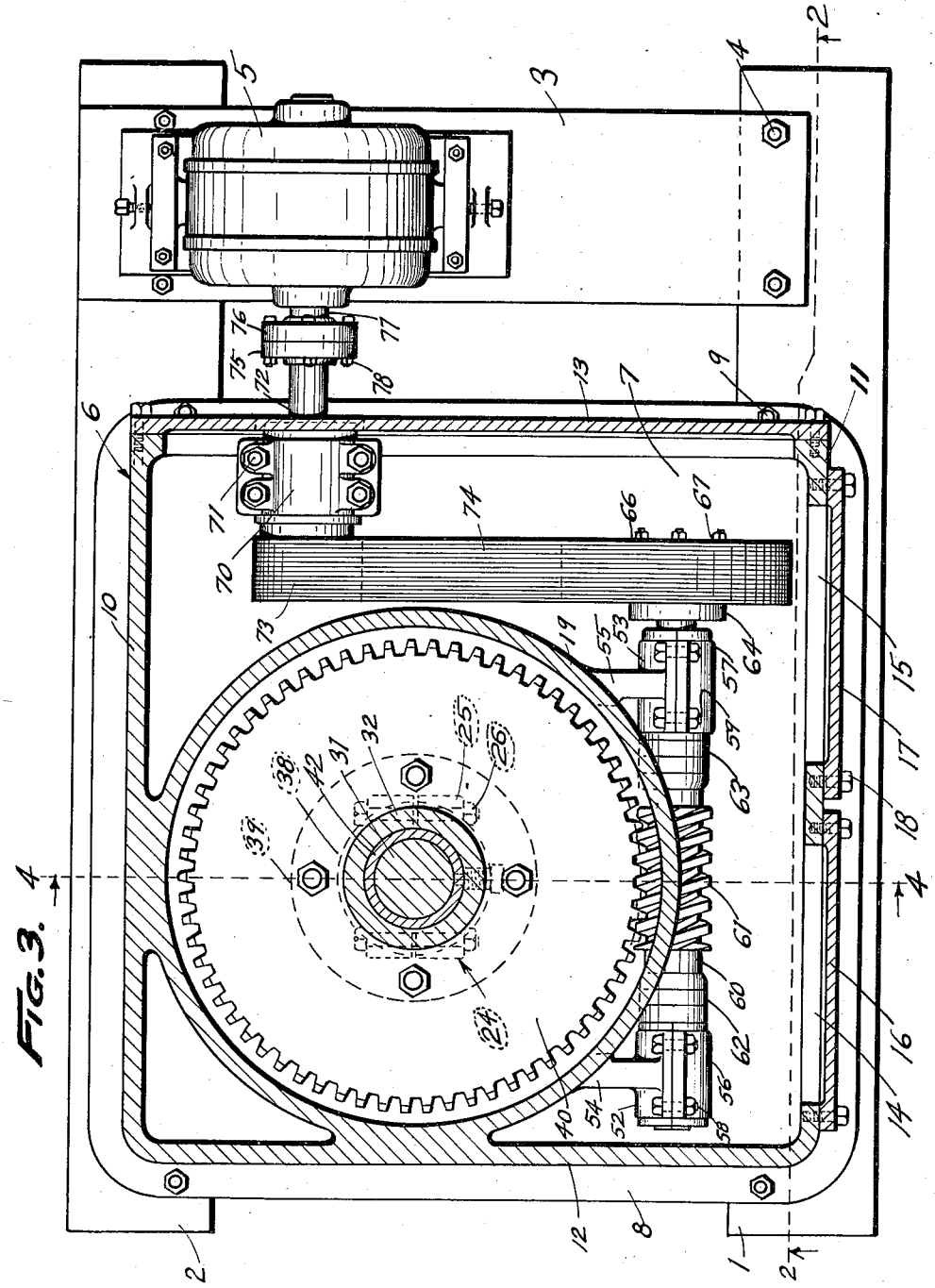


FIG. 3.

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4 SHEETS—SHEET 4.

FIG. 4.

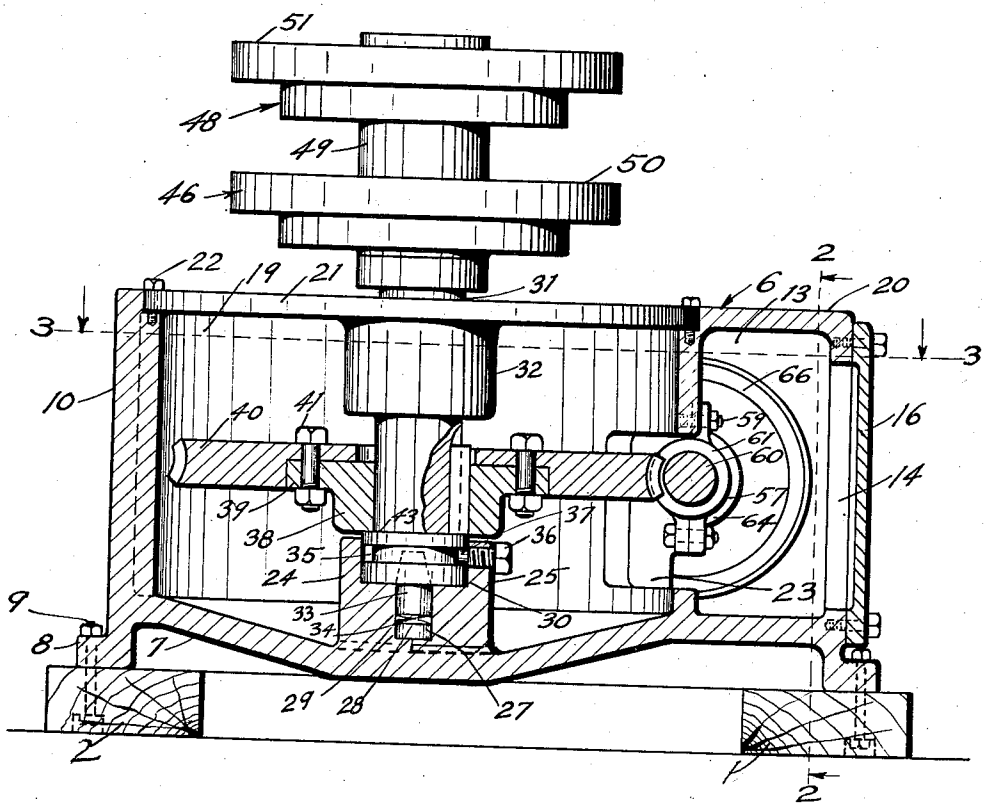


FIG. 5

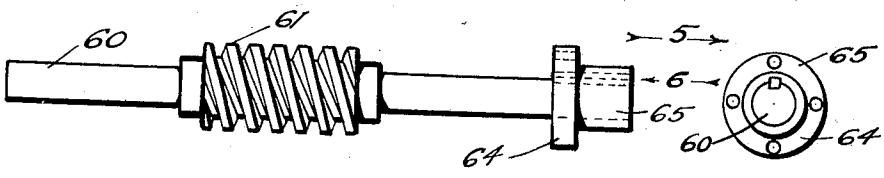


FIG. 6.

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UNITED STATES PATENT OFFICE.

WILLIAM H. TEEL, OF LOS ANGELES, CALIFORNIA.

PUMPING POWER.

1,351,267. Specification of Letters Patent. Patented Aug. 31, 1920.

Application filed August 26, 1919. Serial No. 319,997.

To all whom it may concern:

Be it known that I, WILLIAM H. TEEL, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Pumping Power, of which the following is a specification.

My object is to make an improved pumping power, and my invention consists of the novel features herein shown, described and claimed.

Figure 1 is an isometric view of the pumping power embodying the principles of my invention.

Fig. 2 is a sectional elevation on a plane parallel with the axis of Fig. 1 and on the lines 2—2 of Figs. 3 and 4 and looking in the direction indicated by the arrows.

Fig. 3 is a horizontal sectional detail on the lines 3—3 of Figs. 2 and 4.

Fig. 4 is a vertical cross section on the line 4—4 of Fig. 3, and looking in the direction indicated by the arrows.

Fig. 5 is a side elevation of the driving worm shown in Fig. 3, the view being taken looking in the direction indicated by the arrow 5 in Fig. 6.

Fig. 6 is an end elevation looking in the direction indicated by the arrow 6 in Fig. 5.

The skids 1 and 2 are heavy planks laid some distance apart in parallel positions. The board 3 is placed upon the skids 1 and 2 crosswise of corresponding ends and secured in place by bolts. The electric motor 5 is mounted upon the board 3.

The main casting 6 is rectangular in plan and has a bottom 7 strong enough to support the interior mechanism. A flange 8 extends outwardly and downwardly from the bottom all the way around and rests upon the skids 1 and 2 and is secured in place by bolts 9. A rear wall 10 extends upwardly from the rear side of the bottom 7, a front wall 11 extends upwardly from the front side of the bottom 7, and end walls 12 and 13 extend upwardly from the ends of the bottom 7, the end wall 13 being removably secured in place by cap screws, and the end walls 12 and 13 connect the rear and front walls 10 and 11.

The front wall 11 has door openings 14 and 15, and door plates 16 and 17 fit against the wall 11 to cover the openings 14 and 15 and are secured in place by cap screws 18.

An annular casing 19 extends upwardly from the bottom 7, said casing being integral with the walls 10 and 12. A top 20 is formed integral with the walls 10, 11 and 12 and the casing 19 so as to cover all the space within the walls 10, 11, 12 and 13 outside of the casing 19. A cap plate 21 covers the casing 19 and is held in place by cap screws 22.

A notch 23 is formed through the annular wall 19 at the side toward the door openings 14 and 15. A half bearing block 24 extends upwardly from the bottom 7 at one side of the axial center of the annular wall 19, and a half bearing block 25 fits against the half bearing block 24 and is held removably in place by bolts 26 so as to form a complete vertical thrust bearing. A bore 27 extends downwardly into the bearing blocks 24 and 25 at the center. A hardened bearing plate 28 fits in the bottom of the bore 27 and has a rounded upper bearing face 29.

An enlarged bore 30 extends downwardly into the bearing blocks 24 and 25 concentric to the bore 21, and the main shaft 31 extends downwardly through the bearing 32 extending downwardly from the cap 21 and fits in the bore 30. A pin 33 extends downwardly from the lower end face of the shaft 31 and has a rounded lower bearing face 34 engaging the bearing face 29. A groove 35 is formed in the periphery of the lower end of the shaft 31 within the bore 30, and screws 36 are tapped through the block 25 and have smooth points 37 engaging in the groove 35 to hold the shaft 31 from moving upwardly.

A worm gear hub 38 is keyed upon the shaft 31 directly above the bearing blocks 24 and 25 and has a flange 39 extending outwardly all the way around. A worm gear 40 is half-lapped against the flange 39 and secured in place by bolts 41. The bearing 32 is cast integral with the cap 21, and a bushing 42 is placed in the bearing 32 around the shaft 31. The shaft 31 is reduced in size above the groove 35 to form a shoulder 43 to support the hub 38.

The shaft 31 is reduced in size above the bushing 42 to make a shoulder 44. The sleeve 45 is fixed upon the shaft against the shoulder 44. The eccentric 46 is fixed upon the sleeve 45 against the shoulder 47, and the eccentric 48 is fixed upon the sleeve 45 against the spacing sleeve 49 of the eccentric 46. The eccentrics 46 and 48 extend in opposite directions. The eccentric ring 50 is

mounted to run upon the eccentric 46, and the eccentric ring 51 is mounted to run upon the eccentric 48. The cables leading from the pumps are to be connected to the rings 50 and 51.

The worm gear 40 runs loosely in the casing 19. Half bearings 52 and 53 are formed integral with arms 54 and 55, and the arms are formed integral with the casing 19. The half bearings 56 and 57 are secured to the half bearings 52 and 53 by bolts 58 and 59. The worm shaft 60 is mounted in the bearings thus formed and has a worm 61 meshing with the worm gear 40.

Collars 62 and 63 are mounted upon the worm shaft 60 between the ends of the worm 61 and the bearings. A sleeve 64 is keyed upon one end of the worm shaft 60, and a bolting flange 65 is formed integral with the sleeve 64. The wheel 66 is mounted upon the sleeve 64 against the flange 65 and secured in place by bolts 67. A post 68 extends upwardly from the bottom 7. A half bearing 69 is formed integral with the upper end of the post 68, and a half bearing 70 is secured to the half bearing 69 by bolts 71.

A shaft 72 is mounted in the half bearings 69 and 70 and extends through the end wall 13. A wheel 73 is fixed upon the inner end of the shaft 72, and a noiseless chain belt 74 connects the wheel 73 to the wheel 66. A bolting flange 75 is fixed upon the outer end of the shaft 72 and fits a bolting flange 76 fixed upon the motor shaft 77, said flanges 75 and 76 being connected by bolts 78.

Thus I have produced a pumping power especially for oil fields to be operated direct from an electric motor and having the means of transmission between the motor and the eccentrics all inclosed in a casing.

Various changes may be made without departing from the spirit of my invention as claimed.

I claim:

A pumping power comprising a housing having side walls and a top, a power shaft mounted through the side walls of the housing horizontally and adapted to be connected with an electric motor, a main operating shaft journaled in the base of the housing and extending upwardly through a bearing in the top thereof, a worm gear mounted upon the main shaft within the housing, a worm and shaft adapted to operate upon the gear, means for connecting the worm shaft with the power shaft, and eccentrics mounted upon the operating shaft above the top of the housing.

In testimony whereof I have signed my name to this specification.

W. H. TEEL.