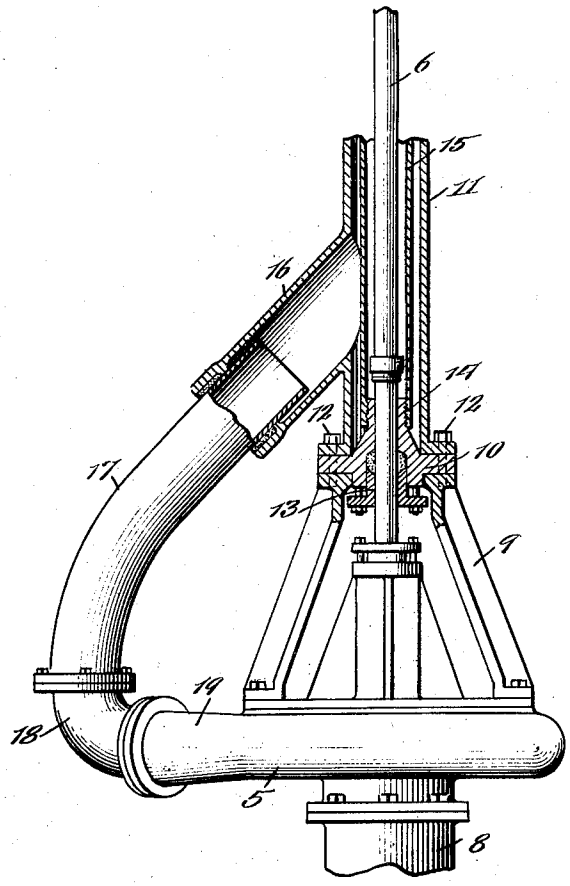
F. J. LUKINS.

PUMPING APPARATUS.

APPLICATION FILED JAN. 17, 1912.

1,047,258. **Patented Dec. 17, 1912.**



Witnesses:
Ira D. Perry
A. Burkhardt.

Inventor:
Fred J. Lukins,
by Bond Adams Pickard & Jamison,
Attys.

UNITED STATES PATENT OFFICE.

FRED J. LUKINS, OF ARTESIA, NEW MEXICO.

PUMPING APPARATUS.

1,047,258. Specification of Letters Patent. Patented Dec. 17, 1912.

Application filed January 17, 1912. Serial No. 671,709.

To all whom it may concern:

Be it known that I, FRED J. LUKINS, a citizen of the United States, residing at Artesia, in the county of Eddy and State of New Mexico, have invented certain new and useful Improvements in Pumping Apparatus, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to apparatus for pumping from deep well pumps, and has for its object to provide certain improvements in centrifugal pumping mechanism suitable for use in pumping from deep wells. I accomplish this object as illustrated in the drawings and as hereinafter described.

That which I regard as new is set forth in the claims.

In the drawings,—the figure is a side elevation, partly in section, of my improved pumping mechanism.

Referring to the drawings,—5 indicates a centrifugal pump, the runner of which is mounted upon the lower end of a pump-shaft 6 which extends down through it and is secured thereto in any suitable way.

7 indicates the inlet of the pump and 8 the usual well-tube with which the inlet 7 connects.

9 indicates a standard or frame, which is mounted upon the pump 5 and is provided with a head 10 which forms a support for a pipe 11 through which the water pumped is discharged.

As shown in the figure, the discharge pipe 11 surrounds the pump-shaft 6 and is of somewhat greater diameter, said discharge pipe resting upon and being secured to the head 10 by bolts 12. The head 10 is provided with a stuffing-box 13 around the shaft 6 to prevent leakage at that point, and it is also provided with an upwardly-projecting sleeve 14 which extends up around the shaft 6 a short distance and is screw-threaded to receive the lower end of a pipe 15 which also surrounds the shaft 6 and is of somewhat less diameter than the discharge pipe 11. The pipe 15 is of somewhat greater diameter than the pump-shaft 6 so as to provide space through which lubricating oil may be introduced and conducted to the bearing formed in the sleeve 14. The space between the pipes 15—11 forms the discharge passage for the outflowing water, as will presently appear.

16 indicates a branch pipe, preferably in the form of a Y, which extends outward and downward from the lower portion of the discharge pipe 11 and is connected by a pipe 17 and elbow 18 with the discharge 19 of the pump 5. The pipe 17 is telescopically fitted into the Y 16 in such manner as to make a water-tight joint. By this construction the water discharged by the pump 5 is conducted through elbow 18, pipe 17, and Y 16, to the discharge pipe 11 and rises through such discharge pipe to the outlet. By thus returning the water from the centrifugal pump to a pipe surrounding the pump-shaft, I do away with the necessity of supporting the shaft, and greatly simplify and improve the construction of such pumps. I also provide for readily lubricating the pump-shaft. By employing a telescopic or slip joint for connecting the pipes 16 and 17, the necessity of fitting the parts accurately together is avoided.

That which I claim as my invention, and desire to secure by Letters Patent, is,—

1. In a pump, the combination of a pump-shaft, centrifugal pumping mechanism operated thereby, a discharge pipe surrounding the pump-shaft above the pumping mechanism and closed at its lower end, and means connecting the discharge of the centrifugal pumping mechanism with said discharge pipe.

2. In a pump, the combination of a pump-shaft, centrifugal pumping mechanism operated thereby, a discharge pipe surrounding the pump-shaft above the pumping mechanism closed at its lower end, and a pipe communicating laterally with said discharge pipe and connected with the outlet of the centrifugal pumping mechanism.

3. In a pump, the combination of a pump-shaft, centrifugal pumping mechanism operated thereby, a discharge pipe surrounding the pump-shaft above the pumping mechanism and closed at its lower end, a pipe communicating laterally with said discharge pipe, and a pipe having a telescopic connection with said lateral pipe and connected with the outlet of said centrifugal pumping mechanism.

4. In a pumping apparatus, the combination of a pump-shaft, centrifugal pumping mechanism operated thereby, a head above said pumping mechanism and surrounding said shaft, a discharge pipe connected to and closed by said head, said discharge pipe surrounding the pump-shaft, and means connecting the outlet of said pumping mech-

anism with said discharge pipe above said head.

5. In a pumping apparatus, the combination of a pump-shaft, centrifugal pumping mechanism operated thereby, a head above said pumping mechanism and surrounding said shaft, a discharge pipe connected to and closed by said head, said discharge pipe surrounding the pump-shaft, means connecting the outlet of said pumping mechanism with said discharge pipe above said head, and an oil pipe surrounding said pump-shaft and inclosed by said discharge pipe.

6. In a pumping apparatus, the combination of a pump-shaft, centrifugal pumping mechanism operated thereby, a head above said pumping mechanism and surrounding said shaft, a discharge pipe connected to and closed by said head, said discharge pipe surrounding the pump-shaft, means connecting the outlet of said pumping mechanism with said discharge pipe above said head, and an oil pipe surrounding said pump-shaft and inclosed by said discharge pipe, said oil pipe being secured to said head.

FRED J. LUKINS.

Witnesses:
W. R. WILLIAMSON,
A. M. THOMAS.