Jan. 5, 1937. D. B. UPTON 2,067,108

AUGER CIRCULATING PUMP

Filed April 14, 1936

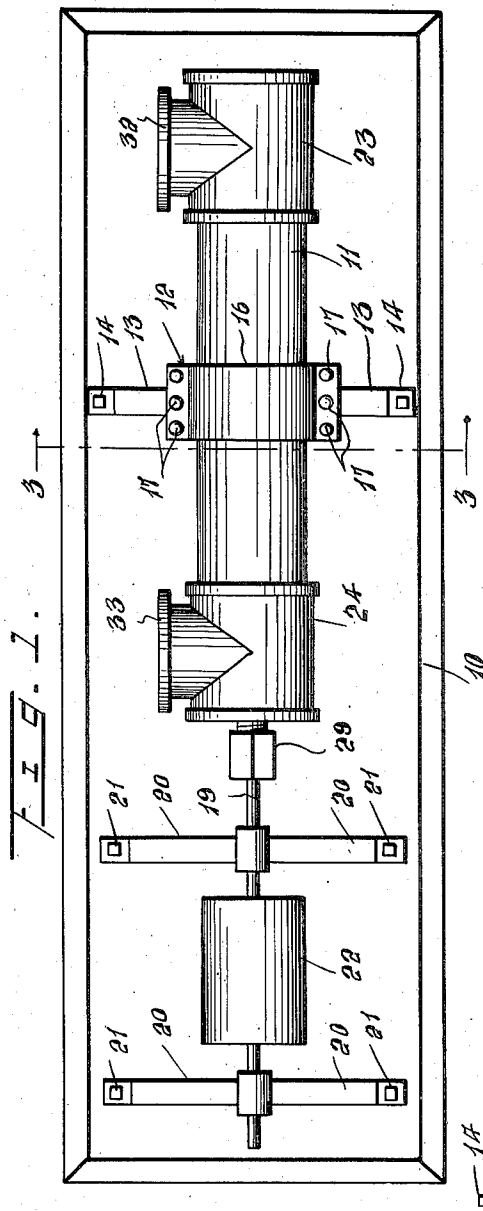


FIG. 1.

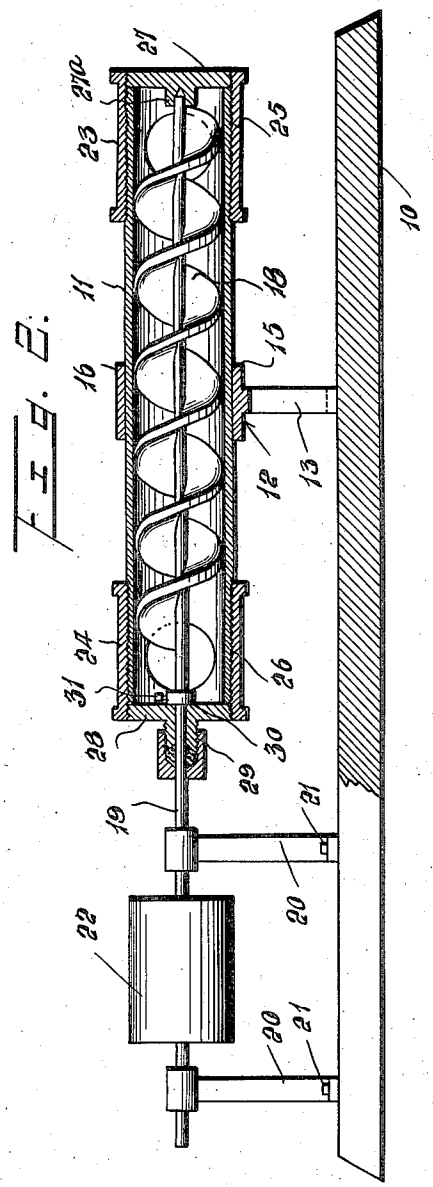


FIG. 2.

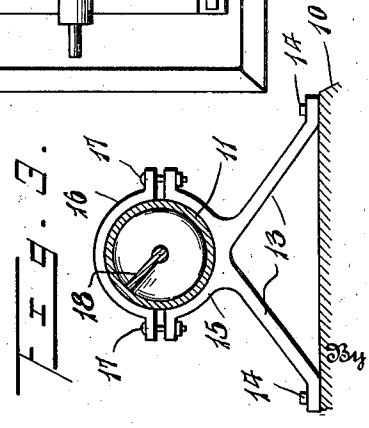


FIG. 3.

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AUGER CIRCULATING PUMP

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Application April 14, 1936, Serial No. 74,354

1 Claim. (Cl. 103—89)

This invention relates to a circulating pump and it aims to provide a novel construction utilizing the auger principle wherein leakage and lost motion are prevented, a novel input bearing is provided and novel relatively adjustable heads are included, with a view to operating with greater efficiency and with minimum expense and permitting relatively inexpensive replacements.

Various additional objects and advantages will become apparent from a consideration of the description following taken in connection with accompanying drawing illustrating an operative embodiment.

In said drawing:—

Figure 1 is a plan view of the improved pumping unit;

Figure 2 is a view thereof partly in side elevation and partly in central longitudinal section, and

Figure 3 is a transverse sectional view taken on the line 3—3 of Figure 1.

Referring specifically to the drawing wherein like reference characters designate like or similar parts, 10 designates a bed or base above which a pump cylinder is disposed as at 11, preferably clamped midway of its ends in a bracket or brace 12, having spread legs as at 13 bolted as at 14 to the base. This bracket 12 has an arcuate portion 15 and a detachable arcuate jaw 16, the jaws 15 and 16 being bolted together as at 17.

Rotating within a cylinder or barrel 11 is an auger or screw piston 18 having a shaft 19, extending exteriorly of the barrel or cylinder at one end and being journaled in suitable bearings 20, bolted at 21 to the base 10. A pulley 22, to receive power, is keyed to the shaft 19 and located between the bearings 20 so as to relieve the pump of strain.

At opposite ends of the barrel or cylinder 11 and adjustably screwed thereon are inlet and outlet heads or sleeves 23 and 24 respectively. The screw threads between the heads and the cylinder as at 25 and 26 are preferably 11½ threads to the inch. Interiorly screw-threaded within said heads 23 and 24 are end discs 27 and 28. The disc 27 has an inside bearing 27a for the adjacent end of the shaft 19 to prevent leakage and lost motion and said shaft 19 passes through a suitable packing gland 29 on the end disc 28, to prevent waste of fluid. A collar 30 surrounds shaft 19 and abuts the interior of end plate 28, being secured adjustably in position by a set screw 31. Said head 23 has an inlet boss 32 and the other head 24 has an outlet boss 33.

The present invention is particularly adapted for use as a circulating pump for stationary engines, the water entering the inlet 32 under the action of the auger piston 18, traveling through the barrel and thence out through the outlet 33. It will be clear that various adjustments may be made by reason of the screw-threaded parts to maintain operation with minimum lost motion and to permit prompt replacement when desired. The location of the bearings 20 prevent strain on the pump incidental to the driving of the pulley 22.

Various changes may be resorted to provided they fall within the spirit and scope of the invention.

I claim as my invention:—

A pump of the class described, having a barrel, an inlet head and an outlet head screwed thereon at opposite ends, end discs screwed in said heads, an auger piston operating within the barrel, said piston having a shaft, an inside bearing on one of said discs for said shaft, said shaft passing through the other disc, a packing gland for the shaft on the latter disc, and an adjustable abutment on the shaft engaging the interior wall of the last mentioned disc, a driving pulley on said shaft exteriorly of the barrel bearings for said shaft on opposite sides of said driving pulley to relieve the pump of strain, a bracket clamped to the barrel, and a supporting base for said bearings and bracket.

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