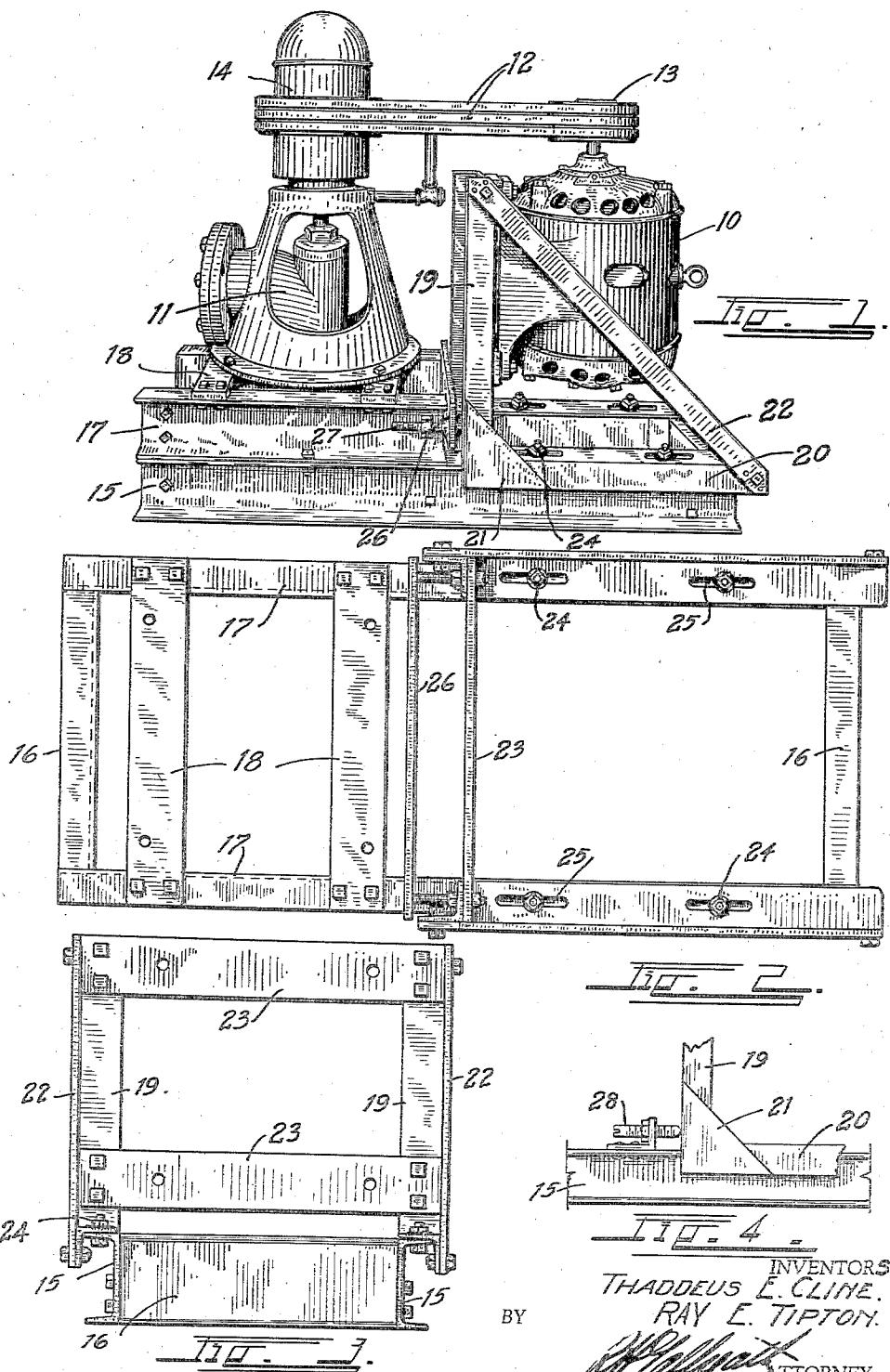


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T. E. CLINE ET AL
MOTOR MOUNTING FOR PUMPS

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INVENTORS
THADDEUS E. CLINE,
RAY E. TIPTON.

R. Hallworth
ATTORNEY.

UNITED STATES PATENT OFFICE

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MOTOR MOUNTING FOR PUMPS

Thaddeus E. Cline and Ray E. Tipton,
Denver, Colo.

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This invention relates to a vertical motor mounting more particularly for mounting a vertical motor for driving a vertical pump.

The usual motor driven motor pump is direct connected in alignment with a special motor designed to operate with its shaft in a vertical position. These pumps are installed in wells of various depths and operate against various heads even in the same well as the water table rises and lowers therein. Due to the fact that the motor is direct connected, it is impossible to change the transmission ratio between the motor and the pump and the result is that in some cases the motor is far in excess of the power required by the pump.

The principal object of this invention is to provide a mounting for supporting a vertical motor in parallel relation to the pump in such a manner that the motor can be quickly and easily changed if desired and so that the motor pulley can be quickly and easily removed and replaced to adjust the power and speed in proportion to the pump requirements.

While the invention is particularly valuable as applied to vertical shaft pumps, it will undoubtedly be found valuable for other purposes.

Other objects and advantages reside in the detail construction of the invention, which is designed for simplicity, economy, and efficiency. These will become more apparent from the following description.

In the following detailed description of the invention reference is had to the accompanying drawing which forms a part hereof. Like numerals refer to like parts in all views of the drawing and throughout the description.

In the drawing:—

Fig. 1 is a side elevation of a typical installation upon a vertical pump.

Fig. 2 is a plan view of the pump mounting with the motor and pump removed.

Fig. 3 is an end view of the mounting with the motor removed.

Fig. 4 is a detail view of an alternate form of frame adjustment.

A typical vertical shaft motor is indicated at 10 driving a vertical shaft pump 11 through the medium of a plurality of V-belts 12. The V-belts extend from a drive pulley 13 on the motor to a driven pulley 14 on the pump.

The improved mounting consists of a base frame 15 preferably formed of two longitudinal channel members connected adjacent their extremities by cross-channels 16. For the usual pump a sub-frame 17 is secured on the base chan-

nels 15 provided with cross beams 18 for receiving and attaching the base of the pump 11.

The motor is mounted in a motor carriage which consists of two L-shaped side frames each formed of a vertical angle member 19 extending at right angles from the extremities of a horizontal angle member 20 and connected at their extremities by a diagonal brace member 22. The angle members are joined together by welding to a gusset plate 21 or in any other desired manner. The two side frames are tied together by means of horizontal cross-bars 23 which serve as mounting plates for the base of the motor 10.

The angles 20 are spaced-apart just sufficiently to slip down over the channels 15 and are secured thereto by means of clamp bolts 24 which extend through slotted openings 25 in the angles 20. A pair of jack screws 26 are threaded through a cross bar 26 at the end of the sub-frame 17 and bear at their extremities against the upright angles 17 to prevent the motor frame from approaching the pump and to provide means for tightening the belts 12. After the belts have been brought to the proper tension, the bolts 24 are tightened. Lock nuts 28 may be placed on the jack screws 26 to hold the device in this preset position.

Should the water in the well descend so as to increase the load upon the pump, the operator can remove the motor pulley 13 and replace it with a smaller pulley. He then, by loosening the bolts 24, slides the entire motor carriage away from the pump to again tighten the belts on the smaller pulley to reduce the speed of the pump and increase its power.

In Fig. 4 an alternate method of mounting the jack screws is illustrated for installations which do not require the sub-frame 17. In this form the jack screws are threaded through angle clips 27 welded or otherwise secured directly on the top of the channels 15.

It is desired to call attention to the fact that the motor is mounted on the inside of the carriage so that its center of gravity is always over the base of the carriage. The assembly will therefore remain upright even with the assistance of the bolts 24.

While a specific form of the improvement has been described and illustrated herein, it is desired to be understood that the same may be varied, within the scope of the appended claims, without departing from the spirit of the invention.

Having thus described the invention, what is

claimed and desired secured by Letters Patent is:—

1. A motor mounting for pumps comprising: a main frame; means for supporting a pump on said main frame; a motor carriage consisting of two side frames, each side frame comprising a horizontal, flanged angle member fitting over the side edges of said main frame; a vertical member arising from one extremity of each horizontal angle member; cross members connecting the vertical members of said side frames; a motor mounted on said cross members and projecting over and above the horizontal angle members with its shaft at right angles to the latter.
- 15 2. A motor mounting for pumps comprising: a main frame; means for supporting a pump on said main frame; a motor carriage consisting of two side frames, each side frame comprising a horizontal, flanged angle member fitting over the side edges of said main frame; a vertical member arising from one extremity of each horizontal angle member, and a diagonal member connecting the other extremities of said horizontal and vertical members, said side frames being connected by cross members; and means for mount-
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- 25

ing a vertical shaft motor from the vertical members of said side frames.

3. A mounting for supporting a vertical-shaft motor in adjustable parallel relation to a vertical-shaft pump comprising: two longitudinal base frame members; cross members holding said longitudinal members in parallel relation; means for mounting a pump at one extremity of and between said longitudinal members; a pair of horizontal angle bars, there being one bar lying 10 on each longitudinal member and extending downward along the outside edge thereof; a vertical angle bar rising from one extremity of each horizontal angle bar; cross members extending between said vertical bars; means for mounting 15 a motor on said cross members so that it will be positioned above and between said horizontal bars; and means for forcing said horizontal bars along said longitudinal members and away from said pump, the downwardly extending sides of 20 said horizontal bars acting to guide them along said longitudinal members.

THADDEUS E. CLINE.
RAY E. TIPTON.