Feb. 14, 1933. E. W. HIMBERGER 1,897,256

PORTABLE POWER PUMP

Filed April 30, 1930 2 Sheets-Sheet 1

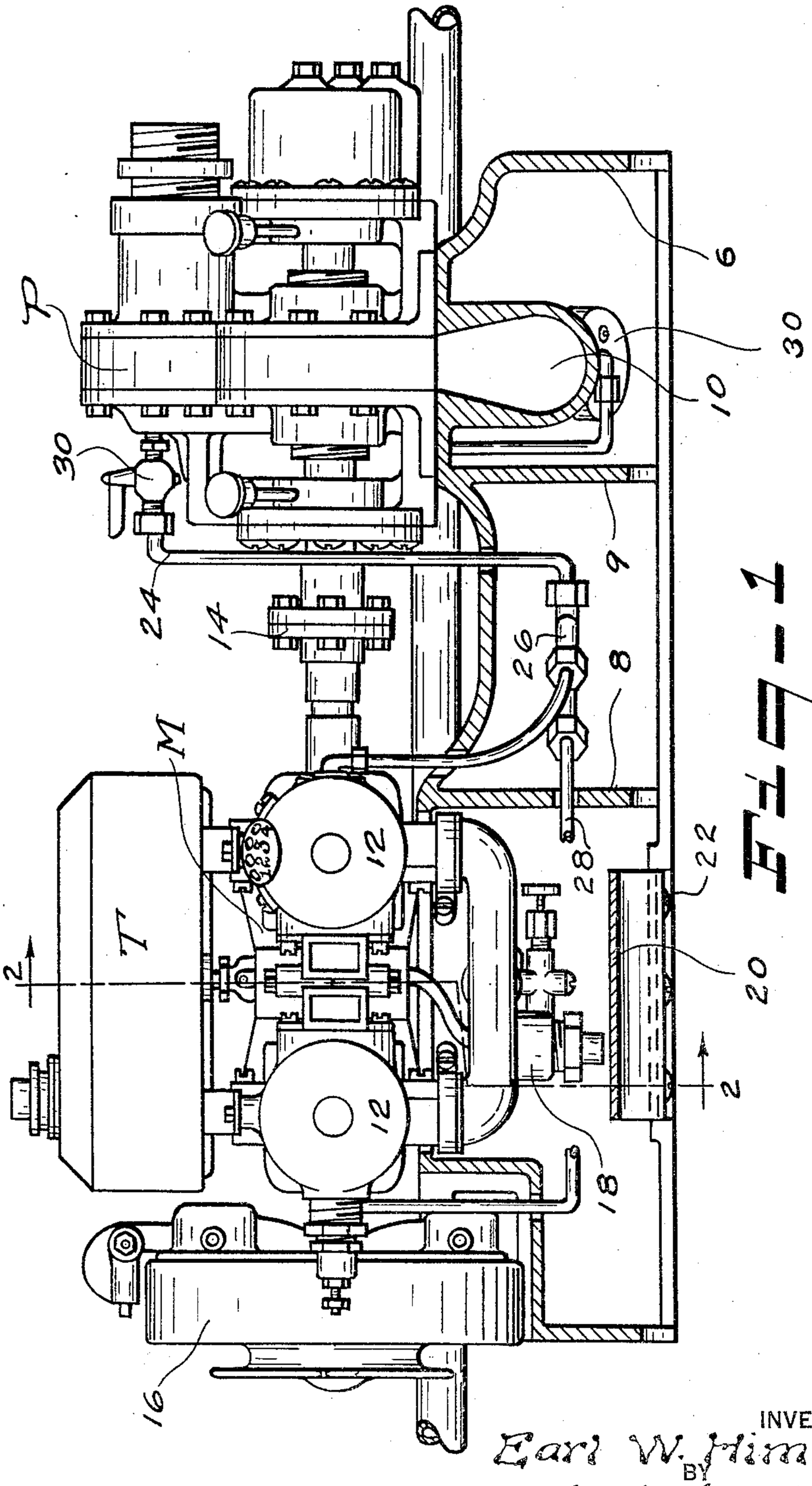

FIG. 1

INVENTOR
Earl W. Himberger
BY
Smith & Tuck
ATTORNEYS

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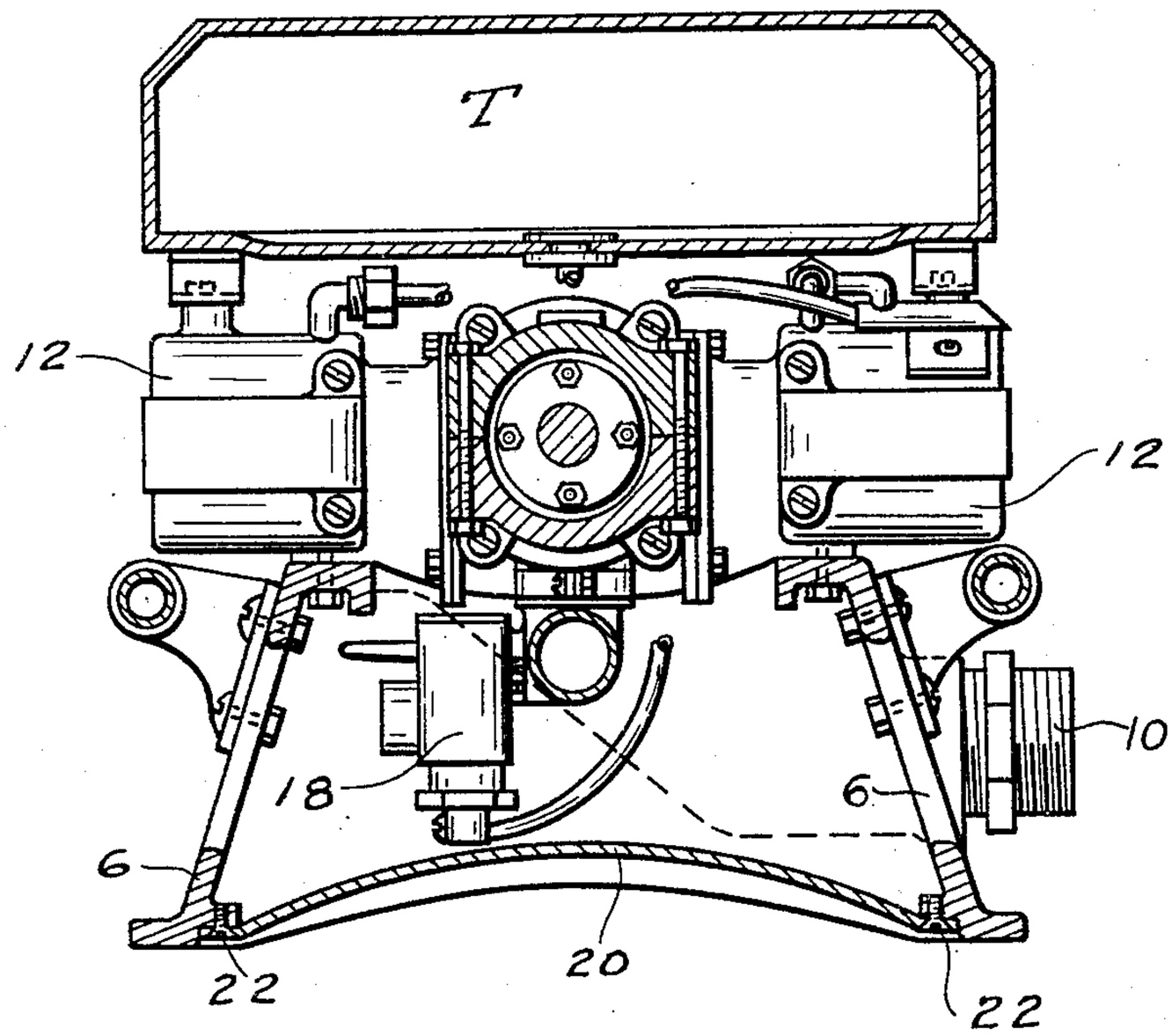

Fig. 2

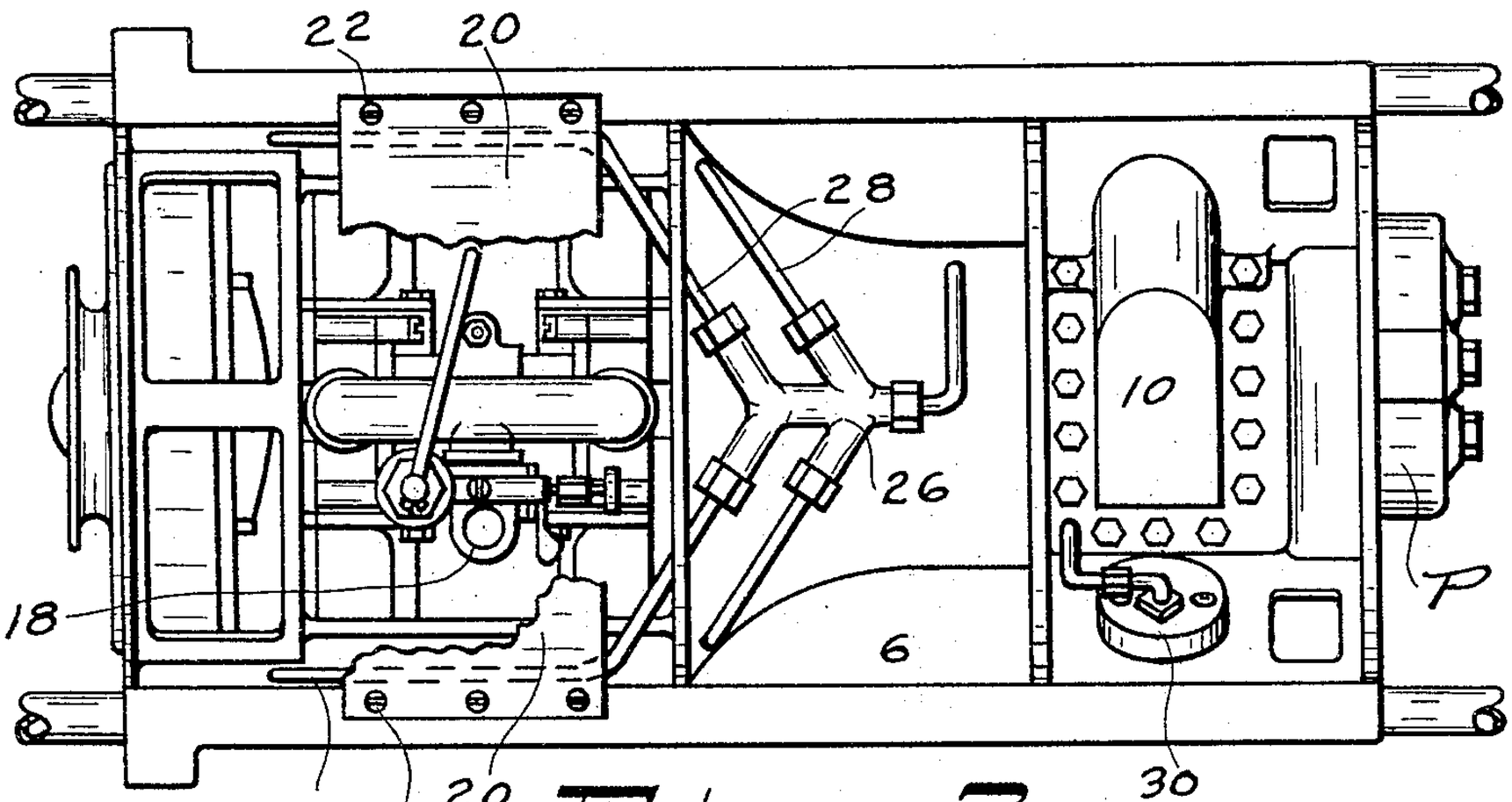

Fig. 3

INVENTOR
Earl W. Himberger
BY
Smith & Tuck
ATTORNEYS

Patented Feb. 14, 1933 1,897,256

UNITED STATES PATENT OFFICE

EARL W. HIMBERGER, OF SEATTLE, WASHINGTON, ASSIGNOR TO PACIFIC MARINE SUPPLY COMPANY, OF SEATTLE, WASHINGTON, A CORPORATION OF WASHINGTON

PORTABLE POWER PUMP

Application filed April 30, 1930. Serial No. 448,473.

My present invention relates to the pumping art, particularly to pumping equipment, which, because of its light weight and compactness lends itself to such uses as fighting forest fires and which may be more specifically defined as a light weight portable power pump.

My present invention is an improvement in certain details of my United States Patent No. 1,585,146 issued May 18th, 1926. As pointed out in my former application there is a great need for a pump of this general character and as the terrain on which this equipment is used is usually very rough and covered with heavy underbrush, windfalls and often slashings, a large number of fires occur at or near the scene of logging operations. This is due to the fact that a large number of men are employed, some of whom are certain to be careless, and the fact that when a tree is felled the pitchy needles of its upper branches soon dry out and as they are waste and are left on the ground, act as so much tinder when exposed to flame. It is under conditions such as this that it is particularly important to have the various parts of a power pump protected to an unusual degree. In this present application the general features of arrangement are shown in my former application, and the features claimed as new, which will be more definitely pointed out in the claim, are those details of construction wherein the easily injured parts of my pumper are thoroughly protected against accidental damage, therefore:

The principal object of my invention is to provide a powerful pumping unit wherein the various easily broken or damaged parts are fully protected from accidental injury.

A further object is to so construct certain of my protective devices that the back packing of my device may be more easily, safely and comfortably accomplished.

A further object is to provide a pressure control device for the cylinder cooling water.

A further object is to provide a pumping unit wherein the center of weight lies close to the base thereof.

A further object is to provide constructional details that will make my pumping device more suitable for the purposes intended.

Other and more specific objects will be apparent from the following description taken in connection with the accompanying drawings, wherein:

Figure 1 is an elevation of my pumping device, or as I prefer to call it, my pumper, with the base member shown in section to more clearly illustrate certain parts.

Figure 2 is a cross-sectional view along the line 2—2 of Figure 1.

Figure 3 is a bottom plan view with my protector plate partially broken away to better illustrate certain parts.

Referring to the drawings throughout which like reference numerals indicate like parts, numeral 6 designates the main base member. This is provided with a plurality of cross members as 8 and 9, designed to give structural strength and to better shield or protect certain parts.

Formed as part of base member 6 is the water pump intake 10. This I prefer to form as part of my base member. When so constructed the intake member is fully protected from injury, adds structural strength to the base member and reduces the total weight over a pump having the intake within the pump proper. This is accomplished by making the base of light weight metal such as cast aluminum, whereas the pump itself must necessarily be made of heavy metal as cast brass or iron. Another advantage of this unit construction is the reduction of the overall height. This is of considerable importance as to be readily carried on a man's back the center of weight must lie as close as possible to the base.

Secured on one end of base 6, directly above the water intake passage 10, is a rotor-type pump "P". At the opposite end of base 6 I provide a mounting place for a prime mover such as the gasoline motor indicated at "M". If a gasoline power plant is used it is quite desirable that it be made up of a plurality of opposed cylinders 12. This makes it possible to keep the overall height of my motor to a minimum and also tends to reduce vibration.

Base 6 is so proportioned that the center lines of pump "P" and motor "M" will coincide, permitting them to be direct connected as by the coupling 14.

I provide that the gasoline tank "T" be mounted at a higher level than the carburetor 18, and directly over the motor, so that gravity feed may be employed. This mounting protects the water piping, spark plugs and other small parts from injury.

As carburetor 18 and its associated small parts and piping might be subjected to possible damage, I have provided a protector plate 20, which, as illustrated particularly in Figure 2, not only protects the carburetor but due to its secure anchorage at 22 to the base 6 provides a rest when it is desired to carry my pumper. This preferred arrangement serves to protect these parts and reduces the number of outstanding projections which might catch on brush and the like.

To this end I prefer to give plate 20 an inward curve as indicated which will nicely fit the hips or shoulders of a man when he is carrying the device on his back. I have found, for instance, that if a trump line be used to hold the pump end of my device against a man's shoulders, and plate 20 be rested on his hips my device may be conveniently carried without the use of any special carrying frame-work, which, when used, has the disadvantage of adding appreciably to the weight to be carried.

When a carrying frame is used to assist in transporting my device the motor end is usually carried uppermost and in this position the protector plate prevents the carburetor tip striking the carrier on the shoulders.

I prefer to use a water-cooled motor as water is, of course, always available whenever the pumper is used, and to this end I lead a line 24 from the pressure side of the pump "P" down into the base cavity where a Siamese coupling 26 is provided so that a separate water supplied pipe 28 may be sent to each cylinder. I have found it necessary to provide a valve 30 so as to control the pressure built up within the water jackets of cylinders 12, as under certain conditions sufficient pressure might be applied to break the light cylinder jackets. This piping, as can be observed from Figures 1 and 3, is almost entirely enclosed within the cavity of base 6, the Siamese joint being adequately protected by the web-members 8 and 9.

The water intake 10 and the pressure gauge 30 are adequately protected by cross member 9, and the end of base 6. Cross member 8 gives additional security to the carburetor, the intake manifold and other associated small parts.

The foregoing description and the accompanying drawings clearly disclose a preferred embodiment of my invention but it will be understood that this disclosure is merely illustrative and that such changes in the invention may be made as are fairly within the scope and spirit of the following claim:

What I claim is:

The combination in a pumping unit with an open-bottom, hollow base having spaced transversely arranged brace-partitions, and an interior, integral pump-intake at one end of the base, of a transversely arranged rotary pump mounted on the exterior of the base, an internal combustion engine mounted on a higher level at the opposite end of the base, power transmission mechanism between the pump and the engine, said base having a recess depressed below the level of the engine to accommodate the fly wheel of the engine, and a concave cross-plate, (forming a shield when the unit is packed on the back) secured at its opposite ends to and spanning a portion of the open bottom of the base.

In witness whereof, I hereunto subscribe my name this 2nd day of April, A. D. 1930.

EARL W. HIMBERGER.