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This invention relates to a portable pump unit.

An object of the present invention is the provision of a water pump unit which may easily be carried on a man's back.

Another object is the provision of a portable pump unit of extremely light construction.

Another object is the provision of a water pump unit capable of being carried on a man's back and which is complete in itself, including everything necessary for its operation, and very compact.

A further object is the provision of a unit of the nature described of simple and yet durable construction.

With these and other objects in view, the present invention consists essentially of a portable pump unit comprising a base adapted to be strapped to a man's back, an internal combustion engine mounted on the base, reduction gears connected to the engine, a pump on the base connected through the reduction gears to the engine, and means on the base for holding hose to be used with the pump, as more fully described in the following specification and illustrated in the accompanying drawings, in which . . .

Figure 1 is a side elevation of the unit.

Figure 2 is an end elevation thereof.

Figure 3 is a horizontal section taken on the line 3—3 of Figure 1, with the engine and pump of the unit removed.

Figure 4 is a fragmentary end elevation of the pump with hoses connected thereto, and

Figure 5 is a fragmentary view of the reduction gear housing broken away to show the interior thereof.

Referring more particularly to the drawings, 10 is a base consisting of a tube 11 bent substantially into a rectangle to form a frame, and spaced tubular braces 12 extending longitudinally of the frame spaced from the sides thereof. The ends of these supports are connected to the sides of the tube 11 at each end of the frame and sections thereof are arched or raised to form supports 13.

An internal combustion engine 14 is mounted on the supports 13. This engine has a carburetor 15 at one side thereof and a housing 16 at its forward end. A reduction gear housing 17 is mounted on the rear of the engine. The power shaft of the engine is connected through the reduction gears in the housing 17 to a pump 18 mounted on a high bracket 19. This pump has an inlet 20 and an outlet 21.

The bracket 19 is in the form of an inverted U, the legs 22 of which are secured to the braces 23. A fuel tank 23 is carried by the braces 12 between the legs 22 of the bracket 19 and beneath the reduction housing 17. A fuel pipe 24 extends from the tank to the carburetor 15.

A casing 25, having vertical sides 26, encloses the base 10 and the tank 23 and terminates just above the latter. Suitable openings are formed in the top of the casing 25 to permit the engine 14 and the bracket 19 to project upwardly there-through. This casing forms compartments 27 at each side of the engine and the bracket. A length of hose 28 is folded and placed partly in each compartment 27, see Figure 3. A strap 30 extends downwardly in a curve from each side of the housing 16 to the casing 25 to form a loop, see Figure 2. Another length of hose 31 is wound around the engine 14 and the bracket 19 on top of the casing 25 beneath the strap 30. Suitable shoulder straps 32 are secured to the base 10, by means of which the unit may be secured to a man's back.

A wrench 33 is removably retained on the base of the casing 25 between the braces 12 by means of a holder 34 secured to said base.

This pump unit may be used for any purpose but it is primarily designed for use in fighting forest fires which usually take place where pumping equipment is not available and at such places where it takes a long time to get there with the cumbersome equipment now used, owing to the distances to be travelled and the lack of roads.

The hose 28 is folded and kept in the compartments 27 while the hose 31 is wound around the engine 14 and the bracket 19, this hose being retained in place by the straps 30. When the unit is required at a certain point, it is strapped onto a man's back and he can go straight to the fire in a fraction of the time it usually takes in obstructed areas and difficult terrain. The unit weighs only about 60 lbs. In fact, it is possible to send out several men with these units to attack the fire from various positions. As is the case with all fires, a little attention at the beginning of a forest fire is of very much more value than a lot of attention later on. These units may be used to check a fire until the heavier equipment arrives.

When it is desired to use the unit, the base 10 is placed on the ground. Then the hose 31 is connected to the inlet 20 of the pump and the hose 28 is connected to the outlet 21. Next the end of the hose 31 is dropped into the source of water, usually a stream or pool, and the engine 14 is started in order to operate the pump 18. The tank 23 is large enough to supply the engine for...
several hours, thus enabling the operator to battle the fire until it is put out or until the heavy equipment arrives.

The base 10 formed of tubing is very strong and yet light. The arching of the braces 12 to form the supports 13 provides an extremely strong base for carrying the weight of the engine and withstanding the vibration thereof.

From the above, it will readily be seen that a portable pump unit of light but durable construction has been provided which is complete and compact, and may easily be carried on a man's back.

Various modifications may be made in this invention without departing from the spirit thereof or the scope of the claims, and therefore the exact forms shown are to be taken as illustrative only and not in a limiting sense and it is desired that only such limitations shall be placed thereon as are disclosed in the prior art or are set forth in the accompanying claims.

What I claim as my invention is:

1. In a portable pump unit including a pump, an internal combustion engine operatively connected to the pump, and a fuel tank for the engine, the structure which comprises a tube bent substantially into a rectangle to form a base frame adapted to be strapped to a man's back, spaced tubular braces extending longitudinally of the frame spaced from the sides thereof for carrying the engine and the tank, and an inverted U-shaped bracket mounted on the braces over the tank for carrying the pump.

2. In a portable pump unit including a pump, an internal combustion engine operatively connected to the pump, and a fuel tank for the engine, the structure which comprises a base adapted to be strapped to a man's back and upon which the engine and fuel tank are mounted, an inverted U-shaped bracket mounted on the base over the tank spaced from the sides of the base for carrying the pump, a casing enclosing the base and terminating above the tank, said casing having openings in the top thereof through which the engine and bracket project, and compartments formed in the casing on each side of the engine and the bracket.

3. In a portable pump unit including a pump, an internal combustion engine operatively connected to the pump, and a fuel tank for the engine, the structure which comprises a tube bent substantially into a rectangle to form a base frame adapted to be strapped to a man's back, spaced tubular braces extending longitudinally of the frame spaced from the sides thereof for carrying the engine and the tank, an inverted U-shaped bracket mounted on the braces over the tank for carrying the pump, a casing enclosing the base and terminating above the tank, said casing having openings in the top thereof through which the engine and the bracket project, and compartments formed in the casing on each side of the engine and the bracket.

4. In a portable pump unit including a pump, an internal combustion engine operatively connected to the pump, and a fuel tank for the engine, the structure which comprises a base adapted to be strapped to a man's back and upon which the engine and fuel tank are mounted, an inverted U-shaped bracket mounted on the base over the tank spaced from the sides of the base for carrying the pump, a casing enclosing the base and terminating above the tank, said casing having openings in the top thereof through which the engine and the bracket project, compartments formed in the casing on each side of the engine and the bracket, and a loop formed at each side of the engine above the casing.

5. In a portable pump unit including a pump, an internal combustion engine operatively connected to the pump, and a fuel tank for the engine, the structure which comprises a tube bent substantially into a rectangle to form a base frame adapted to be strapped to a man's back, spaced tubular braces extending longitudinally of the frame spaced from the sides thereof for carrying the fuel tank adjacent one end thereof, an arched section in each brace adjacent its opposite end forming a support, said supports being adapted to carry the engine, an inverted U-shaped bracket mounted on the braces over the tank for carrying the pump, a casing enclosing the base and terminating above the tank, said casing having openings in the top thereof through which the engine and the bracket project, compartments formed in the casing on each side of the engine and the bracket, and a loop formed at each side of the engine above the casing.

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