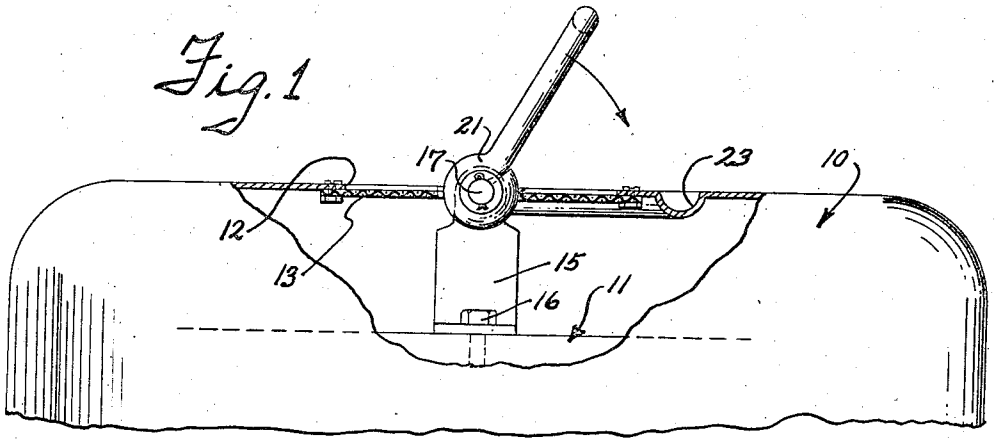
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PORTABLE POWER UNIT - HANDLE COOLING

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Fig. 1



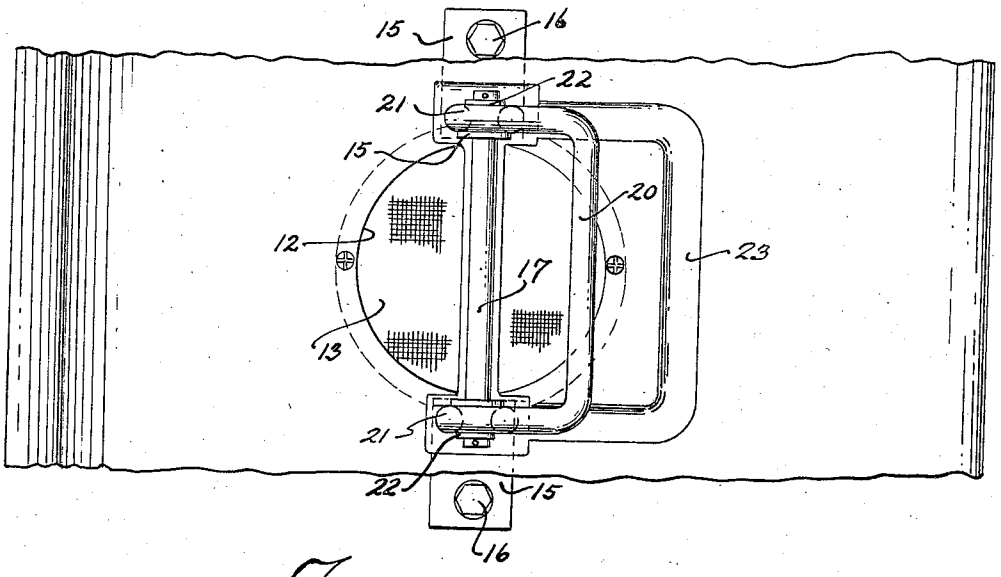


Fig. 2

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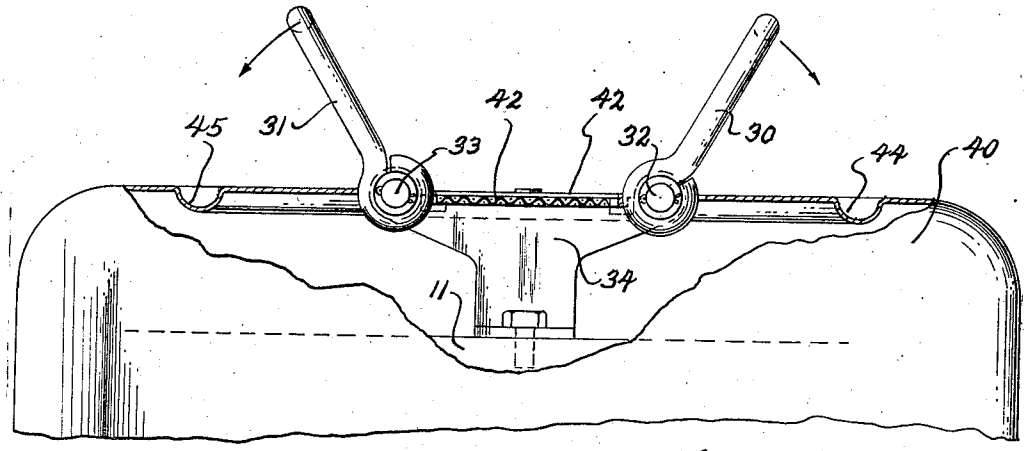


Fig. 3

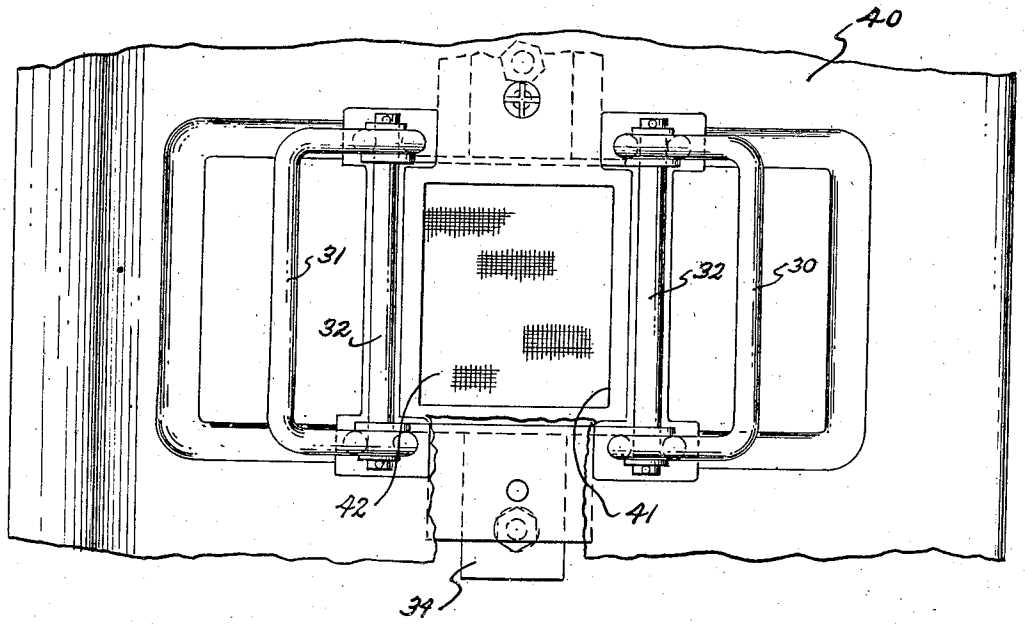


Fig. 4

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PORTABLE POWER UNIT—HANDLE COOLING

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Application June 4, 1945, Serial No. 597,537

5 Claims. (Cl. 123—198)

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This invention relates to an internal combustion engine and has particularly to do with a housing construction for such an engine.

An object of the invention is the design of a housing for a portable internal combustion engine of such light construction that it may be moved about from one spot to another for a number of different adaptations. For example, on a farm the engine might be used for powering a water pump to fill watering tanks, and then carried to the barn for operating a milking machine, pump, cream separator or other machines. It is also adapted for use in a tool house to drive a circular saw or grindstone.

The engine has also other uses in factories, trainsheds, airplane hangars, service stations, army camps and the like where a single engine must perform a multitude of duties.

It is the intention of the present invention to provide an engine housing and incorporated air inlet and handle which adequately covers the actual engine block and prevents direct contact therewith while permitting the handling of the engine even after continued operation.

For a more detailed understanding of my invention, reference may be had to the accompanying drawings illustrating a preferred embodiment of my invention and in which:

Fig. 1 shows a portion of the engine housing and engine handle attached to the block,

Fig. 2 is a plan view illustrating the engine intake opening, and

Figs. 3 and 4 are similar views of a double-handled construction.

In Fig. 1 a sheetmetal housing 10 is broken away to disclose a portion of the engine block 11. As shown best in Fig. 2 the housing is provided with a circular opening 12 covered by expanded metal or screen plate 13. This opening serves as an air inlet for the internal combustion engine in block 11, and thus cool air is being circulated through the opening at all times when the engine is in operation.

Projecting through the housing on either side of opening 12 are handle brackets 15 bolted by stud bolts 16 to the block. These brackets are apertured and a shaft 17 passes through the apertures to project on either side thereof. A handle piece 20 is formed at either end in a loop 21 which receives the projecting ends of shaft 17. Locking rings 22 at either end hold the shaft 17 in place.

A depression 23 in housing 10 receives the handle when it is not being used.

In Figs. 3 and 4 a double handle construction

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is shown. Handles 30 and 31 are shaped as is handle 20 of Fig. 1 with eyes or loops 21 at each end. These loops cooperate with rods 32 and 33 which in turn pass through apertures in a bracket 34 fastened at each end to an engine block 11. The engine housing 40 is apertured at 41 and the aperture is covered by an air inlet screen 42.

Recesses 44 and 45 are provided in housing 40 to receive handles 30 and 31 when not in use.

It will be seen that each of the handles 20 and 30—31 are in metallic connection with the engine block 11. This is a necessary condition since the carrying forces must be transmitted directly to the engine block rather than to the less rigid housing or cover 10 or 40. Consequently, it is impossible to remove the handles from conductive relation with the block. But the present construction prevents excessive build up of heat in the handles by reason of the rush of intake engine air through the openings 13 or 42 and past the handles and connecting brackets 15 or 34, Figs. 1 and 3, respectively. These brackets being continuously cooled during engine operation reduces the heat transfer to the handles. As a result, when the engine is disconnected from one job, it may be immediately carried to another application point by the operator. Its versatility as a portable unit is thus not impaired.

It will be apparent to those skilled in the art to which my invention pertains, that various modifications and changes may be made therein without departing from the spirit of my invention or from the scope of the appended claims.

I claim:

1. A casing for a portable internal combustion engine provided with an air intake aperture, and one or more handles for carrying said engine positioned adjacent said intake aperture whereby inrushing air cools said handles rendering them comfortable to the hand.

2. An internal combustion engine of a size to be portable, handles for lifting the same, means fastening said handles to said engine, a covering shield for said engine spaced from said engine, an aperture in said shield directly adjacent said handle and said fastening means therefor, arranged to serve as an air inlet for said engine shield.

3. An internal combustion engine of a size to be portable, one or more U-shaped handles for lifting the same, means fastening said handles to said engine, and a covering shroud for said engine provided with an air inlet opening directly below said U-shaped handle whereby said handle is cooled of engine heat by inrushing air.

4. An internal combustion engine of a size to be portable, one or more U-shaped handles for lifting the same, means fastening said handles to said engine, and a covering shroud for said engine provided with an air inlet opening directly below said U-shaped handle whereby said handle is cooled of engine heat by inrushing air, and a connecting bar between the legs of the U-shaped handle passing over said opening to serve as a heat conducting means for said handle.

5. A portable internal combustion engine combination, comprising an engine block, a carrying handle, metallic brackets connecting ends of said handle to said block, and a covering shield for said engine having an air inlet opening positioned between and directly adjacent said brackets whereby inrushing air cools said handle and brackets rendering the handle comfortable during operation of said engine.

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