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MANUALLY OPERATED TAMPER OR VIBRATION TOOL
DRIVEN BY AN INTERNAL COMBUSTION ENGINE

Filed May 31, 1957

2 Sheets-Sheet 1

Fig. 1

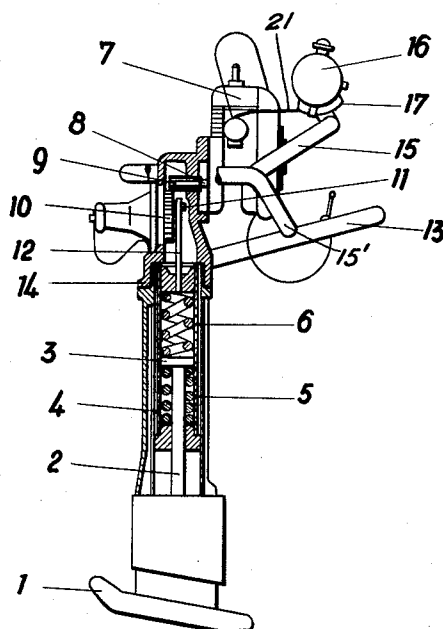
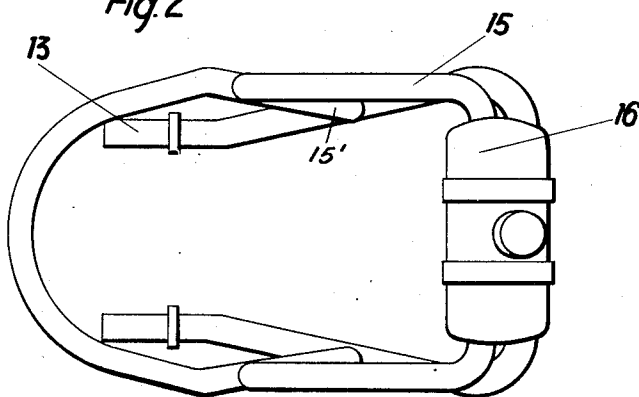


Fig. 2



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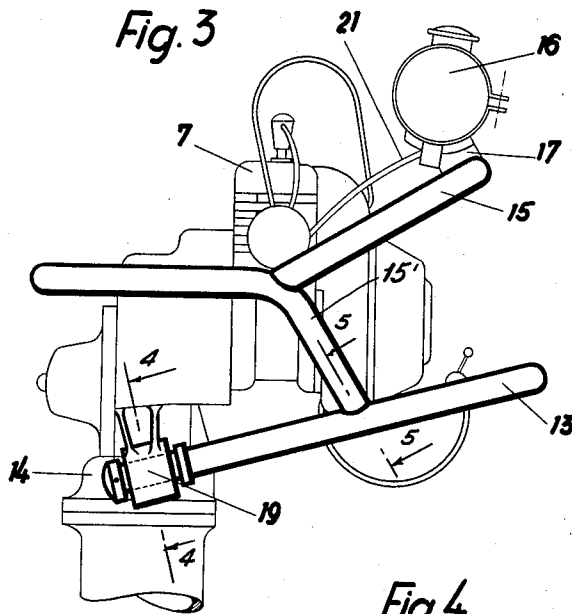


Fig. 4

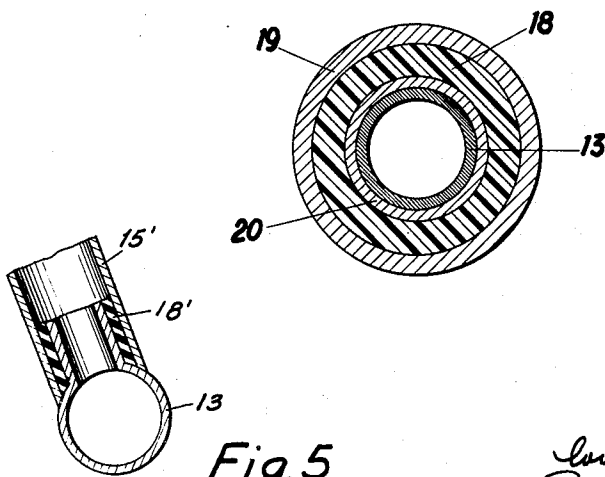


Fig. 5

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MANUALLY OPERATED TAMPER OR VIBRATION TOOL DRIVEN BY AN INTERNAL COMBUSTION ENGINE

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4 Claims. (Cl. 123—7)

The present invention relates to a manually operated tamper or vibration device particularly designed for the building industry, which device is driven by an internal combustion engine flanged directly to the tool.

The fuel tank is disposed in such tools either on the cylinder head or on the aeration housing of the internal combustion engine. By this arrangement the attaching means for the fuel tank are subjected continuously to the vibrations of the tool during its operation, which tool operates at a rate of 500 to 600 vibrations per minute. Due to the inertia of the fuel in the tank, the attaching means for the tank are strained to such an extent that they break off after short operation of the tamper.

The achievement of the two-cycle mixture with particular mixing devices is rather difficult in tampers of such structure driven by two-cycle internal combustion engines. Such mixer devices are mostly not available at different working places. On the other hand, the use of the conventional self mixing two-cycle oil is rather expensive.

It is, therefore, one object of the present invention to provide attaching means for the fuel tank in a tamper or vibration tool, which removes the drawbacks of the known attaching means and which has additional advantages over the known attaching means. This object is achieved by providing the fuel tank on the guide handle of the tool which is resiliently mounted thereon. By mounting the fuel tank in such manner, it is resiliently supported and no more subjected directly to the vibrations of the tamper or the vibration device. This arrangement excludes the possibility that the inertia of the fuel in the fuel tank brings about a break off of the attaching means for the fuel tank.

It is another object of the present invention to provide attaching means for the fuel tank on the guide handle for the tool, so that upon use of a two-cycle internal combustion engine as a driving aggregate, upon filling of oil and gas into the fuel tank the two-cycle mixture may be brought about by repeated up and down movement of the guide handle while the tool is not in operation. In this manner the tool is always ready for operation independently of particular mixing devices even on remotely situated working places.

It is of advantage to screw a measure-container into the tank opening in order to fill the latter.

With these and other objects in view which will become apparent in the following detailed description, the present invention will be clearly understood in connection with the accompanying drawing, in which:

Figure 1 is a front elevation of a tamper, partly in section, with flanged internal combustion engine and with a fuel tank secured to the guide handle;

Fig. 2 is a top plan view of the guide handle together with a fuel tank;

Fig. 3 is a front elevation of the upper portion of the tamper with the attachment means for the guide handle;

Fig. 4 is a section along the lines 4—4 of Fig. 3; and

Fig. 5 is a section along the lines 5—5 of Fig. 3.

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Referring now to the drawing, the tool, as a tamper 1, is disposed at the lower end of the device and adapted to perform reciprocating movements. It is exchangeably secured to the lower end of the piston rod 2. The upper end of the piston rod 2 is formed as a piston 3 which reciprocates in the cylinder 4 and is subjected to the pressure of the springs 5 and 6 on its respective sides.

The driving engine is an internal combustion engine 7 of conventional structure and secured to the tool device by means of flanges. The power is transferred to the tool 1 from the driving shaft 8 of the engine over the pinion 9 to the gear 10 and a pin 11 secured to the latter which operates a connecting rod 12 working on the spring arrangement of the tool.

At about the height of an operator is provided a preferably U-shaped guide handle 13 which is resiliently secured to the housing 14. Elastic material may be used for this purpose. The buffers 18 are disposed between the end of the guide handle 13 and the housing 14 of the tool. The buffers 18 may comprise cylindrical bushings of elastic material, which are secured to the housing 14 by means of straps 19. A metal sleeve 20 receives the guide handle 13 (Fig. 4). An upwardly bent brace 15 is either resiliently or rigidly connected with the guide handle 13 by including a resilient intermediate frame member 15' between the guide handle 13 and the brace 15. The brace 15 has secured thereto the tank 16 for the engine fuel by means of a bracket 17. The tank 16 is connected with the engine 7 by means of a feeding tube 21.

Referring now to Fig. 5, it will be ascertained that a resilient connection may be provided between the guide handle 13 and the intermediate frame member 15', which is of U-shape, or between the latter and the brace 15. Fig. 5 shows such resilient connection by example between the guide handle 13 and the intermediate frame member 15'. A metal sleeve 20' projects from the guide handle 13 and a buffer 18' surrounds the metal sleeve 21'. The lower end of the intermediate frame member 15' receives the buffer 18', thereby providing a resilient connection between the adjacent members 13 and 15'. It is to be understood that the brace 15 may be secured by the same resilient means to the guide handle 13 directly, by eliminating the intermediate frame member 15' or the same resilient connection may be applied between the intermediate frame member 15' and the brace 15, or between both, the guide handle 13 and the intermediate frame member 15' as well as the intermediate frame member 15' and the brace 15.

By this arrangement the fuel tank 16 is resiliently mounted relative to the tamper and relative to the internal combustion engine and the danger that the securing means or attaching means break off due to the inertia experienced in the fuel tank is eliminated.

While I have disclosed one embodiment of the present invention, it is to be understood that this embodiment is given by example only and not in a limiting sense, the scope of the present invention being determined by the objects and the claims.

I claim:

1. A manually operated tamper or vibration tool driven by an internal combustion engine having a fuel tank, comprising a tool housing and an engine housing, both said housings being releasably flanged together, a U-shaped guide handle resiliently mounted with its two free ends on said tool housing, an upwardly extending U-shaped brace consisting of at least one supporting member secured at its free ends to said U-shaped guide handle, and a bracket secured to said brace and supporting said fuel tank.

2. The tool, as set forth in claim 1, wherein said brace is rigidly secured to said guide handle.

3. The tool, as set forth in claim 1, wherein said brace is resiliently secured to said guide handle.

4. A manually operated tamper or vibration tool driven by an internal combustion engine having a fuel tank, comprising a tool housing and an engine housing, an upwardly extending intermediate U-shaped intermediate frame member secured at its free ends to said U-shaped guide handle, a U-shaped brace secured at its free ends to said intermediate frame member, and a bracket secured to said brace and supporting said fuel tank.

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