Dec. 9, 1930. J. J. McBRIDE 1,784,461

SECURING MEANS FOR INTERNAL COMBUSTION ENGINES

Filed Oct. 26, 1928

Fig. 1.

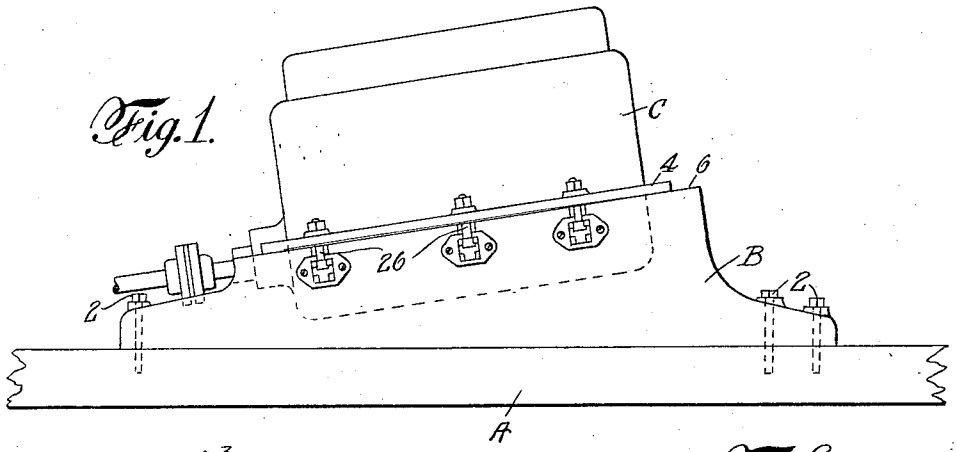


Fig. 2.

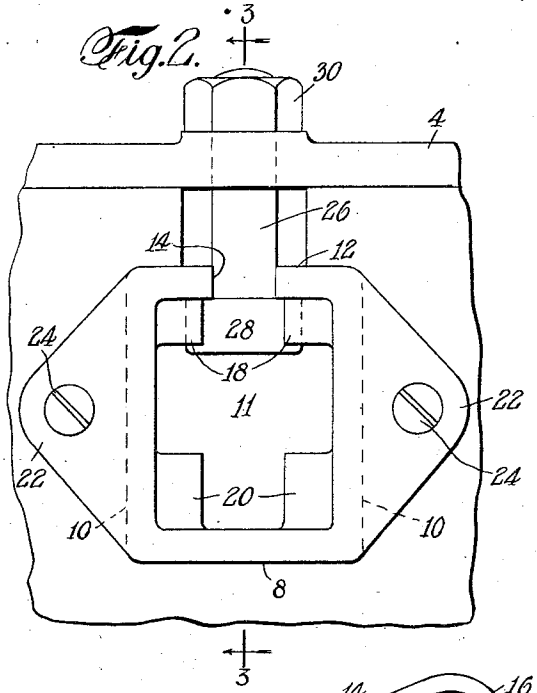


Fig. 3.

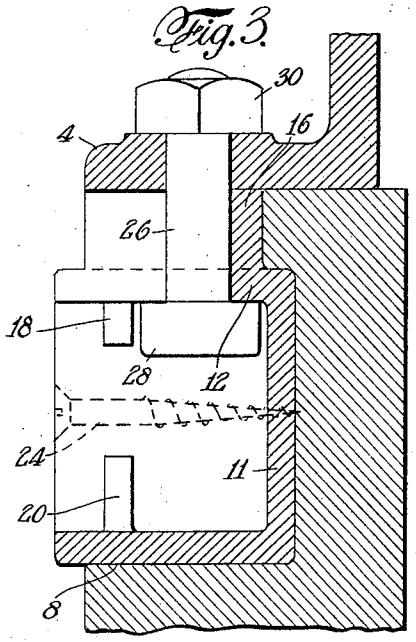
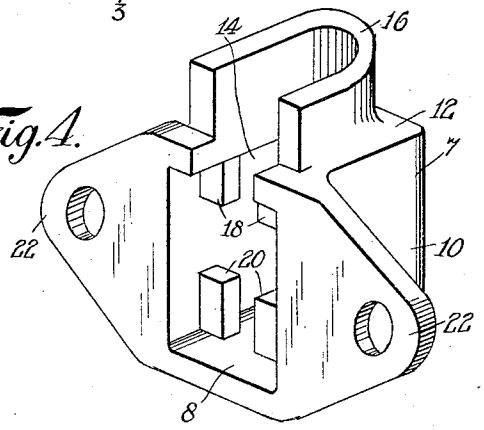


Fig. 4.



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UNITED STATES PATENT OFFICE

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SECURING MEANS FOR INTERNAL-COMBUSTION ENGINES

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This invention relates generally to engine mountings and has particular reference to means for securing internal combustion engines for motor boats to an engine bed.

At the present time, it is usual to secure internal combustion engines to engine frame bed timbers through the medium of headless lag screws, threaded at their upper ends to receive securing nuts, and these lag screws are, to all intents and purposes, substantially immovable. To move the engine, it is necessary, therefore, to lift the same to free the engine from the lag screws. It is usual to incline an engine downwardly towards the stern of the boat, and it will be apparent that, unless the engine is elevated at the same angle of inclination as the lag screws, the latter are often-times bent and sometimes even broken, and the threads on the lag screws are often stripped. In addition to this, it will also be apparent that, when an engine is secured by immovable lag screws, it is practically an impossibility to shift the engine on its bed, should it be desired to do so.

It is desirable to provide some means for securing an engine to a bed in such a manner that it may be moved thereon without the necessity of being lifted. It is also desirable to provide a securing means for an engine which, during the elevation of an engine, will not become distorted, bent or broken.

One object of the present invention, therefore, is to provide a securing means for an engine of a motor boat which will permit the engine to be moved on the engine bed.

Another object of the present invention is to provide a securing means for motor boat engines which, when freed from their securing engagement with the engine, are confined or retained in an easily accessible place and out of direct engagement with the engine.

A further object of the invention is the provision of means comprising an insert for mounting securing bolts for an engine whereby, when said bolts are not in securing position, they are retained out of contact with the engine.

A still further object of the present invention is the provision of a socket casting for receiving the securing bolts of an internal combustion engine.

Another object of the invention is the provision of a casting for receiving a securing bolt; the casting being so formed as to permit the bolt to drop and to be retained therein.

Other objects and advantages of this invention will be apparent from the following description taken with the accompanying drawings in which

Figure 1 is a side elevation of a portion of a boat showing the engine bed and an engine secured thereto by the means of the present invention;

Fig. 2 is a front elevation of the invention in use;

Fig. 3 is a sectional view on the line 3—3, Fig. 2; and

Fig. 4 is a perspective view of the socket casting.

Referring now particularly to the drawings, in which similar characters of reference designate similar parts in the several views, the invention includes the provision of securing means for engines which may be released to be freed from their engagement with the engine, to permit the latter to be moved on the engine bed or lifted. In Fig. 1 a boat keel is indicated generally at A, and B indicates generally the engine bed secured to the keel by suitable fasteners such as bolts 2. As is usual, the bed slopes downwardly toward the stern of the boat and supports the engine C at an incline; the engine being provided with a supporting flange 4 which rests on the upper edge 6 of the bed.

The invention comprises essentially a hollow casting which is shown clearly in Fig. 4. The casting is a socket comprising a hollow body portion 7 having a base 8, side walls 10, a rear wall 11 and a top wall 12, the latter being slotted as shown at 14 and having an integral U-shaped flange 16 defining a neck. The front face of the body portion is cut away to define spaced pairs of lugs 18 and 20, and the body portion is further provided with outwardly extending attaching ears 22.

The casting, in use, is gained into the engine bed as clearly shown in Fig. 2; the bed

being provided with recesses complementary in shape to the casting. For rigidly securing the casting against displacement in the recesses suitable fasteners such as screws 24 are employed.

The attaching flange 4 of the engine is provided with bolt holes which are alined with the slot 14 in the upper face of the body portion 7 of the casting, and bolts 26 are employed for securing the engine to the bed; the bolts having heads 28 which are received within the body portion 7, as clearly shown in Fig. 2, and the shank of the bolts extending upwardly through the neck 16 and through the bolt holes in the flange 4 to receive nuts 30, whereby the engine is securely attached to the engine bed.

With the engine secured to the bed as shown in Fig. 3, it is apparent that the bolts 26 are retained against rotation by means of the lugs 18, but, should it be desired to move the engine on the bed, the nuts 30 are backed off of the bolts 26, whereupon the latter drop in the body portion in the rear of the lugs 20, thereby preventing loss of the bolts.

From the above description it is believed that the construction and operation of the device of the present invention will be fully apparent to those skilled in the art, attention being called to the fact that the device of the present invention provides a means for securing an engine to an engine bed, which means are so formed that upon release of the nuts 30 and the resultant dropping of the bolts 26 into the socket, the engine may be freely moved on the bed or may be lifted vertically directly from the bed and, during such lifting, the bolts 26 are out of engagement with the flange 4 of the engine, thereby eliminating any possibility of distortion of the bolts or stripping of the threads.

The drawings herein disclose the preferred embodiment of the invention, but it is to be understood that they are merely by way of example and that various changes in the form and proportions of the device may be made within the scope of the appended claims without departing from the spirit of the invention.

What is claimed is:

1. A device of the kind described comprising a hollow body portion having one open face and a slotted top portion, retaining lugs extending into the open face of the body portion, and attaching ears extending laterally from the body portion.

2. A bolt receiving socket comprising a hollow body portion having one open face, a slotted upper wall and a neck adjacent said slot, spaced pairs of lugs at the open face to permit the insertion of a bolt therein with the shank thereof normally extending through the neck, and attaching ears formed with the body portion.

3. An insert of the kind described comprising a hollow body portion having its upper surface provided with an opening, a substantially U-shaped flange adjacent said opening and defining a bolt guide, one side of the body portion being open, and spaced pairs of retaining lugs formed in the body portion.

4. An insert of the kind described comprising a hollow body portion having one open side and having its upper surface provided with a slot communicating with the open side, a flange extending upwardly from the upper surface adjacent the slot therein, bolt retaining means in the body portion, and attaching ears formed with the body portion.

In witness whereof I have hereunto set my hand.

JOHN J. McBRIDE.