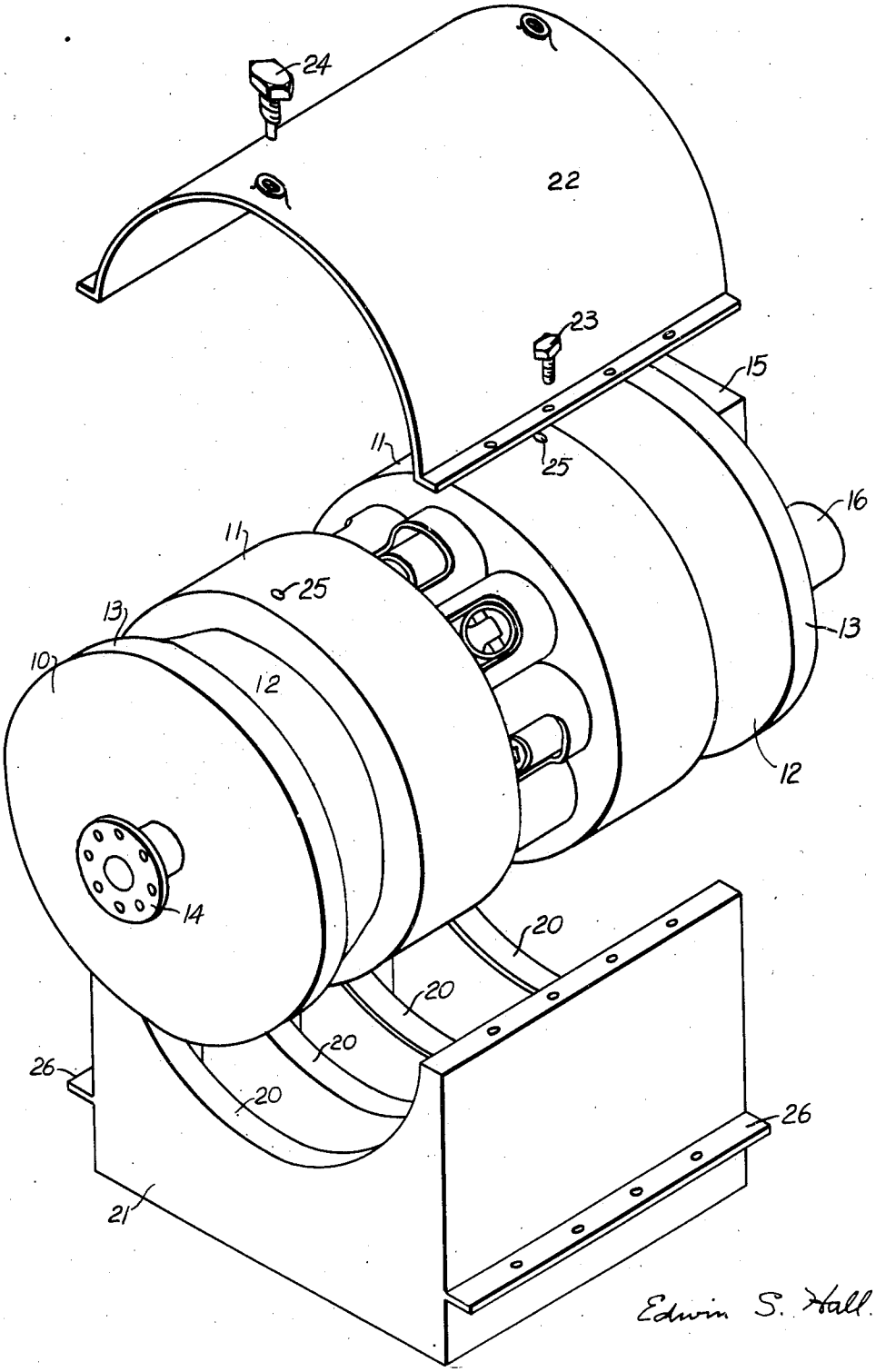
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BARREL ENGINE MOUNTING

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BARREL ENGINE MOUNTING

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6 Claims. (Cl. 121—194)

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This invention relates to engine constructions and more especially to engine mountings for engines of the barrel type, the class having cylinders parallel to the shaft.

The principal object of the invention is to provide an engine mounting for a barrel engine unit in which the engine may be easily turned over or rotated for accessibility to any cylinder and its associated parts, with removable means to take the engine torque reaction for preventing rotation of the engine in its mounting during operation. Another object is to provide a barrel engine construction and mounting so arranged that the smallest number of pipes or connections need be broken in order to rotate the engine in its mounting. Another object is to provide an engine unit construction having the radiator and all water connections in the unit so that no water joints need be broken and the liquid cooling system need not be drained in order to rotate the engine in the mounting. Another object is to provide an engine mounting suitable for any type of barrel engine, whatever mechanism may be used in the interconnections between the reciprocating members and the rotating parts. Another object is to provide an engine construction and mounting for a self-contained engine unit in which the lubrication system and the cooling system may be all a part of the unit without the addition of separate assemblies or piping. Another object is to provide a simple box mounting for a barrel engine, the box serving as oil sump and drainage chamber, the cover easily removable exposing the working parts of the engine. Another object is to provide such a box mounting for a barrel engine in which the torque taking means for preventing rotation of the engine in the mounting is automatically removed when the cover is removed.

These and other objects will be more clearly understood from the drawing, which is an isometric view of the engine somewhat raised above its mounting with the cover raised still more to show the construction.

Engine unit 10 comprises a pair of cylinder blocks 11 between which the mechanism for the interconversion of reciprocation and rotation is situated, the reciprocating members being double ended. In the particular barrel engine shown, the exhaust manifolds are indicated at 12 and accessory drive gear housings at 13 and the driving flange at 14. At the other end of the engine various accessories 15 and 16 are indicated and it is understood that the accessories may include an oil pump, a radiator, a radiator fan, and water

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pump for the circulation of water through cylinder blocks 11 and the radiator.

The entire engine unit normally rests in the half-journal bearing surfaces 20 formed in the end walls of box mounting 21 which also serves as an oil sump into which oil may drain freely from the conversion mechanism situated between cylinder blocks 11. When the engine is seated in half-journal bearings 20 in box mounting 21 a cover 22 may be bolted down over it by screws 23 and the engine located against torque by dowel screws 24 normally fixed in and removable with cover 22, the ends of dowel screws 24 engaging dowel holes 25 in cylinder blocks 11. Thus when cover 22 is in place the engine unit is locked against rotation but when cover 22 is removed the dowel screws 24 are automatically removed from holes 25 permitting the engine to be rotated in journals 20 so that any desired cylinder may be brought upward for easy accessibility to its associated parts.

Box mounting 21 may be welded of steel plate or formed of stampings welded or brazed together. Mounting flanges 26 may be at the floor level or at any desired location on the sides of box mounting 21, even at the top surface of box 21 if it is desired to mount the engine substantially at its axis level. The oil sump formed in box mounting 21 need not be rectangular as indicated in the drawing but may have any desired shape.

Box mounting 21, as shown, is long enough to embrace the cylinder blocks 11 only, exhaust manifolds 12 and gear housings 13 extending beyond box mounting 21. For easiest accessibility for such parts as fuel injectors (not shown) which would normally be at the ends of cylinder blocks 11, this construction may be preferred. Obviously the box mounting can be made longer, with its end sealing journals 20 fitting around gear housings 13, box mounting 21 having the same length as the length of the engine unit including the gear housings. In this case cover 22 might be longer also, the same length as the engine unit; or cover 22 might be made in three sections, for example, so that the end portions might be removed without disturbing the main central portion.

Having thus described the invention it is clear that the objects thereof as stated have been attained. While one embodiment of the invention is shown and described it is understood that changes may be made without departing from the spirit or scope of the invention as described in the following claims.

I claim:

1. An engine mounting for a barrel engine comprising a box for an oil sump, half-journal bearings formed in the end walls thereof, said engine cylindrical in shape and supported in said half-journal bearings, and a cover removably fastened to the top of said box like a bearing cap about said engine, said cover and said box forming with said engine an oil-tight closure, said engine rotatable bodily in said half-journal bearings when said cover is removed.

2. An engine mounting for a barrel engine comprising a box for an oil sump with half-journal bearings formed therein, said engine rotatable bodily in said half-journal bearings, a cover removably fastened to said box and forming therewith a closure about said engine, and means for preventing the rotation of said engine in said mounting when said cover is in place.

3. A barrel engine construction comprising a barrel engine unit substantially cylindrical in shape, a box closure about the central portion of said engine and split on an axial plane thereof, one half of said box forming an oil sump or drainage chamber as a support mounting for said engine and the other half forming a cover, said engine unit rotatable in said oil sump half upon removal of said cover.

4. A barrel engine construction comprising a barrel engine unit having a drive flange at one end and accessories mounted on the other end, the engine being substantially cylindrical in shape, a box closure about said engine embracing its cylindrical shape with the ends of said engine unit projecting beyond said closure, said box closure split on an axial plane of said engine unit, the lower half forming an oil pan and the upper half forming a cover, said engine unit rotatable, bodily and without disconnecting said accessories therefrom, in and relative to said lower half upon removal of said upper half.

5. A barrel engine construction comprising a barrel engine unit having a drive flange at one end and accessories mounted on the other end, the engine being substantially cylindrical in shape, a box closure about said engine embracing its cylindrical shape with the ends of said engine unit projecting beyond said closure, said box closure split on an axial plane of said engine unit, the lower half forming an oil pan and the upper half forming a cover, said engine unit rotatable in and relative to said box closure, and removable means for preventing rotation of said engine unit relative to said box closure.

6. An engine construction for a barrel engine comprising a box forming an oil sump, half-journal bearings formed in the top of said box, an engine unit substantially cylindrical in shape and resting in said half-journal bearings, a cover removably fastened to the top of said box like a bearing cap about said engine unit, said cover and said box forming with said engine unit an oil-tight closure, said engine rotatable in said box, and removable means for preventing rotation of said engine in said box.

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