

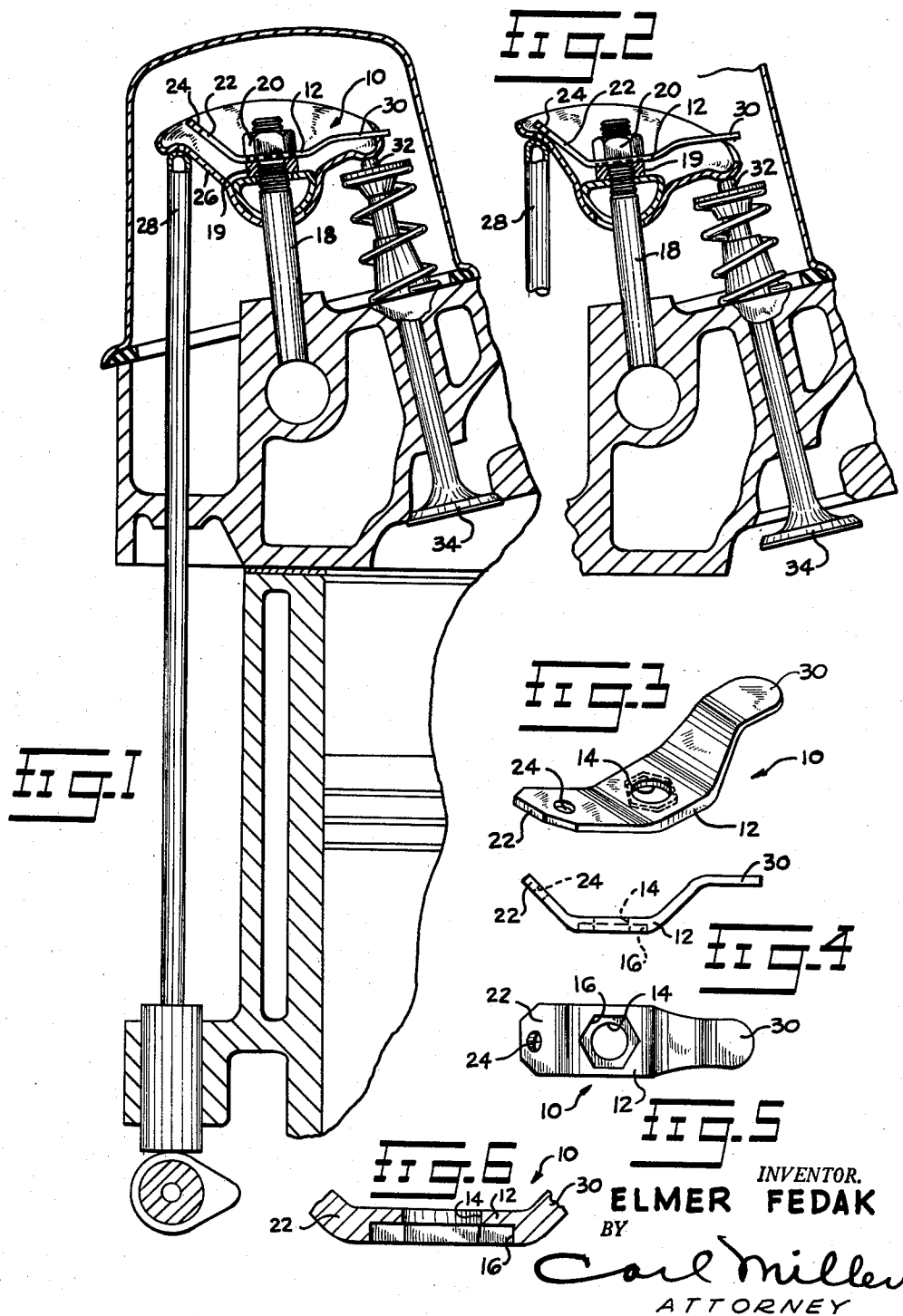
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VALVE ROCKER ARM GUIDE

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VALVE ROCKER ARM GUIDE

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4 Claims. (Cl. 123—90)

This invention relates to automobiles and, more particularly, to internal combustion engines therefor.

There has been substantial difficulty with the rocker arm assemblies of various types of internal combustion engines, especially in cases where the cylinder head is improperly bored during production, thus causing disalignment of the rocker arm studs. It is therefore an object of the present invention to provide a valve rocker arm guide for such internal combustion engines that is extremely simple in construction, easy to install, and which will overcome the aforementioned difficulties.

Another object of the present invention is to provide a valve rocker arm guide that can be readily installed upon existing internal combustion engines without affecting existing parts.

Still another object of the present invention is to provide a valve rocker arm guide of the type described which will provide for smoother engine operation and trouble-free rocker arm conditions.

All of the foregoing and still further objects and advantages of this invention will become apparent from a study of the following specification, taken in connection with the accompanying drawing, wherein:

Figure 1 is a fragmentary cross sectional view of an internal combustion engine embodying a valve rocker arm guide made in accordance with the present invention;

Figure 2 is a view similar to Figure 1, showing the parts in an adjusted position, with the valve in an open position;

Figure 3 is a perspective view of the valve rocker arm guide made in accordance with the present invention;

Figure 4 is a side view of the guide shown in Figure 3;

Figure 5 is a bottom plan view of the guide shown in Figure 3; and

Figure 6 is an enlarged fragmentary cross sectional view of certain parts of the guide shown in Figure 3.

Referring now to the drawing, a valve rocker arm guide 10 made in accordance with the present invention is shown to include a central plate portion 12 having a circular opening 14 therewithin and a hexagonal counterbore 16 in the bottom side thereof. This guide member 10 is mounted upon a rocker arm stud 18 of the engine, the rocker arm mounting stud nut 19 being received within the counterbore 16, thus preventing rotation of the guide about the longitudinal axis of the stud 18, and a lock nut 20 threadably carried by the stud pin 18 securing the guide member 10 in the aligned position shown. One end 22 of the guide 10 is provided with an aperture 24 for allowing oil to flow freely to the moving parts adjacent to the corresponding end of the rocker arm 26 against which the upper end of the push rod 28 abuts. The opposite end 30 of the guide 10 extends toward the opposite end of the rocker arm 26 adjacent to the point of engagement with the upper end of the valve stem 32, having the valve plate 34 at the opposite

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lower end which is movable between open and closed positions with the inlet of the engine head.

It will now be recognized that the guide 10 is locked upon the mounting pin 18 in alignment with the push rod 28 and valve stem 32. Thus, the rocker arm 26 which is rockably supported upon the mounting pin 18 is laterally guided by the sides of the guide member 10 so that the abutting parts of the rocker arm with the push rod 28 and valve stem 32 cannot slip or move out of proper alignment with each other. As a result, it is a simple matter to install these guide members 10 on all existing engines, simply by positioning it with the stop nuts 19 and lock nuts 20, on each mounting pin 18 of each valve unit.

While this invention has been described with particular reference to the construction shown in the drawing, it is to be understood that such is not to be construed as imparting limitations upon the invention, which is best defined by the claims appended hereto.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. In an internal combustion engine having rocker arm operated valves in which each rocker arm is provided with spaced apart side portions, each such rocker arm being pivotally supported upon an individual rocker arm pin, a valve rocker arm guide for each rocker arm comprising a guide plate, mounting means securing said guide plate upon the rocker arm pin, lock means preventing rotation of said plate about the longitudinal axis of said respective rocker arm pin, and lateral guide means between the spaced apart sides of each rocker arm restricting said respective rocker arm for pivotal movement within a single plane.

2. In an internal combustion engine as set forth in claim 1, wherein said mounting means comprises a central portion of said plate defining an aperture extending therethrough, and said aperture slidably receiving the free upper end of the respective rocker arm pin therethrough.

3. In an internal combustion engine having rocker arm operated valves in which each rocker arm is provided with spaced apart side portions and is pivotally supported upon rocker arm pins, a valve rocker arm guide for each such rocker arm comprising a guide plate, mounting means for securing said guide plate upon the respective rocker arm pin, lock means preventing rotation of said plate about the longitudinal axis of said rocker arm pin, and lateral guide means between the spaced apart sides of each rocker arm restricting said rocker arm for pivotal movement within a single plane, said mounting means comprising an aperture extending through a central portion of said plate, said aperture slidably receiving the free upper end of the respective rocker arm pin therethrough, said lock means comprising a downwardly facing counterbore of substantially hexagonal configuration receiving a hexagonal stop nut therewithin, and a lock nut threadably carried by the uppermost free end of said rocker arm pin rotatable into clamping engagement with said plate to prevent rotation of said plate relative to said stop nut.

4. In an internal combustion engine as set forth in claim 3, wherein said lateral guide means comprises laterally spaced apart side edges of said plate slidably accommodating rocking movement of a rocker arm within a plane parallel to the longitudinal axis of said plate.

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