June 15, 1926.

1,589,057

F. E. ELDER

SHUTTER FOR AUTOMOBILE RADIATORS

Filed Nov. 3, 1925

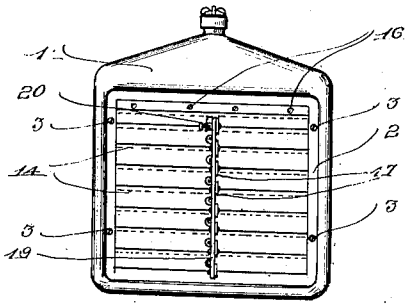


Fig. 1

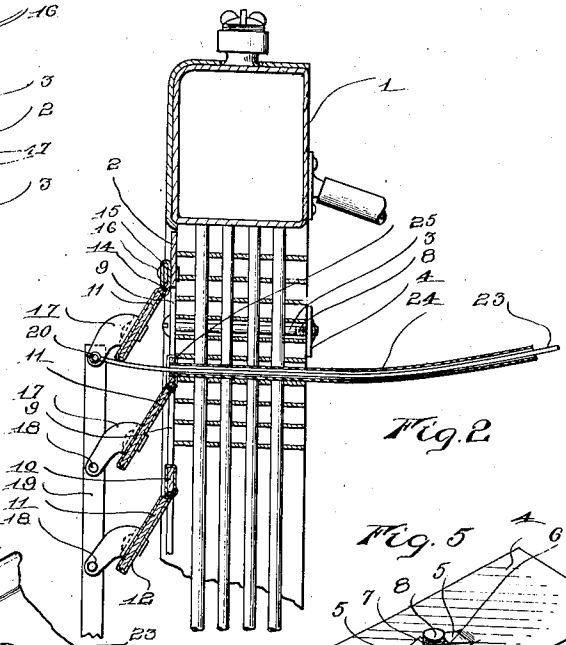


Fig. 2

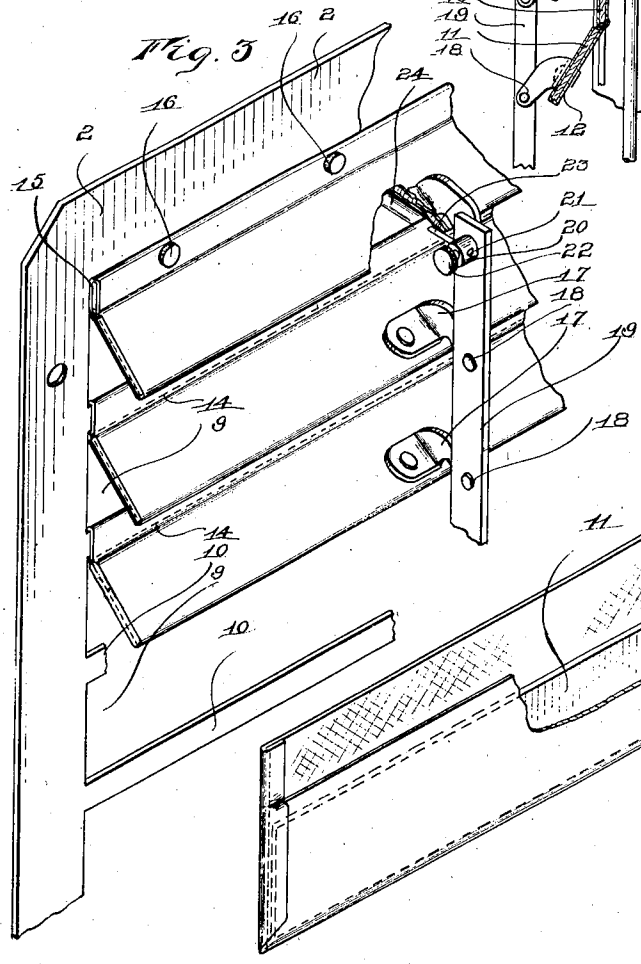


Fig. 3

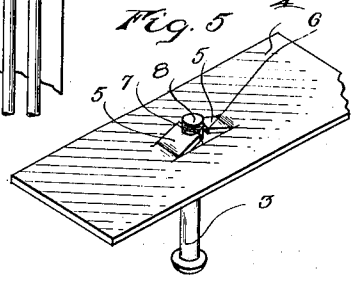


Fig. 5

Fig. 4

INVENTOR
Frederick E. Elder
BY
Davis & Simms
his ATTORNEYS

Patented June 15, 1926. 1,589,057

UNITED STATES PATENT OFFICE.

FREDERICK E. ELDER, OF ROCHESTER, NEW YORK.

SHUTTER FOR AUTOMOBILE RADIATORS.

Application filed November 3, 1925. Serial No. 66,534.

The present invention relates to shutters for automobile radiators. An object of the invention is to provide a shutter which will be free from rattles and which will, at the same time, be effective for controlling the circulation of air through the radiator of an automobile. Still another object of the invention is to provide a novel means of securing the shutter to the radiator.

To these and other ends, the invention consists of certain parts and combinations of parts, all of which will be hereinafter described: the novel features being pointed out in the appended claims.

In the drawings:

Fig. 1 is a face view of a radiator equipped with a shutter constructed in accordance with this invention;

Fig. 2 is a fragmentary sectional view through the radiator and the shutter;

Fig. 3 is a fragmentary perspective view of the shutter;

Fig. 4 is a perspective view of one of the shutter blades with parts broken away; and

Fig. 5 is a perspective view of one of the securing means for the shutter.

Referring more particularly to the drawings, 1 indicates the radiator which has a frame 2 secured to the face thereof by any suitable means. A simple means which will prevent the rattling of the frame on the radiator comprises bolts 3 passed through the frame and each having anchoring devices 4 at their inner ends engaging the inner face of the radiator. Each of these anchoring devices comprises a sheet metal plate which is cut to provide two tongues 5 extending toward each other and separated by an opening 6 formed by providing curved notches 7 at opposite ends of the tongues. These tongues are deflected slightly from the plane of the plate 4 and are resilient. In fitting the anchoring devices to the bolt 3, the plate is forced on the screw threaded end 8 of the bolt and the tongues being resilient ride over the screw threads until the plate is in engagement with the inner face of the radiator. Thereafter, the bolt 3 is turned and tends to draw the tongues 5 inwardly with reference to the plate 4, producing a binding action on opposite sides of the bolt, and, at the same time, holding the frame 2 with yielding pressure on the radiator.

The frame 2 is preferably a sheet metal plate which is cut to provide a plurality of horizontally arranged transverse slots 9, separated by narrow strips 10 forming part of the frame 2 and integral therewith. The covering of the openings is effected by a plurality of shutter blades. Each of these shutter blades, in this instance, comprising a sheet metal strip or plate 11 and a pliable sound proof covering therefor. This sound proof covering is, in this instance, formed of imitation leather 12 and entirely encloses each blade plate 11. This covering projects at 13 to one side of the plate 11 and this projecting portion is utilized as a combined hinge and securing means for the blade. In all cases but one, this projecting portion 13 is passed or wrapped about the strips or bars 10 between the openings 9 and has its free edge sewed or stitched at 14 adjacent the upper edge of the blade plate 11, thus securing the blades to the strip 10, and, at the same time, permitting said blades to swing to open and close the openings 9. The upper blade instead of being secured to a strip 10 is secured to a small strip 15 and rivets or other fastening devices 16 pass through the strip and cover extension 13 into the frame plate 2 to secure the blade to the frame plate above the uppermost opening 9.

Any suitable means may be employed for effecting the opening and closing of the blade. In this instance, each blade has an arm 17 extending outwardly and downwardly from its outer face and all of these arms 17 are preferably pivotally connected at 18 to a bar 19. This connection causes all of the shutter blades to move simultaneously to open or to closed positions. A binding post 20 having an opening 21 and a set screw 22 receives one end of a flexible rod or wire 23 which passes through a sheath 24 to any suitable operating means, this sheath 24 having its end secured at 25 to one of the transverse cross bars or strips 10.

It is apparent that the movement of the flexible rod or wire 23 will effect the movement of the bar 19 and the latter will in turn cause all of the shutter blades to move to open or to closed positions. The shutter blades being covered with a pliable sound deadening material do not rattle on the frame 2 as there is no metal contact between the shutter blades and the frame. At the same time, the covering acts as a hinge for each shutter blade. The frame itself is held resiliently in place and there is no

tendency for it to rattle or shake on the radiator. The anchoring devices on the bolts permit the shutter to be quickly attached to the radiator.

What I claim as my invention and desire to secure by Letters Patent is:

1. A shutter for radiators comprising a frame having horizontal slots and bars separating said slots, and shutter blades each having a covering of sound deadening material hingedly secured to said bars.

2. A frame having horizontal slots, and blades for closing said slots having sound deadening coverings hingedly secured to the frame.

3. A frame having horizontally arranged slots and bars separating said slots, and shutter blades, each having a sound deadening covering passed about the bars to secure the blades to the frame and provide hinges therefor.

4. A radiator shutter comprising a frame having horizontal slots and bars separating the slots, blade plates, and coverings for the blade plates extending to one side of the latter and passed about the bars to secure the blade plates to the bars and to provide hinges therefor.

FREDERICK E. ELDER.