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ASH RECEIVER

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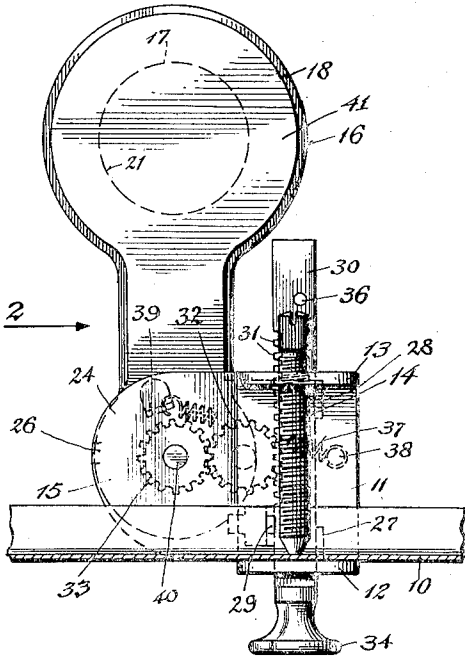


Fig. 1.

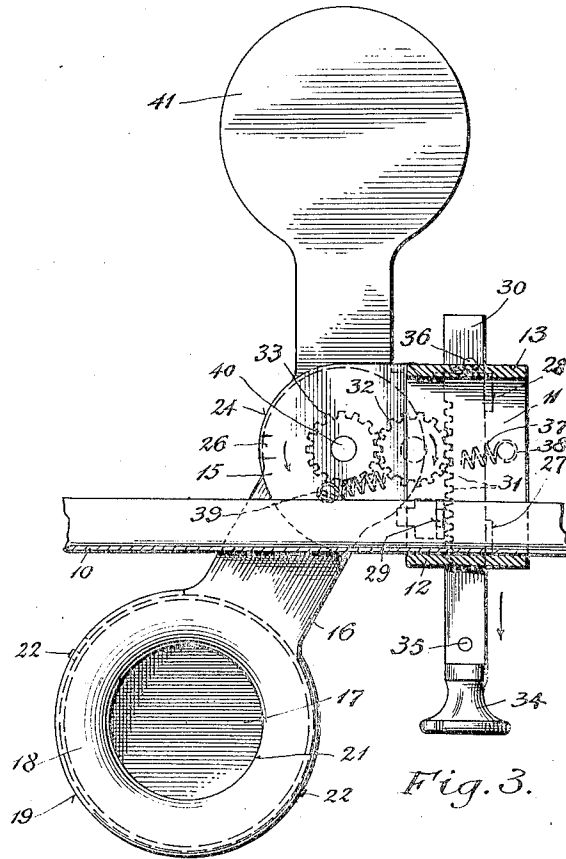


Fig. 3.

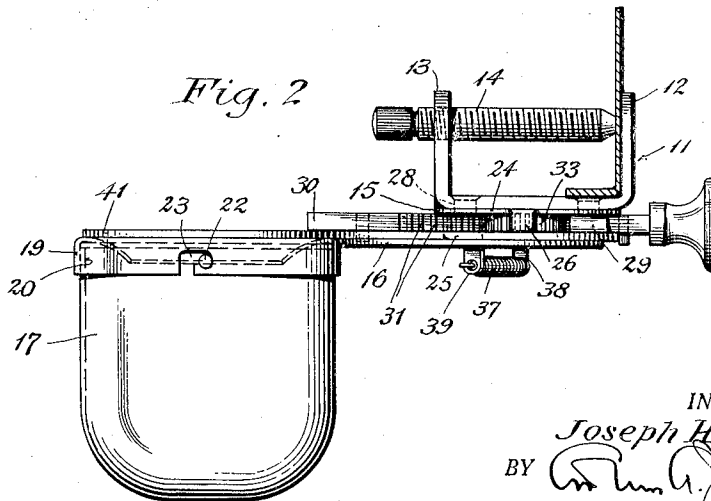


Fig. 2

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ASH RECEIVER

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10 Claims. (Cl. 206—19.5)

This invention relates to ash receivers for motor vehicles, and more particularly, to a device of that kind which is adapted to be mounted on the instrument board so that the ash receptacle thereof may be moved from a position behind the instrument board, where it is out of sight, to a position in front of the instrument board, for use.

An object of this invention is to provide an ash receiver with a finger-piece or other manually engageable means for producing the movement of the ash receptacle so that it may, with ease, be moved from its relatively inaccessible position behind the instrument board, to a position in front thereof, for use.

Another object is to provide means for automatically completing the movement of the ash receptacle to its inaccessible out-of-sight position when moved toward said position by a manual operation.

A further object is to provide a finger-piece or other manually engageable means by means of which the ash receptacle may be moved to and from its accessible and inaccessible positions without the operator directly engaging the receptacle by hand.

Another object is to provide means for automatically completing the movement of the ash receptacle to either accessible or inaccessible position.

A further object is to provide means cooperating with the ash receptacle when the latter is in its inoperative or inaccessible position, for smothering any smoldering contents of the receptacle.

A still further object is to provide improved means for locking the receptacle and receptacle-carrying means together and yet permitting the easy removal of the receptacle so that it may be emptied of its contents.

And still another object is to provide the ash receiver in which the receptacle-carrying means and actuating means for the latter, is mounted on a supporting frame which constitutes a sub-assembly and which sub-assembly may be secured to a bracket for mounting the device on the instrument board.

Other objects and advantages will hereinafter appear.

In the accompanying drawing which illustrates one form of the present invention—

Figure 1 is a plan view of the ash receiver, showing the ash receptacle in inaccessible position behind the instrument board.

Fig. 2 is a side elevation of the ash receiver,

showing the parts in the position shown in Fig. 1.

Fig. 3 is a view similar to Fig. 1, but showing the ash receiver in its accessible position in front of the instrument board.

As shown in the accompanying drawing, the ash receiver is adapted to be mounted on an instrument board 10 of a motor vehicle, and for this purpose the ash receiver is provided with a U-shaped bracket 11 having front and rear vertical arms 12 and 13, the former being adapted to engage the front surface of the instrument board while the latter has a clamping screw 14 for engaging the rear surface thereof and securely fastening the bracket to the instrument board.

Secured to the bracket 11 is a frame 15 on which there is pivotally mounted an arm 16 on which a cup-like receptacle 17 is mounted. The receptacle-carrying arm 16 is provided with an enlarged head 18 having a flange 19 forming a socket to receive the upper end 20 of the cup-like receptacle 17, and the head 18 is provided with an aperture 21 through which ashes or tobacco products, or other articles to be disposed of, may pass into the cup 17. To permit the cup-like ash receptacle 17 to be removed from the carrying-arm 16 with ease so that the contents of the cup may be disposed of and yet to prevent accidental removal thereof, the cup is provided with lugs 22 adapted to pass through and be locked in bayonet slots 23 provided in the flange 19 on the head 18 of the carrying arm 16.

Hence, according to the present invention, to remove the cup 17, it is rotated relative to the head 18 to unlock the lugs 22 from the bayonet slots to permit the lugs to pass downwardly through the vertical portions of the bayonet slots. In replacing the cup, it is merely necessary to align the lugs 22 with the vertical portions of the bayonet slots 23, push the cup upwardly, and then rotate the cup with relation to the head 18 so as to lock the lugs 22 in the bayonet slots.

The frame 15 on which the carrying-arm 16 is pivotally mounted, comprises two plates 24 and 25 in the specific embodiment of the present invention herein illustrated, and these are spaced from each other to form housing and guiding means for means to actuate the ash receptacle-carrying arm 16, as will be explained below, by lugs 26, 27, 28 and 29 on one or both of the plates and projecting toward and engaging the other of the plates, and the lugs 28 and 29 are

provided with reduced portions which extend through apertures in the bracket 11 and there are headed-over to fasten the frame 15 to the bracket.

5 The receptacle carrying arm 16 being pivotally mounted on the plate, forms a unit assembly therewith which may, as desired, be fastened to any one of a number of different kinds of brackets. Further, by having the arm 16
10 mounted on the supporting plate or frame 15 which in turn is secured to the bracket, any twisting of the bracket as a result of torsional strain incidental to securing the device to an instrument board does not tend to cause binding
15 of the parts so that they cannot move freely as desired, as would be the case if the receptacle carrying arm were mounted directly on the bracket. This structure also has the advantage of making it possible to apply the unit assembly
20 to various types of brackets so that the main operating parts of the ash receptacle may be put to various uses and in various makes of cars by being easily connected to various types of brackets.

25 In order that the ash receptacle, in its inoperative position, will be sufficiently far behind the instrument board 12 as to be out of sight of the occupants of the motor vehicle, the ash receptacle-carrying arm 16 is made long and is
30 allowed to have a substantial range of movement—for instance, from the position shown in Fig. 3 where the ash receptacle is accessible for use, to the position shown in Fig. 1 where it is out-of-sight behind the instrument board.
35 This is a very desirable arrangement, for not only is the ash receptacle kept from view, but it is far enough back so that it will not be hit by the knees of persons sitting in the front seats of the vehicle.

40 However, the ash receptacle is, in its inoperative position, so far back of the instrument board, that it is relatively inaccessible for hand engagement, and it would require considerable
45 trouble on the part of the user to reach back of the instrument board and grasp the receptacle 17 and swing it to accessible position. Likewise, it would be inconvenient to return the receptacle to its inoperative position.

50 To facilitate the movement of the receptacle-carrying arm 16 to cause the receptacle to be made accessible or inaccessible, the present invention provides manually-engageable means for causing the movement of the receptacle-carrying arm. This means, in the embodiment
55 of the present invention herein illustrated, comprises a plunger 30 located between the plates 24 and 25 of the frame 15, sliding thereon, and guided for straight-line in-and-out movements by the lugs 27, 28 and 29 which space
60 and hold the plates 24 and 25 of the frame 15 together.

65 The plunger 30 is provided with a gear rack 31 meshing with an idler gear 32 journaled in the plates 24 and 25 of the frame and which meshes with a gear 33 secured to the receptacle-carrying arm 16. The plunger 30 at its forward end has a finger-piece or knob 34 which lies close to the front arm 12 of the bracket 11 when the receptacle is in its concealed, inaccessible position as shown in Fig. 1.
70 When it is desired to use the ash receptacle, the knob or finger-piece 34 is pulled outwardly, causing the rack 31 to rotate the idler gear 32 clockwise and the gear 33 on the receptacle-carrying arm 16 counter-clockwise, with the re-

sult that the receptacle-carrying arm is swung from the position shown in Fig. 1 to that shown in Fig. 3, at which time the knob 34 protrudes substantially from the front arm 18 of the bracket and the instrument board. The ash
80 receptacle 17, after having been used, may be returned to its inaccessible and concealed position by pressing on the knob 34 and forcing it to move toward the instrument board. The movements of the ash receptacle, gears and rack
85 are limited by stop pins 35 and 36 on the plunger 30 which engage the front and back edges of the plate 25 in the inoperative and operative positions of the receptacle respectively.

90 In order to make it unnecessary to complete the movements of the plunger 30 by the finger-piece 34 in order to move the ash receptacle-carrying arm automatically to the limits of its movement, in order to permit the receptacle to be moved to inoperative or inaccessible position
95 as a result of pushing on the receptacle 17 directly by the operator's hand, as the operator may well desire to do, and further, in order to hold the receptacle in operative and inoperative positions, the present invention provides a spring 37, one end of which is anchored on a post 38
100 carried by the frame 15 and the other end of which is anchored in an ear 39 extending downwardly from the receptacle-carrying arm 16. The post 38 and ear 39 are so placed relatively and relative to the shaft 40 carried by the receptacle-carrying arm 16 and journaled in the
105 plates 24 and 25 that, as the receptacle-carrying arm is moved from operative or accessible position toward inoperative or inaccessible position, the spring 37 is tensioned or stretched. When the spring, as a result of this movement,
110 is carried across the axis of the shaft 40, that is to say, the axis of rotation of the receptacle-carrying arm 16, it is free to contract or return to its normal condition, and in doing so completes the movement of the receptacle-carrying arm 16; the same action occurs when the receptacle-carrying arm is moved from inaccessible
115 to accessible position. The spring 37, being under tension in both positions of the receptacle-carrying arm, takes up any looseness or back-lash in the parts and prevents rattling or vibration of the parts; while holding the ash receptacle-carrying arm in either of its extreme
120 positions.

125 It is particularly advantageous to have this automatic means for completing the movement of the ash receptacle from accessible to inaccessible position, for when the ash receptacle is accessible it may be directly engaged by the operator's fingers or hand to be forced or thrown rearwardly thereby, and the spring and other parts are so arranged that the cup or receptacle
130 17 does not pass beyond the convenient reach of the user until the spring is carried across the axis of oscillation of the receptacle-carrying arm, or, at least until, by a rapid movement of the hand while engaging the cup, sufficient
135 140 momentum is obtained to move the receptacle-carrying arm far enough to carry the spring across the axis of oscillation of the receptacle-carrying arm 16.

145 The present invention also provides means for smothering the contents of the ash receptacle when the ash receptacle is moved to its inoperative position. This means, in the form of the invention illustrated herein, comprises a cover 41
150 shaped and located so as to fit over the recepta-

cle 17 when the latter is in its inoperative position as shown in Fig. 1. The cover 41 may, as shown, be formed integral with the plate 25 of the frame 15 and in the same plane as the latter, so that when the arm 16 carries the ash receptacle to its inoperative inaccessible position, the arm slides under the cover 41 and prevents any appreciable amount of air entering the receptacle 17 through the hole 21 in the head 18 of the receptacle-carrying arm 16. Thus, any cigarette or cigar butts, or other smoldering articles, in the receptacle are smothered.

In addition to doing this, the cover 41 prevents any down draughts which may be present under the instrument board and which are present in many forms of motor vehicles where ventilation is provided through the cowl, from blowing the contents of the receptacle 17 therefrom. Without this cover 41, these downward draughts might cause the ashes to be blown from the receptacle 17, even though the head 18 constitutes a baffle tending to prevent it.

Variations and modifications may be made within the scope of this invention and portions of the improvements may be used without others.

Having thus described the invention, what is claimed as new and for which it is desired to obtain Letters-Patents, is:—

1. An ash receiver for motor vehicles comprising a supporting frame attachable to an instrument board; an ash receptacle; means movably mounted on the supporting frame and carrying the ash receptacle to move the latter from a position back of the instrument board to an accessible position in front thereof for use; a reciprocatory rack mounted on the supporting frame and movable perpendicularly to the plane of the instrument board; gearing between the rack and the receptacle carrying means; and an accessible finger-piece on the rack by means of which it may be moved in and out to cause the receptacle carrying means through said gearing to move the receptacle from one position to another and vice versa.

2. An ash receiver for motor vehicles comprising a supporting frame attachable to an instrument board; an ash receptacle; means movably mounted on the supporting frame and carrying the ash receptacle to move the latter from a position back of the instrument board to an accessible position in front thereof for use; manually engageable means for operating said ash receptacle carrying means to initiate the movement of the latter which causes the ash receptacle to move from inaccessible position toward accessible position; and spring means biased by the initial movement of the ash receptacle carrying means for completing said movement to cause the ash receptacle to be moved to accessible position.

3. An ash receiver for motor vehicles comprising a supporting frame attachable to an instrument board; an ash receptacle; means movably mounted on the supporting frame and carrying the ash receptacle to move the latter from a position back of the instrument board to an accessible position in front thereof for use; manually engageable means for operating said ash receptacle carrying means to initiate the movement of the latter which causes the ash receptacle to move from accessible position to inaccessible position; and spring means biased by the initial movement of the ash receptacle

carrying means for completing said movement to cause the ash receptacle to be moved to accessible position.

4. An ash receiver for motor vehicles comprising a supporting frame attachable to an instrument board; an ash receptacle; means movably mounted on the supporting frame and carrying the ash receptacle to move the latter from a position back of the instrument board to an accessible position in front thereof for use; and spring means adapted to be biased to complete the movement of the ash receptacle carrying means when the latter is moved to make the ash receptacle accessible.

5. An ash receiver for motor vehicles comprising a supporting frame attachable to an instrument board; an ash receptacle; means movably mounted on the supporting frame and carrying the ash receptacle to move the latter from a position back of the instrument board to an accessible position in front thereof for use; and spring means adapted to be biased to complete the movement of the ash receptacle carrying means when the latter is moved to make the ash receptacle inaccessible.

6. An ash receiver for motor vehicles comprising a supporting frame attached to an instrument board; an ash receptacle; means movably mounted on the supporting frame and carrying the ash receptacle to move the latter from a position back of the instrument board to an accessible position in front thereof for use; and spring means adapted to be biased to complete the movement of the ash receptacle carrying means when the latter is moved toward either accessible position in front of the instrument board or inaccessible position behind the instrument board.

7. An ash receiver for motor vehicles comprising a supporting frame attachable to an instrument board; an ash receptacle; means movably mounted on the supporting frame and carrying the ash receptacle to move the latter from a position back of the instrument board to an accessible position in front thereof for use; and means for closing the ash receptacle when the latter is moved from accessible to inaccessible position to smother any burning contents in the receptacle.

8. An ash receiver for motor vehicles comprising a supporting frame attachable to an instrument board; an ash receptacle; means movably mounted on the supporting frame and carrying the ash receptacle to move the latter from a position back of the instrument board to an accessible position in front thereof for use; and a plate carried by the supporting frame and adapted to overlie and cover the ash receptacle when the latter is in position back of the instrument board to smother any burning contents in the receptacle.

9. An ash receiver for motor vehicles comprising a U-shaped bracket adapted to be clamped to an instrument board; a plate secured to the bracket; an ash receptacle; means movably mounted on said plate and carrying the ash receptacle to move the latter from a concealed position back of the instrument board to an accessible position in front of the instrument board for use; and an extension on said plate adapted to cover the ash receptacle when the latter is in inaccessible position to smother any burning contents in the receptacle.

10. An ash receiver for motor vehicles comprising a supporting frame attachable to an

instrument board; an ash receptacle; an arm movably mounted on the supporting frame and carrying the ash receptacle to move the latter from a position back of the instrument board to an accessible position in front thereof for use; a plate fixed to the supporting frame and beneath which the ash receptacle slides when

the latter is returned to its inaccessible position behind the instrument board to smother any burning contents in the receptacle; and means on the plate and arm for moving the arm to inaccessible position and into cooperative engagement with the plate.

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