Feb. 27, 1945. M. ESSL 2,370,237

LOCOMOTIVE HOOD

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Fig. 1

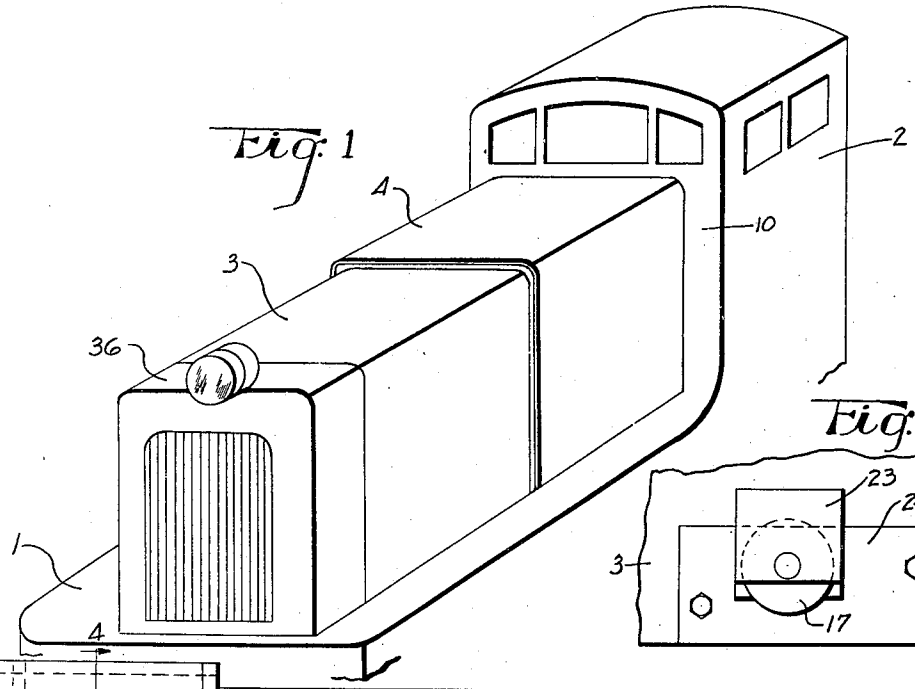


Fig. 3

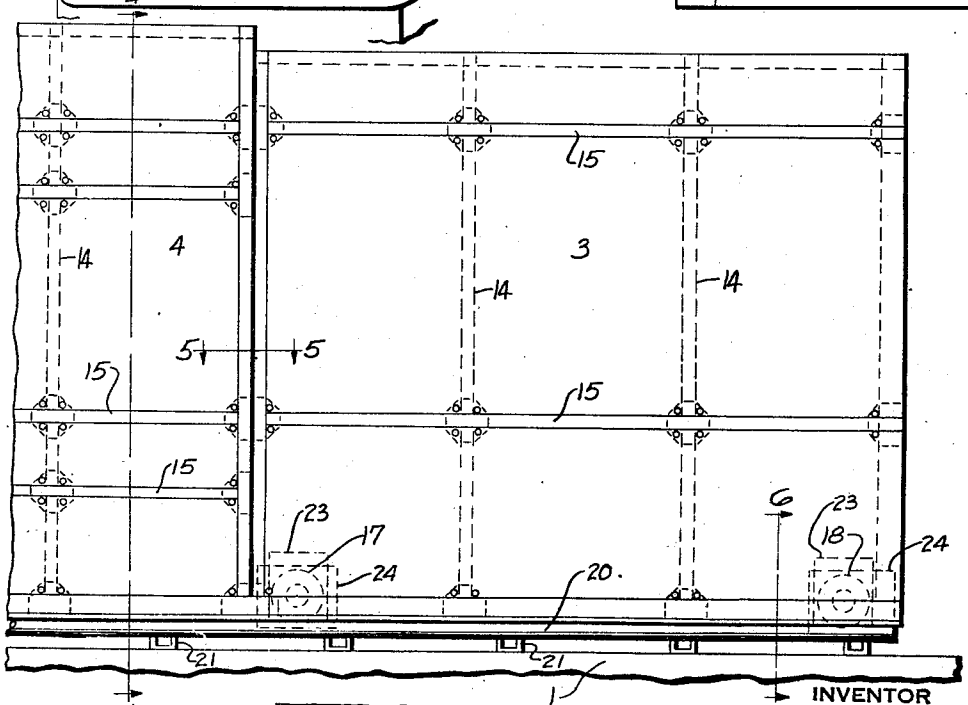


Fig. 2

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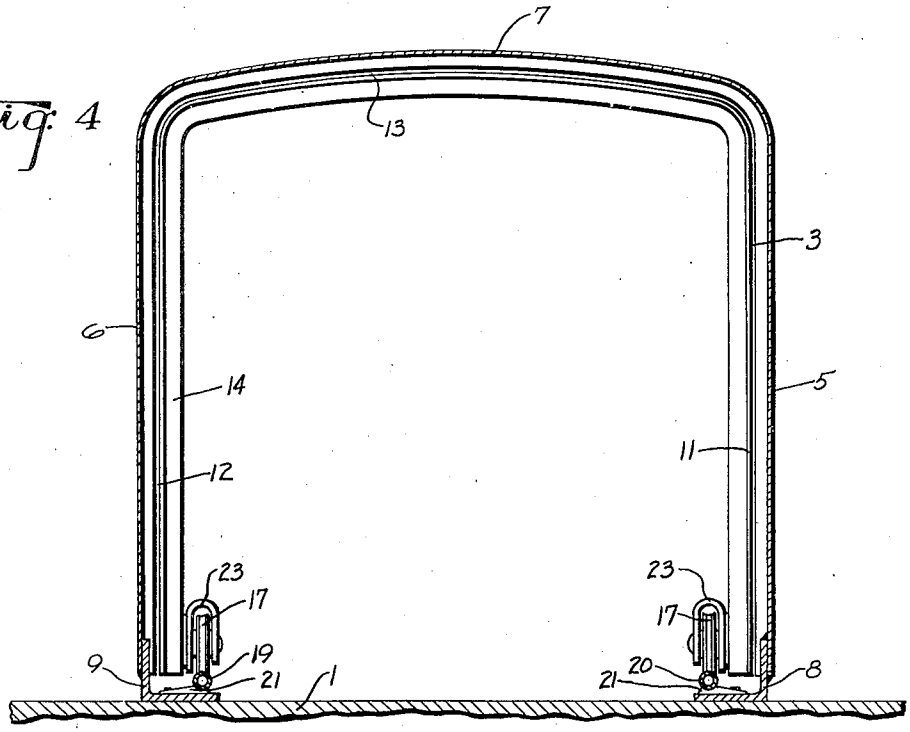
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Fig. 4



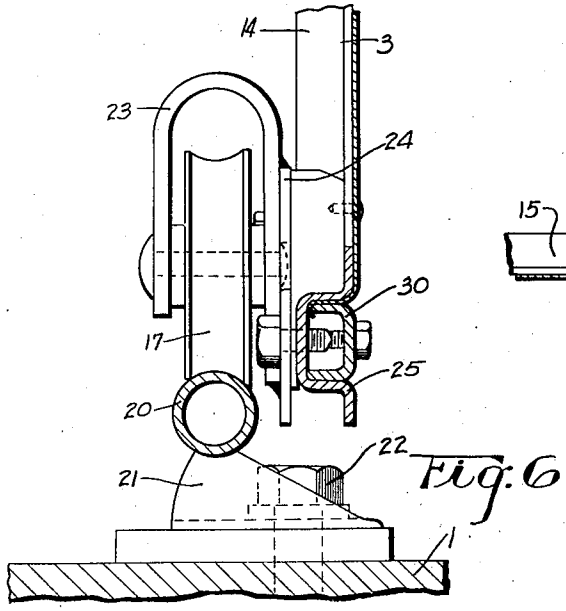


Fig. 6

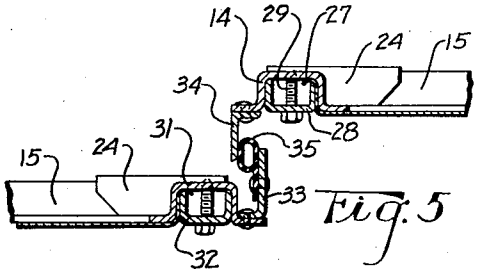


Fig. 5

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LOCOMOTIVE HOOD

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Application May 25, 1942, Serial No. 444,305

2 Claims. (Cl. 105—26)

This invention relates generally to equipment powered by internal combustion engines such as Diesel engine locomotives and more particularly to an improved hood for the engine or associated apparatus such as batteries, etc.

A great many engine hood arrangements have heretofore been proposed and used especially for locomotives where the hoods are necessarily of very large size and therefore normally very heavy and unwieldy to be handled or opened for access to the engine as well as to the associated equipment. In certain of these arrangements a multiplicity of side doors have been formed on the hood but the many hinges and the necessary fitting of the doors to the hood frame entails not only complications but expense in initial cost and maintenance and in addition does not provide complete accessibility to the engine.

It is an object of my invention to provide an improved hood which is relatively simple and economical in construction, operation and maintenance as well as being compact and rugged and affording complete access to the engine.

A further object is to provide an improved hood which can be readily and conveniently opened with minimum effort on the part of the operator and which is adapted to be sealed in a simple and direct manner.

Other objects and advantages will be more apparent to those skilled in the art from the following description of the accompanying drawings in which:

Fig. 1 is a diagrammatic perspective of a locomotive or other suitable vehicle employing my improved hood;

Fig. 2 is an enlarged fragmentary side elevation of my improved hood generally at the juncture of two hood sections;

Fig. 3 is an inside elevational view of a roller and bracket;

Fig. 4 is a section taken generally on the line 4—4 of Fig. 2;

Fig. 5 is a section taken on the line 5—5 of Fig. 2; and

Fig. 6 is a section taken generally on the line 6—6 of Fig. 2.

The particular embodiment of the invention is disclosed herein in connection with a usual type of internal combustion engine locomotive which has a suitable locomotive frame 1, cab 2, a hood formed in sections such as an engine compartment hood 3, and an accessories compartment hood 4 for containing batteries or other auxiliary apparatus. The engine compartment may contain any desired form of power unit such as a Diesel engine and an electric generator driven thereby or, if desired, the engine may be mechanically connected to the driving wheels, none of which are shown as they are well-known in the art and do not per se constitute a part of my present invention. The compartment hood 4 is preferably stationary and consists of sheet metal preferably a continuous strip to form sides 5 and 6 and a top 7, the sides being welded or otherwise suitably secured at their lower longitudinal edges to angle irons 8 and 9 which are bolted or welded to the bed frame 1. This hood section extends preferably from the front wall 10 of cab 2 forwardly for substantially half the length of the total hood length and it is broadly referred to herein as a hood section for the reason that it covers certain accessories although in the same broad sense it could be for any other purpose so long as it provides a medium into which or over which the engine hood could be brought into telescopic relation.

The engine compartment hood is formed as a longitudinally movable unitary structure having sides 11 and 12 and a top 13. Suitable angle or channel irons 14 extend up, across and down the sides and tops, a suitable number of these frame elements being used at spaced points along the hood together with similar longitudinal reinforcing members 15, Fig. 2.

The engine hood section 3 is of such size as compared to the accessories hood that they may be relatively moved into telescopic relation with each other, specifically by moving the engine hood unit bodily backwards into the accessories hood 4. To facilitate such telescopic movement the engine hood is provided on each side with a pair of wheels 17 and 18, Figs. 2 and 4, these wheels being grooved on their periphery to ride upon suitable tracks 19 and 20 preferably in the form of tubes or pipes supported on brackets 21 which are bolted as at 22 or otherwise suitably secured to the bed frame 1. The tracks are located within and extend for the full length of both hood sections 3 and 4.

The rollers as shown in Fig. 6 are individually supported in U-shaped brackets 23, which are welded or otherwise suitably secured to plates and blocks 24 which are preferably fitted in and secured to the vertical reinforcing members 14 located at the two ends of the hood.

To afford a simple, direct and yet positive means for holding the sheet metal cover to the hood frames, I preferably employ, as part of the frame structure as shown in Figs. 5 and 6, channel members 14 and 25 respectively at the two

ends and along the lower edges of the hood section, these channels facing outwardly as shown in Fig. 5. Sheet metal, preferably a single sheet, may now be thrown over the hood framework and its two vertical ends 27, Fig. 5, are made to overlap the channels whereupon a U-shaped or other suitable formed member 28 is laid over the outside of the sheet metal and pulled in by bolts 29. The sheet metal is thus forced into the channel 14 and firmly held therein. Such a clamping action at both ends of the sheet metal pulls the same taut in a longitudinal direction while the hood is pulled taut vertically and across the top by a pair of members 30 forced into the horizontal channels 25 at each lower edge of the hood sides. The members 28 and 30 may be gradually pushed home substantially simultaneously so that the sheet metal can uniformly adjust itself during the tightening operation. The hood for the accessories compartment 4 may be provided with outwardly facing channels similar to channels 14 and 25, one of such channels being generally indicated at 31, Fig. 5. A U-shaped member 32 is shown in its sheet metal clamping position.

To insure adequate sealing against rain or other adverse weather conditions and still permit the hood to be readily opened and closed, I provide the hood section 4 with an angle member 33, Fig. 5, extending inwardly from its front edge. Similarly, angle iron 34 is formed on the inner end of the hood section 3 and is spaced from and slightly overlaps the angle iron 33. These angle irons extend completely along the two sides and across the top of their respective hood sections and a rubber tube or other resilient sealing member 35 is secured to one of the angle irons. As a result, when the unitary movable hood section 3 slides to its forward position the sealing member 35 will be engaged by angle iron 34 to effect closure of the engine compartment. The front end of the hood section 3 may overlap or abut against any suitable radiator or shell 36 and may be locked in closed position by any desired means. Suitable handles or other grips may be placed at any desired points on the movable hood section.

From the foregoing disclosure, it is seen that in order to have complete access to the engine or its generator within compartment 3 from both sides as well as the top it is only necessary for the operator to move the unitary hood section 3 into telescopic relation with stationary hood 4. The two pairs of rollers 17 and 18 insure free and easy movement of hood 3 with minimum effort on the part of the operator and without any possibility of the hood being in the way of the workmen when they are repairing or inspecting the engine. The telescopic action not only automatically insures complete accessibility but simultaneously removes the entire physical unitary hood structure to a point that is wholly out of sight and out of the path of all workmen. It is not necessary to lay the hood on the ground or on some other part of the locomotive or to have it swing out over a walkway as is necessary with usual swinging doors, all of which constitutes not only a nuisance but a hazard as well. The movable hood is not only simple and rugged by reason of being a self-contained unitary structure completely self supporting by itself but the entire hood is particularly inexpensive as there are no special fittings, hinges or other elements except those that can be purchased as standard structural members. The sheet metal sides and tops after being stretched into position by the clamps 28, etc., may then be suitably held by screws or rivets at various points such as 29. Gusset plates are provided if necessary to reinforce the angle irons of the hood frame which extend transversely and longitudinally.

It will of course be understood that various changes in details of construction and arrangement of parts may be made by those skilled in the art without departing from the spirit of the invention as set forth in the appended claims.

I claim:

1. The combination in a locomotive of the type having a frame provided with a substantially horizontal floor surface extending generally across and longitudinally of the locomotive and an engine compartment extending upwardly from said floor surface, comprising a plurality of different size telescopic hood sections of substantially equal length and adapted when extended to cover said engine compartment, each of said sections having a straight roof and straight sides which extend from the roof down to substantially the floor surface of the frame thereby to provide a complete top and side engine enclosure of the same depth as said sides, said roof and sides being formed as a self-contained unitary structure in which the roof and sides extend parallel to the lengthwise axis of the locomotive frame, and means whereby said hood sections are relatively longitudinally movable into telescopic relation so as to render the engine compartment accessible.

2. The combination in a locomotive of the type having a frame provided with a substantially horizontal floor surface extending generally across and longitudinally of the locomotive and an engine compartment extending upwardly from said floor surfaces, comprising a plurality of different size telescopic hood sections one of which is normally stationary and the other of which is bodily movable as a unitary structure complete with sides and top each of which is straight throughout its length extending parallel to the lengthwise axis of the locomotive frame and said sides extending from the top down to substantially said floor surface, the engine compartment being covered from its top down to substantially said floor surface when said hood sections are extended, and means whereby said movable section may be bodily moved into telescopic relation with the stationary section to render the engine compartment completely accessible from the top and sides down to substantially said floor surface.

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