

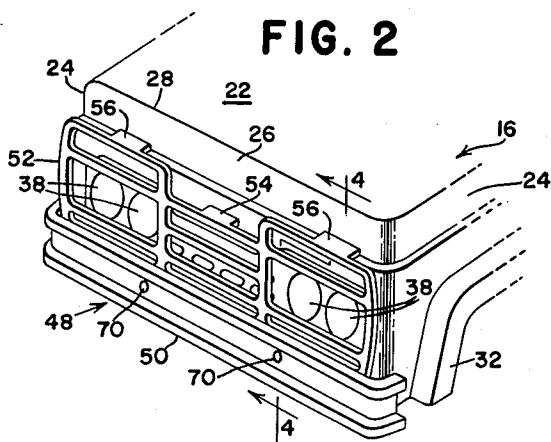
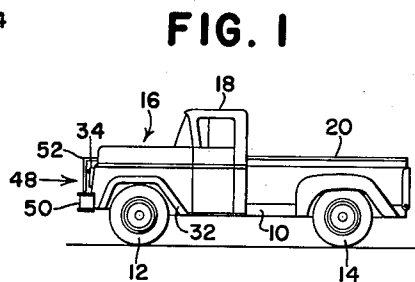
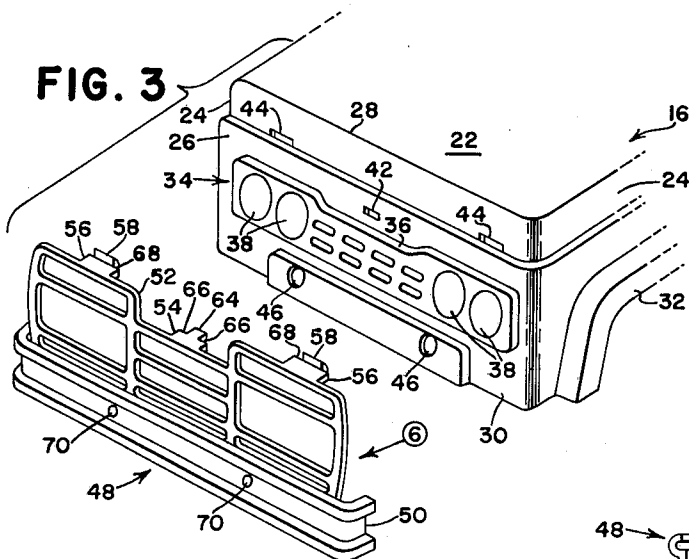
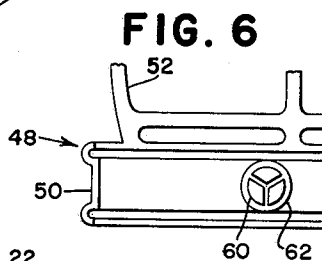
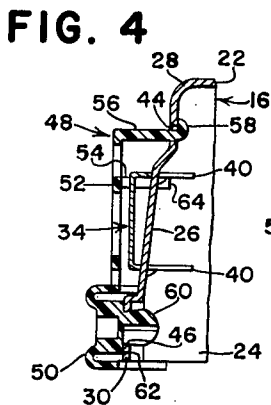
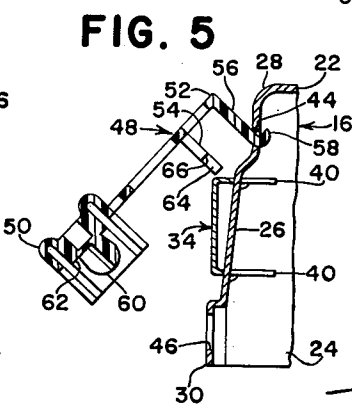
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FRONT END STRUCTURE FOR TOY VEHICLES

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FRONT END STRUCTURE FOR TOY VEHICLES
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This invention relates to a toy vehicle and more particularly to an improved front end structure therefor. Still more particularly, the invention relates to a novel one-piece or combined bumper and grille guard for a toy vehicle of the type simulating an automobile or motor truck.

In the field to which the present invention relates, numerous problems arise in connection with the design, manufacture and assembly of the toy, because very often the several components are made of different materials or at least require different treatment from the standpoint of painting etc. To avoid complications in painting, which is normally accomplished by the spray or dip methods, parts must be arranged so that they can be easily and quickly assembled after the painting operation has been performed. This is particularly true in situations involving simulated headlights, radiator grilles, grille guards and other simulated structural and ornamental components.

According to the present invention, an improved front end structure is provided in which the foregoing problems can be readily solved and in which the ultimate vehicle structure is markedly improved from the standpoint of faithfulness to the detail of the vehicle which is being simulated or modeled. It is a feature of the invention to provide on the vehicle a front end structure including a hood to which additional components may be assembled by improved fastener elements. It is a further object to provide the front end of the structure with a transverse element incorporating simulated headlights and simulated radiator grille structure and to provide in addition thereto a one-piece bumper and grille guard, preferably composed of any suitable plastic material wherein there are exploited such characteristics of the material as the inherently resilient nature thereof whereby integral snap-in fasteners are employed to cooperate with apertures located in the front end of the vehicle. A more specific object in this respect is to provide for the locations of the vehicle apertures in such manner as to enable mounting of the grille guard without interference with the transverse element that incorporates the simulated headlights and radiator grille ornamentation.

The foregoing and other important objects and desirable features inherent in and encompassed by the invention will become apparent as a preferred embodiment thereof is disclosed, by way of example, in the ensuing description and accompanying sheet of drawings, the figures of which are described below.

FIGURE 1 is a small-scale elevation of a representative toy vehicle.

FIGURE 2 is an enlarged fragmentary perspective of the assembled front end structure of the vehicle.

FIGURE 3 is a perspective exploded view showing the front end structure and the relation thereof to the one-piece bumper and grille guard.

FIGURE 4 is a section as seen generally along the line 4—4 of FIGURE 2.

FIGURE 5 is a section similar to FIGURE 4 but showing a prior stage of assembly.

FIGURE 6 is a fragmentary enlarged rear view as seen in the direction of the arrow bearing the encircled numeral 6 in FIGURE 3.

The vehicle typically has a fore-and-aft body 10 carried on front and rear wheels 12 and 14 and further has a forward simulated engine hood 16, a cab 18 and a cargo-

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carrying body 20. This vehicle is merely representative of many scale or near-scale models to which the invention is applicable.

That portion of the body comprising the hood 16 may be typically made of relatively light weight but strong sheet metal, and hence, the hood 16 may be regarded as having a top 22, opposite sides 24 and a transverse generally upright front wall 26 having an upper junction at 28 with the hood 22 and extending downwardly to terminate at a transverse lower marginal portion 30. As part of the basic structure, although not critical here, each side 24 of the hood structure 16 may have integrally formed therein, as by stamping, a fender 32 for the proximate front wheel 12.

To the extent described, and for the purposes of general orientation, the body 16, without the wheels 12 and without other components to be described, may be initially assembled and painted. Thereafter, further components, by way of ornamentation and simulated structure are added. One of these is transverse frontal means designated in its entirety by the numeral 34, here in the form of a relatively light sheet metal of bright finish to simulate chrome and incorporating a central portion representing a simulated radiator grille 36 and transversely outer or lateral portions including simulated headlights 38. The frontal means 34 may be conveniently affixed to the front wall 26 by the provision on the means of a pair or more of rearwardly projecting prongs or lugs 40 (FIGURES 4 and 5) which may be inserted through appropriate apertures (not shown) in the wall 26. It will be observed that the vertical dimension of the frontal means 34 is relatively narrow, so that its bottom edge is above the lower marginal portion 30 of the wall and its upper marginal edge is well below the junction 28 between the wall 26 and the hood top 22.

This thus leaves an upper portion of the wall 26 clear for the provision therein of a central aperture 42 and a pair of transversely spaced upper apertures 44, each of which is preferably of rectangular shape as shown (FIGURE 3). The lower marginal portion 30 is stamped in such manner as to project forwardly, but this is not critical, and this portion has therein a pair of transversely spaced apart circular lower apertures 46. All the upper apertures 42, 44, and 44 are at a level above the transverse frontal means 34, and the two lower apertures 46 are below the level of the frontal means 34. These apertures serve as means cooperative with a preferably one-piece combined bumper and grille guard element 48 for mounting said element to the front wall 26.

The element 48 has a transverse lower part which establishes a bumper 50 and a generally upright upper part which establishes a grille guard 52. The element is preferably of conventional molded plastic so that the bumper and grille guard parts 50 and 52 are integral. Moreover, they may be made of a color different from that of the hood structure 16, thus simulating the white or ivory grille guards used in actual vehicles. Moreover, the plastic nature of the material has an anti-mar characteristic which minimizes damage to furniture etc. by the toy.

The means by which the element 48 is affixed to the front wall 26 will now be described. In the present case, the grille guard part 52 has integrally formed therewith a rearwardly projecting lug 54 and a pair of laterally spaced apart upper lugs 56. The lug 54 is respectively in fore-and-aft registry with the central upper aperture 42 in the wall 26 and fore-and-aft registry also occurs respectively between the upper apertures 44 and the upper lugs 56. Each upper lug 56 is in the form of a rearwardly projecting portion upwardly hooked at 58 to be received in the respective upper aperture 44 in the manner shown in FIGURE 5, from which it will be seen that the vertical dimension of the aperture 44 is slightly greater than the vertical thickness of the lug 56 so that

when the two lugs 56 are hooked into the apertures 44 they establish a pivotal connection about which the entire element may be swung downwardly and rearwardly into approximately its ultimate position. The rear portion of the bumper has thereon a pair of laterally spaced apart snap-in fasteners 60 preferably formed integrally therewith. As best shown in FIGURE 6, these may be of the type that are radially split so as to be capable of yielding, the several segments of the fastener being of generally ball shape so that each fastener snaps into its associated opening 46, it being clear that the fastener and its opening are properly dimensioned for the purpose intended. Thus, when the element 48 is swung from its position of FIGURE 5 to that of FIGURE 4, the snap-in fasteners 60 snap into the respective apertures 46 and securely affix the element 48 to the front of the hood 16. Each fastener 60 is shouldered at 62 to cooperate with the lower marginal portion 30 of the wall in spacing the element 48 properly ahead of the wall. A similar spacing relationship is obtained in the cooperation between the upper central lug 54 and the upper central portion of the wall 26, because the lug 54 is reduced in transverse dimension to afford a rearwardly projecting tongue 64 which enters the aperture, leaving shoulders 66 at each side of the tongue to abut marginal portions of the wall around the aperture 42.

A spacing relationship occurs in the same manner between each lug 56 and its aperture 44 and the marginal portion of the wall surrounding that aperture, because each hooked portion 58 is narrowed in transverse dimension to afford abutting shoulders 68 on the lugs 56 for spacing cooperation with the wall. The molding operation that provides the integral snap-in fasteners 60 results in the provision in the forward central part of the bumper 50 of a pair of depressions 70, from which the presence of two fasteners 60 will be obvious.

The lug 54 and its tongue 64 provide another function and that is retention of the central portion of the element 48 against vertical as well as lateral and rearward displacement. This is particularly significant because the element 48, being of plastic material, is relatively flexible or pliable and it is desired to support the central portion thereof so as to retain its proper structural and appearance relationship to the remainder of the vehicle.

It will be seen from the foregoing that the complete vehicle, or at least the front end structure with which the present invention is particularly concerned, may be readily assembled by an assembly including components that are of different colors, and that since these are handled and assembled separately, painting problems are eliminated. Moreover, the precision nature of the manufacturing methods employed in making toys of this character may be easily and readily exploited to secure proper registration of the components so that accurate alinement is attained, thus faithfully reproducing the vehicle that the model represents. The parts are easily handled and assembled and therefore lend themselves to mass-production methods.

Features and advantages other than those enumerated will readily occur to those versed in the art, as will many modifications and alterations in the preferred embodi-

ment disclosed, all of which may be achieved without departure from the spirit and scope of the invention.

What is claimed is:

1. Front end structure for a toy vehicle having a fore-and-aft body, comprising: a forward simulated engine hood on the body having as pre-assembled parts thereof a top, opposite sides and a generally upright transverse front wall extending between said sides and extending downwardly from a junction with said top to a transverse lower marginal portion, said portion having a pair of transversely spaced forwardly opening lower apertures therein and said wall in the area thereof adjacent to its junction with the hood top having therein a pair of transversely spaced apart forwardly opening upper apertures; transverse frontal means carried by and extending across the front of said wall intermediate the levels of said upper and lower apertures and including a pair of transversely spaced and horizontally alined simulated headlamps respectively adjacently below the upper apertures and a simulated grille extending between said headlamps; and a one-piece bumper and grille guard element separate from and disposed ahead of said frontal means and including a simulated bumper part at the level of and overlying and substantially concealing said marginal portion and a grille guard part rising from said bumper part closely ahead of said frontal means and exposing portions of said frontal means and said headlamps, said grille guard part having a pair of upper portions at the level and spacing of the upper apertures and said upper portions respectively having thereon rearwardly projecting fasteners having vertically directed hooks thereon receivable respectively in the upper apertures to afford an upper connection on a transverse axis about which said element is swingable downwardly and rearwardly to place the bumper part closely ahead of the lower marginal portion of said wall, and said bumper part having thereon a pair of rearwardly projecting snap-in, snap-out fasteners receivable respectively by the lower apertures.

2. The invention defined in claim 1, in which: said grille guard part is of relatively flexible material and includes at an upper portion thereof intermediate the upper fasteners a rearwardly projecting intermediate spacer engageable with a central upper portion of said wall to limit rearward displacement of said grille guard part, and each of said upper fasteners includes spacer means cooperative between said grille guard part and the wall portions bordering said upper apertures to additionally prevent rearward displacement of said grille guard part.

3. The invention defined in claim 2, in which: said intermediate spacer has a rearwardly projecting tongue thereon and said wall has an intermediate forwardly opening aperture disposed and operative to receive said tongue to limit both vertical and transverse distortion of said grille guard part.

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