April 1, 1952 G. P. ROBINSON 2,591,610

VENTILATED METAL AWNING

Filed Dec. 9, 1946 2 SHEETS—SHEET 2

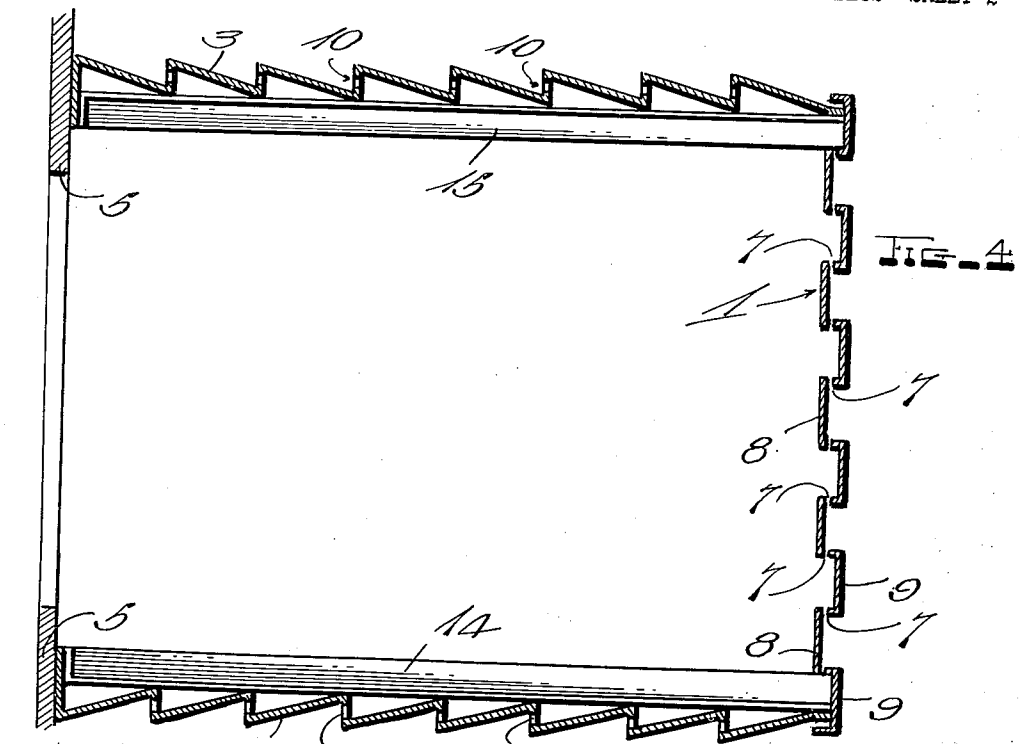


FIG. 4

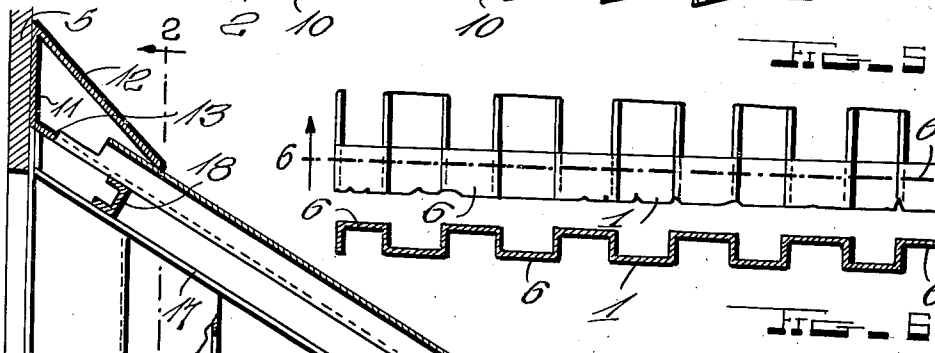


FIG. 5

FIG. 6

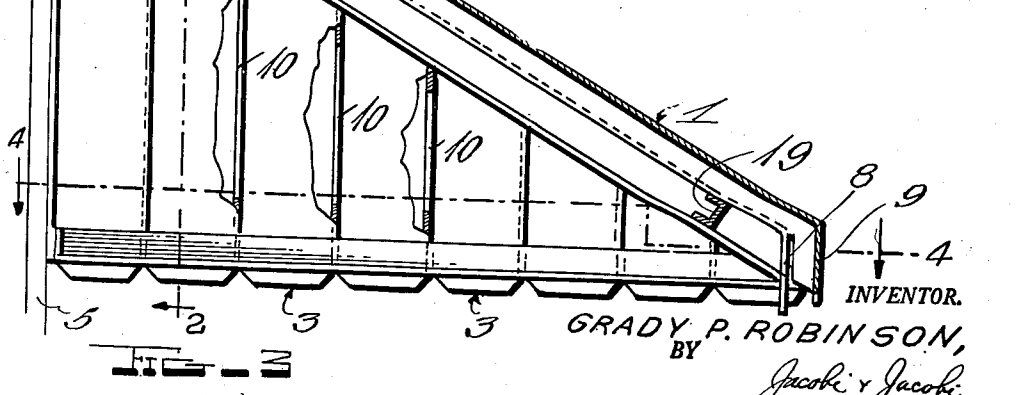


FIG. 3

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VENTILATED METAL AWNING

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7 Claims. (Cl. 20—57.5)

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This invention relates to awnings provided with air vents and contemplates a natural circulation of air therethrough and thereby prevent the undesired accumulation of heated air therein.

It is well known that heated air is forced upwardly by cool, heavier air, provided that the heated or warmer air is provided with a means of escape especially in the upper portions of an enclosure or chamber.

Every awning, having end closures, forms an enclosure or chamber in combination with the building structure and traps heated air unless ventilating means is provided.

It is an object of my invention to provide an awning structure made of corrugated sheet material, preferably sheet metal. The corrugations as applied or made constitute reinforcing means for the awning structure.

It is also an object of my invention to provide ample venting means, particularly located along the corrugations to provide for the escape of heated air as well as reduce the strain of strong winds on the awning structure.

It is also an object of my invention to provide a protecting shield or head piece which constitutes also a tubular open ended structure to provide ample space for the escape of air from the awning structure.

Other objects and advantages will be revealed in the detailed description of the drawings which constitute a part of my specification.

In the drawings:

Figure 1 is a perspective view of my new ventilating awning mounted on a window frame;

Figure 2 is a sectional view taken substantially on the line 2—2 of Figure 3, looking in the direction of the arrows;

Figure 3 is a sectional view taken substantially on the line 3—3 of Figure 2;

Figure 4 is a horizontal sectional view taken substantially on the line 4—4 of Figure 3 looking in the direction of the arrows;

Figure 5 is a fragmentary elevational view of the upper end of the main section of my awning;

Figure 6 is a transverse sectional view of the main section taken substantially on the line 6—6 of Figure 5; and

Figure 7 is a fragmentary perspective view of my combined shield and ventilating tube or flue.

The drawings are merely illustrative of the preferred form of my invention and are not definitive thereof, except as claimed herein.

The reference characters identify the details or portions of my construction in both the drawings and the detailed description thereof.

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My new sheet material awning comprises three sections and a head piece. The main inclined section 1 constitutes the ventilating roof of my awning structure. The substantially triangular end walls 2 and 3 are located beneath the outer edges of the main section 1 and are secured thereto by any suitable means such as spot welding or any other suitable fastenings (not shown). The end walls constitute end sections or closures for my awning construction.

The combined shield and ventilating tube or flue 4 is open ended and is secured in position on the main section 1 and on the end walls 2 and 3 by any suitable means (not shown).

My awning construction is adapted to be secured to a window frame 5 or other frame structure such as a door frame (not shown).

The main section 1 is provided with corrugations 6, preferably rectangular in cross section, of course, any other suitable polygonal cross section is contemplated, even a U-shaped corrugation may be used. The main section 1 is also provided with depending portions 8 and 9 resembling the terminal exposed ends of shingles.

The end walls 2 and 3 are provided with upright corrugations having one wall of each corrugation provided with a ventilating slot 10. It is contemplated that the slotted portions may comprise a series of aligned slots or a single slot in the end walls or sections 2 and 3.

The upper ends of the upper portions of the corrugations 6 of the main section 1 are cut away or recessed to provide vented portions in the top of the main section for the escape of heated air into the flue 4. The flue 4 is provided with an open bottom and with an upright portion 11 and an inclined portion 12. The upright portion 11 is provided with an inclined flange 13 resting on the end walls 2 and 3 and abutting the main section 1. The inclined portion 12 rests on the tops of the corrugations 6 and may be secured thereto to prevent chattering or noise.

The cut away portions in the upper end of the main or roof section 1 are more extensive in width than the flange 13 but less extensive than the portion 12 of the flue 4, thereby affording ample space for the escape of heated air that may be present in the awning. The cut away portions form recesses constituting venting portions occupying, at least, a major portion of the height of the roof corrugations 6 in the upper ends thereof. The inclined flange 13 may be narrow, at least, it is narrower than the broad shielding inclined portion 12 of the flue 4. The

tion is wide to provide for ample ventilation through the combined shield and flue.

6. The construction set forth in claim 5, in which two of the sections are provided with angular corrugations having a long flat wall and a short flat wall, said short flat walls being provided with upright slots for ventilating and also for strain reduction during windy weather.

7. A ventilating awning made of suitable sheet material, said awning comprising a plurality of sections, one of said sections comprising a roof section having a plurality of longitudinal corrugations, each of said corrugations being rectangular in cross section, the other sections being triangular end sections, one edge portion of each end section being located in supporting relation beneath the inclined outer edge portions of said roof section, said end sections being suitably secured to the roof section, in combination with a combined shield and flue, said combined shield and flue spanning, covering and bridging the uppermost edge portion of said roof section, the uppermost edge portions of the roof corrugations being cut away defining amply large vent openings in direct communication with said combined shield and flue, including the open bottom thereof, whereby heated air within the awning may be readily forced from the awning through the flue by natural ventilation.

GRADY P. ROBINSON.

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CHLORINE CONTAINING COMPOUNDS

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No Drawing. Application October 5, 1948, Serial No. 52,981

2 Claims. (Cl. 260—618)

1

This invention relates to halogenated butadiene compounds and more particularly refers to halogenated 1-phenyl-butadiene-1,3 compounds and useful products obtained therefrom.

It is an object of this invention to produce new chemical compounds, which are of value in the plastic and related fields. Additional objects will appear hereinafter.

My invention is concerned with 1-phenyl butadiene-1,3 compounds in which the phenyl ring is fully substituted, preferably with five chlorine atoms. The invention is also directed to employment of the foregoing compounds in polymerization systems, and the products obtained thereby. The preferred compounds of my invention are 1-pentachlorophenyl-butadiene-1,3, and its polymers.

The following examples will serve to illustrate the preparation of these butadiene compounds.

EXAMPLE 1

Preparation of pentachlorophenyl allyl carbinol

14.6 grams of clean magnesium turnings and 300 cc. of dry ether were placed in a flask. 78.5 grams of allyl bromide dissolved in 300 cc. of ether was added dropwise and the mixture refluxed for six hours. Thereafter, 139.3 grams of pentachlorobenzaldehyde suspended in ether was slowly added. The complex was decomposed with ammonium chloride and acetic acid, to give 135 grams of the crude carbinol, M. P. 101–107° C. The crude product was recrystallized from ethanol to raise the melting point to 105–109° C. Repeated recrystallization from SDA–30, gave a product, M. P. 112–113° C., which analysed as follows:

Analysis	Per Cent Carbon	Per Cent Hydrogen
Calculated	37.47	2.18
Observed #1	37.51	1.98
Observed #2	37.34	2.12

EXAMPLE 2

Preparation of 1-pentachlorophenyl-butadiene-1,3

32.05 grams of pentachlorophenyl allyl carbinol, prepared as in Example 1 was dissolved in 75 cc. of benzene. To the solution was slowly added 23.08 grams of thionyl chloride. The reactants were refluxed until the evolution of HCl had ceased. At the end of this time, more benzene was added; the solution was washed

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three times with water and dried over magnesium sulfate. Removal of most of the benzene caused crystallization of the butadiene derivative. Recrystallization from acetone brought the melting point to 120–122° C. This product analysed as follows:

Analysis	Per Cent Carbon	Per Cent Hydrogen
Calculated	39.68	1.65
Observed #1	39.30	1.80
Observed #2	39.50	1.56

It is contemplated that the carbinol of Example 1 might be dehydrated directly by passage over alumina at elevated temperatures, by dehydration over potassium acid sulfate, or by other known dehydration reactions.

While the invention is particularly concerned with 1-pentachlorophenyl-butadiene-1,3, it is contemplated that one or two of the halogen atoms in the benzene ring may be replaced by alkyl groups having from 1 to 3 carbon atoms, for example, 1-(2,3,5,6-tetrachloro-4-methyl phenyl)-butadiene-1,3 could be produced by a suitable change in the reactants referred to previously.

1-pentachlorophenyl-butadiene-1,3 is of particular value in polymerization systems. This material may be polymerized per se by heating above its melting point for a sufficient period to produce the desired degree of polymerization. The polymerization may be accelerated by use of peroxides and other known polymerization catalysts. While homopolymerization is possible, the butadiene compound is of particular value in copolymerization systems.

The butadiene structure of the compounds of my invention leads to the formation of elastomeric materials, particularly when the butadiene content is high. For the preparation of more or less rubber-like products, the following monomers are useful as copolymerizable materials: mono-olefins such as isobutylene, ethylene, propylene etc.; vinyl aromatic compounds such as styrene, pentachlorostyrene, dichlorostyrene; acrylonitrile etc. In some cases, the 1-pentachlorophenyl-butadiene-1,3 may be used along with butadiene-1,3 in copolymerization systems. Increased solvent and flame-resistance are among the benefits gained from the use of the halogenated compound in lieu of butadiene-1,3.

The butadiene compounds of my invention may be copolymerized with a wide variety of unsaturated compounds to produce useful materials.