No. 648,979. Patented May 8, 1900.

J. M. McMAHON.

REFRIGERATOR CAR OR THE LIKE.

(Application filed Mar. 29, 1899.)

(No Model.)

Fig. 1.

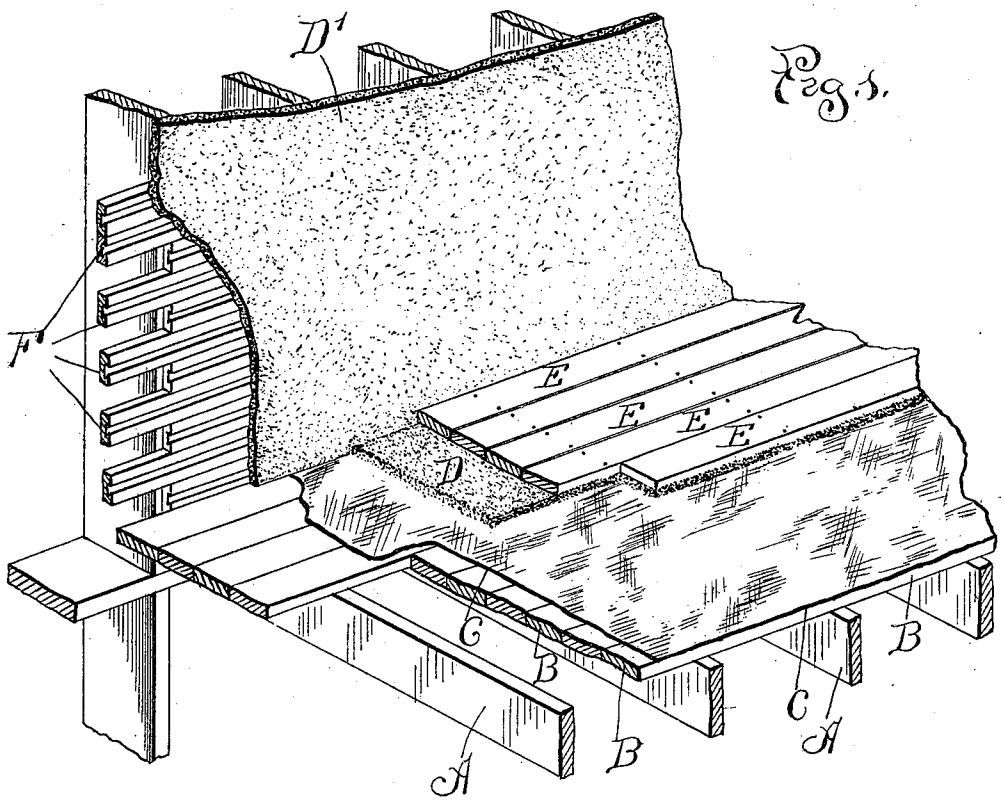


Fig. 2.

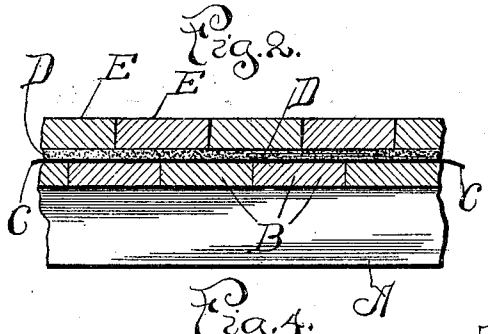


Fig. 3.

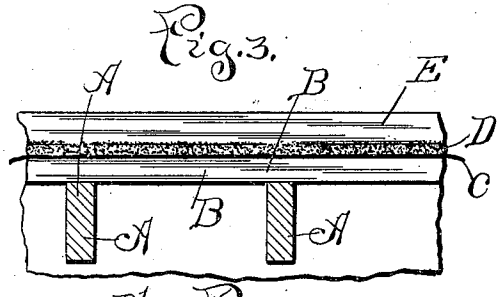


Fig. 4.

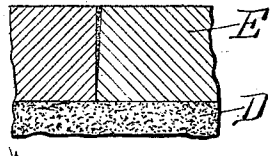
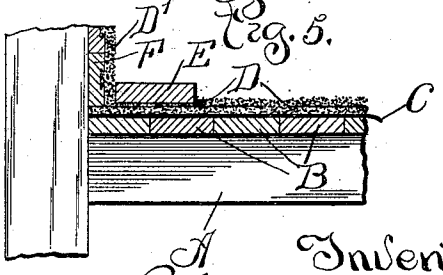


Fig. 5.



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UNITED STATES PATENT OFFICE

JOHN M. McMAHON, OF OMAHA, NEBRASKA.

REFRIGERATOR-CAR OR THE LIKE.

SPECIFICATION forming part of Letters Patent No. 648,979, dated May 8, 1900.

Application filed March 29, 1899. Serial No. 710,932. (No specimens.)

To all whom it may concern:

Be it known that I, JOHN M. McMAHON, a citizen of the United States of America, residing at Omaha, in the county of Douglas, State of Nebraska, have invented a certain new and useful Improvement in Refrigerator-Cars or the Like, of which the following is a description.

An insulating compound for refrigerator-cars and similar purposes requires certain essential properties in order to fulfil the requirements of its use. First of all it is necessary that it act effectively as a non-conductor of heat and cold; second, that it possess sufficient elasticity to submit to the various shocks and strains placed upon cars when in use without cracking or breaking; third, that the expansion and contraction due to differences in temperature will not break or destroy it, and, fourth, that it be of a nature to resist chemical action arising with contact with blood and other animal fluids as well as vegetable and other matter.

The object of my invention is to provide a car or like construction having incorporated therein or thereon an insulating compound possessed of all the desirable features above named which shall be cheap and economical in its use and effective in its operation.

To this end my invention consists in the novel car or like construction herein described, and more particularly pointed out in the claims.

It also consists in the novel use of such compound when properly combined with other essential elements in the floor or other parts of a car or similar construction.

In preparing the compound employed by me I take substantially five parts of powdered soapstone and thoroughly mix therewith substantially two parts each of powdered mica and plumbago, together with a sufficient quantity of liquid bituminous material—such, for example, as coal-tar—to give the mass a suitable consistency for spreading readily. I then add a quantity of oakum or its equivalent cut into short lengths—for example, about one inch—and shredded or stranded, and thoroughly incorporate the whole mass by careful working. The mass, in order to secure the most satisfactory results, should be of about the consistency of good plaster when ready for spreading upon the wall, and, if desired, may be spread upon walls and ceilings in a manner similar to the use of plaster. In such cases it is desirable that suitable provision be made for clenching the compound to the wall, and for this purpose any of the usual expedients may be employed. This is important, as the compound is quite heavy, weighing some eighteen pounds to the gallon, and although it adheres strongly to any suitable surface the constant shocks to which it is subject when in use, particularly in refrigerator-cars and in refrigerators, make it desirable to take this precaution.

The drawings submitted herewith show the preferred manner of using the compound upon floors subject to continual use and shock.

In the drawings, Figure 1 is a perspective view of the floor and side wall of a refrigerator-car or other similar room with parts broken away to show the manner of using my improved compound. Fig. 2 is a vertical section of the floor. Fig. 3 is a similar section at right angles to the last, and Figs. 4 and 5 are detail views.

In the drawings, A A represent floor-joists, which are covered with a suitable flooring composed of boards B B. Upon said boards is placed a layer of felt or tar-board C or its equivalent. Beginning near one side of the car or room a layer D of the compound is placed upon the tar-board, preferably substantially the width of the first floor-plank and from one-quarter to three-eighths of an inch thick. Upon this strip D of compound is then placed the first plank E, which is firmly nailed in position and embedded in the compound, and this operation is repeated until the entire floor is placed in position. After this has been done a quantity of compound mixed with a sufficient amount of coal-tar or its equivalent, so that it will pour readily, is poured into the cracks from calking-cans, fully filling the cracks or joints and guarding against any air-chambers or vacant spaces between the flooring and the compound beneath. By this operation the creosote and tar preserve the unexposed parts. The com-

pound soon hardens and, as stated, strongly adheres to the surface and edges of the planking, preventing the penetration of blood or other fluids which by their chemical action soon destroy the floor.

In practice I have found my improved floor, as just described, well adapted for use in the killing-rooms of packing-houses, where heretofore no means has been devised for making a floor that would last over a few months, varying from six to ten months. With my improved floor I am enabled to guarantee its durability for a much longer time, and in experimental uses find that it is in good condition after three years of practical use, and I believe it will continue in good condition much longer. The floors of refrigerator-cars are subject to much the same uses as the floors in packing-houses, to which is added the twisting of the car in going around curves and in switching and the heavy shocks consequent to their use. Heavy bodies are frequently thrown upon the floor and trucks are run over them. In practical operation I have found the compound possessed of the elasticity requisite for such hard usage and at the same time is unaffected by the chemical operation of blood and other fluids which are so destructive to floors that are subjected to their action.

Fig. 1 also shows a side wall provided with suitable material F for supporting the compound, which is laid upon the same substantially the same as plastering. The compound in the drawings is represented by the reference letter D'. The ceiling may be similarly covered, if desired. If preferred, the side walls and ceilings may be constructed substantially the same as the floor described. Lighter material, however, is desirable for such purposes.

In operation I have found that in refrigerator-cars provided with the compound described and floor it is possible to maintain a degree of temperature from 4° to 8° lower than in the ordinary refrigerator-cars under the same conditions.

Refrigerators for ordinary family use and also cold-storage rooms may be provided with the compound described with marked improvement.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A floor for refrigerator-cars, cold-storage rooms, and the like, comprising a primary floor of suitable material, a layer of insulating compound supported thereon consisting of powdered soapstone, mica, plumbago, short lengths of stranded oakum, and a liquid bituminous material substantially as described, and planking laid and secured upon the insulating compound, substantially as and for the purpose set forth.

2. A floor for refrigerator-cars, cold-storage rooms, and the like, comprising a primary supporting structure, a layer of non-conducting material thereon, a layer of insulating compound supported thereon consisting of powdered soapstone, mica, plumbago, short lengths of stranded oakum, and a liquid bituminous material substantially as described, and planking laid and secured upon the insulating compound, substantially as and for the purpose set forth.

3. A floor for refrigerator-cars, cold-storage rooms, and the like, consisting first, in a primary floor of suitable material, second, a layer of felt or tar-board thereon, third, a layer of insulating compound consisting of powdered soapstone, mica, plumbago, short lengths of stranded oakum and liquid bituminous material, substantially as described, and fourth, floor-planking laid and secured upon the compound, substantially as and for the purpose set forth.

4. A floor for refrigerator-cars, cold-storage rooms, and the like, consisting, first, in a primary floor of suitable material, second, a layer of felt or tar-board thereon, third, a layer of insulating compound consisting of powdered soapstone, mica, plumbago, short lengths of stranded oakum, and liquid bituminous material substantially as described, and fourth, floor-planking laid and secured upon the compound and having the meeting edges of the floor-plank calked with said compound, substantially as and for the purpose set forth.

5. A refrigerator-car or the like, provided with a floor consisting of the primary floor B, felt or tar-board C, compound D, consisting of powdered soapstone, mica, plumbago, short lengths of stranded oakum, and liquid bituminous substance, substantially as described, and main floor E, all arranged as described, and side walls and ceiling consisting of similar compound secured to the walls and ceiling of the car substantially as and for the purpose described.

6. A floor for refrigerator-cars, cold-storage rooms, and the like, comprising a primary floor of suitable material, a layer of insulating compound supported by and extending completely over and protecting the same and comprising powdered soapstone, mica, plumbago, a binder, and a liquid bituminous material substantially as described, and a planking laid upon the said insulating compound, substantially as and for the purpose set forth.

JOHN M. McMAHON.

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