

UNITED STATES PATENT OFFICE.

DE WITT C. OLIN, OF KALAMAZOO, MICHIGAN.

COMPOUND FOR STOPPING LEAKS.

1,056,575.

Specification of Letters Patent. Patented Mar. 18, 1913.

No Drawing.

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To all whom it may concern:

Be it known that I, DE WITT C. OLIN, a citizen of the United States, residing at Kalamazoo, Michigan, have invented certain new and useful Improvements in Compounds for Stopping Leaks, of which the following is a specification.

This invention relates to a new and improved compound or composition of matter for use in stopping leaks in the radiators or cooling systems for automobiles, or in the water jackets, or for similar purposes.

The compound is also adapted for use in stopping leaks in steam boilers, particularly in low pressure boilers generally, such as are found in use in heating systems for residences, office buildings and the like.

The compound is also adapted for stopping leaks in high pressure boilers if the same are not too extensive.

The invention, however, is of primary importance for use in stopping leaks in the water cooling systems of internal combustion engines, such as are used in automobiles, for which purpose it is especially well adapted.

My improved compound in its preferred form consists, for each 1000 parts, of 789 parts sugar, which is preferably about a No. 11 brown sugar, and 196 parts of linseed oil cake, which I mix with the sugar in the powdered form. To this I add 17 parts Venetian red pigment and thoroughly admix with the same. After the ingredients have thus been mixed, I add 3 parts of oil of mirbane. The sugar and oil cake I am in the habit of mixing by taking 100 pounds of sugar and adding thereto about 25 pounds of ground oil cake or meal, to which I add about 2 pounds of dry Venetian red pigment, and to this batch thus made up I add about 4 ounces of oil of mirbane.

The oil of mirbane has a marked effect on the mixture and gives the same a very characteristic odor and a very characteristic consistency, and I find the action of the same increases the speed of the operation of the compound in some manner which is not very fully understood by me.

To use my improved compound, I dissolve about one-half pound of the same in a quart of water. I rinse out the cooling system and fill with fresh water and start the engine. After the water in the water jacket and radiator of the engine has become thoroughly heated, I slowly add this quart of the

mixture to the hot water already in the system. Such systems usually contain from six to eight gallons. I continue to run the engine for a period of from twenty minutes up, depending on the condition of the radiator and water jacket and the leaks to be stopped. When this is done, the dissolved compound in the radiator exudes through the leaks and open joints anywhere, when, owing to the heat of the parts, the water is evaporated and a layer of the material in solid form rapidly forms around any aperture, gradually closing the same and healing it up, so to speak. The coating thus formed is hard and firm and is substantially waterproof, and it is so effective in stopping leaks that the material usually used in anti-freezing solutions afterward does not re-dissolve the same and open the joints or leaks.

All of the ingredients used seem to be of high importance in securing the best results. However, I have used the preparation without the oil of mirbane and find that it does not have so strong a cleansing effect on the parts, and that it takes considerably longer for it to operate in closing up any leaks. I also find that almond meal may be substituted for the ground flaxseed meal or pulverized oil cake. I also find that any kind of sugar will do the work, the particular kind I have indicated being most effective. Glucose is effective, and any material that has a strong adhesive effect, as any mucilaginous gum, will cooperate with the other parts to secure the desired result.

The pigment should be fully pulverized and is very readily held in suspension and exudes with the compound which, as it evaporates, causes a deposit of the pigment along with the adhesive, and where Venetian red is made use of as the pigment, the stopper for the leak appears as a bright red bead, and after a little time it becomes firmly set, so that in a week or so it is as hard as solder. It is fully more effective because it applies itself automatically precisely to the leak where it occurs. Other pigments would have the same effect, although I find the Venetian red to be very satisfactory.

I find that the sugar serves as an adhesive, and it also emulsifies with the oil cake or meal and with the pigment, so that when the same exudes the sugar serves to cause the same to adhere in place and as evaporation continues the oil cake and pigment and more

or less of the sugar forms a globule of paint which dries down very hard, making a very secure and safe plug for even a considerable opening, like a nail hole, which may have been caused by accident. The compound will also close up leaks around the stuffing boxes of the circulation pump, and all gasket connections as well. Leaks in the hose connections and pipe connections will gradually be stopped. It will also close cracks in the crown sheets or plates of steamboilers.

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

15 1. The herein described composition of matter, composed of substantially 784 parts sugar, 196 parts oil cake or meal, 17 parts of Venetian red pigment, and 3 parts of oil of mirbane, as specified.

20 2. The herein described composition of

matter, composed of sugar, oil cake or meal, pigment and oil of mirbane, as specified.

3. The herein described composition of matter, composed of sugar, oil cake or meal, and pigment in the proportion of substantially 75% of sugar to 20% of oil cake, as specified. 25

4. The herein described composition of matter, composed of an adhesive, oil cake or meal, and pigment in the proportion of substantially 75% of the adhesive to 20% of oil cake, as specified. 30

In witness whereof, I have hereunto set my hand and seal in the presence of two witnesses.

DE WITT C. OLIN. [L. s.]

Witnesses:

LUELLA GREENFIELD,
M. PHINA WOODRUFF.