

UNITED STATES PATENT OFFICE.

FRANCIS OSCAR WERTHER, OF SYDNEY, NOVA SCOTIA, CANADA.

FIREPROOF LINING.

No. 874,271.

Specification of Letters Patent.

Patented Dec. 17, 1907.

Application filed March 25, 1907. Serial No. 364,209.

To all whom it may concern:

Be it known that I, FRANCIS OSCAR WERTHER, a citizen of the United States of America, and resident of 32 Nepeau street, in the city of Sydney, in the Province of Nova Scotia, in the Dominion of Canada, have invented certain new and useful Improvements in a Fireproof Lining for Stoves or Furnaces, of which the following is a specification.

My invention relates to improvements in fire-proof lining for stoves or furnaces, and the object of the invention is to provide a lining, which will not be affected by the intense heat of the fire and thus conserve the heat produced by the fire and direct it to the surfaces utilized for heating purposes and whereby the construction of said lining will be of a durable nature, and it consists essentially in mixing the following ingredients and bringing the same to a plastic state, as more particularly set forth in the present specification and pointed out in the claims. The principal ingredient of this compound is magnesia and this taken with chrome ore will make the most refractory compound known. I add to the magnesia and chrome ore, silica, fire clay, open hearth basic slag, blast furnace slag, old fire brick, salt and flour and all of these materials are brought to a granulated or powdery state and thoroughly mixed. Then I add water preferably containing molasses or any other carbonaceous matter to the mixture composed of the aforesaid ingredients and work the whole into a plastic state. In the mixing of this compound, the ingredients are used in or about the following proportions:—Magnesite containing about 80.75 magnesia 60%, fire clay 20%, chrome ore 5%, silica 5%, blast furnace slag 5%, basic steel slag 5%, old fire brick 5%, salt (chloride of sodium) 1%, cement (Sydney or Portland) 1%. The magnesite preferably contains about 80.75 magnesia. The compound is then ready to be applied to the interior walls of the stove or to the backs of doors or any other part through which the heat from the fire is not intended to radiate. Any suitable method of retaining the compound so applied in a stove or furnace may be used, the salient feature of the invention being the particular mixture and the application thereof to stoves or furnaces or other

surfaces which it is desired to make refractory to intense heat.

What I claim as my invention is:

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1. A fire-proof lining for stoves or furnaces, consisting of magnesia, chrome ore, fire clay, slag and salt in or about the proportions named, all separated into small particles and thoroughly mixed and worked into a plastic state with the addition of water and a carbonaceous matter in said water, substantially as described. 60

2. A fire-proof lining for stoves or furnaces, consisting of magnesia, chrome ore, silica, fire clay, open hearth basic slag and salt in or about the proportions named, all separated into particles and thoroughly mixed and worked into a plastic state with the addition of water and a suitable carbonaceous substance, substantially as described. 65 70

3. A fire-proof lining for stoves or furnaces, consisting of magnesia, chrome ore, silica, fire clay, open hearth basic slag, blast furnace slag, old fire brick, salt and flour in or about the proportions named, all separated into particles and thoroughly mixed and worked into a plastic state with the addition of water and a carbonaceous matter, substantially as described. 75 80

4. A fire-proof lining for stoves or furnaces, consisting of magnesia, chrome ore, silica, fire clay, open hearth basic slag, blast furnace slag, old fire brick, salt and flour in or about the proportions named, all ground and thoroughly mixed and water and molasses added to said ingredients and the whole worked into a plastic state and allowed to cool, substantially as described. 85

5. A fire-proof lining for stoves or furnaces, consisting of magnesia, chrome ore, silica, fire clay, open hearth basic slag, blast furnace slag, old fire brick, salt and flour in or about the proportions named, separated into small particles and thoroughly mixed and moistened with water and worked into a plastic state, substantially as described. 90 95

Signed at the city of Sydney, in the Province of Nova Scotia, in the Dominion of Canada, this 18th day of March 1907.

FRANCIS OSCAR WERTHER.

Witnesses:

ROBT. O. CALLAGHAN,

THOMAS WM. PUBLICOVER.