

(No Model.)

H. W. HEMINGWAY.

METHOD OF MANUFACTURING OXIDE OF IRON.

No. 513,679.

Patented Jan. 30, 1894.

Fig. 1.

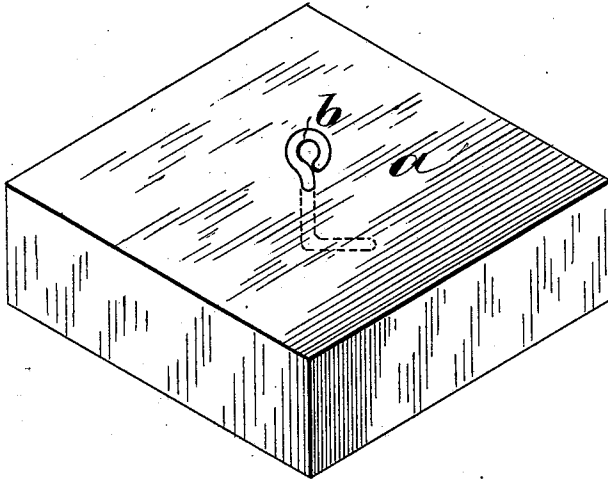
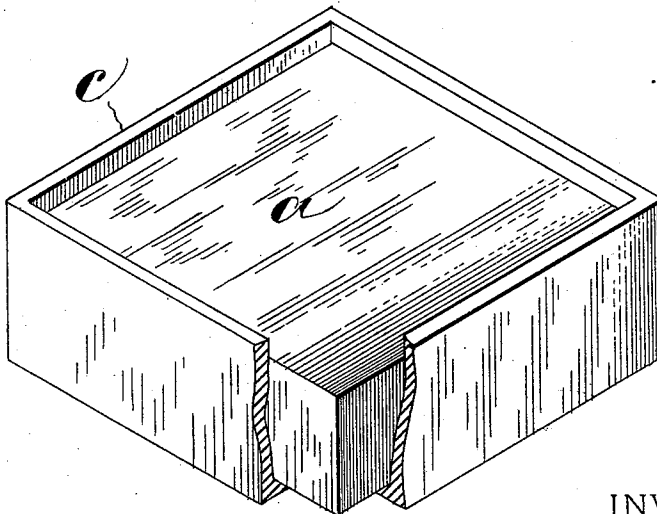


Fig. 2.



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METHOD OF MANUFACTURING OXIDE OF IRON.

SPECIFICATION forming part of Letters Patent No. 513,679, dated January 30, 1894.

Application filed July 12, 1893. Serial No. 480,270. (No specimens.)

To all whom it may concern:

Be it known that I, HENRY WILLIAM HEMINGWAY, a subject of the Queen of Great Britain and Ireland, residing at 60 Mark Lane, in the city of London, England, have invented a certain new and useful Method of Manufacturing Oxide of Iron, (in respect whereof I have applied for but not yet obtained Letters Patent of Great Britain, No. 4,001, to bear date February 23, 1893,) of which the following is a specification.

This invention relates to the manufacture from copperas of oxide of iron, known in the color trade as "Venetian red" and under other names. According to the method of manufacture at present commonly in use, green copperas liquor is boiled down, and the copperas obtained is ground and burned in ordinary furnaces; or is broken up, placed in "seggars," which are then stacked in a kiln, and burned. As the result of experiment, I have found that by subjecting the copperas in a solid state to the burning or retorting process, economy is effected and a superior product is obtained, owing to the greater conductivity and consequent more even heating of the material throughout its mass when in such solid condition; and the avoidance of the tendency for the outer or more exposed parts to become overheated, as frequently occurs when the material is treated in a powdered, granular or broken state, the portions exposed to excessive heat being either spoiled or injured by reason of the color becoming too dark. Owing to this want of uniformity, the product has to be sorted by hand, and the different shades of color separated.

In carrying out my invention, I boil down the green copperas liquor, and cast the copperas into blocks of a size and shape corresponding with the oven, retort or "seggar" in which the same is to be burned. I find blocks about twelve inches in diameter and four inches thick a convenient size when intended for burning in "seggars," but blocks of much larger size may be treated in a furnace or kiln of special construction; and in casting such block or slab, I may introduce a hook or eye-ended metal bar for the purpose of affording additional strength to the block, and for facilitating its manipulation while be-

ing lowered into the kiln. The hook or eye-ended metal bars may be used repeatedly.

The melting and casting of the copperas into blocks of suitable form produces homogeneity and uniformity of structure throughout the mass and this insures even heating and consequent uniformity in the color of the oxide. Such result cannot be obtained from burning the ordinary lumps and masses of this material owing to their not being uniform in either structure, form or size.

In order that my invention may be more readily understood I have shown in Figure 1 of the accompanying drawings a block, *a*, of copperas cast in rectangular form and provided with an eye-ended metal bar, *b*; and in Fig. 2, in perspective a block in a holder or "seggar," *c*, of metal, within which the block fits snugly.

The "seggar" is represented as broken away at one corner merely to show part of the block *a*. The heat of the furnace is transmitted through the "seggar" to the block within, and the latter is uniformly heated throughout its mass. After the copperas is converted by the heat into oxide the latter is removed from the furnace, and ground, in the usual manner.

Of course the rectangular form of the block, as herein shown, is not essential to the carrying out of my invention, nor is it essential that the block shall be of any particular dimensions. I prefer, however, the simple rectangular form, and also prefer that all the blocks burned at one time shall be of the same dimensions.

What I claim as my invention, and desire to secure by Letters Patent, is—

The herein described method of making oxide of iron from copperas, which consists in first melting the copperas and casting it in the form of blocks of homogeneous structure having the proper dimensions to fit the chambers or pockets in which they are to be burned, and then burning the blocks until they are converted into oxide of iron, substantially as set forth.

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Witnesses:

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