

FIREBRICK IN CUPOLA PRACTICE

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After this paper I may be like August the German. August ran a saloon in the Bowery in New York. One day while peacefully sunning himself in front of the saloon, the proprietor of the property came along and informed him that owing to the fact that the street was to be repaved, taxes were going to be advanced and as a consequent result, commencing July 1st, he would have to advance the rent \$25.00 per month. A little later in the day one of the bartenders, being appointed a committee of the whole, informed August that July first, owing to the high cost of living, they had decided they would have to have an advance of \$3.00 per week in their wages. Still later in the day the owner of the home which August rented up in the Bronx, came along and informed him that he would have to advance the rent \$20.00 per month, commencing July 1st, to all of which August gave a grunt. He went down the street, however, and came back with a placard which he placed over the cash register behind the bar. The placard read:—"July 1st will be the last day of August.

So I am inclined to say that after reading this paper it may be the last day of Woodison.

The subject which has been assigned to me is a big one, because it must be viewed from many angles. In this paper I am going to confine myself to cupola practice only, passing by malleable, steel and other furnaces used in the melting of iron all of which presents interesting problems.

First of all, let us consider what we have to contend with in the cupola. The answer, I think you will agree with me, is sudden heating and sudden cooling, the two of which means quick expansion and quick contraction.

It must of necessity be very refractory material that can range from a temperature of say 70 to 2,370 degrees (the necessary heat for melting iron to a white colour), in as short time as thirty minutes and then drop back to normal in a few hours.

There is an erroneous idea that friction does more harm than heat; this is wrong, as is evident by the blast furnace. A blast furnace makes, say 100 tons of iron per day, to accomplish this they must smelt 350 tons of iron ore together with the necessary amount of coke and limestone. Now, the blast