

"A small hand press was used in the moulding; the pressure employed however, was not great, and did not very much exceed that which might have been obtained by hand. The freshly moulded bricks having been exposed to a dry atmosphere until they had parted with the greater part of their moisture, were next dried at a temperature of 100° C, after which they were inserted in covered crucibles and placed in an air furnace, the temperature of which was gradually raised until at the expiration of an hour a white heat had been obtained, at which temperature it was maintained for an additional two hours.

ABRASIVE  
MATERIALS.  
Infusorial  
Earth.

The experiments were carried out in duplicate with the following results.

"*Refractoriness.*—The bricks had in all instances retained their form perfectly intact; they had neither warped nor cracked; their edges remained perfectly sharp and showed no indication of having undergone even the most incipient fusion. They were all highly absorbent, adhering strongly to the tongue; exceedingly firm and very tough. Bricks of experiments 1, 4 and 5 appeared to possess this latter property in about an equal degree; they could not be readily broken between the fingers; those of experiment 2 broke only with great difficulty, whilst those of experiment 3 could not be broken in this way. The fracture was uneven; in the case of experiments 1, 2 and 3, somewhat jagged. The bricks of experiments 1, 2 and 3 presented very smooth surfaces and possessed a fine and close texture; when suddenly plunged into the flame of a blast lamp they decrepitated strongly; this however was not the case when the heat was gradually applied.

"Bricks of experiments 4 and 5 were looser in texture, and when suddenly plunged into the flame of the blast lamp, stood well; they proved excellent non-conductors of heat; the brick could be held between the fingers without the slightest inconvenience whilst the other end was heated to redness in the blast lamp.

"*Contraction.*—The linear contraction (for the temperature and duration of firing afore-specified) amounted to, in the case of test brick,

Of experiment	1...	9.87	per cent of the original moulded size,
"	2 ..	11.18	"
"	3...	11.18	"
"	4 ..	9.20	"
"	5 ..	7.89	"

"From this it will be seen that the contraction was most marked in those bricks containing an admixture of clay, and least so in those containing an admixture of lime.