

*G. H. Knight.*  
*Iron Pavement.*

*N<sup>o</sup> 8,020.*

*Patented Apr. 1, 1851.*

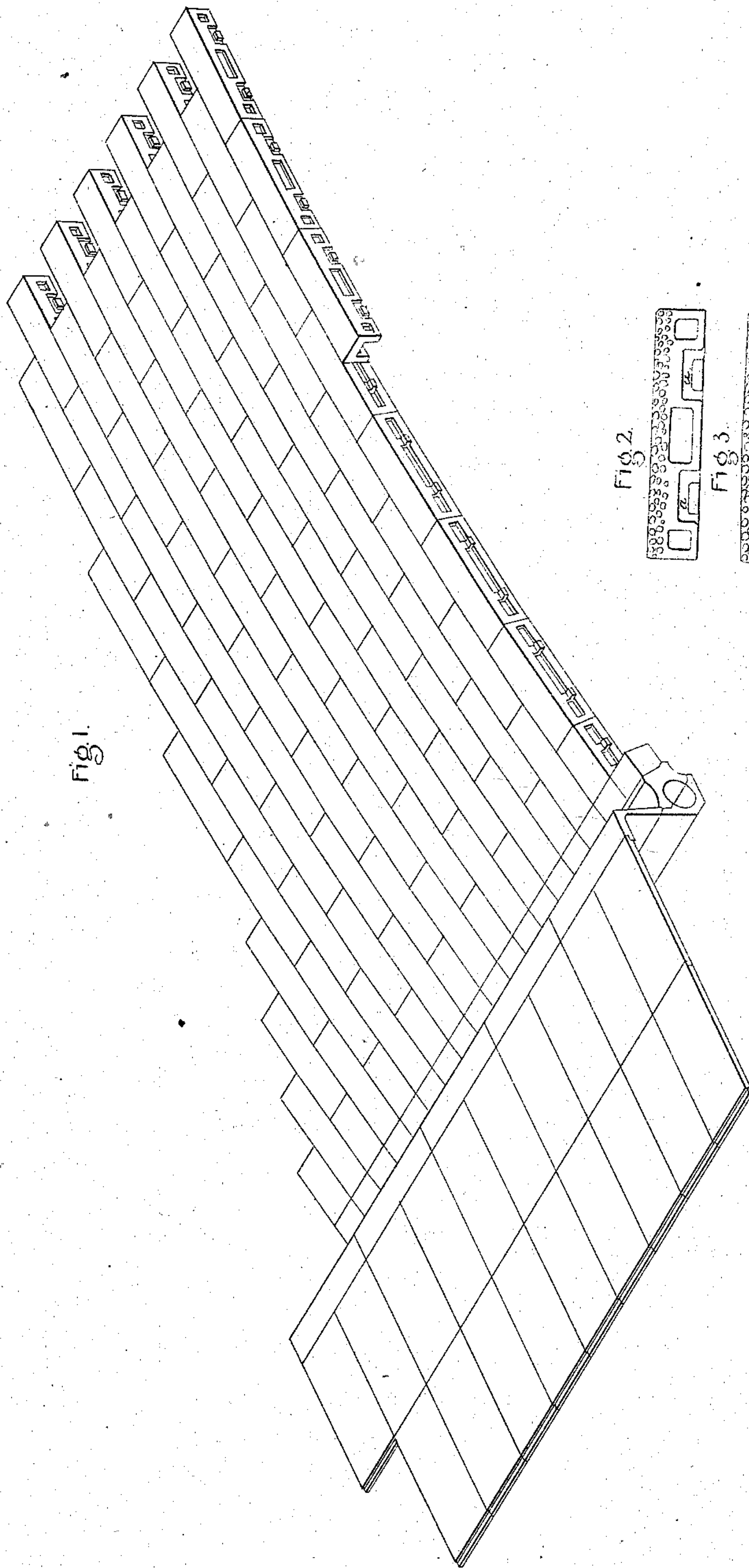


Fig. 1.

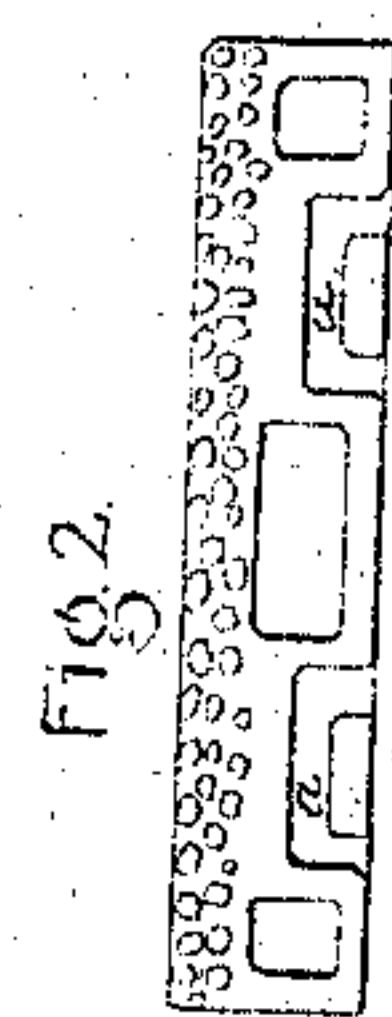


Fig. 2.

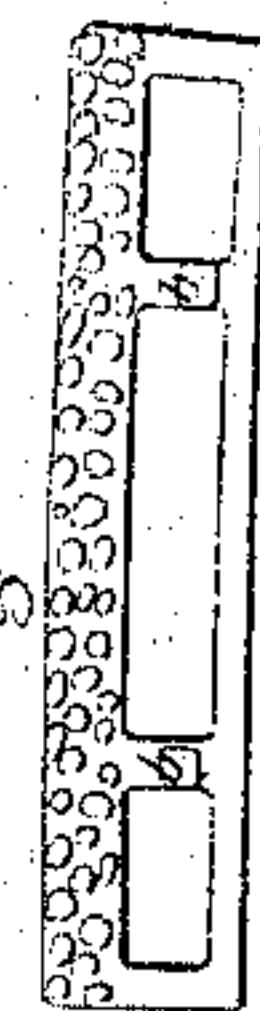


Fig. 3.

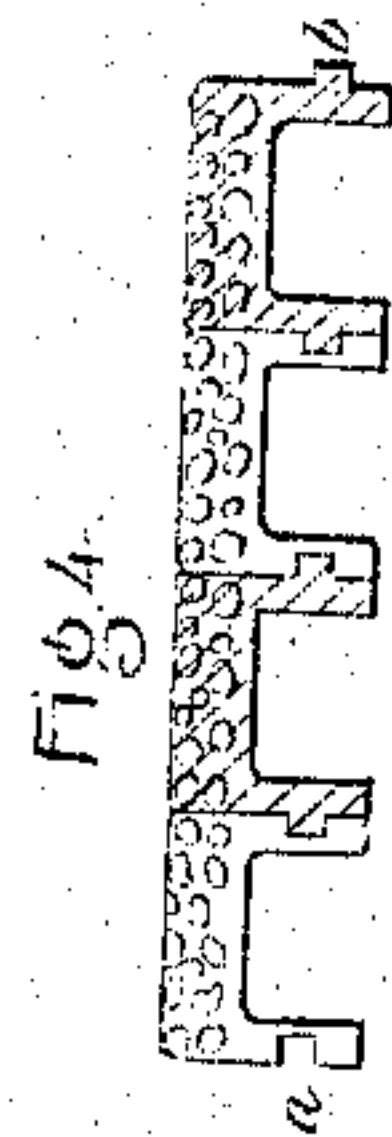


Fig. 4.



# UNITED STATES PATENT OFFICE.

GEO. H. KNIGHT, OF CINCINNATI, OHIO.

STONE AND METAL CONGLOMERATE FOR PAVING, &c.

Specification of Letters Patent No. 8,020, dated April 1, 1851.

*To all whom it may concern:*

Be it known that I, GEORGE H. KNIGHT, of Cincinnati, Hamilton county, Ohio, have invented a new and Improved Method of  
5 Constructing Blocks for Pavements, Treadways, and Analogous Purposes; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the annexed drawings,  
10 making part of this specification.

The nature of my invention consists in the formation of a conglomerate block composed of stone and iron, by pouring the molten metal around and among broken stone with-  
15 in a mold, the metal forming a bond of union by which the stone is held together in one coherent mass, and so distributed among the metal as to present a nearly uniform mixture of the two materials in such propor-  
20 tion as may be desired.

With regard to pavements, the proposed system when compared to the best granite pavement, (besides dispensing altogether with the labor and skill of dressing) admits  
25 of a diminution of bulk, because of the greater cohesive strength of the iron, the depth necessary for the conglomerate block—allowing for wear—being from four to six inches, instead of from ten to fourteen inches  
30 depth, usual in good granite pavement, and this diminution in depth decreases the cost of transportation, and by the greater portability, expedites the laying down of the pavement, and from the same cause, a con-  
35 glomerate block may without being unwieldy be made to extend over a broader area than a granite block, and consequently be less liable to sink unequally beneath heavy loads, and thus the most frequent cause of  
40 repair—the yielding of the foundation—may be avoided, and the foundation itself being subjected to less trying duty, may be less costly in its character, and while on the one hand, a greater regularity of the gen-  
45 eral surface will be admissible, there will at the same time—from the diversity of the material—permanently remain numerous minute irregularities insuring firm foothold for the horse's hoof. There is no particular  
50 skill or tedious labor required—the stone-mason's chisel is exchanged for the stone breaker's hammer, and the molds (being once prepared) are ready to give any size, shape or devices for fastening joining or  
55 jointing that may be required.

In the annexed drawings, Figure 1, repre-

sents in outline perspective a roadway paved with conglomerate blocks. Figs. 2, 3 and 4 show more particularly a number of de-  
tached blocks having alternately grooves (a) 60 and lugs (b) by which each individual course of blocks may be interlocked with its neighbors.

By these devices the pressure may be distributed from each particular stone to those 65 around it and a stability may thereby be attained which may be very serviceable in the main thoroughfares of cities. This feature is however only adverted to here as an advantage incidental to but not necessarily in- 70 volved in the main invention.

This invention may also be applied with advantage to the treadways of mills, ferry-boats or horse powers, to the walls and arches of tunnels, to light-houses, break- 75 waters and other structures subject to great strain—and also to masonry in general, blocks of this construction having greater strength and involving far less skill and labor to shape them than blocks of dressed 80 stone or marble.

It is advisable to heat the stone previous to its insertion into the mold, especially where the pieces are large; this not only dissipates any moisture hanging about them, 85 but prevents the splintering of their substance by the sudden expansion of their exterior upon the contact of the hot metal. It has been also found advisable where the block is a large one to introduce the metal 90 at several points simultaneously. By filling the interstices of one dimension of stones with others of a smaller size a very large portion of the entire mass may be nonmetallic. 95

Having thus described the nature of my invention what I claim therein as new and for which I desire Letters Patent is—

Forming a block suitable for paving, masonrywork or analogous purposes, of a con- 100 glomerate of iron and stone, by running the molten metal among broken stone within a mold, either with or without the devices substantially as herein described for jointing and locking together the contiguous 105 blocks.

In testimony whereof I have hereunto set my hand before two subscribing witnesses.

GEO. H. KNIGHT.

Witnesses:

THOS. G. CLINTON,  
EDWARD H. KNIGHT.