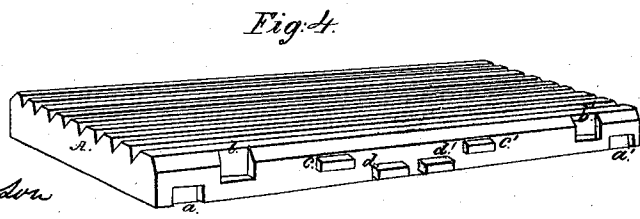
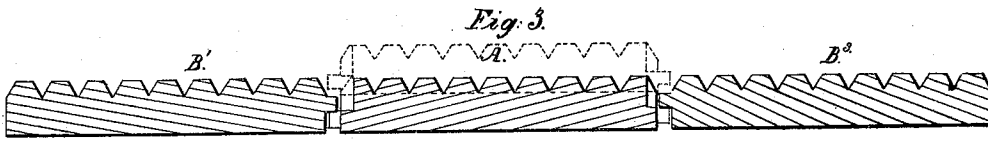
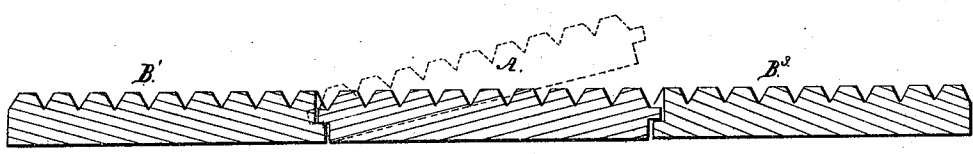
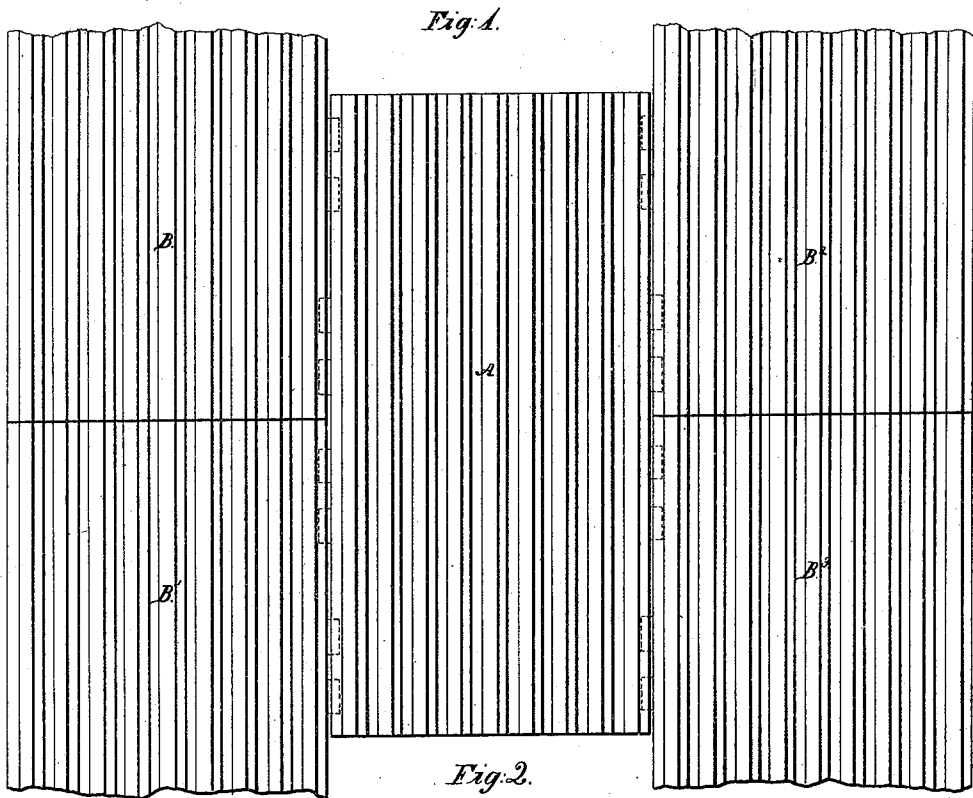


B.C. Smith.

Iron Pavements.

*N^o 89.
31,093.*

Patented Jan. 8, 1861.



Witnesses:
Henry Howden
Charles C. Foster

Inventor:
B.C. Smith

UNITED STATES PATENT OFFICE.

B. C. SMITH, OF BURLINGTON, NEW JERSEY.

MODE OF CONSTRUCTING IRON PAVEMENTS.

Specification of Letters Patent No. 31,093, dated January 8, 1861.

To all whom it may concern:

Be it known that I, BARZILLAI C. SMITH, of Burlington, Burlington county, State of New Jersey, have invented a new and useful Improvement in Iron Pavements; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing and to the letters of reference marked thereon.

My invention relates to an improvement in the patent granted to me on the twenty-second day of September 1857, and consists of a pavement composed of a series of plates laid a given distance apart from each other and having projections and recesses so proportioned to this distance, that while the pavement presents a continuous surface incapable of yielding, any one of the plates can be readily disconnected from the adjacent plates by the lateral movement of the latter as fully described hereafter.

In order to enable others to make my invention I will now proceed to describe the manner in which I carry it into effect.

On reference to the accompanying drawing which forms a part of this specification, Figure 1 is a plan view of a portion of my improved iron pavement. Fig. 2, a transverse section showing the plates in their proper position. Fig. 3, the same showing the manner of removing one of the plates, and Fig. 4, a perspective view illustrating the arrangement of projections and recesses on the edge of one of the plates.

Similar letters refer to similar parts throughout the several views.

A represents an entire plate, B, B', B², and B³, each representing a portion of an adjacent plate of my improved pavement. The plates may be either solid or hollowed out on the underside and properly strengthened, the upper surface being provided with ribs or other suitable projections to prevent the slipping of the horses' feet, the line of junction of the ends of two of the plates being midway between the ends of the adjacent plate as seen in Fig. 1.

The edge of the plate A has at one end a lower recess *a* and an upper recess *b*, and at the opposite end similar recesses *a'* and *b'* the former recesses for receiving projections or lugs on the plate B³ and the recesses *a'* and *b'* for receiving similar lugs or projections on the plate B². The edge of the plate A is also provided with an upper projection *c*

and a lower projection *d* for fitting into corresponding recesses in the plate B³, and also with the upper projection *c'* and lower projection *d'* for fitting into corresponding recesses in the plate B². The edge of the plate B' where it joins the plate A is provided with projections and recesses similar to those on the plate A, where the latter joins the plate B², and the edge of the plate B where it joins the plate A has projections and recesses similar to those on that edge of the plate A which joins the plate B³. It will be seen that when a series of plates are thus fitted together with the projections of one plate fitting into the corresponding recesses of the adjacent plate the whole are so firmly locked together that it is impossible for one plate to yield independently of the other. The same remarks apply to the junction of the whole series of plates which are exactly alike, both as regards size and the arrangement of projections and recesses.

The main objection attending the use of cast iron pavements composed of plates or blocks locked together by projections and recesses, has been the difficulty of removing one or more plates or blocks without disturbing the entire pavement, when repairs of or additions to gas or water pipes render the opening of the ground necessary.

The object of my invention has been to overcome this difficulty.

It will be observed on reference to Fig. 2, that the edges of the plates are not in actual contact. By the use of temporary gages in laying the plates they are separated from each other to the extent of, say, one eighth of an inch, the projections and recesses being so proportioned that the former shall not penetrate the latter to a greater extent than one quarter of an inch the recesses however, being deeper than the projections are long. After the plates have been thus laid the dirt will penetrate between the edges so that there is no fear of their losing their proper relative position.

When one of the plates, as, for instance, the plate A, Fig. 3, has to be removed, the dirt is scraped away from between the joints of that plate and those of as many adjacent plates as will allow the plates B² and B³ to be moved to the extent of a quarter of an inch from the plate A which is now at liberty on one side and may be elevated, as seen in red lines Fig. 2, and disconnected from the plates B and B' on the opposite side.

The dirt between the joints of as many plates on both sides of the plate A may be removed as will enable the latter to be set at liberty on both sides as seen in Fig. 3, when it may be lifted vertically from its position.

Having now described the nature of my invention and the manner in which the same may be carried into effect, I wish it to be understood that I do not claim broadly fastening the plates or blocks of iron pavement by mortises and tenons or dowels or their equivalents, but

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

An iron pavement composed of a series of

plates laid a given distance apart from each other and having projections and recesses so proportioned to that distance that the plates when undisturbed may form an unyielding pavement, and that one of the plates may be readily removed after a slight lateral movement of the adjacent plates as herein set forth.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

B. C. SMITH.

Witnesses:

HENRY HOWSON,
CHARLES D. FREEMAN.