(No Model.)

G. R. BOWEN.

ROAD PAVEMENT.

No. 521,364. Patented June 12, 1894.

Fig. 1

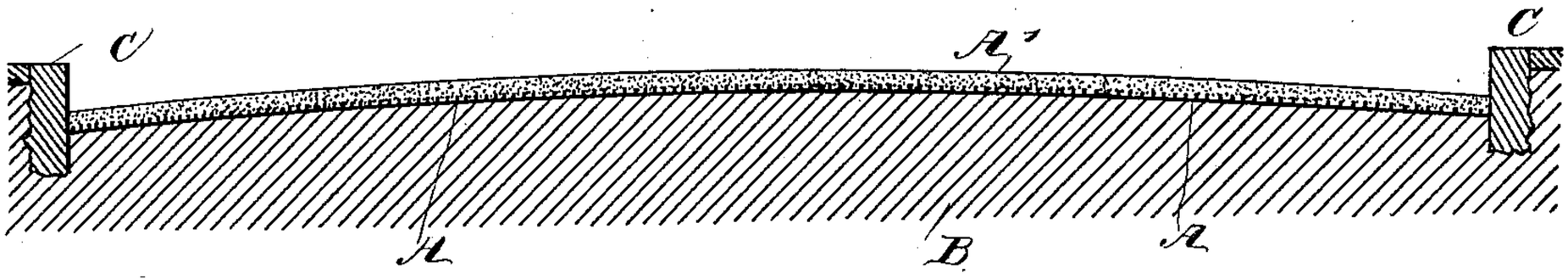


Fig. 2

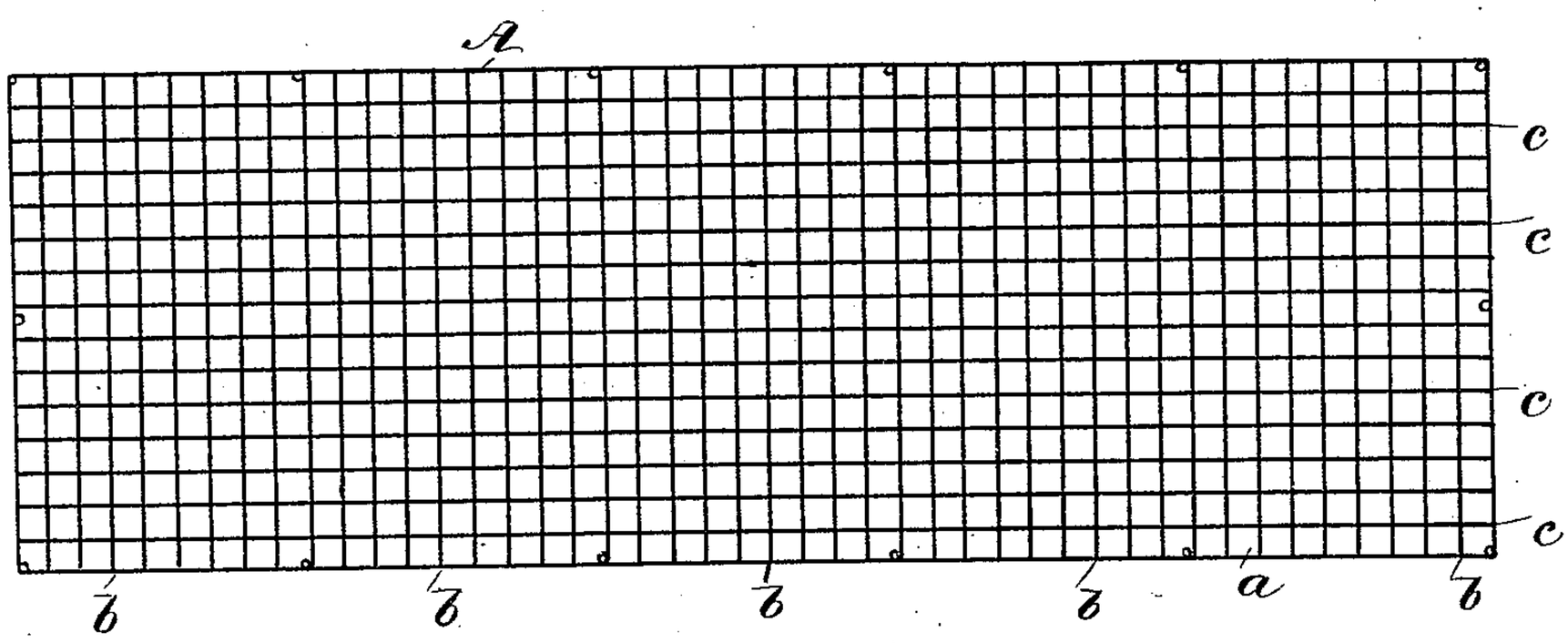
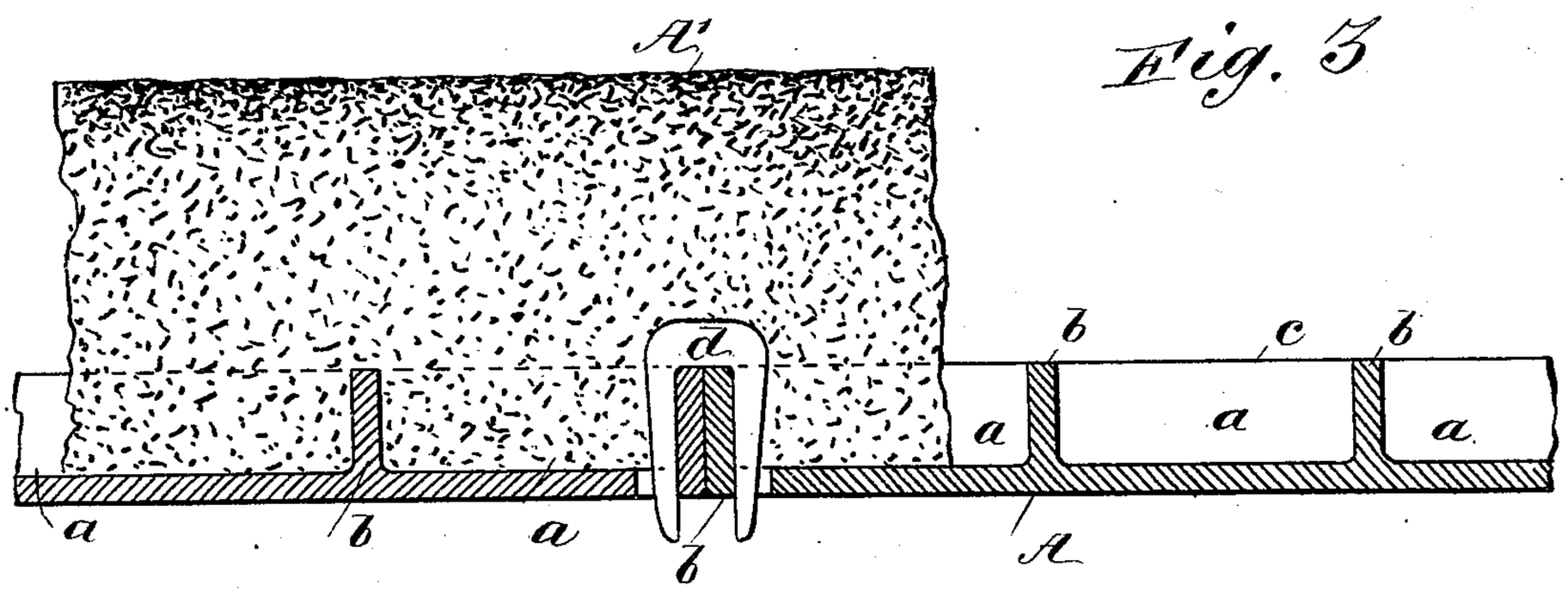


Fig. 3



WITNESSES:

C. Neveux

C. Sedgwick

INVENTOR

G. R. Bowen

BY Munn & Co

ATTORNEYS.

THE NATIONAL LITHOGRAPHING COMPANY,
WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

GEORGE R. BOWEN, OF SAN ANTONIO, TEXAS.

ROAD-PAVEMENT.

SPECIFICATION forming part of Letters Patent No. 521,364, dated June 12, 1894.

Application filed August 17, 1893. Serial No. 483,347. (No model.)

To all whom it may concern:

Be it known that I, GEORGE R. BOWEN, of San Antonio, in the county of Bexar and State of Texas, have invented a new and useful Improvement in Road-Pavements, of which the following is a full, clear, and exact description.

This invention relates to an improvement in the construction of road pavements, and has for its objects to provide a novel, simple and comparatively inexpensive method and means for the speedy and convenient construction of a road bed, which will be smooth, durable, easy to travel upon, be readily repaired, avoid becoming slippery, that will not cut into ruts but preserve its normal condition, that will shed water in a large degree but retain a proper amount of moisture, and be non-liable to displacement by the action of frost.

To these ends, my invention consists in the peculiar construction of a sectional supporting base for a road bed, and the combination of parts to produce a complete pavement, as is hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a transverse sectional view of the improved road pavement in complete form. Fig. 2 is an enlarged plan view of a bed piece that is a portion of the improved road pavement; and Fig. 3 is an enlarged transverse sectional view of a road bed in part, showing details of novel construction which indicate the improvement.

The bed pieces A, that in sufficient number afford a base for the top dressing A′ of the road, each consist of a rectangular plate of cast iron, having a suitable thickness, strength to resist fracture and economy in cost of construction being considered. The similar bed pieces A, should each have a considerable area to adapt them to remain as placed on the earth, and avoid a rocking action. Each bed piece has its upper surface numerously cupped, said cavities *a*, being integrally formed with the lower or base portion, and preferably these cups, that extend throughout the area of the bed piece, are produced as indicated in Figs. 2 and 3, consisting of rows of rectangular depressions resulting from the integral formation of two series of vertical ribs *b*, *c*, that are formed at right angles to each other, and extend an equal height from the base portion.

While the area of the bed pieces A, considered individually may be varied in proportion, it is found that a width of two feet and length of six feet for each piece will give the best results, as they can then be conveniently handled, and greater expedition in the placing of the same will be attained than if smaller pieces are used. With regard to the depth and area of the similar cavities *a*, it is preferred to make these each about one-half of one inch deep, and one and one-half inches square.

In the formation of a pavement with the bed pieces A, it is essential that the earthy foundation be first graded, and rendered compact by any suitable means, the ground being properly arched in cross section of the road bed to adapt the finished pavement to discharge water at the sides, from the crown or center of the road. The bed pieces A, are deposited on the graded earthy bed B, with their cupped faces uppermost and their edges in close contact, all being bound together at their edges, with staples such as *d*, that are firmly driven into holes formed along the edges of the bed pieces at such points as will locate them in pairs oppositely, for the introduction of the staples.

Upon the iron bed pieces A, when in position, a coating of small shells, or preferably of fine gravel is spread, which is evenly distributed, so as to perfectly fill the cavities *a*, and form a stratum of gravel above the bed pieces about two inches in depth, this gravel dressing that may, if preferred, be compacted by the use of a heavy roller, provides the wearing surface for the pavement, which extends from a proper curbing C, at each side of the road, affording a fine smooth thoroughfare, that will be capable of sustaining the impact of heavy or light vehicles. As the gravel is embedded within the cavities *a*, and over the staples *d*, the latter are prevented from vertical displacement, and the entire arched iron structure that is the base for the wearing surface of the road is maintained intact.

It will be seen that the construction of a road pavement as herein described, reduces the first cost to a minimum, obviates the need

of frequent repairs, facilitates the work of repair by permitting any portion of the road to be removed and quickly replaced, and provides a road that will not be liable to cut into ruts.

Owing to the comparatively small area given to the cavities *a*, the bond between the gravel surface and the bed pieces A, is soon produced by a consolidation of the gravel therein, and in case the cell walls are at any time exposed to wear by the removal of the surface dressing, the small area of the cavities *a*, will prevent the jolting of a vehicle, the wheels of which engage with the ribs *b*, *c*.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

A road bed consisting of metallic cellulated plates forming a rigid base, and loose fragmentary material filling the cells and covering the plate, the walls of the cells maintaining the fragmentary material in place without cement or the like, substantially as described.

GEORGE R. BOWEN.

Witnesses:
W. R. OWEN,
JNO. J. RHODES.