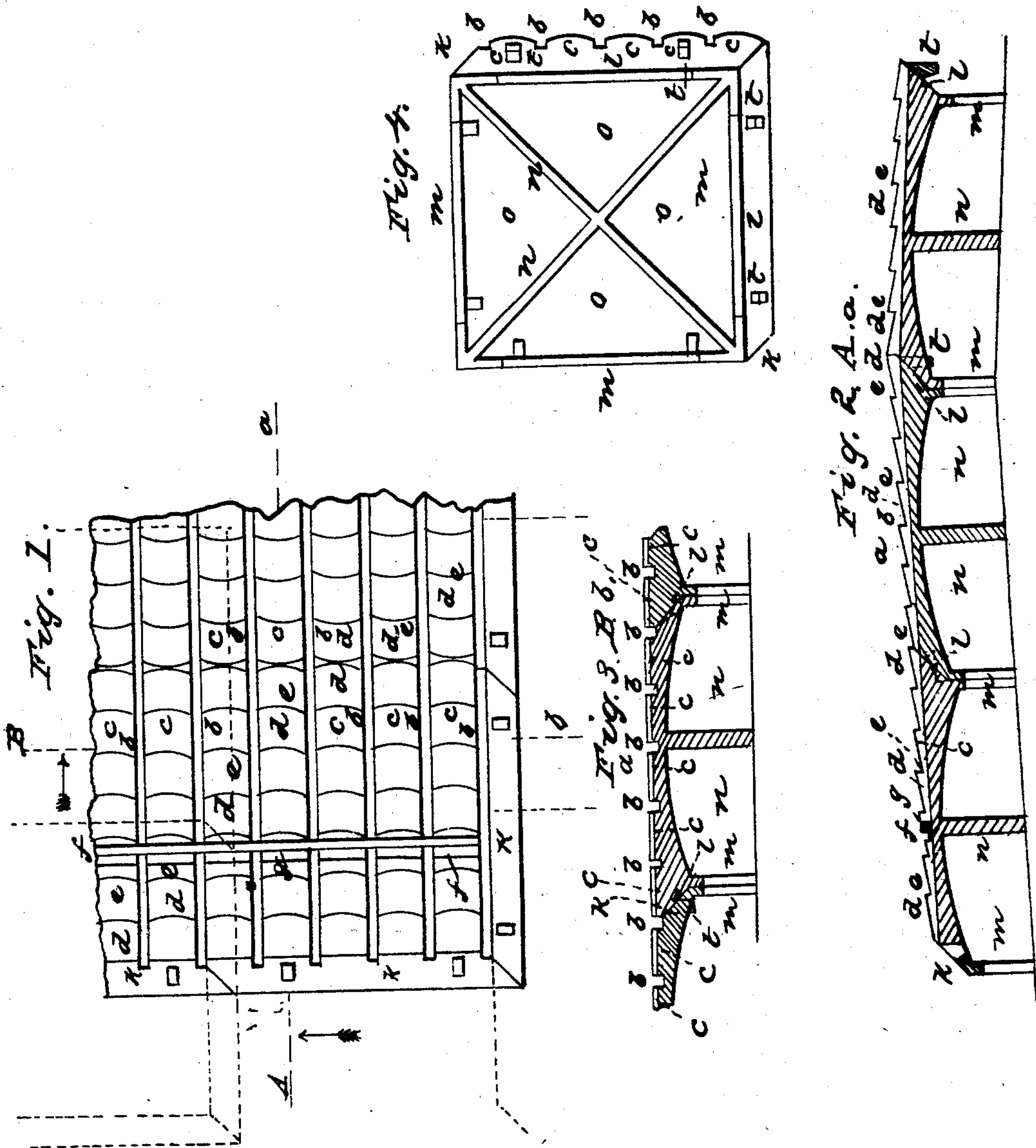


## Iron Pavement.

No. 17,662.

Patented June 30, 1857.



Witnesses:  
Wm H Bishop  
F J DeLaHante.

*Inventor:*  
*G. W. Bishop*



# UNITED STATES PATENT OFFICE.

GEO. W. BISHUP, OF BROOKLYN, NEW YORK.

## IRON PAVEMENT FOR STREETS.

Specification of Letters Patent No. 17,662, dated June 30, 1857.

*To all whom it may concern:*

Be it known that I, GEORGE W. BISHUP, of the city of Brooklyn, county of Kings, and State of New York, have invented certain  
5 new and useful Improvements in Iron Pavements for Streets; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of  
10 this specification, in which—

Figure 1 is a plan of a series of the blocks on my improved plan. Figs. 2 and 3, vertical sections taken at the line A, *a*, and B, *b*, of Fig. 1, and Fig. 4 a bottom view of one of  
15 the blocks.

The same letters indicate like parts in all the figures.

The object of my invention is to make a pavement for streets of blocks of iron so  
20 formed on their upper surface as to effectually prevent horses from slipping and permit water with accumulating dirt to run off to the side gutters, and at the same time of securing rails thereto for a rail road.

25 In the accompanying drawings (*a*) represents the upper surface of a cast iron block formed with parallel grooves (*b*) running at or nearly at right angles to the line of the road way, and the surface of the ribs (*c*) between  
30 these grooves is composed of a series of inclined planes (*d*) and shoulders (*e*) presenting somewhat the appearance of a shingled roof, but with the inclination in the reversed direction. The shoulders which join the  
35 summits of each inclined plane with the base of the next are not square across the ribs but curved. When these blocks are formed for paving a street with a railroad the upper surface of the ribs are formed with cross grooves  
40 (*f*) of sufficient width to receive the rails (*g*) and for the passage of the flanches of the railroad wheels, and the rails are then to be secured in place by screws, keys, wedges or other suitable means; but the grooves are  
45 not to be made so deep as the grooves (*b*) so that there will be sufficient space left below the rails for the passage of water and dirt. The upper part of the blocks can be made of any suitable thickness, at the discretion of  
50 the constructor. Two of the edges are chamfered or beveled off as at (*k*, *k*) to an angle of about forty-five degrees, and the other two edges are beveled off to the same angle but on the under face as at (*l*, *l*). The  
55 proportional extent of this beveling may be varied at discretion, but all four edges to the

same extent, and below the oblique faces produced by this beveling the four faces of the block are vertical, forming four flanches (*m*, *m*, *m*, *m*), and these may be braced by  
60 two diagonal flanches (*n*, *n*), leaving on the under side of the block four triangular compartments (*o*, *o*, *o*, *o*), so that when the flanches are buried in the earth or concrete, or other cement, composing the foundation  
65 of the roadway these cavities will be filled up and the flanches will then hold the blocks firmly in place. The blocks thus formed are to be laid in opposite directions, commencing in the middle of the street and inclining down-  
70 ward on both sides from the middle to the sides, but with the shoulders (*e*) facing the middle and the inclined faces (*d*) inclining toward the sides of the street, as shown in Figs. 1 and 2. The series of blocks overlap  
75 one another, so that two sides of one will overlap two contiguous blocks and the other two sides will be overlapped by two contiguous blocks, as represented by full lines; but if desired they may be arranged as represented by  
80 dotted lines, in which case parts of two blocks will be overlapped by one side of one block, and its opposite side will be overlapped by part of two blocks, and instead of beveling the edges of the blocks for overlapping and  
85 being overlapped they may be rabbeted as represented by dotted lines in Fig. 2 with a flat rabbet, or the rabbet may be curved to interlock as represented by dotted lines in Fig. 3. When the edges are either beveled or  
90 formed with flat rabbets it will be found advantageous in either case to bind the blocks to one another by means of wedge like spurs or tongues (*t*) projecting from the overlapping  
95 faces and fitting into cavities in the overlapped faces.

From the foregoing it will be seen that a pavement thus formed will be very durable and clean, as no portion of dirt will be produced from it, and any dirt that may ac-  
100 cumulate upon it will be washed off from the surface of the ribs into the grooves and thence along the grooves to the side gutters or sewers, and this, too, even when a railroad track is laid on such a pavement, and what is  
105 very important, it will effectually prevent horses from slipping, for, as the surface of the ribs present a series of inclined planes from the middle of the roadway on each side, there can be no tendency to slip lat-  
110 erally except toward the sidewalks, and this is effectually prevented by the series of



shoulders projecting up from the base of each inclined plane, and the slipping longitudinally will be effectually prevented by the series of grooves and by the curvature  
5 of the series of shoulders which will present cavities and protuberances to catch and hold the shoes, and finally such a pavement will form a more permanent bed for holding the rails of a street railroad than any other  
10 plan with which I am acquainted.

I do not wish to be understood as limiting my claim of invention to the use of all the features of my invention in connection, as good results may be obtained by the use of  
15 some of them without the others, but the best results will be obtained when all the parts are used in connection. Nor do I wish to be understood as limiting myself to the making of the blocks of a quadrangular  
20 form, as other forms, such as the hexagonal, may be substituted, although I prefer the quadrangular form.

I do not claim broadly as my invention the paving of streets with blocks of cast iron,  
25 as this has long been known; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. Making cast-iron paving blocks with a

series of transverse draining grooves, substantially as described, which, when com- 30  
pleted and laid, will form grooves running from the middle of the street toward the side gutters or sewers, as set forth.

2. I also claim forming the surface of iron paving blocks with a series of inclined planes 35  
and shoulders, substantially as described, to prevent horses from slipping, while at the same time carriages will roll over the surface without serious impediment or concussions.

3. And I also claim the said series of in- 40  
clined planes and shoulders in combination with the lateral grooves for draining, but which also answer the purpose of preventing horses from slipping, as set forth.

4. And, finally, I claim the manner of 45  
uniting the iron blocks in laying a pavement by the alternating over and under lapping of the series of blocks, substantially as described, whereby the blocks are enabled to sustain one another and thereby to more 50  
effectually maintain the required grade.

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Witnesses:

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