

C. BREMERKAMP.  
Roadway and Tramway.

No. 223,431.

Patented Jan. 13, 1880.

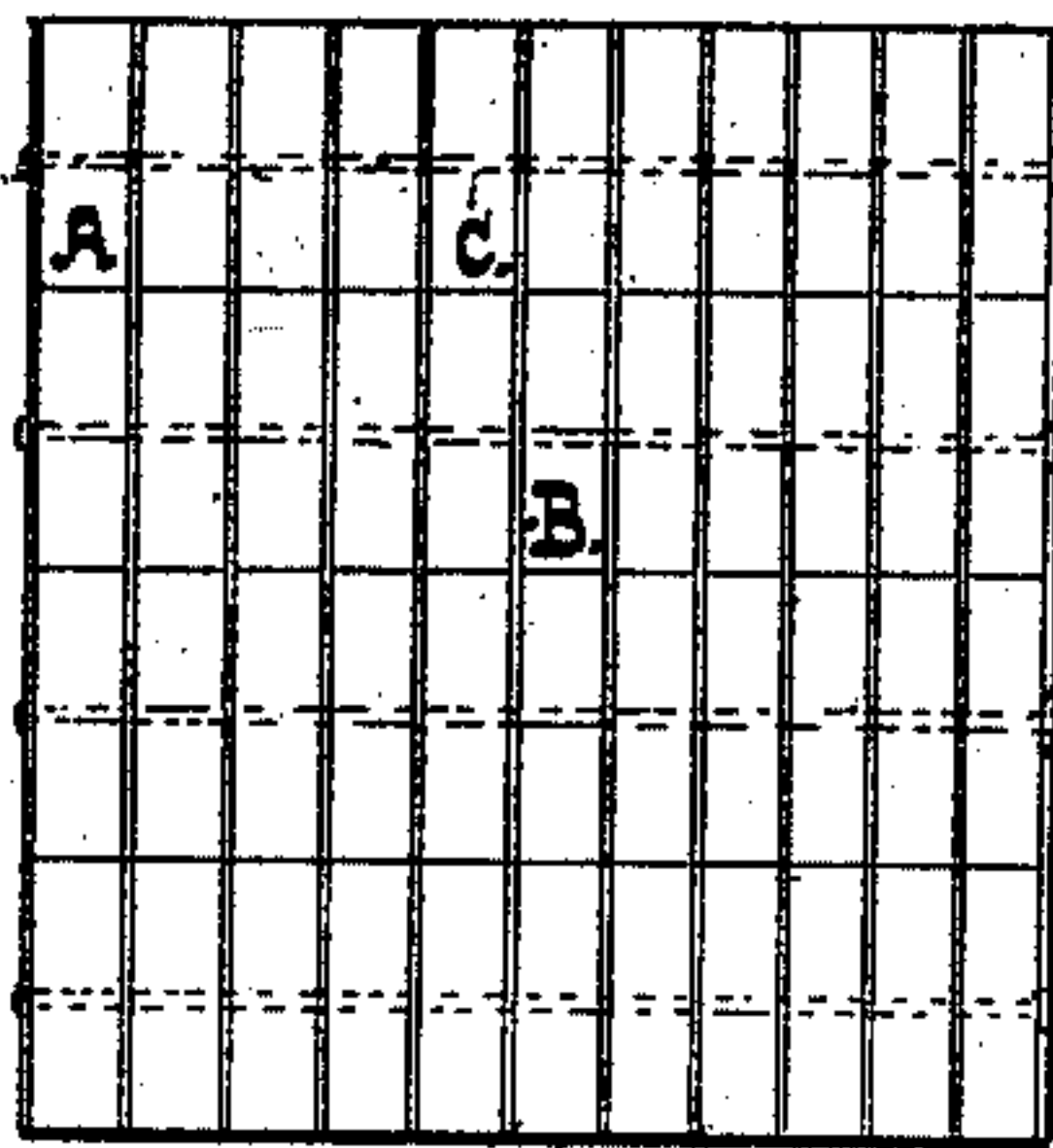


Fig. 1.



Fig. 3.



Fig. 4.



Fig. 5.



Fig. 6.

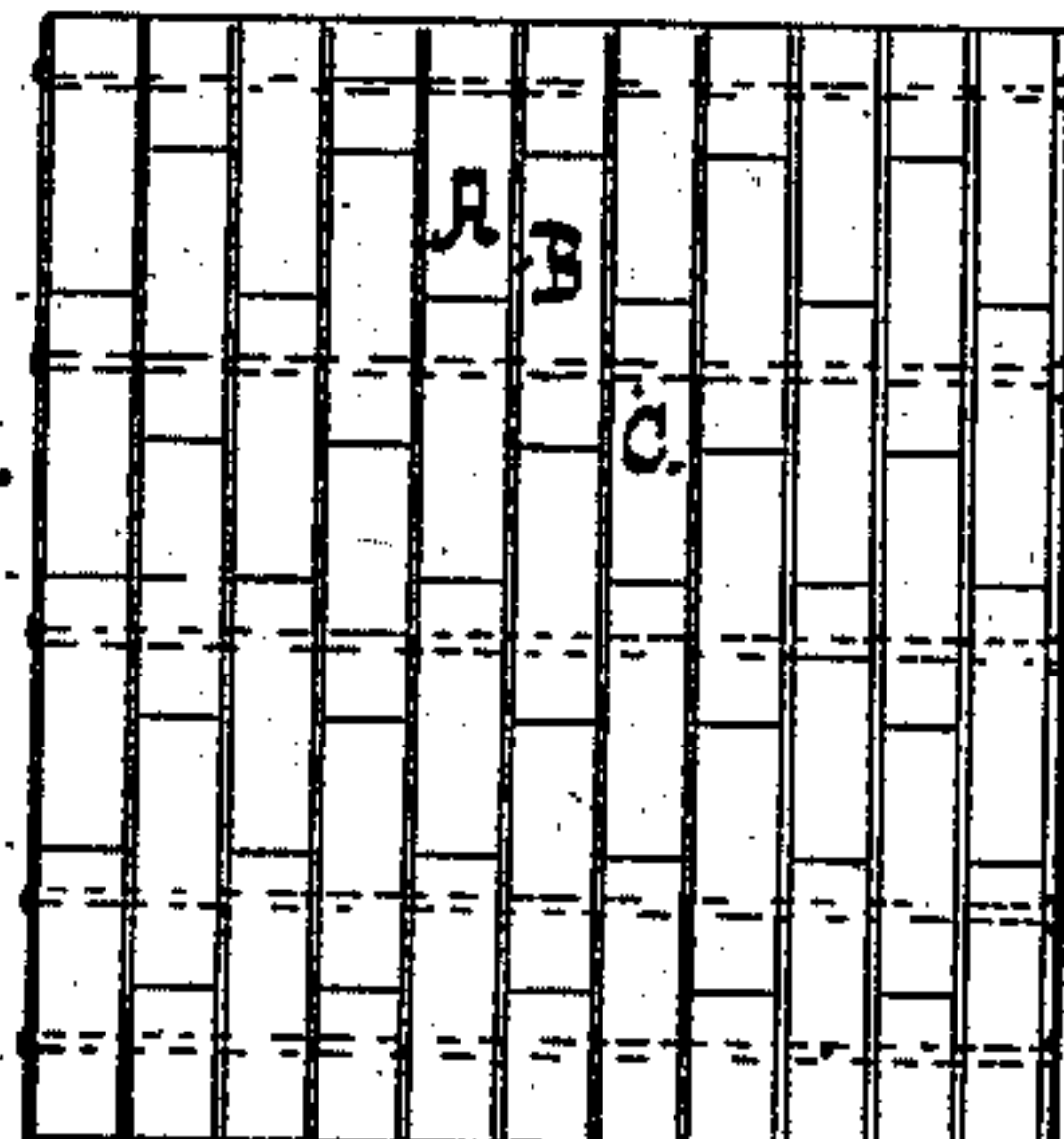


Fig. 2.

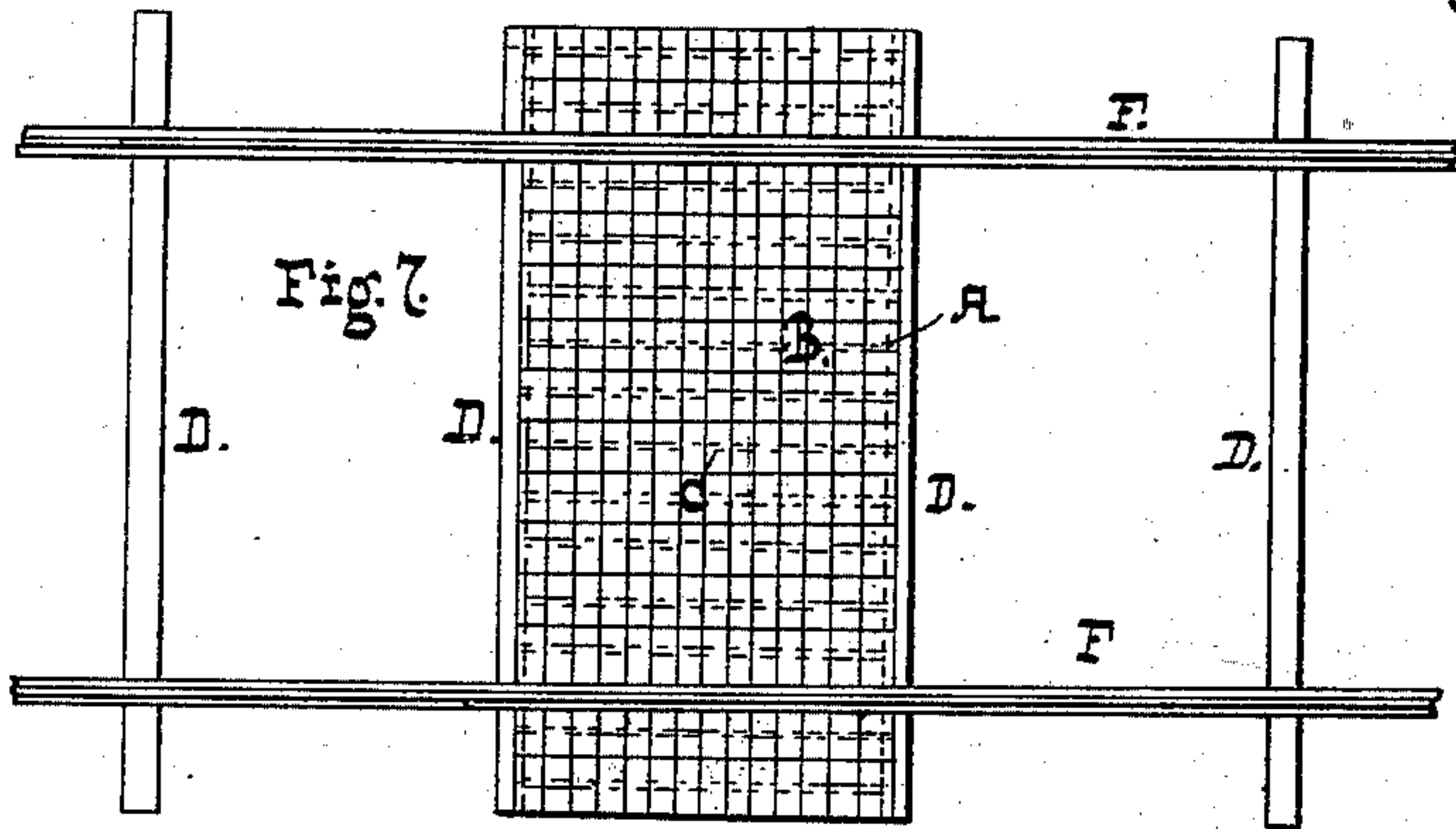


Fig. 7.

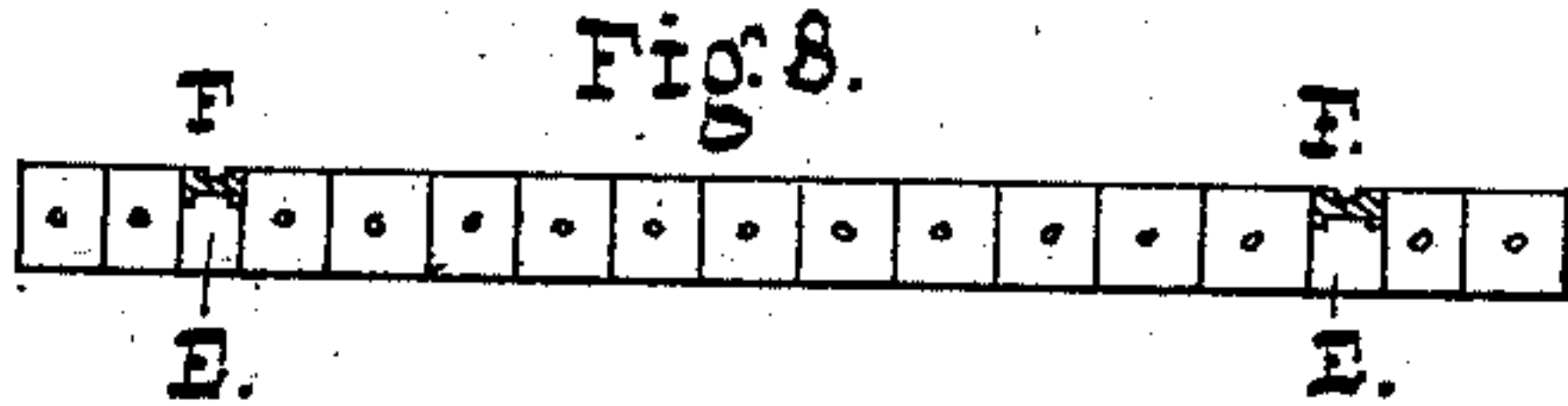


Fig. 8.

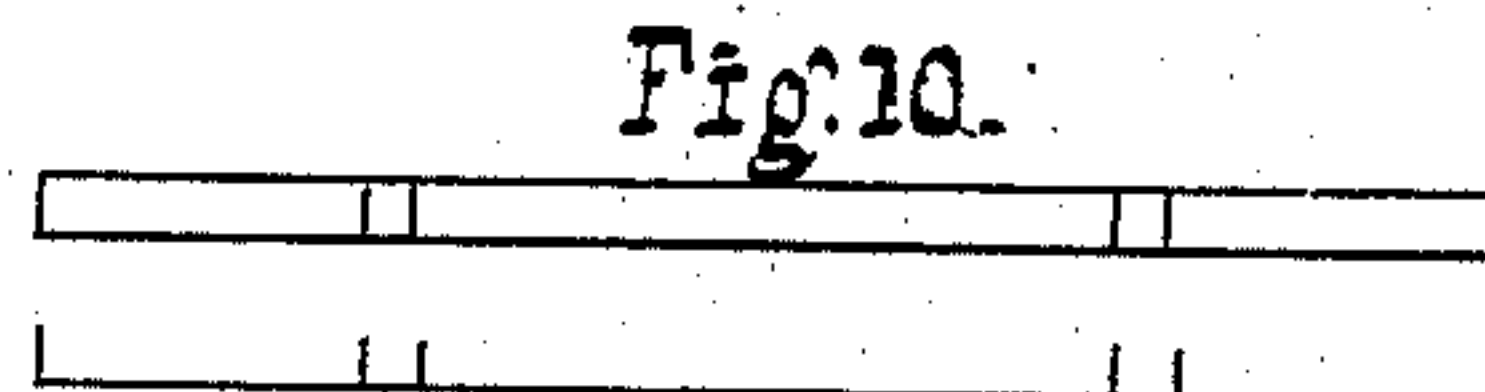


Fig. 10.

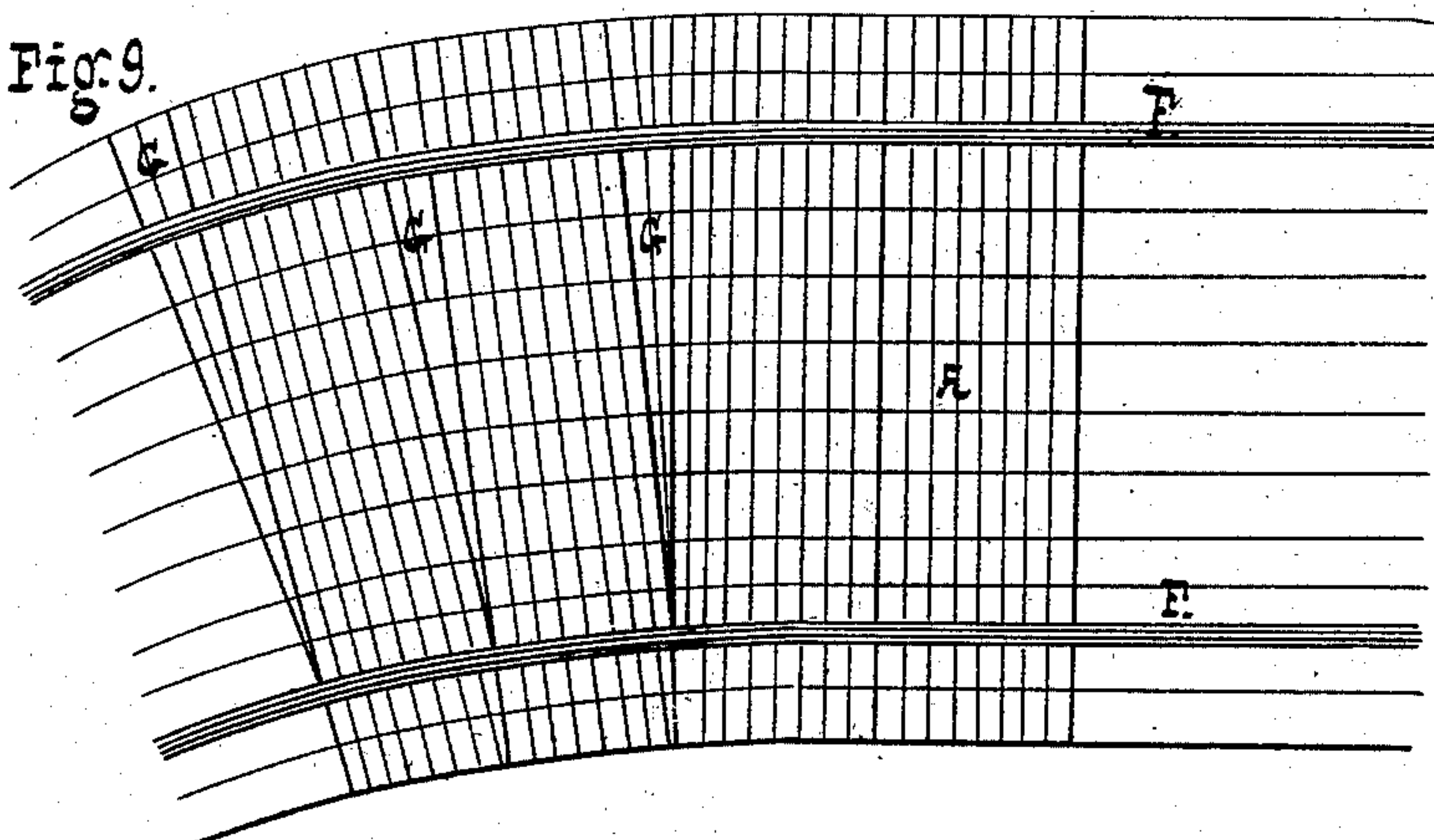


Fig. 9.

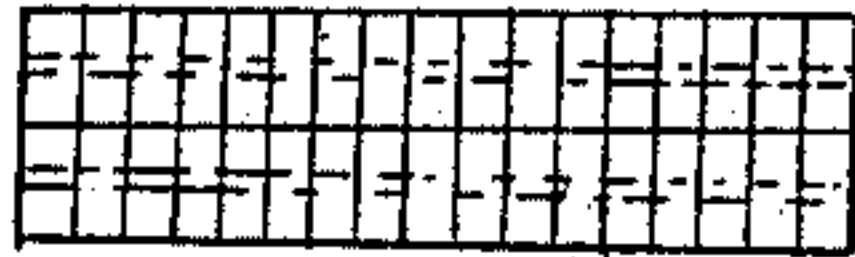


Fig. 11.

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# UNITED STATES PATENT OFFICE.

CORNELIUS BREMERKAMP, OF No. 197 NEW CROSS ROAD, LONDON, ENGLAND.

## ROADWAY AND TRAMWAY.

SPECIFICATION forming part of Letters Patent No. 223,431, dated January 13, 1880.

Application filed September 9, 1879.

*To all whom it may concern:*

Be it known that I, CORNELIUS BREMERKAMP, of No. 197 New Cross Road, London, in the county of Surrey and Kingdom of England, have invented new and useful Improvements in the Construction of Roadways and Tramways, of which the following is a specification.

The object of my invention is to give greater durability to a roadway paved with wood in blocks, and to facilitate the construction of the roadway by a combination of materials and a method of construction permitting the preparation of the pavement in such a manner that it will only be necessary to take the dimensions of the way to be laid, to combine the whole of the parts of the paving in the yard or workshop, carry them to the spot where they are to be put down, and to lay the paving without any fitting of the pieces on the spot, whereby a number of inconveniences will be avoided, and especially that of the long diversion of the traffic necessitated for the laying of a wooden paving in the ordinary way—that is to say, combining and fitting all the blocks upon the spot.

For paving an ordinary roadway, my system consists especially in the combination of the wooden blocks with plates of iron, so that there will be a plate of iron between each series of wooden blocks, and thus I form slabs of wood and iron. It may be found preferable to make these slabs of fixed dimensions—a square yard, for example—and to complete the way by wooden blocks of suitable dimensions to exactly fill the spaces left between the curbstones and the slabs already placed on the roadway; but the slabs may be combined in dimensions regulated by the breadth of the roadway which they are to form.

Boards may be attached to the base of the slabs to come upon the concrete or other foundation of the way; or these slabs may be laid upon planks or upon the ground itself when properly leveled. This leveling of the ground will be the only preparation required upon the spot, all the slabs forming the paving being laid the one by the side of the other, and forming a continuous roadway of wood and iron without any fitting or work upon the spot

other than the simple laying, all the work having been previously executed elsewhere.

I prefer to pass the rods or bolts by which I tie the blocks of wood and the plates of metal together through the center of the blocks, in order that the slab may be turned when one of its faces is worn, and the plates will be of a breadth equal to or a little less than the height of the blocks, so as to be level, or nearly so, with the blocks when the slab is reversed.

I prefer to make the slabs with plates of wrought or of strong sheet iron; but they may be made of cast-iron, and the blocks be of pine or any other suitable wood, creosoted, or otherwise prepared to resist humidity.

Where roads cross each other I may place short plates of iron at right angles to the plates above mentioned, so as to present an iron surface, as well as a wooden one, to the wheels of vehicles crossing in any direction. The metallic plates subserve the functions of retarding the wear or abrasion of the wood and of furnishing a foothold for draft-animals.

For a tramway I use, in addition to the slabs constructed as above explained, a tie-bar, cross-piece, or sleeper having at each end a vertical flange, and at a certain distance therefrom a socket or chair to receive the longitudinal sleepers and the rails, the proper gage of the tramway being thus perfectly maintained. The slabs, composed of iron and wood, are laid between the flanges at each end of this tie-bar, rod, or sleeper, and in the spaces between the two sockets or chairs. I place one of these bars between each of my slabs or composite blocks, or at such distances apart as I may in practice find most desirable. This tie-bar or sleeper may be of cast or of wrought iron, as may be preferred, or I may make it of wood, or of a combination of wood and iron, or of any suitable material and dimensions.

In order that my invention may be fully understood, I have illustrated in the accompanying sheet of drawings its application both to the paving of an ordinary roadway and to the laying of a tramway—

Figure 1 being a plan view, showing the general arrangement of an ordinary slab; Fig. 2, a similar view, but illustrating a suitable



arrangement when the blocks are laid with a half-lap; Fig. 3, a transverse section through Fig. 1, and Fig. 4 a transverse section through Fig. 2. Fig. 5 represents an iron plate suitable for the arrangement shown in Fig. 1, and Fig. 6 an iron plate suitable for the arrangement shown in Fig. 2. Fig. 7 is a general plan of a portion of an ordinary tramroad, showing the position of the slabs and tie-bars or cross-sleepers, and Fig. 8 represents a transverse section through the same. Fig. 9 is a plan of a curved road, illustrating the manner in which the slabs are constructed and arranged to suit the requisite curve. Fig. 10 is a detail of a tie-bar or transverse sleeper, and Fig. 11 a plan and end view of a slab suitable for the outer way of an ordinary tramroad.

Similar letters of reference denote similar parts in each of the figures respectively.

A A indicate the blocks of wood; B B, the iron plates; C C, the bolts, rods, or rivets uniting the blocks and plates; D D, the tie-bars or transverse sleepers; E E, the longitudinal sleepers for rails; F F, the tram-rails, and G key or center for curved blocks or slabs.

I do not limit myself to the number or exact position of the bars D, nor of the bolts or fastenings C C, although I deem it preferable that they should pass through the center of each block of wood.

I may vary the shape of my blocks and of my slabs to suit crossings and the points of tramroads and to meet any requirements; and I desire it to be understood that I do not confine myself to the precise details hereinbefore set forth and illustrated on the accompanying sheet of drawings, as such may be varied while retaining the characteristic features of my invention.

I am aware that it is not new to bolt blocks of wood together to form a paving, and that layers of slate or similar material have been interposed between the wooden courses, and also that cast-metal frames have been filled in with wood for the same purpose, and such I do not claim.

I claim as my invention—

1. The combination of the wooden blocks A A with the iron plates B B, extending to the upper surface of the blocks, substantially as described, and for the purposes specified.

2. The blocks of wood A A and iron plates B B, extending to the upper surface of the blocks, in combination with the tie-bars or transverse sleepers D, to form a tramroad, substantially as described.

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Witnesses:

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