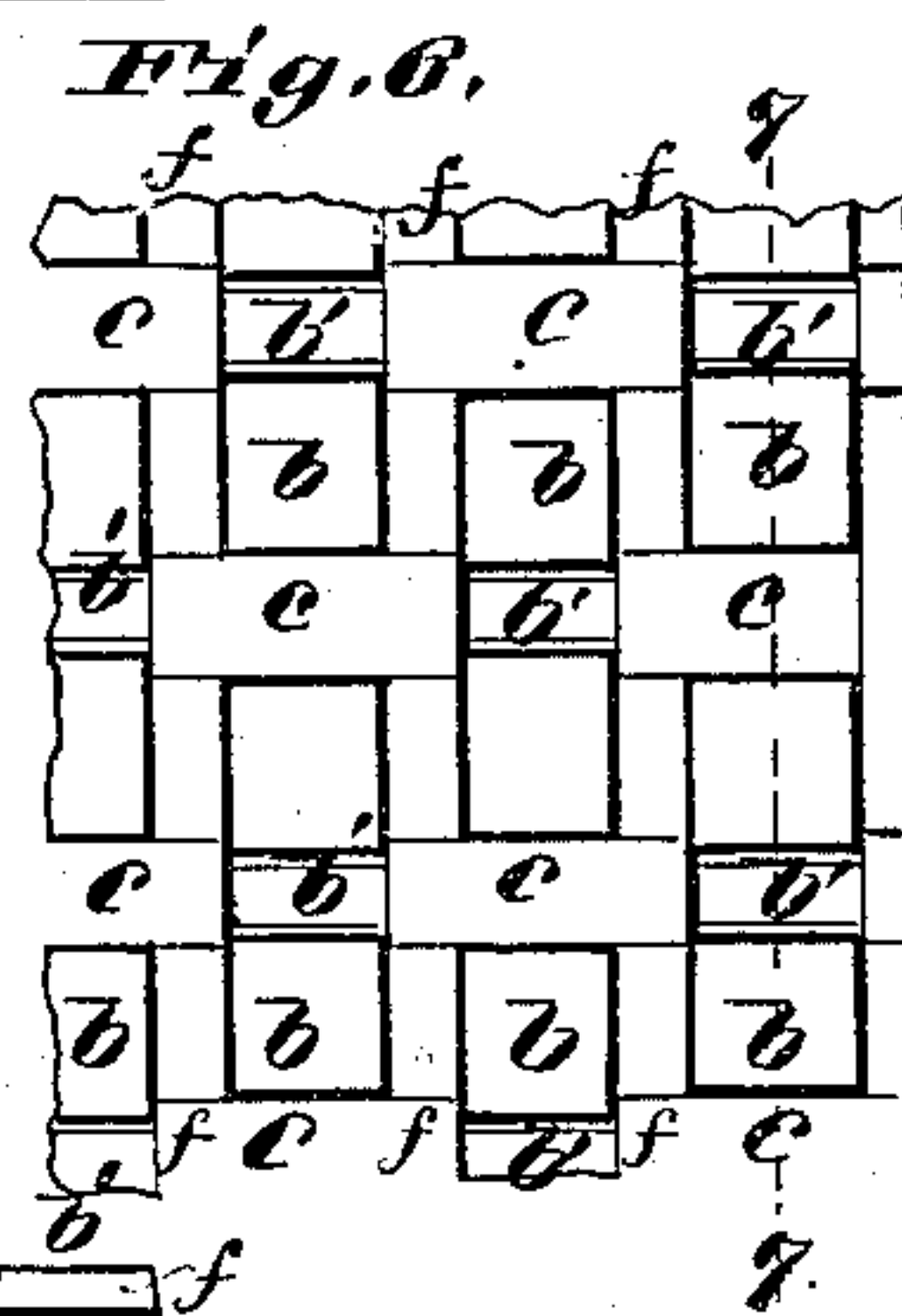
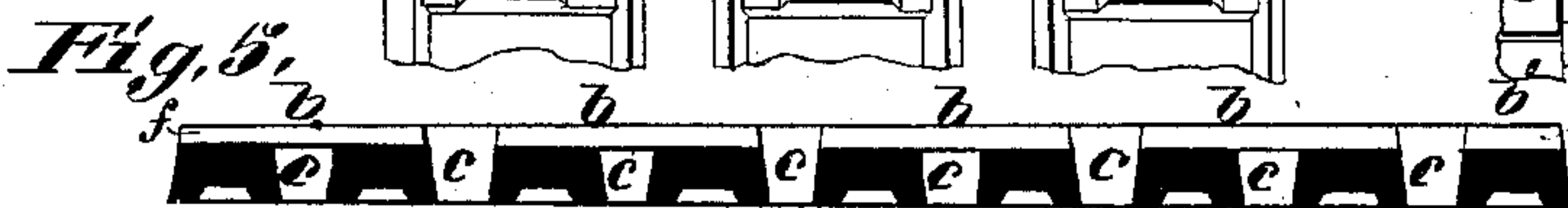
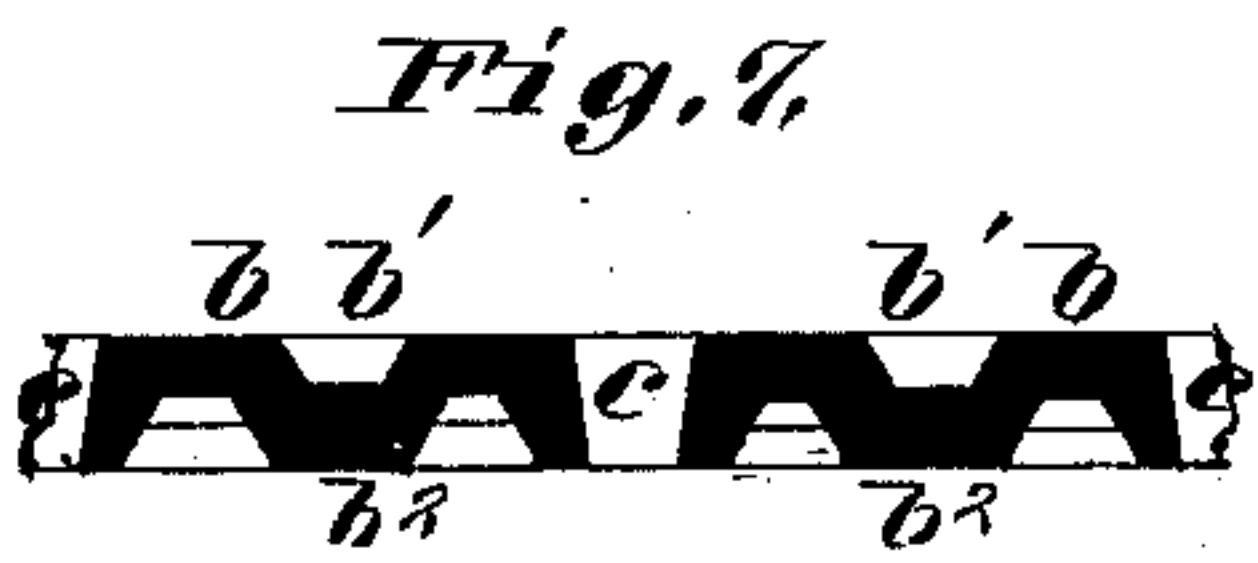
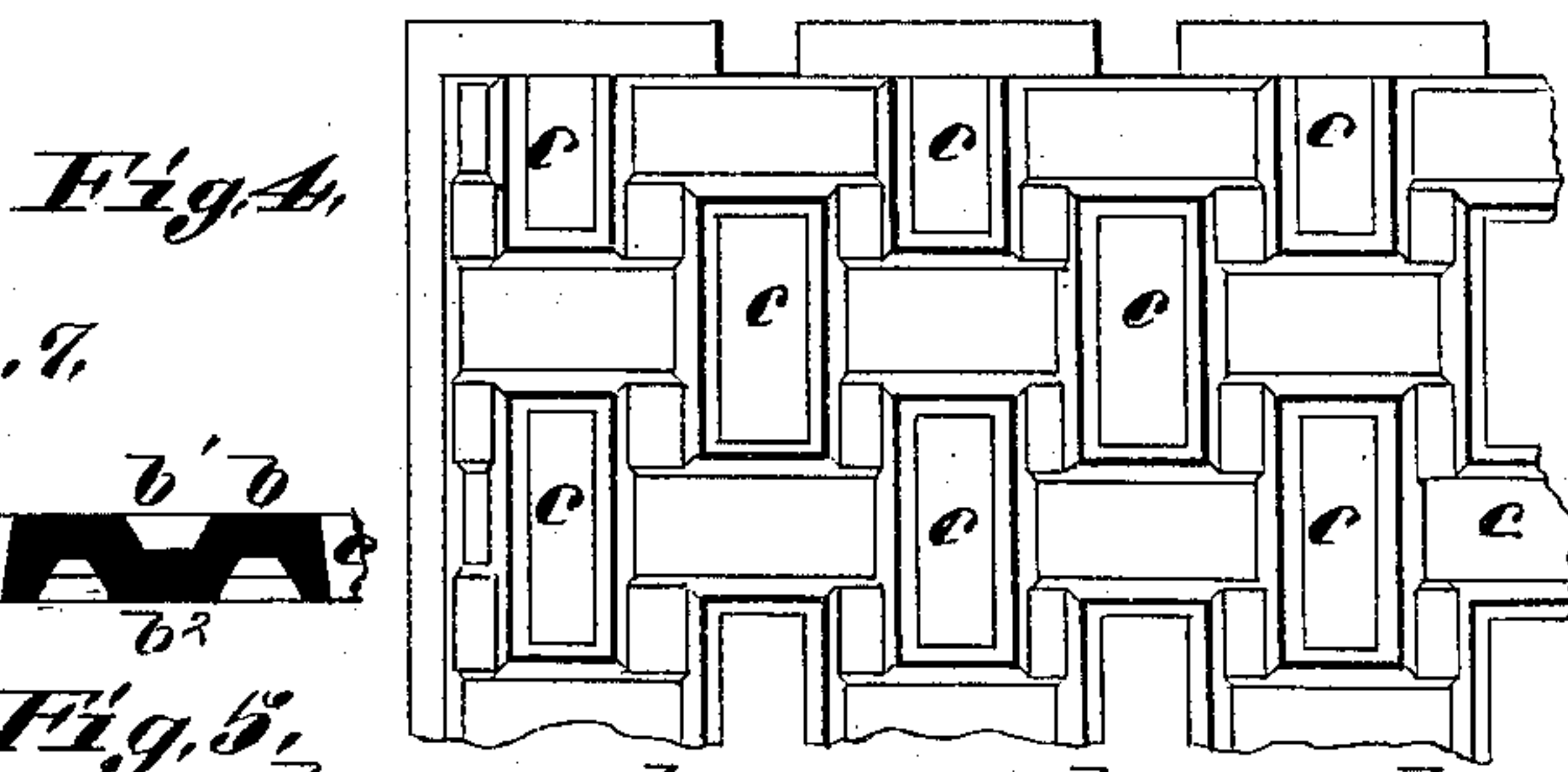
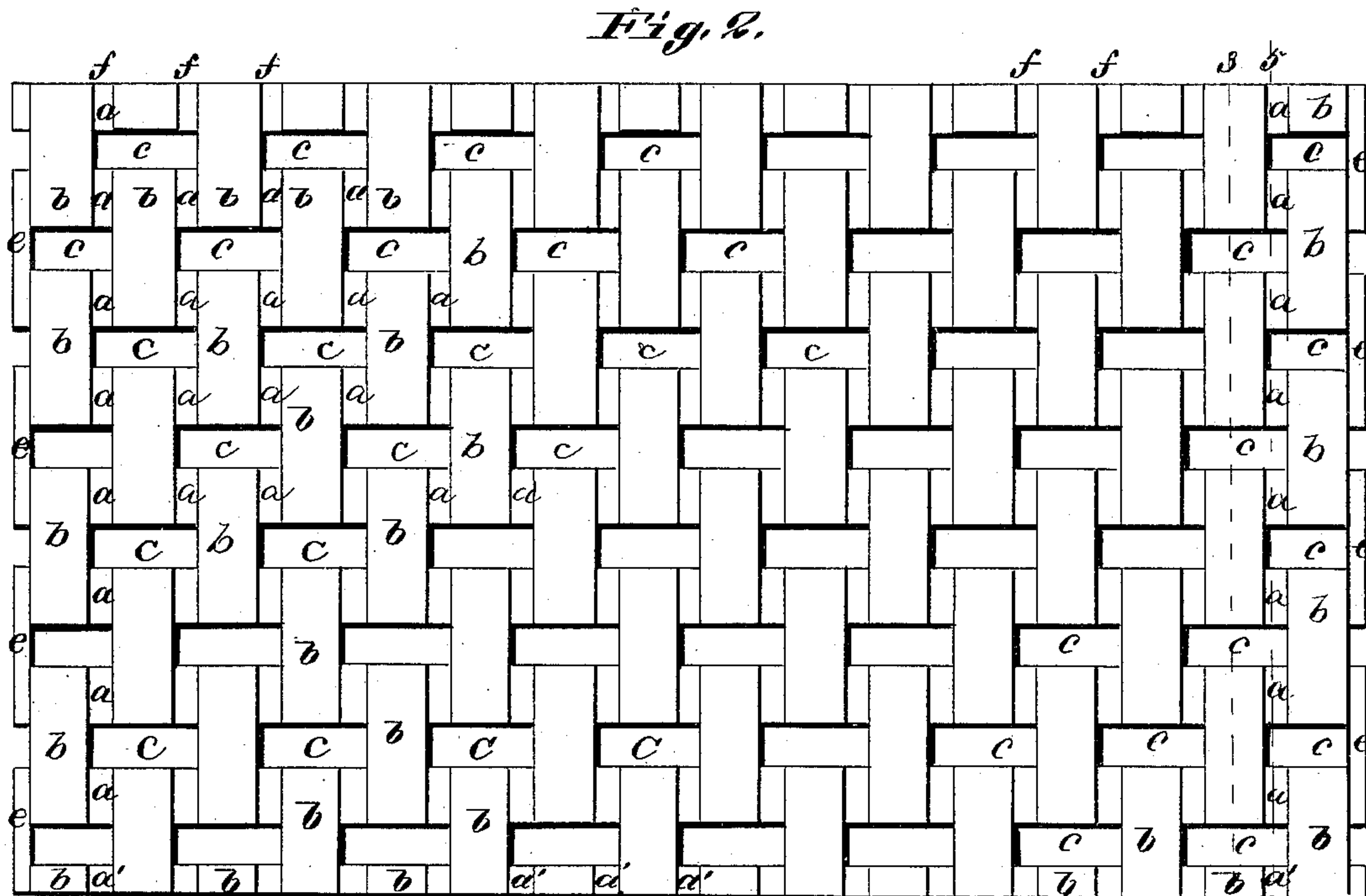


(Model.)

M. MEYER.  
IRON PAVEMENT.

No. 343,718.

Patented June 15, 1886.



Attest,  
H. S. Knight,  
Geo. S. Wheelock

Inventor,  
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By Knight Bros.  
Atty



# UNITED STATES PATENT OFFICE.

MORITZ MEYER, OF ST. LOUIS, MISSOURI.

## IRON PAVEMENT.

SPECIFICATION forming part of Letters Patent No. 343,718, dated June 15, 1886.

Application filed May 20, 1885. Serial No. 166,173. (Model.)

*To all whom it may concern:*

Be it known that I, MORITZ MEYER, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Pavements, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

Figure 1 is a transverse section of a street in which the improvement is applied to the roadway, (or part between the curbs.) Fig. 2 is a top view of a plate enlarged. Fig. 3 is a transverse section at 3 3, Fig. 2. Fig. 4 is a detail bottom view. Fig. 5 is a transverse section at 5 5, Fig. 2. Fig. 6 is a detail top view of the form used at the intersections of streets. Fig. 7 is a section at 7 7, Fig. 6.

In all the figures except Fig. 1, only the metal part of the pavement is shown.

The pavement consists of a plate of metal cast of a peculiar form, and which is preferably laid in cement or artificial stone in such a manner that the cement or artificial stone constitutes a part of the pavement and serves to lock the plate in position.

The metal plate may be described as composed of a number of parallel bars, *a*, running lengthwise of the street and united together at intervals by blocks or short rectangular bars *b*, extending above the level of the bars *a*, thus forming elevations flat at top, and whose length is transverse to the street. Each plate is cast of one piece, of any convenient size, the area being so great that the plates are held in position without any locking connection between them except the cement or artificial stone.

Between the parts *a* and *b* are apertures *c*, extending through the plate and made with inclined sides, the apertures being larger at top than bottom, so that the tongue *d'*, of cement or artificial stone, which fills more or less of the aperture, may be in form of a dovetail, and hold the plate firmly down upon its foundation *d*. The foundation *d* may consist of three inches (more or less) of any kind of cement or artificial stone or hardening composition, the plate being applied when the cement is in a soft or plastic state and rammed down until the cement is flush with the top of the plate, or, at any rate, has entered the apertures *c* to some extent. The blocks *b* of the

several rows are arranged to break joints or overlap, and the contiguous blocks of each row are intercepted by the apertures *c*, while the blocks *b* of the contiguous rows are connected by means of the blocks *a*, whose upper surfaces occupy a lower plane. This is quite a valuable construction, as it is impossible for any object as small as the tire of a wagon-wheel or the calks of a horseshoe to slip more than the width or length of a single block. I chamber out or form recesses in the bottom of the plate to save metal, and at the same time to give a firmer connection between the plate and the cement. (See Fig. 4.) At the ends of the plate are connecting-bars *e*, serving to connect the ends of the bars *a* between the blocks *b*. The pieces *e* do not extend above the level of the bars *a*, so that in all parts there are grooves extending transversely of the pavement from *f* to *f*, between the bearing-blocks *b*, the said grooves giving a good hold for the feet of the horses. It will be seen that as the bars *e* are below the top of the plates the base-bearing of the plate extends beyond the part *b*, upon which a wheel rests. The bars *e* are one-half the width of one of the grooves *f f*, so that when two plates are put end to end a groove is formed between them of the ordinary width. On the same principle, at one or both sides, the outside bar, *a'*, is made of one-half width, so that by putting two half-bars, *a'*, together a single bar, *a*, of ordinary width is formed. As has been said, the length of the blocks *b* is transverse to the street, so that the distance between the channels or grooves *f f* is small, and thus danger of the slipping of horses is overcome in the main part of the street; but at the intersection of streets the horse's foot might slip the whole length of the block *b*, as its length would be in the direction of travel. To overcome this difficulty I make a transverse recess, *b'*, across the middle of the blocks *b* in those plates which are laid at the intersections of streets, and to avoid the weakening of the block by the recess *b'*, I form the block with a projection, *b''*, beneath the recess. (See Fig. 7.) The inclination of the sides of recesses *c* and channels or grooves *f*, which have a similar inclination, allows the pattern to be lifted from the mold with ease.

In laying down the pavement a good foundation of broken stone or of other material is



first laid, upon which is evenly spread three inches (more or less) of cement or other plastic material, *d*, that will become hard. Upon this are laid the plates, which may be rammed  
 5 down until the cement fills the recesses *c*; or said recesses may be filled from above with material that will make a firm union with the material beneath.

In use the horse's feet will wear away the  
 10 cement between the blocks *b* sufficiently to give a good hold to the feet.

I am aware that it has been proposed to construct pavements of metal blocks made up of "a series of groined arches," the interstices  
 15 between the arches to be filled with cement, gravel, or sand for retaining said blocks in position; but such a pavement would not be the equivalent of my invention. The interstices in the blocks it is proposed to employ  
 20 are shown flaring to such a great extent that the cement which filled them would take the form of a very thin horizontal lip resting upon a foundation of metal. It is obvious that the wheels of vehicles and shoes of horses  
 25 traveling over it would soon crumble these lips of cement and leave the block free or held merely by their own weight. Furthermore, these groined arches are not the equivalents of my flat-topped blocks, and are not arranged  
 30 in a similar manner.

I am also aware that it has been proposed to construct pavements of iron paving-blocks formed with flat tops and downwardly-flaring apertures set in gravel or cement; but this is

not the equivalent of my pavement. In my  
 35 pavement, the apertures through the metal blocks being flared only slightly, the dovetailed tongues of cement which fill them are perfectly protected by the surrounding metal from injury by traffic.  
 40

I claim—

1. A metallic paving-block made up of a number of flat-topped blocks, *b*, arranged in rows, the contiguous blocks of each row being intercepted by the apertures *c*, and the blocks  
 45 of the several rows being arranged to overlap or break joints, and connected by the blocks *a*, whose surfaces are below those of the blocks *b*, substantially as and for the purpose set forth.  
 50

2. In a pavement, the combination, with the metallic paving-blocks, each made up of flat-topped blocks *b*, arranged in rows, with the blocks of the several rows overlapping, substantially as described, and the blocks or  
 55 bars *a*, having depressed surfaces connecting the blocks *b* of the contiguous rows, and having the apertures *c* therethrough so arranged as to intercept the contiguous blocks of each row, said apertures being slightly flared upwardly, of the foundation *d*, of cement or hardening material, having the dovetail tongues *d'*, occupying and filling said apertures, as and for the purpose set forth.  
 60

MORITZ MEYER.

In presence of—

GEO. H. KNIGHT,  
 SAML. KNIGHT.