

(No Model.)

2 Sheets—Sheet 1.

G. F. GRAY.  
APPARATUS FOR CUTTING OR MARKING ARTIFICIAL STONE PAVEMENTS.  
No. 460,821. Patented Oct. 6, 1891.

FIG. 1 -

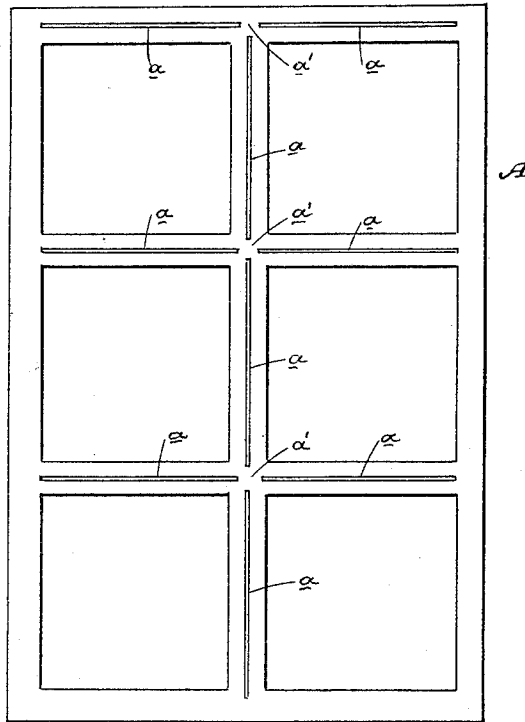


FIG. 2 -

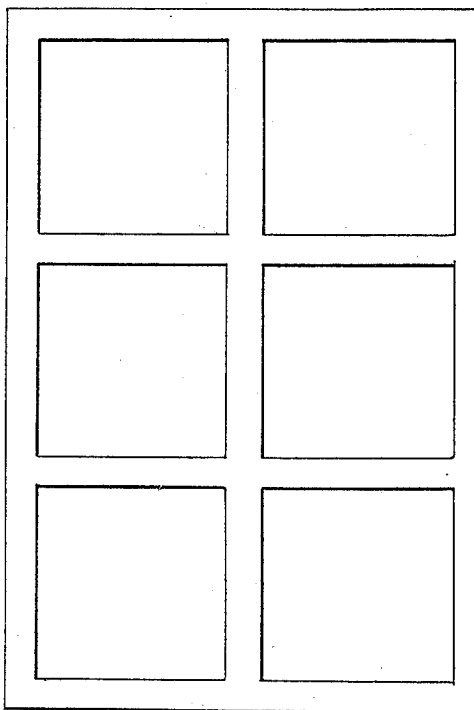


FIG. 3 -

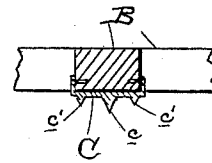
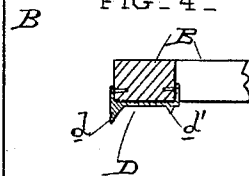


FIG. 4 -



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(No Model.)

2 Sheets—Sheet 2.

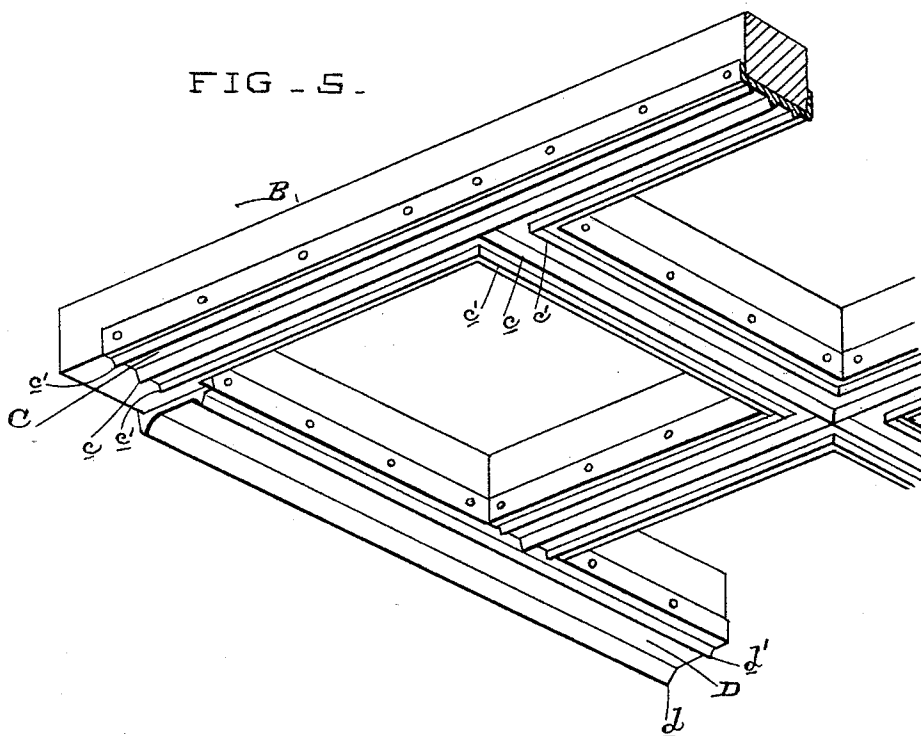
G. F. GRAY.

APPARATUS FOR CUTTING OR MARKING ARTIFICIAL STONE PAVEMENTS.

No. 460,821.

Patented Oct. 6, 1891.

FIG. 5.



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# UNITED STATES PATENT OFFICE.

GEORGE F. GRAY, OF SAN FRANCISCO, CALIFORNIA.

APPARATUS FOR CUTTING OR MARKING ARTIFICIAL-STONE PAVEMENTS.

SPECIFICATION forming part of Letters Patent No. 460,821, dated October 6, 1891.

Application filed May 7, 1891. Serial No. 391,954. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE F. GRAY, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented an Improvement in Apparatus for Cutting or Marking Artificial-Stone Pavements; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to the class of apparatus used in the laying and manipulation of artificial stone for pavements, &c.; and it consists in the novel frames hereinafter fully described, and specifically pointed out in the claims.

The object of my invention is to provide for the rapid, accurate, and effective cutting or marking of artificial-stone pavements.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a top view of frame A. Fig. 2 is a top view of frame B. Fig. 3 is a section of one of the bars of frame B, showing the double creaser underneath. Fig. 4 is a section showing the half-creaser. Fig. 5 is a perspective view looking up under a portion of frame B, showing the several creasers.

A is a frame made of suitable material, preferably of strips of wood, some longitudinal and some transverse, and secured together in a suitable manner. This frame is divided into a number of spaces corresponding to the size of the blocks into which the work is to be cut or marked. The frame has the width of the pavement and any convenient length. The cross-bars and the intervening lengthwise bars are each slitted through, as shown at *a*, said slits stopping just short of intersecting, thus leaving small solid portions *a'* to hold the bars together and retain proper stiffness.

B is a second or presser frame, equal in size and similar in general construction to frame A. It has no slits, however. The under sides of the cross-bars and of the intervening lengthwise bars of frame B are fitted or shod with forming-plates C. These consist of plates of metal secured to the bars in any suitable manner, as by having their sides bent upwardly and fastened to the sides of the bars. The centers of these plates are formed or provided with double-faced flanges

or creasers *c*, and their sides can be formed or provided with smaller flanges forming markers *c'*. The outside lengthwise bars are fitted with forming-plates D, the outer edges of which are formed into or provided with half-creasers *d*, and the inner sides can be formed with markers *d'*.

In the customary operation of cutting or marking artificial-stone pavements it is usual, after the top dressing or layer is in place and while still unset, to place a straight-edge upon it in the line in which it is intended to be cut or marked, and then with a trowel point or other instrument to follow the straight-edge, and thus cut or mark the work and shape the groove.

Besides the time required in laying off accurately and separately each line to be cut or marked, the old operation is further disadvantageous in that the straight edge, pressing only on one side of the cut or mark, causes the top layer or dressing on the other side to bulge up and separate from the coarse or bottom layer, thereby making the work defective in the particular technically known as "hollow."

My apparatus overcomes the disadvantages of the old method by insuring rapidity and accuracy, and at the same time avoiding hollow work by preventing any separation or bulging of the top layer, because during the entire operation of cutting and subsequent forming or shaping of the cut the material is pressed equally on both sides.

The use of my apparatus is as follows: When the work is ready to be cut or marked, frame A is laid upon it. Then the point of a trowel or other tool is passed down through the slits *a* in the frame-bars and caused to penetrate the material. Then by moving the trowel along, the pavement is cut into squares or blocks. The solid portions *a'* are so small that the point of the trowel can be worked under them from each side to make the cuts join, or so nearly so that in the subsequent forming and shaping they will join. Then frame A is moved along and the operation repeated. In thus cutting with the trowel through slits *a* there will be no bulging of the top layer, as both sides of the cut are firmly pressed down, and also the cuts can be rapidly made and will be perfectly straight

and accurate. As the frame A is advanced the frame B is made to follow. It is laid upon the work in the identical place vacated by frame A, and, being of the same size, its double  
5    creasers *c* will enter the cuts previously made and its half-creasers will bear upon the outer edges of the work, and its markers *c'* and *d'* will bear upon the material in position to  
10    mark out squares inside the main squares formed by the cuts, when such ornamental effect is desired. Frame B is then pressed down on the work and the cuts are shaped by the double creasers, the edges of the pavement are rounded by the half-creasers, and the inside or supplementary marks are made. This  
15    final shaping is also rapid and accurate, and there is no tendency to bulging.

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

20    1. In an apparatus for cutting or marking artificial-stone pavements, a frame adapted to be laid upon the work to be cut or marked and provided with slits to permit the passage of the cutting or marking tool through it  
25    into the material, substantially as herein described.

30    2. In an apparatus for cutting or marking artificial-stone pavements, a frame A, composed of lengthwise and cross bars and adapted to be laid upon the work to be cut or marked, said bars having the slits *a*, through which the point of the cutting or marking tool passes into the material below, said slits terminating short of the planes of intersection  
35    of the bars, leaving solid portions *a'*, substantially as herein described.

40    3. In an apparatus for cutting or marking artificial-stone pavements, the presser-frame composed of suitable bars and adapted to be laid upon the work, the cross-bars and intervening lengthwise bars being provided on their undersurfaces with plates having double  
45    creasers for entering and shaping the cuts or marks in the pavement, substantially as herein described.

50    4. In an apparatus for cutting or marking artificial-stone pavements, the presser-frame composed of suitable bars and adapted to be laid upon the work, the outer lengthwise bars being provided on their under surfaces with plates having half creasers to shape the edges of the pavement, and the cross and interven-

ing lengthwise bars being provided with plates having double creasers for entering  
55    and shaping the cuts or marks in said pavement, substantially as herein described.

60    5. An apparatus for cutting or marking artificial-stone pavements, consisting of a frame adapted to be laid upon the work and having slits through which the cutting or marking tool passes into the material to cut or mark it, and a second frame to be laid and pressed upon the work after the first frame is removed and provided with creasers upon its under  
65    surface to shape the cuts or marks and the edges of the pavement, substantially as herein described.

70    6. An apparatus for cutting or marking artificial-stone pavements, consisting of a frame adapted to be laid upon the work and having slits through which the cutting or marking tool passes into the material to cut or mark it, and a second frame to be laid and pressed upon the work after the first frame is removed and provided with creasers upon its  
75    under surface to shape the cuts or marks and the edges of the pavement, said creasers consisting of double-faced ones on cross and intervening lengthwise bars of the second frame and single-faced ones on the outer lengthwise bars thereof, substantially as herein described.

80    7. An apparatus for cutting or marking artificial-stone pavements, consisting of a frame adapted to be laid upon the work and having slits through which the cutting or marking tool passes into the material to cut or mark it, a second frame to be laid and pressed upon the work after the first frame is removed and provided with creasers upon its  
90    under surface to shape the cuts or marks and the edges of the pavement, said creasers consisting of double-faced ones on cross and intervening lengthwise bars of the second frame and single-faced ones on the outer lengthwise bars thereof, and flanges on all said bars for forming supplementary marks in the pavement, substantially as herein described.

In witness whereof I have hereunto set my hand.

GEORGE F. GRAY.

Witnesses:

S. H. NOURSE.

J. A. BAYLESS.