No. 653,795. Patented July 17, 1900.

G. ECKE.

TOOL FOR MAKING ARTIFICIAL STONE WALKS.

(Application filed Apr. 5, 1900.)

(No Model.)

Fig. 1.

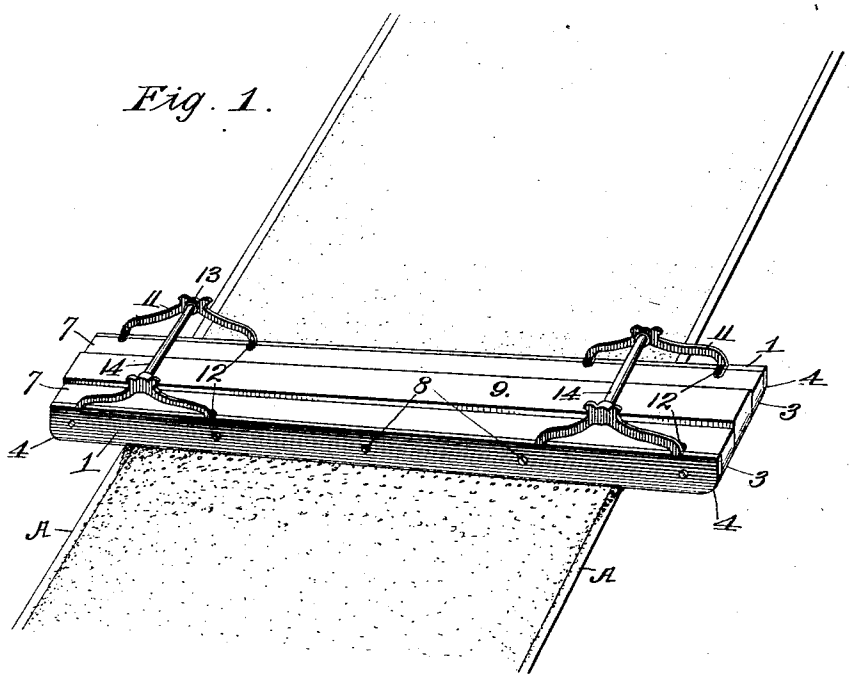


Fig. 2.

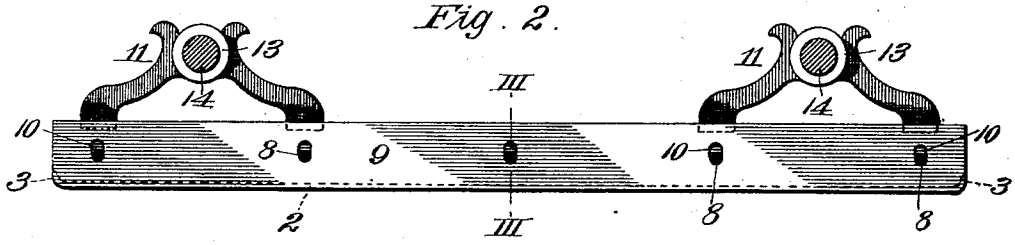
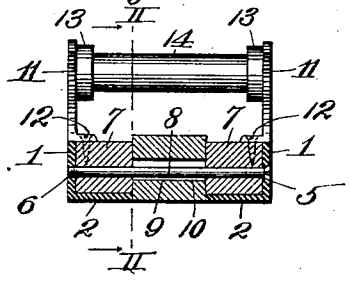


Fig. 3.



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TOOL FOR MAKING ARTIFICIAL-STONE WALKS.

SPECIFICATION forming part of Letters Patent No. 653,795, dated July 17, 1900.

Application filed April 5, 1900. Serial No. 11,600. (No model.)

To all whom it may concern:

Be it known that I, GEORGE ECKE, a citizen of the United States, residing at Lawrence, Douglas county, Kansas, have invented a new and useful Tool for Making Artificial-Stone Walks, of which the following is a specification.

My invention relates to tools for laying artificial-stone or cement walks, and more particularly to what I term a "combined planer, float, and finisher."

At present it is customary to plane down the plastic stone or cement with a wooden float to bring the surface to a uniform level and smooth the surface with a trowel or metallic float to give it the necessary finish, this second manipulation or going over of the surface incurring danger of breaking the bond holding the top layer or wearing-surface to the lower or base course. Furthermore, as the float or trowel to be handled conveniently by one man must be considerably shorter than the width of the surface most commonly operated upon it is a work of considerable skill to prevent the occurence of shallow depressions in the surface, these depressions being usually found by stretching a string across and then patched by the application of a further supply of the plastic stone or cement, which incurs further danger of breaking the bond, as above referred to.

One object is to produce a tool whereby the material can be given the true and proper level and finished more quickly than with the tools at present employed and which reduces the cost, because the same amount of skill is not required in its operation that is necessary in the manipulation of the old tools.

A further object of the invention is to produce a tool of the character described which is of simple, strong, and durable construction and which can be manufactured cheaply.

With these objects in view the invention consists in certain novel and peculiar features of construction and combinations of parts, as hereinafter described and claimed, and in order that it may be fully understood reference is to be had to the accompanying drawings, in which—

Figure 1 is a perspective view of the tool as applied in operative position. Fig. 2 is a longitudinal section taken on the line II II of Fig. 3. Fig. 3 is a cross-section taken on the line III III of Fig. 2.

Referring to the drawings in detail, 1 designates a pair of parallel plates or angle-irons arranged with their lower or horizontal arms 2 projecting toward each other and having their ends curved or bent up slightly, as at 3, to prevent their gouging the surface being operated on, the contiguous portions of the upright arms being correspondingly rounded for the same purpose, as shown at 4. One of the upright arms is provided with a series of countersunk holes 5 and the opposite arm with a series of threaded holes 6, correspondingly located.

7 designates a pair of strips, preferably of wood, filling in said angle-irons and possessing the requisite strength and the advantageous features of light weight and cheapness, and 8 designates a series of tie-bolts extending through said strips and having their heads seated in the countersunk holes 5 and their threaded ends engaging the holes 6.

9 designates a strip, preferably of wood, fitting snugly between strips 7 and the inner edges of angle-irons 2 and of corresponding length, said strip being designed to act as a "float," as it is hereinafter termed. Its lower edge or surface is set flush with the corresponding surface of the irons, and it is clamped in place by the tie-bolts, which also extend through it. Owing to the fact that it is composed of wood or equivalent material, and therefore susceptible of more quickly wearing away than the irons, it is made vertically adjustable by the vertical elongation of the holes 10, through which the bolts extend, as shown clearly in Figs. 2 and 3. To compensate for wear, therefore, it is only necessary to loosen the bolts or rods and drop the float down to the proper point, as will be readily understood.

The length of the tool by preference exceeds the width of the work on which it is to be used, as indicated in Fig. 1, and in order that it may be conveniently manipulated by a man at each end it is provided with a pair of handles. Any suitable handles may be employed; but by preference they are composed of a pair of brackets 11, resting upon the angle-irons and strips 7 and secured to the latter, as at 12, and provided with sock-

ets 13 and cross-bars 14, the ends of the latter fitting in said sockets.

In the manufacture of what is known generally as "granitoid" walks, frames A, of iron or wood, are first laid and the plastic stone or cement properly deposited between them. My improved tool is then arranged as shown in Fig. 1 and is drawn transversely to and fro along said frames, the tool having slight longitudinal or seesaw movement also. In the general movement of the tool along the frames A the first or advanced iron serves to cut off all surplus material which rolls along in front of the tool, filling all voids which may be in its path. The wood float 9 following takes hold of and clings to the material better than the iron and acts to draw up the material to the proper level. The second iron, which follows the float, smooths and finishes the surface, leaving it in the true plane desired.

By reason of the fact that the tool has a continuous bearing on the frames it is obvious that there is no possible chance of depressions occurring in the surface of the walk, and it is furthermore obvious there is no possibility of the bond breaking which connects the top layer or wearing-surface to the lower or base course, for the reason that the entire operation of leveling and finishing the walk is finished in one passage of the tool over the same, it being well known that said trouble usually occurs in the present method of construction by supplemental floating to fill up depressions or by the troweling operation in "finishing" the surface. By reason of the tool having the float confined between two metallic or smoothing surfaces it is clear that the tool may be worked toward one side or the other and that the irons with equal facility serve to cut down the surplus material in the initial leveling operation before the action of the float takes place or to smooth or finish the surface after the action upon the same by the float, as explained.

The adjustability of the float permits it to be moved to compensate for wear, as explained, and when it can be used no longer it can be easily and cheaply replaced by a new one.

From the above description it will be apparent that I have produced a tool embodying the features of advantage enumerated as desirable in the statement of invention, and while I have illustrated and described the preferred embodiment of the invention it is obvious various changes may be made in its form, proportion, detail construction, and arrangement of the parts without departing from the spirit and scope or sacrificing any of the advantages of the appended claims.

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

1. In a tool for making artificial-stone walks, the combination of a plate for leveling or smoothing the surface of the material being operated upon, and a float vertically adjustable with relation to said plate and adapted to bring the surface of said material to its true plane before being smoothed or finished, substantially as described.

2. In a tool for making artificial-stone walks, a pair of plates to be used at will for leveling or smoothing the material being operated upon, and a float arranged between said plates and adapted to be vertically adjusted, substantially as described.

3. A tool for making artificial-stone walks, comprising a pair of plates to be used at will for leveling or smoothing the material being operated upon, tie-bolts connecting the same, and a float provided with elongated slots through which said tie-bolts extend, and adapted to be clamped by said bolts at the desired point of adjustment, substantially as described.

4. A tool for making artificial-stone walks, comprising a pair of angle-irons, blocks of softer material filling the reëntrant angles of the angle-irons, a float of suitable material fitting between said filling-blocks and the angle-irons, and provided with vertical elongated openings, and tie-bolts extending through said angle-irons, filling-blocks and slots of the float to clamp the latter at the desired point of adjustment, substantially as described.

5. A tool for making artificial-stone walks, comprising a pair of parallel angle-irons, having their ends curving upward or rounded, filling-blocks for the reëntrant angles of said angle-irons, a float fitting between said blocks and angle-irons and having its end curved upward or rounded to correspond with the curve of the angle-irons, and means to clamp said float reliably in position, substantially as described.

6. A tool for making artificial-stone walks, comprising a pair of parallel angle-irons, having their ends curving upward or rounded, filling-blocks for the reëntrant angles of said angle-irons, a float fitting between said blocks and angle-irons and having its ends curved upward or rounded to correspond with the curve of the angle-irons, means to clamp said float reliably in position, and a handle for each end of the tool, substantially as described.

In testimony whereof I affix my signature in the presence of two witnesses.

GEORGE ECKE.

Witnesses:
PAUL R. BROOKS,
W. G. WOODRUFF.