H. M. KNIGHT.

KEY.

APPLICATION FILED MAY 4, 1915.

1,294,115.

Patented Feb. 11, 1919.

FIG. 2.

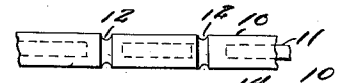


FIG. 3.

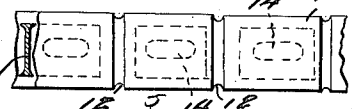


FIG. 4.

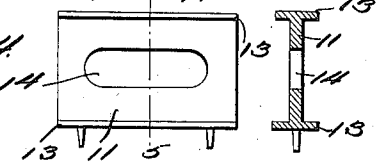


FIG. 1.

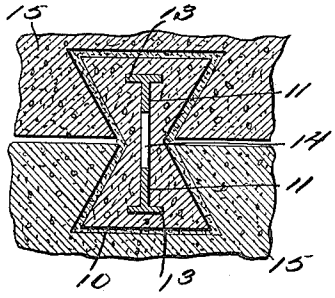


FIG. 5.

FIG. 8.

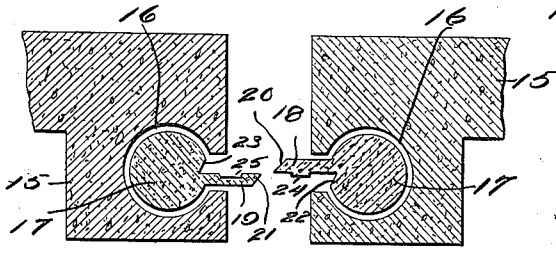


FIG. 7.

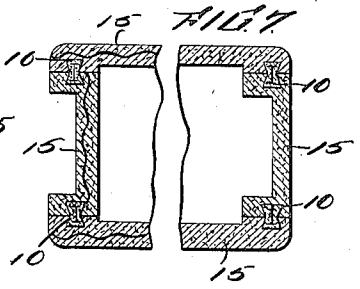
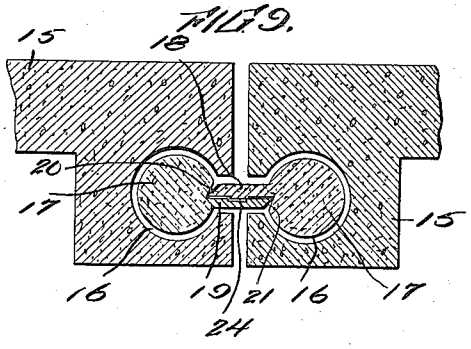


FIG. 9.



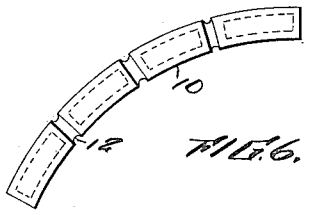


FIG. 6.

Witnesses

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KEY.

1,294,115. Specification of Letters Patent. Patented Feb. 11, 1919.

Original application filed April 6, 1914, Serial No. 829,757. Divided and this application filed May 4, 1915. Serial No. 25,859.

To all whom it may concern:

Be it known that I, HERBERT M. KNIGHT, a citizen of the United States, residing at Rome, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Keys; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to keys for securing together structural material as, for instance, concrete blocks and slabs in the process of construction, and is a division of application Serial Number 829757, filed April 6, 1914.

An object of the present invention is to provide key means for securing together blocks or the like, such blocks or other material being provided with properly proportioned grooves or furrows each for receiving its required part of the key structure.

A further object of the invention is to provide a key which may be molded of cement or cementitious material in lengths as may be found convenient which may be severed into such shorter lengths as found necessary to carry forward the constructural work.

A further object of the invention is to provide a key composed of cementitious material with a reinforcing contained in such key, such reinforcing being inserted in short sections so that the completed key may be fractured between such sections.

A further object of the invention is to provide a key composed of cementitious material having reinforcing members inserted therein with a constriction formed in the key intermediate such sections to serve as a weakening line for breaking the key as well as to indicate the point at which the key may be broken.

With these and other objects in view the invention consists in certain novel features of construction, combination and arrangement of parts as will be hereinafter more fully described and claimed.

In the drawings:—

Figure 1 is a transverse sectional view of the improved key shown in position in fragments of adjacent blocks.

Fig. 2 is a view of the key in edge elevation.

Fig. 3 is a view of the key in side elevation.

Fig. 4 is a view of one of the reinforcing blocks shown in side elevation.

Fig. 5 is a view of one of the reinforcing blocks shown in transverse section and taken on line 5—5 of Fig. 4.

Fig. 6 is a view of the key following curvilineal lines instead of straight as shown at Figs. 2 and 3.

Fig. 7 is a transverse sectional view showing some of the manners in which the key is employed.

Fig. 8 is a transverse sectional view showing a modified form of the key.

Fig. 9 is a transverse sectional view showing the modified form of key as seen at Fig. 8 with the sections interengaging.

Like characters of reference designate corresponding parts throughout the several views.

The improved key which forms the subject-matter of this divisional application is a double dove-tail key preferably composed of cement or concrete as shown at 10, having reinforcing blocks 11 introduced therein in spaced relation with constricted lines 12 formed intermediate the reinforcing blocks as shown more particularly at Figs. 2 and 3 whereby the cementitious material may be fractured at the weakening line 12 into sections of any required length.

While the reinforcing blocks may be of any desired form, it is preferable to produce them of I-beam construction having flanges 13 on opposite sides forming T-heads, and an opening 14 through which the cementitious material from opposite sides intermingle as shown at Fig. 1 to strengthen the double dove-tail key at its central thin portion.

In operation, blocks, plates or slabs, as indicated at Fig. 7, are provided with the necessary dove-tail grooves and such blocks plates or slabs 15 are brought into engagement and the double dove-tail key slidably inserted in the registering dove-tail blocks, or the key is inserted first in one of the dove-tail blocks and secured therein by cement, and then the other blocks, slabs, or plates slidably moved over the key, the key having been first coated with cement. It will be noted that the weakening line 12 serves therefore not only the purpose of weakening the key at the intermediate

points for the purpose of fracture, but also serves to retain the cement coated upon the key while the key is being slidably inserted in its dove-tail groove.

As shown at Figs. 8 and 9, the key is formed in halves this intended for positions where it would be difficult to slide the key in longitudinally or one part longitudinally relative to the other by reason of the position of the blocks, plates or slabs. In that embodiment, the grooves 16 in the blocks 15 are shown circular in cross section, but it is to be understood that the exact shape of the grooves or the keys corresponding therewith in either of the embodiments is wholly immaterial to the present invention. It is obvious that the key as shown at Figs. 1 to 4 inclusive may be of the general form shown at Figs. 8 and 9, while the form shown at Figs. 8 and 9 may be of the form shown at Figs. 1 to 4, but separated at the narrow or thin parts into halves for the purposes hereinbefore described. In other words, the exact form of the enlarged portion which enters the groove of the block is not to be restricted in either case to the form shown.

The key members 17 are provided with lips 18 and 19 having beveled extremities as shown at 20 and 21, respectively, sufficient to engage the beveled cam surfaces 22 and 23 of the blocks and force the tongue 24 carried by one of the lips into the groove 25 carried by the other lips as shown at Fig. 9.

The keys at 16 being inserted in the blocks 15 as shown at Fig. 8 and surrounded by cementitious material which covers also the tongues 18 and 19, the tongues are forced together until the tongue 24 enters the groove 25 which will hold the parts temporarily together until the cementitious material surrounding all the parts has time to harden and crystallize and hold them in permanent connection. In either case, the key is intended rather to hold the parts temporarily together until the surrounding cement crystallizes, but it will be obvious that either form will serve as at least part of the permanent holding means for connecting and uniting the several adjacent parts.

I claim:—

1. A key for constructural operations comprising a cementitious body double dove-tailed in cross-section and bearing no lineal relation to the work upon which it is to be employed, reinforcing blocks inserted into the cementitious material and spanning the constricted portions, and grooves formed in the exterior of the key positioned to indicate the intervals between the reinforcing blocks.

2. A key for constructural operations comprising a body double dove-tailed in transverse sections, reinforcing blocks spaced apart along the length of the key and transversely spanning the constricted portions, and grooves formed in the exterior of the body intermediate the internally positioned reinforcing blocks.

3. A key for constructural operations comprising a cementitious body double dove-tailed in transverse sections, a plurality of reinforcing blocks embedded within the structure and spaced apart, said blocks comprising substantially sections of I-beam formation, and grooves formed in the exterior of the cementitious body defining the intervals between the reinforcing sections.

4. A key for constructural operation comprising a cementitious body having reinforcements embedded therein, such reinforcements being interrupted at intervals and indicia appearing upon the exterior of the body indicating the points of interruption.

5. A key for constructural operation comprising a body of friable material, reinforcements embedded in the friable material and interrupted at points and indicia upon the exterior of the friable body indicating the interruptions of the reinforcing embedded within.

6. A key for constructural operation comprising a body of friable material, spaced reinforcing blocks embedded within the friable material and grooves formed upon the exterior of the friable material between the spaced blocks.

7. A key for constructural operation comprising a body of friable material, spaced reinforcing members embedded within the friable material and weakening lines formed in the exterior surface of the friable material interposed between the spaced reinforcing members.

8. A key for constructural operation comprising a body of friable material having spaced reinforcing members embedded therein, said body being provided with means to facilitate breaking the body between the reinforcing members.

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

HERBERT M. KNIGHT.

Witnesses:
ROSE DORHAMER,
MARGARET M. DUNN.