J. G. ADDERSON.

METHOD OF FORMING PAVING BRICK.

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1,156,574. Patented Oct. 12, 1915.

Fig. 1.

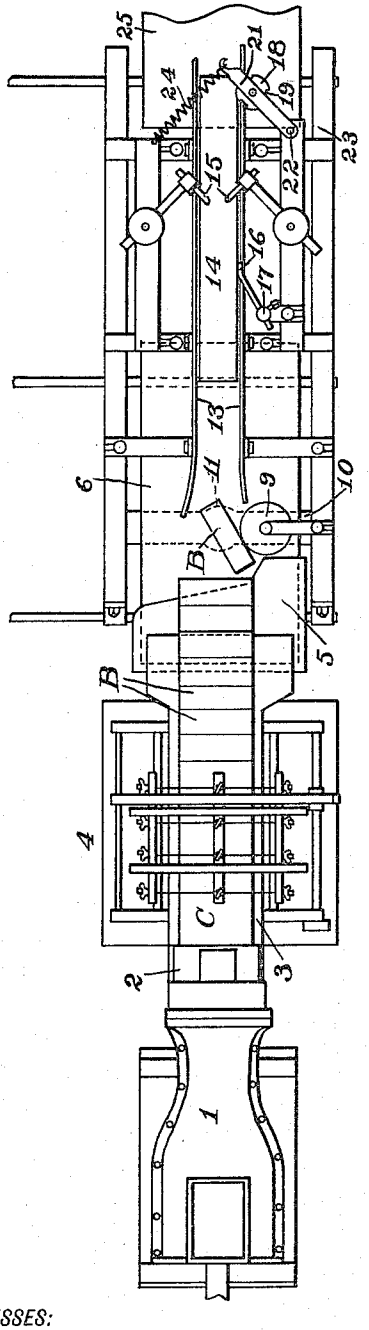
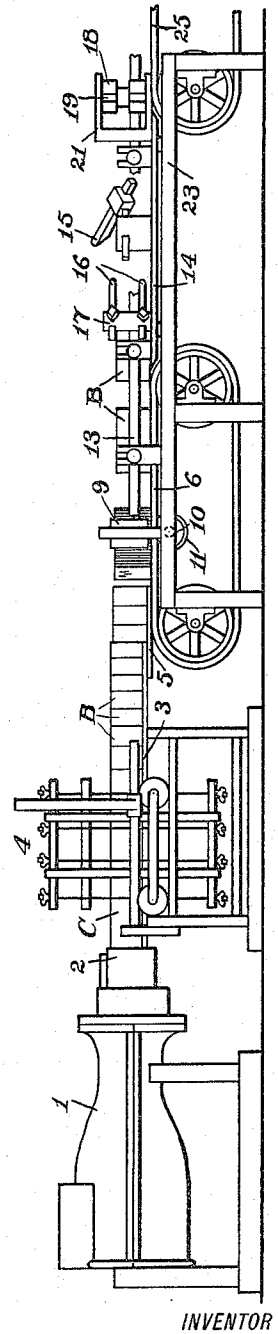


Fig. 2.



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METHOD OF FORMING PAVING-BRICK.

1,156,574. Specification of Letters Patent. Patented Oct. 12, 1915.

Application filed December 22, 1914. Serial No. 878,520.

To all whom it may concern:

Be it known that I, JAMES GEORGE ADDERSON, a citizen of the United States, residing at Renton, in the county of King and State of Washington, have invented certain new and useful Improvements in Methods of Forming Paving-Brick, of which the following is a specification.

This invention relates to improved methods of making paving brick and covers the process illustrated and described in my co-pending application, Serial No. 844,916, filed June 13, 1914.

The objects of the invention are to provide a simple, cheap and efficient means for raising lugs or projections upon the cut surfaces of side-cut bricks, and to also provide a simple means for beveling or rounding the longitudinal edges of such bricks.

In making paving bricks, it is desirable to form lugs or projections upon one or both of their side faces to space the bricks apart, when laid, sufficiently to permit the cement or other binder to flow freely between adjacent bricks and fill the interstices therebetween. It is also desirable to bevel the upper longitudinal edges of the bricks to prevent the edges from chipping, and to provide a good foothold for horses and traction for vehicles.

The formation of side lugs and beveled edges upon end-cut paving brick is relatively common, and is usually accomplished in the die, or in immediate connection therewith. My invention contemplates the formation of such lugs and beveled edges upon the sides of side-cut brick after these have been cut and separated, by the provision of suitable tools for handling and molding the brick, as will be hereinafter described.

In the accompanying drawings, I have shown means for carrying out my process in a preferred form.

In the drawings, Figure 1 represents a top plan view of apparatus adapted to carry out the process, and Fig. 2, represents the same in side elevation, some parts being broken away for better illustration of the parts.

An auger die machine 1, which may be driven by any suitable source of power, not shown, delivers a column of plastic clay, C, through die 2. This column of clay passes onto a polished cutting table 3, where it is cut transversely by any suitable wire-cutting machine 4 into blocks B of approximately the width of a finished brick. The column of cut blocks B is forced forward by the pressure of the clay column C and passes onto a polished platform 5 which is placed between the cutting table 3 and an endless belt 6 and is formed with an angular forward edge that permits one end of an advancing brick B, to engage with the belt 6 before the other end of such brick leaves the platform 5. The belt 6 is driven by any suitable means, not shown, at a rate of speed somewhat greater than the rate of movement of the column C, which serves to separate the blocks as they are advanced upon the apron 6. The blocks are then turned, the object of which is to send bricks forward end-to-end instead of side-by-side. To accomplish this I provide an idle-turning roller 9 or other obstruction to the progress of one end of the blocks, which engages an end of the block and causes it to make substantially a quarter-turn. A horizontal idle turning roller 10, provided with an enlargement 11, may be positioned near roller 9, and beneath the apron 6, so that enlargement 11 serves as the pivot upon which the block turns.

After the blocks have been turned, as described above, they are carried along by belt 6 between guides 13, which force them into exact alinement, and pass thence onto a polished plate 14. Here they accumulate and the spaces between the blocks are closed until there is sufficient tractive or adhesive force between belt 6 and the bricks thereon to force the first brick forward.

To cut the bevels, or to round off the corners, as may be desired, I provide two knives 15, one at each side of the block. These may be adjustable in position, and are adapted to cut off the longitudinal upper edges of the blocks.

In order to raise the lugs on the cut surfaces of the brick, I provide a pair of ridge-forming tools 16, adjustably mounted one above the other on a post 17. These ridge-forming tools project slightly into the path of the moving column of blocks and are each provided with a pair of spaced thin-edged converging pallets of a form clearly shown and described in my co-pending application, Serial No. 844,916, and are adapted to cut slight grooves in the face of the brick, and to mold this material into ridges. The

block, with the ridges raised on its side face, then passes on to a roller 18, which is provided with longitudinal grooves 19. This roller 18 is vertically mounted in an arm 21 which is pivoted at 22 to the frame-work 23, and is held against the side of the column of blocks by means of a spring 24. This roller, in passing over the surface of the block, flattens the ridges which were raised by the ridge-forming tools 16 to the original plane of the block, except where the longitudinal grooves 19 pass over the block. These grooves 19 are of such depth that the ridge on the block is not flattened, but remains to form the spacing lug.

The operations of raising a ridge on the block, flattening the same to form spacing lugs, and beveling the corners, are all performed while the block is passing along plate 14. After these operations are completed, the block is delivered to an off-bearing belt 25, which is moving at a faster rate of speed than the column of blocks. The blocks are separated by this means, and carried off to be piled and dried, as is usual in manufacturing brick.

It is evident that the order of carrying out the molding and beveling operations described above is not important. The blocks may be first beveled and then molded, or the ridge may be first raised, second, the corners beveled, and then the ridges flattened and the lugs formed, as shown in the drawings, or any other suitable order may be followed. The process has been described above as raising lugs on one side only, but these may be formed on both sides if desired, by duplication of the ridge-forming tools 16 and roller 18. Similarly, the bevel may be cut on one side only, if desired. It may be found necessary to turn rollers 9, 10 and 18, or any one of them, by power to deliver the bricks properly, but this is within the scope of my invention.

By the employment of this method, side-cut paving bricks may be quickly and cheaply formed without the necessity for pressing them.

Having described my invention, what I claim, is—

1. The herein described method of forming paving-brick, consisting in cutting a moving body of clay into side-cut brick blocks, turning said blocks into endwise relation, advancing said blocks, and molding the surface of said column of blocks as it is progressively advanced.

2. The herein described method of forming paving-brick, consisting in cutting a moving body of clay into side-cut brick blocks, separating said blocks in spaced relation, turning said blocks into endwise relation, advancing said blocks in an endwise column, and molding the surface of said column of blocks as it is progressively advanced.

3. The herein described method of forming paving brick, consisting in cutting a moving body of clay into side-cut brick blocks, turning said blocks into endwise relation, advancing said blocks in said endwise relation, and molding the surface of said blocks as they are advanced.

4. The herein described method of forming paving brick, consisting in cutting a moving body of clay into side-cut brick blocks, separating said blocks in spaced relation, turning said blocks into endwise relation, advancing said blocks in said endwise relation, and molding the surface of said blocks as they are advanced.

5. The herein described method of forming paving brick, consisting in cutting a moving body of clay into side-cut brick blocks, separating said blocks in spaced relation, turning said blocks into endwise relation, advancing said blocks in an endwise column, raising a ridge upon the side surface of said column as it is advanced, and depressing or removing a portion of said ridges to provide spaced lugs projecting from the side-cut surface of said blocks.

6. The herein described method of forming paving brick, consisting in cutting a moving body of clay into side-cut brick blocks, separating said blocks in spaced relation, turning said blocks into endwise relation, advancing said blocks in an endwise column, and cutting the upper longitudinal edges of said blocks as the column is advanced.

7. The herein described method of forming paving brick, consisting in cutting a moving body of clay into side-cut brick blocks, separating said blocks in spaced relation, turning said blocks into endwise relation, advancing said blocks in an endwise column, cutting the upper longitudinal edges of said blocks as the column is advanced, raising a ridge upon the side surface of said column as it is advanced, and depressing or removing a portion of said ridges to provide spaced lugs projecting from the side-cut surface of said blocks.

Signed at Seattle, Wash., this 25th day of November, 1914.

JAMES GEORGE ADDERSON.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."