

Nov. 11, 1924.

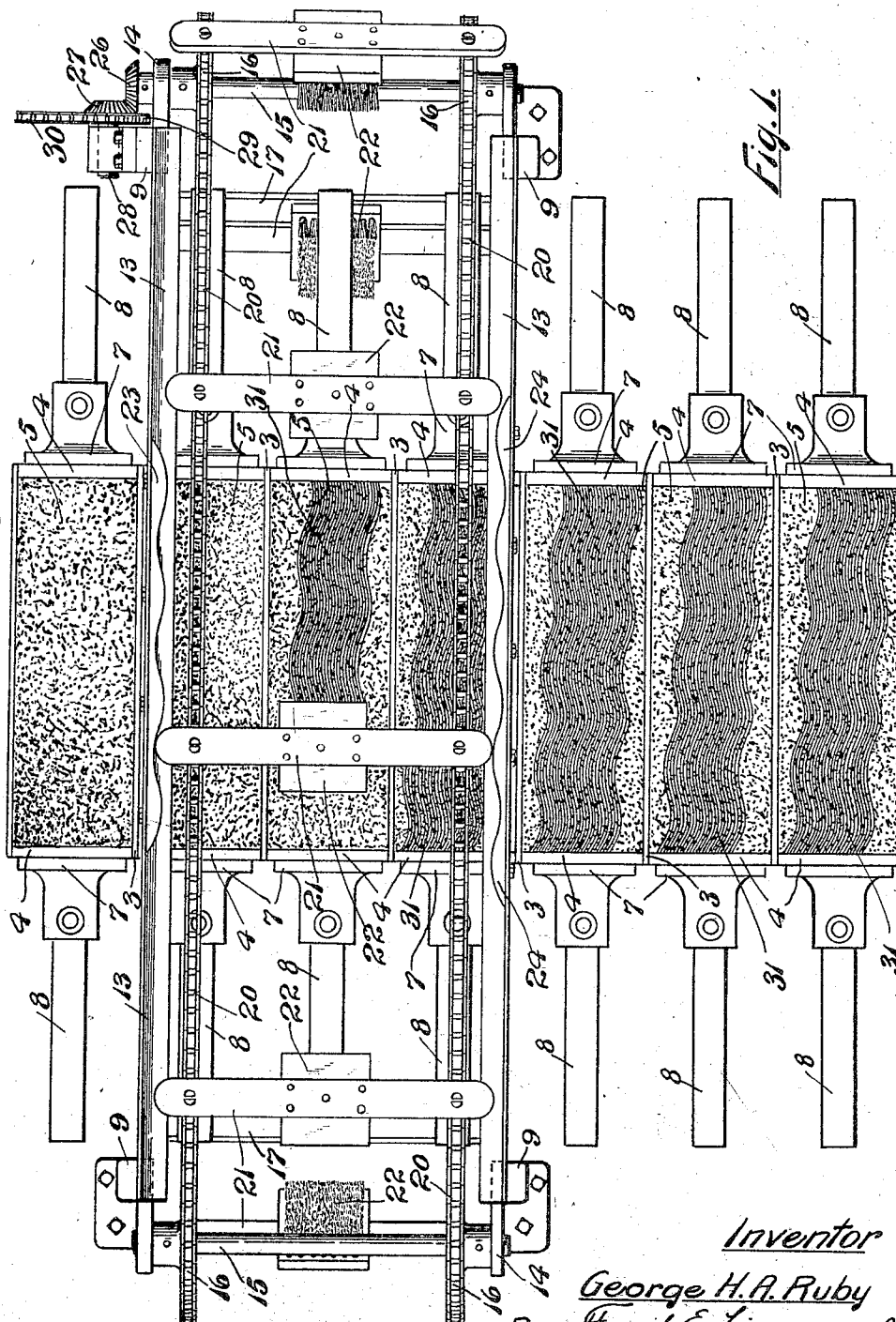
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ROUGHING DEVICE FOR PLASTER BLOCKS

Filed March 24, 1924

3 Sheets-Sheet 1



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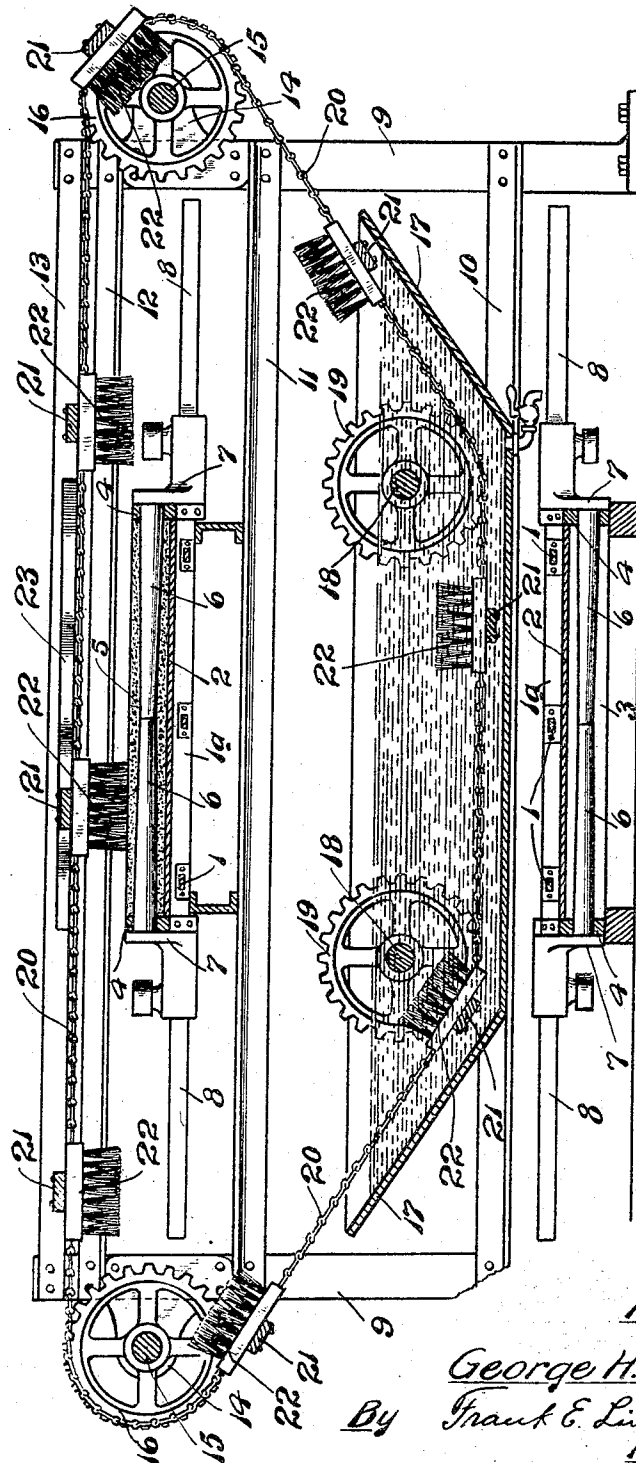


Fig. 2.

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3 Sheets-Sheet 3

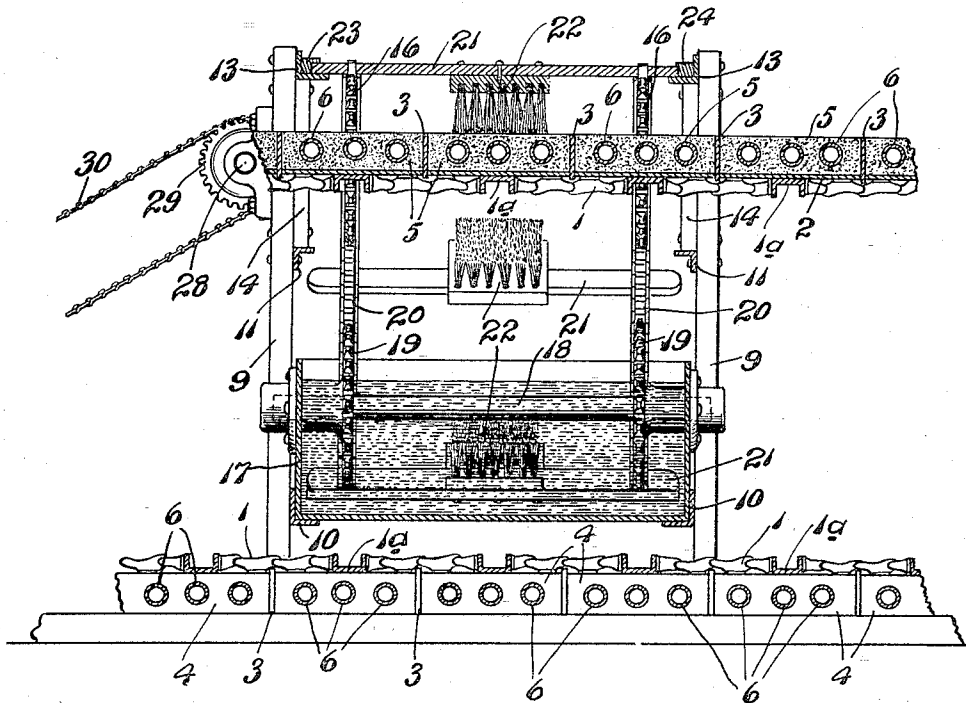


Fig. 3.

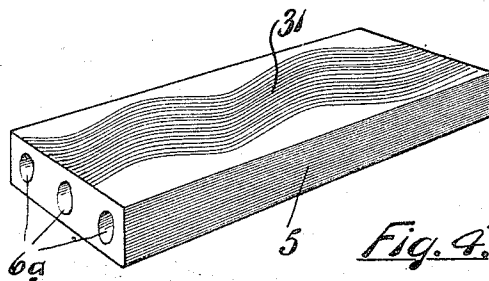


Fig. 4.

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UNITED STATES PATENT OFFICE.

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ROUGHING DEVICE FOR PLASTER BLOCKS.

Application filed March 24, 1924. Serial No. 701,352.

To all whom it may concern:

Be it known that I, GEORGE H. A. RUBY, a citizen of the United States of America, residing at Fort Dodge, in the county of Webster and State of Iowa, have invented certain new and useful Improvements in Roughing Devices for Plaster Blocks; 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 a machine wherein plaster building blocks or other blocks made from cementitious material are made and at the same time one side of each block is roughened or otherwise prepared so that plaster or other finishing coats may be readily applied thereto, a surface being prepared to which the plaster or the like will adhere. Plaster blocks are used to a considerable extent for interior partitions in buildings and the interior plastering is done directly against the surfaces of the blocks without the interposition of lath or like means. Blocks having smooth sides or faces against which the plaster must come are not satisfactory and a roughening or scoring of the blocks is very desirable; and it is to this end that my invention is directed, the construction which I have devised working at the same time and in conjunction with the plaster block making machine and roughening the blocks while the same are still in the forms and in a soft and plastic state.

The construction which I have provided for the attainment of the above noted ends is shown in the accompanying drawings, in which,—

Fig. 1 is a plan view showing the attachment which is used with the block making machine for roughing the surface of the blocks, said block making machine being but partly shown.

Fig. 2 is a transverse vertical section through the machine and taken substantially centrally and longitudinally of said attachment thereto.

Fig. 3 is a fragmentary longitudinal vertical section through the block machine and transversely of said attachment, and

Fig. 4 is a perspective view of a block as made by the block machine with said attachment applied thereto.

Like reference characters refer to like parts in the different figures of the drawings.

The plaster block machine includes endless conveyers comprising chains 1 within-terposed cross bars 1^a of channel form on which the block forms are carried. Said forms are located in consecutive order on the conveyer chains and include bottoms 2, vertical cross partitions 3 to divide consecutive forms from each other, and ends 4, whereby forms having open upper sides are made into which cementitious material may be introduced in plastic state to fill the forms to make the blocks 5, as shown. In blocks made from plaster stucco, cores 6 are used with the forms in order to save material, the finished blocks having longitudinal openings 6^a therethrough, as shown in Fig. 4; and the cores used with each block form are carried on heads 7 slidably mounted on suitable guides 8 for inward and outward movement. The heads 7 are mounted at each end of each block form. All of this structure is old and fully described and set forth in patents previously issued to me and need not be further outlined herein and the structure so far shown and described is shown and described as illustrative of the type of machine to which the construction of the present application is applicable.

On each side of the plaster block machine two spaced apart vertical posts 9 are located and permanently secured in place. Bars 10, 11, 12 and 13 extend transversely of the machine and are connected at their ends to the posts 9, as best shown in Fig. 2. Accordingly there are a pair of lower bars 10, preferably of angle iron formation located in spaced apart and parallel relation, another pair of bars 11 in the same plane above the bars 10, while the uppermost bars 13 lie near the upper ends of the posts 9 and in a plane above the upper run of the block form conveyer. From each post 9 between the bars 11 and 12 a supporting bearing bracket 14 extends outwardly, the same being fastened securely to the posts. Two shafts 15 are rotatably carried by the brackets, one at each side of the block machine and in the same horizontal plane. On the cross bars 10 a water holding tank 17 is mounted and between the sides thereof other shafts 18 are

rotatably mounted in bearings carried by the sides of the tank. Sprocket wheels 16 are secured to the upper shafts 15 and like wheels 19 to the lower shafts 18. There are
 5 two of said sprocket wheels on each shaft, preferably, and spaced apart and located in two planes so that endless chains 20, two in number may be passed around them, as shown.

10 At intervals equally spaced apart in the length of the chains, cross bars 21 are located and permanently secured to said chains, extending at each end a short distance beyond the adjacent chain. To each
 15 cross bar a brush 22 is secured. For purposes of illustration, but one brush is shown secured to each bar but it is evident that the number may be made larger if desired. The ends of the bars 21 are rounded and
 20 to the bars 13 two members 23 and 24 are secured, as shown in Fig. 1, having alternate rises and depressions against which the ends of the bars 21 ride. It is evident that with this construction of guide for the ends
 25 of the bars 21, as the chains move, carrying the bars 21 with them, said bars are moved lengthwise back and forth in accordance with the form of the alternate rises and depressions in the members 23 and 24,
 30 with a corresponding movement of the brushes attached to the bars 21.

One of the shafts 15, at one end thereof, is equipped with a bevelled pinion 26 in mesh with which is a second bevelled pinion
 35 27 fixed to a short shaft 28 which is mounted in a suitable bearing carried on the adjacent post 9. A sprocket wheel 29 is also fixed to the shaft 28 and may be driven through a chain 30 from any suitable power
 40 source. When thus driven, it is evident that both of the chains 20 are moved in unison and at the same speed so as to carry the bars 21 and attached brushes across the upper run of the block machine and the
 45 brushes are located so that the same come in contact with the upper surfaces of and travel lengthwise of the blocks located in the forms.

With the conveyers for the block machine traveling slowly, as in practice and receiving the cementitious material therein and with the chains 20 moving transversely of the movement of the block machine conveyers, it is evident that the brushes
 50 score and groove the outer face of the blocks and that the grooves made are of the shape comparable to the alternate rises and depressions in the guide cam members 23 and 24. This is shown in Fig. 4 at 31. The
 55 brush may be widened so as to cover practically the full width of the block, if desired, or more brushes may be attached to each bar 21. It is evident that the grooves made in the blocks follow a somewhat diagonal
 60 agonal direction from one end of a block

to the other due to the continuous conveyor movement taking place in the block machine when it is in operation. The brushes, after scoring and grooving a block, before
 again coming into contact with another
 70 block are cleansed from any cementitious material that may adhere to them by passing through water carried in the tank 17, as shown in Fig. 2.

The construction described is practical in
 75 all respects and is of value not only in saving labor but in the uniformity of the markings made on the blocks. The prior practice has been to have the brushing done by hand, this requiring an additional man to
 80 the machine and at the same time the roughening or grooving of the blocks was not uniform in character. The invention is one of practical value and merit. It is defined in the claims appended hereto and is
 85 to be considered as comprehensive of all forms of structure coming within the scope of such claims.

I claim:

1. In a construction of the class described,
 90 a block machine including a plurality of block forms located in consecutive order side by side and adapted to be moved in one direction, of means for roughing the
 95 upper surfaces of the blocks in said forms while the same are in plastic condition, said means being mounted to move over and substantially lengthwise of the blocks, substantially as described.

2. In combination, a block machine including a plurality of block forms located
 100 in consecutive order side by side and mounted for movement in one direction, of means for roughing the upper exposed surfaces of the blocks in said forms, said means being
 105 mounted for movement over and substantially lengthwise of the blocks, and means for moving said roughing means.

3. In combination, a block machine including a plurality of block forms located
 110 side by side and movable in one direction and in the direction of the width of the blocks, of an endless conveyer construction carrying brushes spaced apart in the length of the conveyer, said conveyer construction
 115 being mounted to pass around the block machine and travel in a direction transverse to the movement of the blocks whereby the brushes brush across the upper exposed surfaces of the blocks.
 120

4. In combination, a block machine including conveyer chains, and block forms carried thereby having open upper sides, said chains being adapted to move in one
 125 direction and the forms being adapted to receive cementitious material, a pair of endless chains passing around the block machine, means for mounting said chains for movement, bars carried by and between the
 130 said pair of chains in spaced apart relation,

brushes carried by the bars so as to engage with the exposed upper surfaces of the blocks when drawn thereacross, and means to drive the chains of said pair of chains in unison.

5 5. In a machine of the class described, a block machine including a plurality of individual block forms located side by side and transversely of the length of the machine, means whereby said forms may be moved in one direction, a pair of endless chains located around the machine, means for mounting the same for movement around the machine, means for driving said chains in unison, and means carried by said chains and drawn across the exposed surface of blocks in the block forms to score and roughen the said surface.

20 6. In a machine of the class described, a plurality of block forms located side by side and movable in one direction, and a plurality of brushes mounted for movement to pass over the blocks in said forms whereby the brushes are drawn across the exposed upper surfaces of the blocks, substantially as described.

30 7. In a machine of the class described, blocks carried in individual block forms, and mechanical means movably mounted to be drawn across an exposed surface of each block while the same is in plastic condition in its form to thereby score and roughen said surface.

35 8. In combination, a block machine including conveyer chains and block forms carried thereby having open upper sides, said chains being adapted to move in one direction and the forms being adapted to receive cementitious material, a pair of endless chains passing around the block machine, means for mounting said pair of chains for movement, means for driving said pair of chains in unison, a plurality of bars carried by and between said chains of the pair of chains in spaced apart relation, brushes carried by the bars so as to brush against exposed upper surfaces of the blocks when drawn thereacross, and means for moving said bars lengthwise back and

forth as the brushes are being drawn across the said blocks.

9. A construction containing the elements in combination defined in claim 8, combined with a water holding tank through which said brushes pass between operations on a block.

10. In combination, a block machine including a conveyer having block forms thereon located side by side with open upper sides, said conveyer being adapted to move in one direction transverse to the length of the block forms and said forms being adapted to receive plastic cementitious material, a pair of endless chains passing around the block machine, means for mounting said chains for continuous movement, means for driving said chains in unison, bars attached to and extending between the chains in spaced apart relation, brushes carried by the bars so as to brush against the exposed upper sides of the blocks in said forms while in a plastic state, and guide cam bars between which said brush carrying bars pass while passing over the blocks, said guide bars being formed to move the brush carrying bars longitudinally back and forth during the time of passage therebetween.

11. In a machine of the class described, block forms having an open upper side into which cementitious material may be put in the forms, and means for successively drawing brushes over the exposed upper surfaces of the blocks substantially lengthwise of said blocks, substantially as described.

12. In a machine of the class described, block forms located side by side and each having an open upper side for the putting of cementitious material into the forms, means for successively drawing brushes over the exposed upper surfaces of the blocks substantially lengthwise thereof, and means for simultaneously moving the brushes back and forth in a direction at right angles to its first named movement during the time they are being drawn over said blocks.

In testimony whereof I affix my signature.

GEORGE HENRY ADAM RUBY.