This invention relates to new and useful improvements in a brick forming machine. Its primary object being to provide means to form a frog in the side of a wire cut brick.

Depressions or frogs have been customarily formed in molded brick only. The present device provides novel means of gouging out a depression in a wire cut brick which heretofore has not been accomplished. The depression or frog as it is called is for the purpose of preventing the bricks from moving when set in position before the mortar is dry. With wire cut bricks other means have been devised for this purpose with doubtful success. The principle of these being cored or pressed holes through the body of the brick which has its disadvantages in manufacture and in loss of strength or weakening of the brick which is easily broken across the reduced area portion formed by the holes.

The present invention provides means to form frogs in opposite sides of two bricks when passing through the machine on a conveyor belt and means to adjust the depth of the same. These frogs reduce the weight of the finished brick and therefore economize on the amount of clay used. As they prevent the brick from slipping in the soft mortar a brick setter is able to lay more bricks than with the ordinary type.

With these and other objects in view that may appear while the description proceeds, the invention consists in the novel construction and arrangement of parts as hereinafter more specifically set forth, claimed and shown in the accompanying drawings forming part of this application and in which:

Figure 1 is a plan view of my invention.

Figure 2 is a front end view of the same.

Figure 3 is a side elevation of the machine.

Figure 4 is a rear end view of the machine.

Figure 5 is a further plan view showing alternate adjustment means.

Figure 6 is a sectional view on the line 6-6 of Figure 5.

Figure 7 is an enlarged detail view on the line 7-7 of Figure 5.

Referring more in detail to the drawings in which similar reference characters designate corresponding parts throughout the several views will be seen the invention is adapted to be used with a brick forming machine of the standard manufacture and of the type wherein the bricks are formed in a mould and carried in tips on a conveyor belt and cut to size by wires suitably arranged with respect to length and depth of the bricks. The device is designed to operate on each side of the bricks as they travel on the conveyor belt and consists of a frame member 10 supported above the conveyor belt 11 wherein the bricks 12 are carried in a double row back to back. A pair of arms 13 having angular support brackets 13a are supported on said frame and pivotally mounted on pins 14, in a manner to permit lateral movement.

On the forward ends 15 of gouge tools 16 are adjustable spadeir by clamp members 17 while the rearward ends are provided with cam arms 18 having cam members 18a supported thereon. Said members are arranged to engage arms 19 on the conveyor and are actuated to move outward as the arms engage the same. This causes an inward movement on the forward end of the arm with a reduced travel corresponding to the difference in the lengths of the opposite ends of the arms from the pivot point.

A retraction spring 20 is connected to the arms and draws them together when the cam action is completed. Adjustable stop members 21 are positioned on the frame 10 against which the arms normally rest.

In Figures 5 and 6 modifications of the several adjustments are shown. The lateral stop adjustments for the arms 13 are carried on a cross member 22 supported on the frame 10 and consists of set screws 23 threadably mounted in the turned up ends of the member and arranged to engage the arms at a predetermined distance from the centerline. The gouges 16 are also adjustable vertically on the supports 24 and laterally by the clamps 17 to accommodate any variations in size of brick tiles or other articles which may be used on the conveyor belt.

The cam is replaced with ball bearing structures consisting of supporting arms 25 mounted on the arm 13. A cam shaped frame 26 is secured thereto and a plurality of ball bearings 27 is mounted in a ball race 28 which is secured to the frame 26. The balls are arranged to protrude from the race and engage the arms 19 of the conveyor and thereby to actuate the arms 13, with a minimum of friction or wear to either the cam device or the actuating arms.

From the foregoing it will be seen that the arms carrying the gouges will be actuated at regular intervals corresponding to the travel of the conveyor and the length of a brick thereon as arranged by the position of the arms 19. The cam device is also arranged to hold the gouges in engagement with the brick for a predetermined period corresponding to the length of frog it is desired to make. The device as thus set...
forth when used in combination with a standard wire cutting brick machine will form the frog as stated in one side of each brick.

It is believed that the construction and advantages of the structure shown may be apparent from the foregoing paragraphs taken in conjunction with the accompanying drawings without further detailed description.

While the preferred embodiment of the invention has been disclosed it is understood that minor changes in the details of construction, combination and arrangement of co-operating elements may be resorted to within the scope of what is claimed without departing from the spirit of the invention.

I claim:

1. In a brick making machine, the combination of a conveyor belt for carrying a column of clay, a frame mounted above said belt including a transverse bar, a pair of arms pivotally mounted intermediate their ends to the transverse bar above said conveyor to swing in a plane parallel to the plane of said conveyor belt, said arms being disposed one on each side of the column of clay, gouging tools mounted on one end of said arms adapted to be moved into and out of engagement with the column of clay, resilient means normally holding said arms to disengage said gouging tools from the column of clay, cam members on the opposite ends of said arms, and means carried by said conveyor belt at spaced intervals adapted to engage said cam members to actuate said arms intermittently to move said gouging tools into operative engagement with the clay column.

2. In a brick making machine, the combination of a conveyor belt for carrying a column of clay, a frame mounted above said conveyor belt including a transverse bar, a pair of arms pivotally mounted intermediate their ends to the transverse bar above said conveyor belt to swing in a plane parallel to the plane of said conveyor belt, said arms being disposed one on each side of the column of clay, gouging tools mounted on the forward ends of said arms, a spring connecting said arms adapted to swing said arms to move said gouging tools away from the column of clay, adjustable means attached to the transverse bar of said frame for limiting the swinging movement of said arms, cam members carried by the rear ends of said arms, and posts extending upwardly from said conveyor belt at spaced intervals adapted to contact with said cam members for intermittently swinging said arms to move said gouging tools into operative engagement with the column of clay.

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