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UNITED STATES PATENT OFFICE.

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BRAKE FOR BRICK MACHINES.

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To all whom it may concern:

Be it known that we, EDGAR D. CHURCH and FRANK S. LASH, citizens of the United States, both residing at Saginaw, in the county of Saginaw and State of Michigan, have invented certain new and useful Improvements in Brakes for Brick Machines; and we 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 brick machines and the like and pertains more particularly to machines of the type commonly employed in the manufacture of sand lime brick.

Our invention pertains more specifically to that type of brick machine having a circular platen formed with radially disposed plunger-receiving pockets and provided with means whereby the platen is rotated in a step-by-step intermittent movement, each stop position of the platen bringing a set of plunger-receiving pockets directly above and registering with suitable plungers, which, when forced up by the machine, compress the brick material in the pockets. When the plungers drop, the platen is again rotated through a small part of a revolution and thus the operation is repeated.

Our invention more specifically relates to the brake mechanism by which the heavy circular platen is stopped in a predetermined position, that is, the platen is prevented from overrunning its stop position. Heretofore it has been customary to apply a drag brake upon the periphery of the circular platen, the purpose of the drag being to prevent the accumulation of momentum when the platen is rotated, and as a consequence of such momentum permitting the platen to run past its proper stopping point.

It is the purpose of our present invention to provide a brake arrangement which will properly retard the platen, and do it with a minimum consumption of power, provision being made in our improvement whereby the brake is released from working contact with the platen when the platen starts to move and the brake is again applied just before the stopping point of the platen is reached, thereby preventing a continuous frictional drag of the brake upon the rim of the platen, as has heretofore been common.

Our improvement further provides means whereby the release of the brake and its application are automatically accomplished at the proper times in the cycle of operation of the press.

With the above and certain other objects in view which will appear later in the specification, our invention comprises the devices described and claimed and the equivalents thereof.

In the drawings, Fig. 1 is a fragmentary top plan view, partly in section, showing our improved brake device applied to the revolving platen of a brick machine.

Fig. 2 is a part sectional side elevation of the parts shown in Fig. 1, the eccentric toggles of the brick machine being shown by dotted lines.

As is clearly shown in the drawing, 1 is the platen formed with radially disposed pockets 2. 3 is the brake shoe by which the rotary movement of the platen is checked. 4 is the main shaft of the brick machine, carrying the plunger-operating eccentric 5. 6 is the eccentric arm. 7 is the toggle pin by which the toggle lever 8 is operated to actuate the plungers.

The plungers and their operating mechanism are omitted from the drawings for the sake of clearness.

Upon shaft 4 we mount one or more cams 9, 9, each cam adapted to contact with a roller 10 mounted in the end of rocker arm 11 which is pivoted, at 12, to a fixed support. The lower end of the rocker arm is pivoted, as at 13, to a rod 14 fastened at one end to the brake shoe 3.

The rod 14 preferably passes through a bearing 15 fixed to the frame of the machine, and between the bearing 15 and brake shoe 3 is a helical compression spring 16 which normally tends to keep the brake shoe 3 set with predetermined frictional pressure against the outer periphery of platen 1.

The bearing 15 is threaded and adjustable lengthwise to regulate the tension of the spring and to compensate for wear on the working surface of shoe 3. Spring 16 also keeps the arm 11 and its roller 10 normally in the position shown in full lines in Fig. 2 ready to be engaged by the working rim of cam 9 when the main shaft 4 revolves to the proper position.

When cam 9 engages wheel 10, the brake 110...
shoe 3 is released and the platen-actuating mechanism is so timed that the platen then commences to revolve to bring a new set of pockets 2 into working position over the plunger. Just before the pockets arrive at their stop position, cam 9 releases roller 10, allowing spring 16 to press the brake shoe 3 firmly against the rim of the platen, thereby absorbing the momentum which has been acquired by the platen and permitting the platen to be steadily drawn up to its stop position against the resistance of the brake without risk of overrunning that position.

By the means above described we have produced a simple, yet relatively inexpensive and thoroughly practical device for braking the intermittently revolving platen while avoiding the waste of power and wear on the mechanism which has heretofore been caused by employing a brake that exerted a continual dragging resistance upon the rim of the platen.

Having thus described our invention, what we claim and desire to secure by Letters Patent is:

In combination, a brick machine having a platen adapted to intermittent rotation, a brake device comprising a brake shoe, a rotatable cam shaft, a pair of cams on said shaft, a pair of rocker arms, each pivoted to a fixed support and carrying rollers adapted to be simultaneously engaged by said cams, a pair of rods each pivoted at one end to an end of one of said rocker arms, each of said rods fixed at its other end to said shoe, a stationary cup member embracing each of said rods, and a compressible spring interposed between each cup member and said brake shoe, substantially as described.

In testimony whereof, we affix our signatures.

EDGAR D. CHURCH.
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