K. JOHANNESMANN.

DEVICE FOR SIMULTANEOUSLY CUTTING AND CLOSING HOLLOW BRICKS.

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Fig. 1.

Fig. 2.

Witnesses:

Inventors:

Mark Johannesmann
To all whom it may concern:  

Be it known that I, KARL JOHANNESMANN, of Ferdinandgrube, Germany, have invented certain new and useful Improvements in Devices for Simultaneously Cutting and Closing Hollow Bricks, of which the following is a specification.

Hitherto, a process for a simultaneous cutting and closing of hollow bricks has become known, in which by the employment of a U-shaped curved knife with a plow-share shaped edges the brick length is cut or squeezed off with a simultaneous closing of the channel openings. However, this process has not found its way into practice for the following reasons: The closing of the channels is to be effected by pressing from the brick length material, corresponding to the height of the channel to be closed, into the openings while cutting. As the knife penetrates the brick length vertically, also the dragged material is vertically moved along, so that only the material above the channel (the bridge) can be used for closing while the material between the channels (the partitions) gets lost or must seek a vent as superfluous material. This acts detrimentally on the moldings in such a way that the surplus of material partly enters the channels and partly escapes beside the knife and thereby causes a breaking of the side walls of the moldings. Further, when cutting, the brick length is unfavorably influenced by the U-shape of the knife in such a way that the upper edges of the brick length, following said shape, slope to the sides and the lower part of the brick length is pressed broad by the material giving way to the knife. Thereby, moldings are produced, of which both ends receive arc-shaped downwardly extended cross-sections, which are useless.

The present invention creates technical improvements and thus economic advantages. The essential feature of the invention is a round rotary disk, of which the circumferential edges are on both sides, preferably alternately, fitted with closing beaks, which while outwardly sloping run into the plane of the disk. The disk is set in quick rotation, preferably by an electromotor and suitably arranged on a swing-axle between the advancing-rolls of a cutting-table known in the art, it being introduced from below into the cutting line of the brick length. The disk permits, owing to the high speed at which it cuts the material, of a burless cut and of a homogeneous fireproof closing plane.

The accompanying drawing shows the subject matter of the invention.

Figure 1 is a front view of a sector-like fragment of the disk, while Fig. 2 shows a cross-section through the brick length, with the disk applied thereto.

The disk 1 is made of sheet metal and on both sides of its circumferential edges fitted with alternately arranged beaks 2. The latter are preferably stamped out of the material of the disk, which is then well tempered at these places; or the disk may be cast with the beaks. With slight alterations of the known cutting-tables, the disk, as already mentioned, can be easily built-in in such a way that it is so arranged between a pair of advancing-rolls of the cutting-table within a forked swing-lever arm, which is balanced by a counterweight, that, when cutting, it reaches to above the uppermost edges of the brick length and penetrates, that is cuts the same while rotating. The quality of the cut depends on the circumferential speed of the disk, and it has been proved that about 1,200 to 1,300 turns in a minute with middling stiff material give excellent results.

The operation is shown in Fig. 2: The rotary disk penetrates the brick length from below at right angles to the longitudinal axis of the same, while the gradually ascending beaks catch thereby such quantities of material as correspond to their height and drive the same, while advancing, owing to their centrifugal force on both sides into the plane of the channel openings, whereby the latter are closed. The closing is, corresponding to the nature of the movement of the disk, effected in a circular way, whereby an absolutely tight closure or a homogenous jointing of the material between each other is obtained, which can, for instance, not happen with the vertical movement of the above-mentioned known process.

Practical experiments have shown that by a corresponding formation of the length and height of the beaks, differently high channels can be closed entirely or partly only.
What I claim, is:
A device for simultaneously cutting and closing hollow bricks, comprising in combination, a rotary disk, a plurality of beaks on both sides of the circumferential edges of the latter, and a swing-axle for said disk, substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

KARL JOHANNESMANN.
Witnesses:
ANTON JORDAN,
ERNST KATZ.

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