(No Model.)

2 Sheets—Sheet 1.

D. BROSE & J. BAUMGARTNER.

TILE MACHINE.

No. 354,093. Patented Dec. 14, 1886.

Fig. 1.

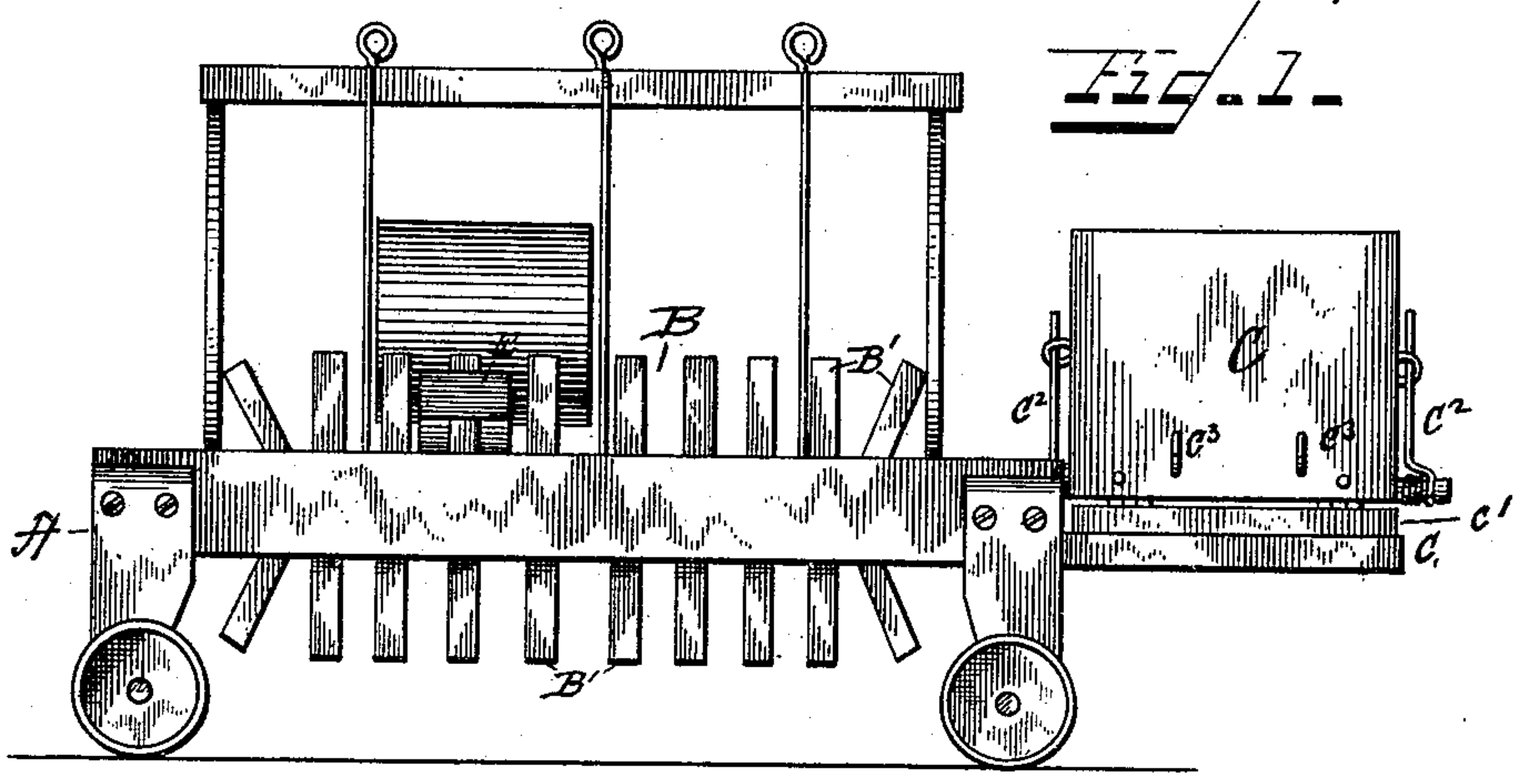


Fig. 2.

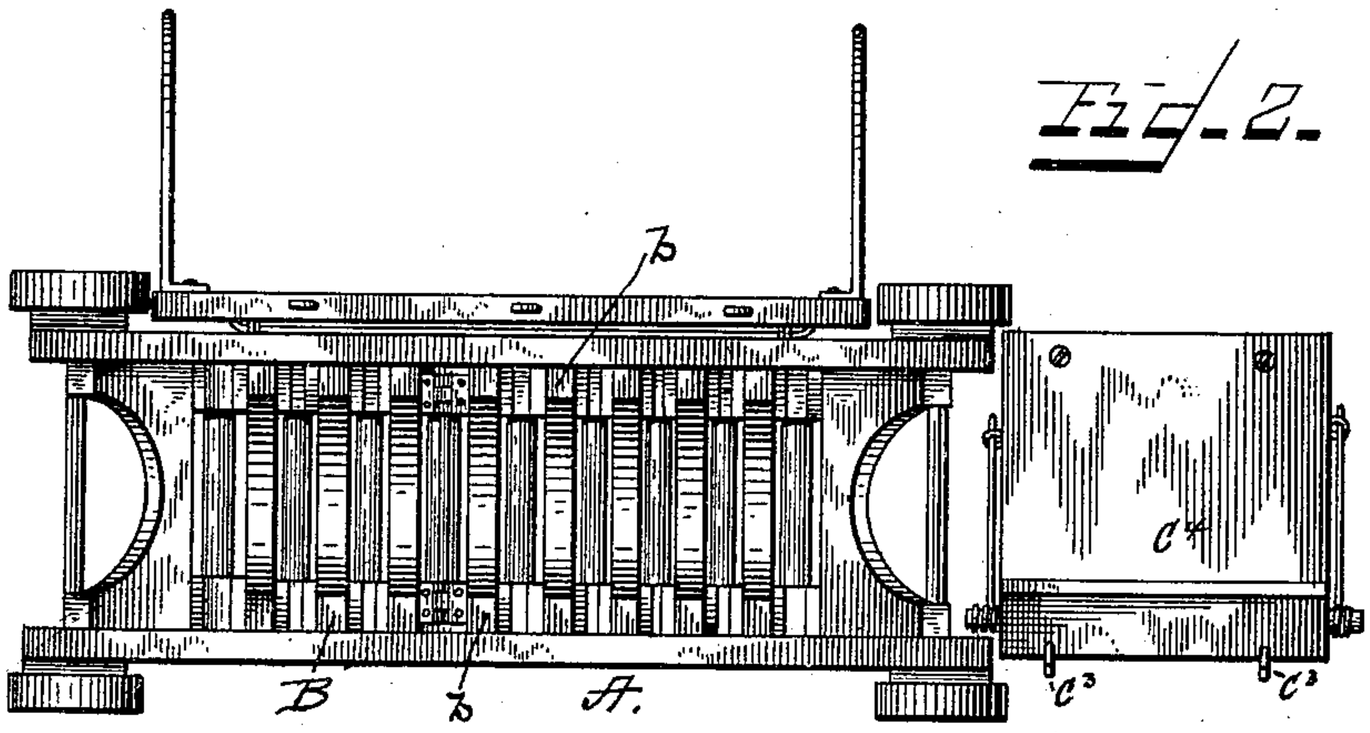


Fig. 3.

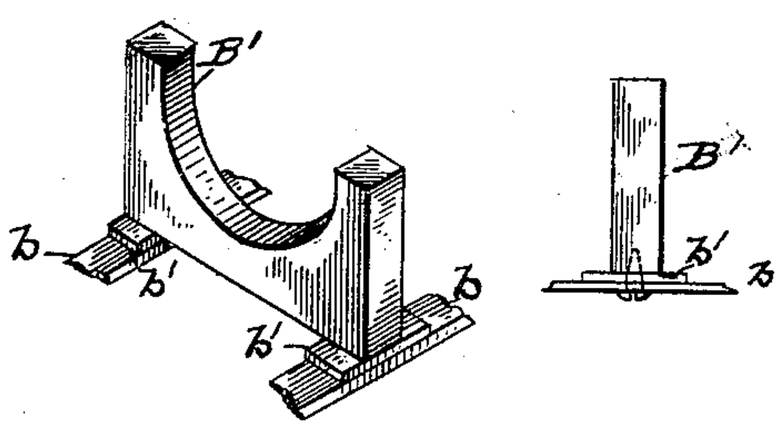
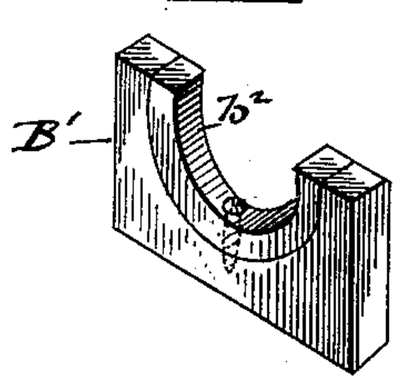
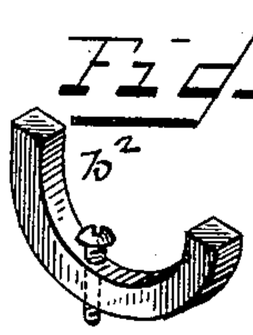


Fig. 4.



Witnesses
J. Thomson Cross.
E. T. Pitchard.

Fig. 5.



Inventors:
Daniel Brose
John Baumgartner
by A. G. Hyltunen.
Attorney.

(No Model.) 2 Sheets—Sheet 2.

D. BROSE & J. BAUMGARTNER.

TILE MACHINE.

No. 354,093. Patented Dec. 14, 1886.

Fig. 6.

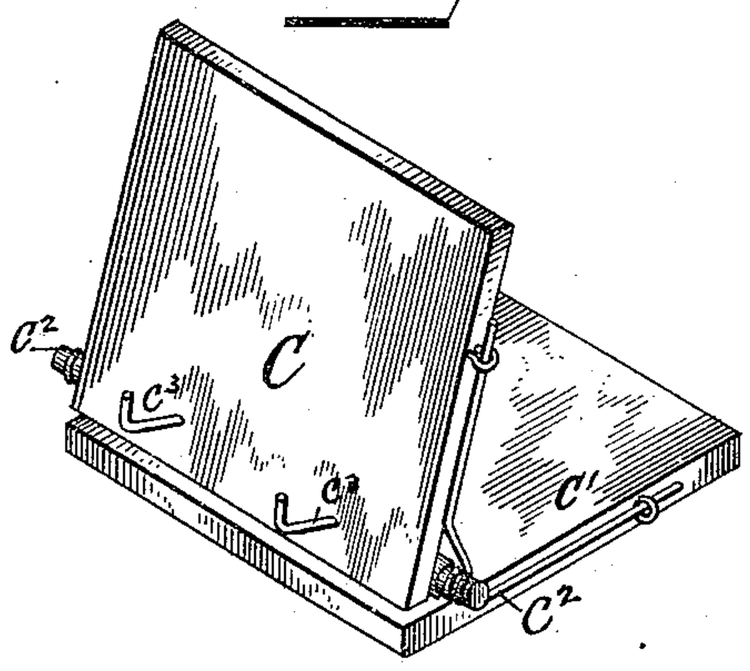


Fig. 7.

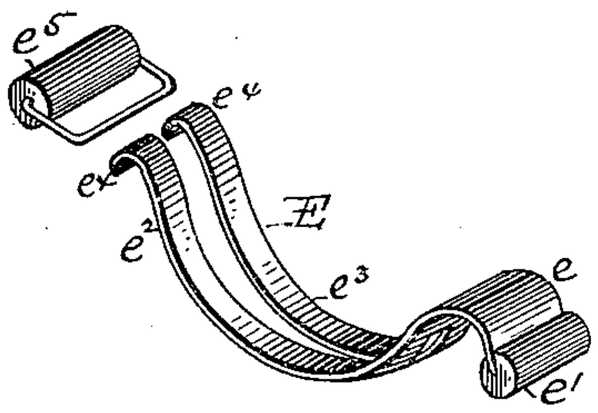


Fig. 8.

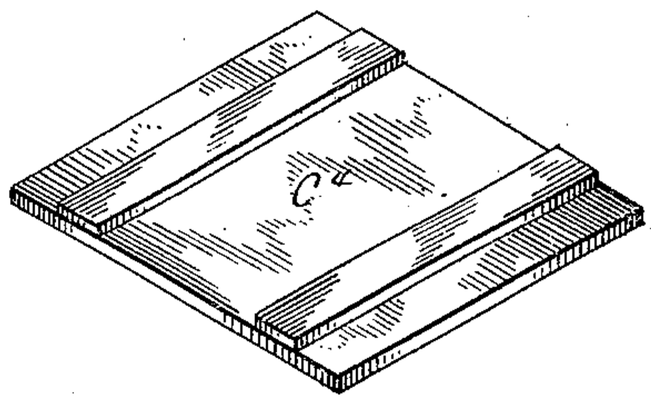
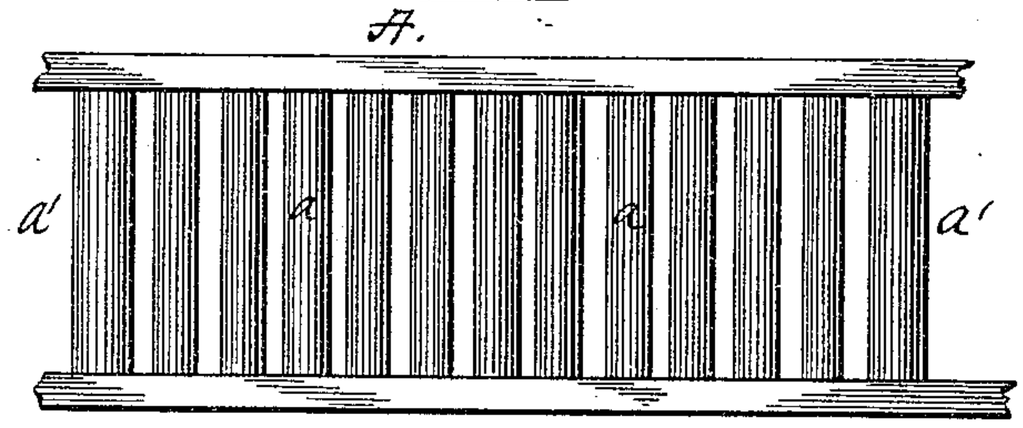


Fig. 9.



Witnesses:
J. Thomson Cross.
E. G. Pitchard.

Inventors:
Daniel Brose.
John Baumgartner.
by A. G. Heylmun
Attorney.

UNITED STATES PATENT OFFICE.

DANIEL BROSE AND JOHN BAUMGARTNER, OF NEW WASHINGTON, OHIO.

TILE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 354,093, dated December 14, 1886.

Application filed November 20, 1885. Serial No. 183,801. (No model.)

To all whom it may concern:

Be it known that we, DANIEL BROSE and JOHN BAUMGARTNER, citizens of the United States of America, residing at New Washington, in the county of Crawford, in the State of Ohio, have invented a new and useful Tile-Machine, of which the following is a specification.

Our invention has relation to that class of tile-machines known as "tile-tables," which are used to receive the forms from the dies of the forming or clay tempering machine, and which holds and conveys the form during its progression and preliminary to severing it into sections of pipes, &c.

The invention has special relation, first, to improvements in tile-tables having a carrier comprised of an endless belt provided with logs or forms arranged and secured thereon, and, second, to the appliances used in conjunction therewith; and the objects are, first, to improve the carrier-belt and logs or forms secured thereon; second, to combine therewith an improved tile-seat or table; third, to adapt machines of the class to tiles of different diameters, and, fourth, to provide an improved lifter or carrier for the tile to the platen.

The nature of our invention and improvements is fully set forth in the description given hereinbelow, and the novelty thereof specifically pointed out in the claims made hereto.

The mechanism embodied in the machine and its appliances is fully illustrated in the annexed drawings, forming a part of this specification, and wherein—

Figure 1 is a side elevation of the table with a section of tile thereon and the lifter applied thereto. Fig. 2 is a top plan view. Fig. 3 is a view showing our improved means for attaching and steadying the logs or forms. Fig. 4 is a view of one of the forms detached and having an additive form fixed in it. Fig. 5 is a view of one of the additive forms. Fig. 6 is a perspective view of the spring-bottom seat or platform. Fig. 7 is a perspective view of the lifter, showing the detachable handle removed therefrom. Fig. 8 is a view of the platen or carrier-board, and Fig. 9 is a plan view of the roller-frame.

The same parts of mechanism and appliances are identified by like letters of reference.

The letter A designates the supporting frame or carriage, comprised of substantial side pieces made somewhat longer than the carrying-belt, mounted on standards or legs at each end, the legs being mounted on fixed axles having wheels journaled on the outer ends, substantially as shown. The wheels may be flanged to keep them on a track leading to the forming-machine. A number of rollers, *a*, arranged between the side pieces of the frame and journaled therein, form the floor of the carrier, the end rollers, *a'*, being of larger diameter than those arranged intermediate, in order that the endless belt may be carried free of the intermediate series on the under side. The upper line or face line of the rollers touches a common plane.

The letter B designates the carrier. This is comprised of two endless belts, *b*, adapted to be disposed over the series of rollers about the end rollers, said belts having secured to them a series of logs, or forms, or cross-pieces, B', arranged transversely to the line of belting, with proper spaces between them, substantially as shown in the drawings. Heretofore much difficulty has been experienced in carriers of this character by imperfect or unyielding connections of the forms to the belts. The connection being made to plates rigidly fixed to the belts, the carrier does not run well and does not wear well, and if the forms are secured to the belt without a seat or plate they yield or rock too much to do good work. To overcome these defects, we set under each form, or under each end thereof, a metal plate, as *b'*, which is of about the same width as the belt and long enough to project some distance beyond each side face of the form. Fastening screws or nails are then inserted through the belt, about the middle of the metal plate and into the form. This connection admits the forms to travel about the end rollers with the least possible rigidity and strain, since the point of connection is a single line, and the plates do not cramp or bend, and the extended sides of the plates when traversing over the bed of rollers keep the blocks of the forms in vertical position, and also serve to keep the tile-beds of the forms in alignment, so that the tiles are not unevenly carried or warped.

To adapt the forms on the carrier to tiles of

various or different sizes, we use additive forms b^2, which consist of linings or strips of suitable material shaped to set in the curve of the forms on the carrier, and having the faces concentric and parallel, respectively. They are detachably secured in place on the curved faces of the forms by screws or pins. By means of these additive forms the machine may be used for different-sized pipes or tiles.

Secured to the side pieces of the frame, at the delivery end, are two rails, *c*, which project for a suitable distance, and on these is fixed a platform, *c'*. Hinged to one side of this platform is the platform C, which has springs c^2, arranged and adapted to throw it up from a horizontal position and to hold it in nearly a vertical position. At one edge of this spring-platform C are studs or supports c^3, having struck-up ends, which are to hold the platen c^4 when laid on the spring-platform preparatory to receiving a tile. The office of this spring-platform is, when a tile is taken from the forms or logs and carried to the platen, it may be brought with its end evenly against that and eased up or lifted to a perpendicular position without smashing or unduly bending the edge or warping the pipe. When brought to an erect position, the section of pipe may be carried away on the platen. As soon as the weight is removed from the spring-platform, it resumes the position to receive another platen and tile.

The letter D is the cutting-frame, which consists of two side bars connected by arched end bars, and provided with cutting-wires at proper distances across the side bars. The frame is operatively connected to the frame by having one of the side bars hinged thereto.

The letter E designates the tile-lifter, to be used in taking the tiles from the forms and to carry them to the platen on the spring-platform. This lifter consists of a piece of sheet metal or other suitable material having a closed end or cross-piece, *e*, provided with a hand-grasp, *e'*, and from the cross-piece project two or more fingers or straps, e^2 e^3, with an open end slot or slots between them, formed by cutting out the middle portion of the plate. The straps are bent to about a half-circle shape, and terminate in struck-down ends e^4, to receive the detachable handle e^5, which may be of any desirable construction to permit the ends of the lifter to be engaged. We have shown the handle as consisting of a metal bar bent in shape and having a bail-handle fitted on one of the cross-bars. The open end slot is made wide enough to admit a log, form, or cross-bar of the carrier, and the straps are made to slip easily in the spaces between any two or more of the forms. To use the lifter, the strap-pieces are passed straddle of a log or form under the tile, and the loose handle fitted in the hooked ends of the straps, when the tile may be lifted from its bed and carried to the platen on the spring-platform. This lifter is essentially an appliance or attachment suited to machines of the character and construction described, and is not applicable to tables with rollers to carry the tile.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The combination of the frame provided with a table of rollers, and the endless belts arranged about the rollers, with the logs or forms having their ends seated on metal plates the edges of which project an equal distance beyond each side face of the forms, and secured in place by fastenings projected through the belts, the middle of the plates, and into the forms, substantially as described, and for the purpose specified.

2. The combination, with the frame provided with a table of rollers, of the endless belt arranged about the rollers, the main forms B', and the detachable and additive forms b^2, seated on the main forms, substantially as specified.

3. In combination with the frame A, provided with rearwardly-extending side pieces, *c*, and a platform secured thereon, the spring-platform C, hinged to the table-platform, and provided with springs to lift it therefrom and to hold it in upright position, substantially as described.

4. In combination with the tile-table provided with rearwardly-extended supports and a platform secured thereon, the spring-platform C, hinged to the platform of the table, and provided with springs to lift it from horizontal position to a vertical position, and studs or seats on its edge, and a platen removably seated on the studs or seats, substantially as described.

5. As an attachment to a tile-machine, the spring-platform C, hinged to a support and provided with springs to lift it from a horizontal to a vertical position, substantially as described.

6. The lifter comprised of a plate having a handle and formed with two curved strap-pieces having an open end slot between them and turned or hooked ends, and a detachable handle adapted to engage with the hooks on the ends of the strap-pieces, substantially as described, and for the purpose stated.

In witness whereof we have hereunto set our hands in the presence of two witnesses.

DANIEL BROSE.
JOHN BAUMGARTNER.

Attest:
PETER D. STUDER,
GOTTLIEB SCHNARRENBERGER.