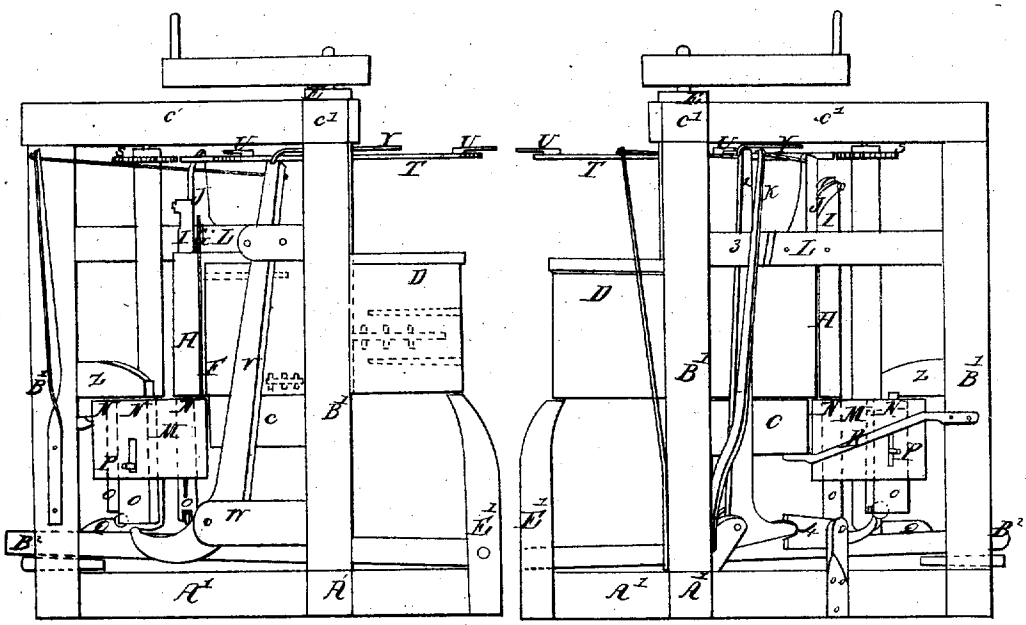
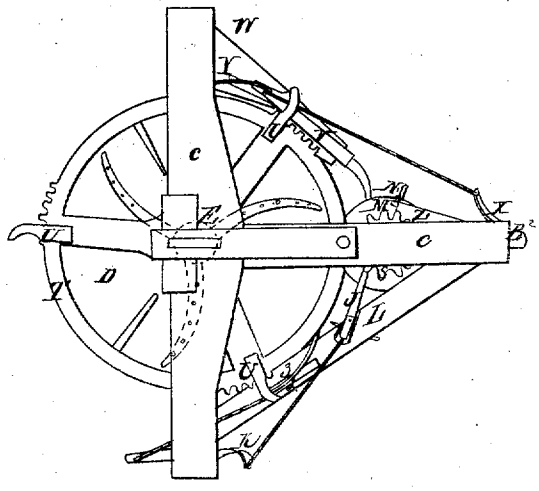
9186X

B. P. Coston,

Brick Machine.

Patented Oct. 22, 1835.





AM. PHOTO-LITHO. CO. N.Y. (OSBORNE'S PROCESS)

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Benton Hoston of Sterling, County of Wayne, Penn.

The Schedule referred to in these Letters Patent, and making part of the same, containing a description in the words of the said Benton Hoston himself, of his improvement in the machine for making Bricks & Tiles.

To All to whom these Presents shall come. Be it Known that I Benton Hoston of Sterling in the County of Wayne and State of Pennsylvania have invented a new and useful improvement in the art of making bricks & tiles by means of a machine which makes them in a finished state from the clay ready for the kiln. & which I call the horizontal rotary brick machine. The following is a full and exact description of the construction and operation of the said machine as invented or improved by me. The frame work A A will consist of two sills which are to be laid across each other after the fashion of a cross and from their ends of which an upright at each is to rise to the top of the frame where they join to other three ends of arms forming the top of the frame of the same form as that below. The short arm of the cross is dispensed with at the top, but below it, is used with a short upright at its end, and below it and the opposite full length one, is placed another sill B², on the top of the one already mentioned, it is to be moveable and to work on a pivot joint in the short upright and by means of a tenon and mortice through the other, it may with the application of a wedge or other contrivance there be raised at pleasure at the end, across this is placed the support C. intended to receive the grinding and mixing cylinder D. through the centre of which passes the shaft E. furnished with curved or obliqued straight arms having pins through them, passing between others attached to the sides of the cylinder D. An opening F is made in the cylinder closed at pleasure by the sliding door G. while above this & and on the outside of the cylinder rises the box or case H. secured

by a piston I, which is raised and depressed by means of the elbow lever J having at one end where it joins the piston I a pivot joint and Mal, to raise the piston perpendicularly, while at the other end it is connected with the spring K to draw it again after being depressed. The elbow or angular point of this lever works by a pivot in the brace L - at the bottom of the case H, is placed a wheel M, to revolve close beneath it upon a shaft resting on the moveable sill B, and is intended to receive or contain the moulds N, which pass under the opening at the bottom of the case and cylinder as they revolve. To each of these is adapted a piston O, having at the bottom a friction wheel and above the centre of the length a pin P, projecting through a slot in the side of the wheel of sufficient length to admit of it's play up and down, the intention of these being to raise with the pistons as they are filled and pressed and passed on to the platform D, round which they traverse on the friction wheels until the said pins come in contact with the bar or inclined plane R, by following the course of which the pins being guided thereby and having friction wheels revolving on them cause the pistons to descend to the requisite depth for filling again under the box H. At the top of the shaft is secured a cog wheel S, to gear into another larger one T on the shaft U, which is furnished with cogs on as many segments only as there are moulds and those distributed equally around the circumference or at regular intervals proportioned to the spaces between the moulds at the commencement of each segment of cogs there is a projecting arm W, or cam, which as the wheel T revolves strikes against the elbow lever E and forces it's piston down, then against the top of the lever V, which descends to the bottom of the frame X works by an elbow upon a pivot in the brace W, the end turning up under the bottom of the piston where it is furnished with a friction roller the more easily to pass over the bottom of the piston. The top of it is connected with the spring Z, which draws it back again to it's required position. At the top of the

lever V. is an iron rod or bar, Y, placed horizontally, forming a continuation of its length in the direction of the revolution of the wheel I. or opposite to the curved or turned up part at the bottom, which is intended to retain the lever, and consequently the piston above it in its position after the work allotted to it is completed, and until the next segment takes hold. The intention of this lever V is to press the brick (by applying the power to the piston below it) upwards against the fixed block Z secured to one of the uprights of the frame, and to land the said Piston on the top of the platform D. The wheel I continuing its revolution after the arm at the segment has passed over V. the last described lever brings that arm which precedes it in contact with another lever marked 2 striking against its top which has also a rod Y. in continuation similar to that on V. the lever descends through a slot or opening in the brace 3. between the uprights (which serves as a guide) to the cross sill at the bottom, or rather near it where it assumes an elbow or angular shape, terminating in a flattened edge. this edge works in a fork 4. which as well as the angular point of the lever, works on a pivot in a brace connected with the frame, and continues to the inner side of the circular platform D. when it raises under the piston which has passed under the pressing block I. with the completed brick and raises it up to the level of the face of the wheel ready to be taken off, as complete. I would mention that I also apply the scraper [.....] removed any soft clay which might adhere or project above the mould and fasten it to the fixed block. This lever is also connected with a spring similar to the others. Upon the top of the shaft is applied the power of whatever description by which the machine is to be driven to...ation. In order to grind or mix the clay ready for use, lower the moveable sill B. by means of the wedges which will throw the machine out of gear, then close the sliding door 6 and the cylinder being filled with clay commence turning the shaft thereof, until it is sufficiently mixed, this being done raise

the sill B. and [.....] round the wheel M until one of the moulds will be brought under the box H, now raise the sliding door G. and Start the machine [.....] revolutions of the arms in the cylinder D forces the clay out, owing to their curved shape or sting [.....] obliquely into the box H by the opening E and one of the arms W ..... king against the top of the lever J. ..... drives the Piston I ..... fills the mould .....
..... arm gears into the wheel d. which causes the shaft and wheel M to revolve towards the propping block, until it stops under it (from the termination of the cogs in the segment) The arm W has by this time arrived at the top of the lever V. against which it Strikes and urges on which produces at the other or curved end, the upright motion under the piston for the purpose of propping the brick against the propping block Z and it is retained in this position by means of the rod or bar Y, until the following segment takes hold on the wheel S when it moves on again, and by the assistance of the lever V. lands the piston O. on the circular platform 2. and moves on the brick propped under the block and scraper 5. which finishes it. By means of the termination of the cogs in the segment the wheel M remains stationary here until one of the arms W. passing over the top of the lever 2. drives it on in the course of its revolution so as to lower the end working in the fork 4. which working as its pivot, raises the other end under the piston which supports the finished brick and raises it up level with the top of the wheel ready to be removed. One of the arms W. has now arrived with its segment again at the lever I. just operated on, & the segment cogs by means of the wheel S. set the wheel M. on the shaft in motion again, which carries on the empty piston and mould towards the box to be filled anew. but in doing this the pins and friction rollers P are obliged to pass under and round the fixed inclined plane or rod R which carries down the piston so as to leave the mould ready to be filled

At this point the operation is renewed and repeated by the continuance of the power. At the different points of friction where I may deem it necessary, I propose adding friction rollers for reasons which must be apparent. I also form the bottom of the piston, I, with a convex projection for the purpose of filling the moulds in the corners.

What I claim as my invention and not heretofore known or used in my above described improvement for making bricks, and for which I ask Letters Patent is. 1st The manner of forcing the mixed clay into the revolving moulds by the combined action of the lever, piston, and spring constructed and acting on the principles above set forth. 2dly The application of a wheel containing arms or cams and segments only, of cogs upon its circumference at such intervals as to produce the revolution of the moulds at such times as may be required by the arrangement of the levers. 3d. also the pressing the brick against a fixed block by means by means of said and a lever operating and operated on as shown above. 4th The manner of delivering the finished brick from the revolving moulds by means of a lever operating and operated on as described. 5th The manner of opening the moulds by means of the fixed inclined plane or bar, constructed and acting as above. 6th The general construction and arrangement of the several parts of my machine, from which it derives its character, enabling a competent machinist to distinguish it from others invented for moving, moulding, pressing & delivering bricks. But be it understood that I lay no claim to any of these parts individually or separately as they may form elements of other machines, but only the combination and construction of them according to the plan and principles I have above set forth. ... In testimony that the above is a full and exact description of the construction and mode of operation of my machine as invented or improved by me, I have hereunto set my hand this sixteenth day of September in the year Eighteen hundred and thirty five

Witness
C. H. Shalton
Henry Stone

Reuben P. Preston

Exd. W.F.G.

(Drawing)

(Patented 22d. Oct 1835.)

(Drawing)