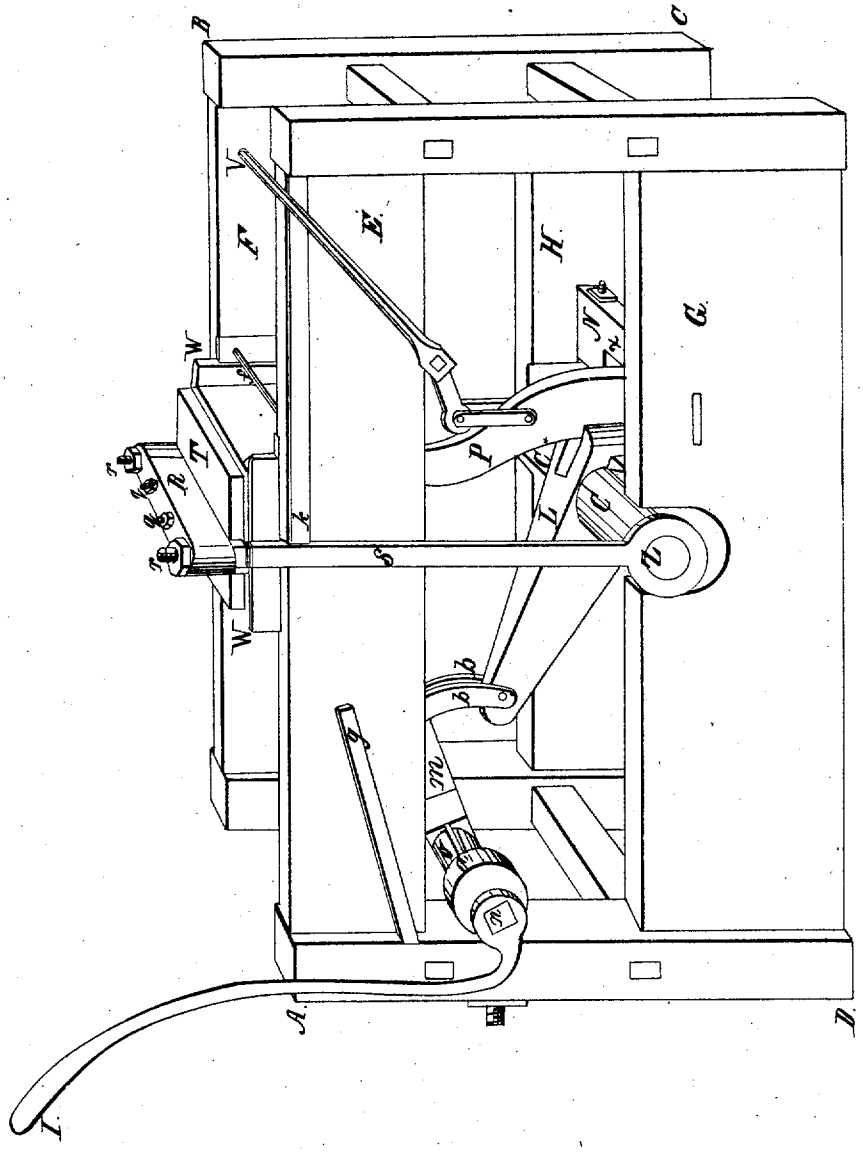
6027X

J. Willard,

Brick Machine,

Patented June 10, 1830.



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

Nos 10 1630 15 6027X 99

Julius Willard, of Baltimore, State of Maryland.

Letters Patent.

The schedule referred to in these Letters Patent and making part of the same containing a description in the words of the said Julius Willard, himself of his Improvement in the Brick Press called the "Beidle Brick Press."

To all to whom these presents shall come,

Be it known that I Julius Willard of the City of Baltimore, Baltimore County and State of Maryland, have invented a new and useful improvement in the Brick press called "Willard's Beidle Brick Press," and that the following is a full and exact description of the construction and operation of the said Machine as invented by me, — to wit. In the annexed drawing A.B.C.D. is a substantial wooden frame about 4 feet long. 2 f. 6 inches high, and from one foot to one foot six inches wide, the corner posts may be six inches square and the rails E.F.G.H. about three inches thick, by twelve inches deep, the whole being mortised and strongly pinned together and connected by cross pieces. Two semicircles are notched out in the upper edges of the rails G.H. to receive and permit to move freely without touching the cylindrical transverse mould, (C.C.) of the main lever (L. which together with the lever are of iron, and cast solid; the arms C.C. projecting over the rails and have square shoulders with two round pinions 2; also along their sides towards the short arm of the lever (L) is cast a square tongue (t) (scarcely perceptible in the drawing) the outer ends rest in the bottom of the grooves faced with iron on the inner surfaces of the rails G.H. (not seen in the drawing) and serve at one part of the operation as a fulcrum or resting points to the lever (L) which will be explained hereafter (I.) is the piston stock which is also cast iron having near its lower end a square shoulder, in which the cylindrical end of the short arm of the lever L is held on it's foot descends through a large square mortise (K.) in a wooden cross piece (N) framed into the rails G.H. and is acted on by five governing screws, in the cross piece N. only one of which is seen in the drawing for the purpose of levelling the piston or moveable bottom plate of the mould, which is

Specification

firmly attached by nuts and screws on its upper ends, (S) is one side or strap of the wrought iron bridle (the other no. being seen in this view of the machine) both of which attach by means of circular eyes in their lower ends to the square pinions (P.) of the arms (c,c,) of the main lever (L) and have their upper ends made fast to the bridle head R by two screw nuts, (r.r.) above and below R in such a manner that by screwing the nuts (r.r.) the top plate T of the mould fastened to the bridle head R by the screws and nuts q, q, may be adjusted so as to set level on the upper edge of the mould W.W. which is a common bridle mould of wrought iron filled and firmly fastened by screws or otherwise between the upper rails F. F. - and to make it still more permanent, bracing rod (f) are made to connect the opposite ears of the mould. (I.) is the wrought iron forcing lever, bent in the manner shown in the drawing, and having a square eye, by which it attaches to the square pinion (n) of the cast iron axis (O.) which has its bearing in cross eyes, (d) attached to the post A, and is cast solid with an arm (m) the end of which is connected by pins and the bridle or wrought iron straps (b, b) to the extremity of the long arm, of the main lever (L) forming a parallel joint - the piston stand (P) is also operated on by a similar attachment and the small wrought iron hand lever (V) which may be called the discharging lever. Now when the forcing lever I. is thrown back, in the position shown in the drawing, its weight falling on one side of its attachment (n) by reason of its bent form, causes the long arm of the main lever L to rise and the bearing or fulcrum being on the tongue t in the bottom of the grooves above mentioned, a corresponding rise takes place in the cylindrical arms c.c, and also in the bridle bar R and its attached top plate T; the bridle being thus relieved, whilst the main lever continues to rest on the tongue t is thrown back till its straps S are checked by the ends of the small wooden springs S. fastened on the outside of the rails B.F. for that purpose. The clay (tempered in the usual way) is then introduced into the mould W.W. after which the bridle is replaced by moving it in a contrary direction till the straps strike the ends of the wooden strips or chocks K; (adjusted so as to stop the plate T. precisely over the mould) the forcing lever I is then brought down so as to force the long arm of the main lever L. the first part of the motion serves to close the top plate T on the upper edges of the mould W.W. and the moment this takes place, the axles c.c. cease to descend, the bearing on the

bigger t, is relieved and the whole strap falls upon the circular eyes Z. of the straps S of the bridle, and a slit - it serves as a new fulcrum for the lever I, by the end arm of which the piston staff P is forced up and compresses the brick, also serves to gripe down the top plate T under the bridle head R. After the pressure is finished, the lever I, is thrown back, the bridle head is taken off as before and on bearing down the lever V. the piston staff P is forced up and the brick discharged from the mould.

Now what I claim as new and as my own invention, is the application of the bridle S.R.S. and the peculiar form and application of the main lever (I.) and its connexion with the bridle S.R.S by which the upward and downward pressures i,e, the downward pressure on the fulcrum Z of the top plate T, and the upward pressure on the piston staff P of the plate, are made to react on each other, also the application and arrangement of the parallel joints, other levers and governing screws be and for this Special purpose. Given under my hand this 27th day of April 1830.

(Witness)
W. S. Clift.
R. W. Fenwick.

Julius Millard.

G.C.
Cl.fW.

1175 wds