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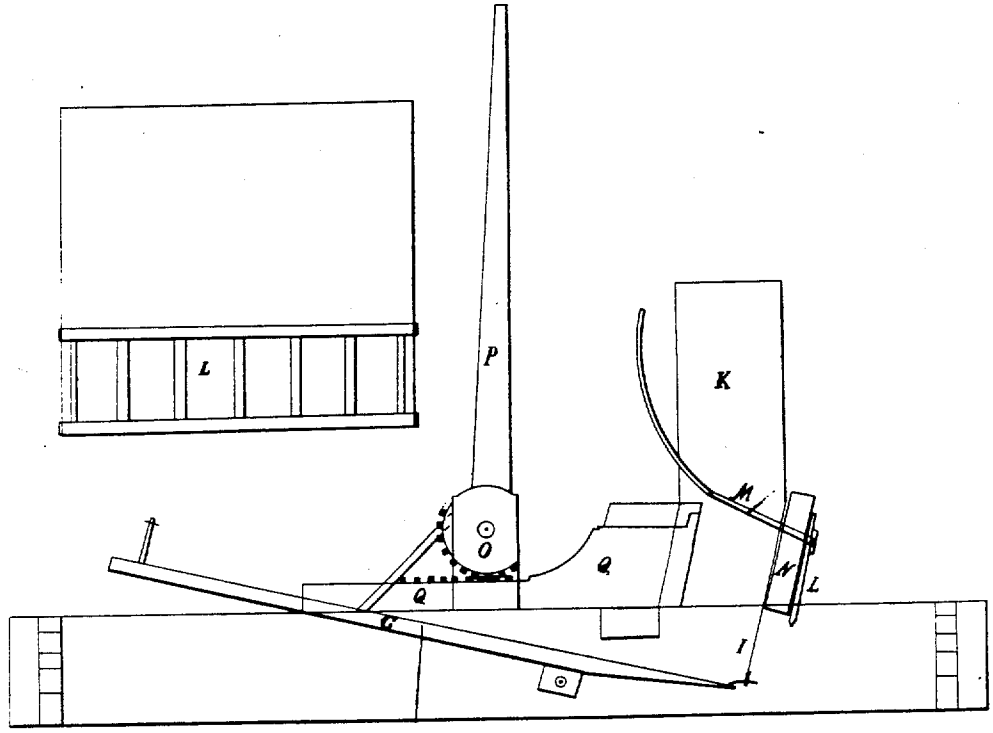
P. Sweet,

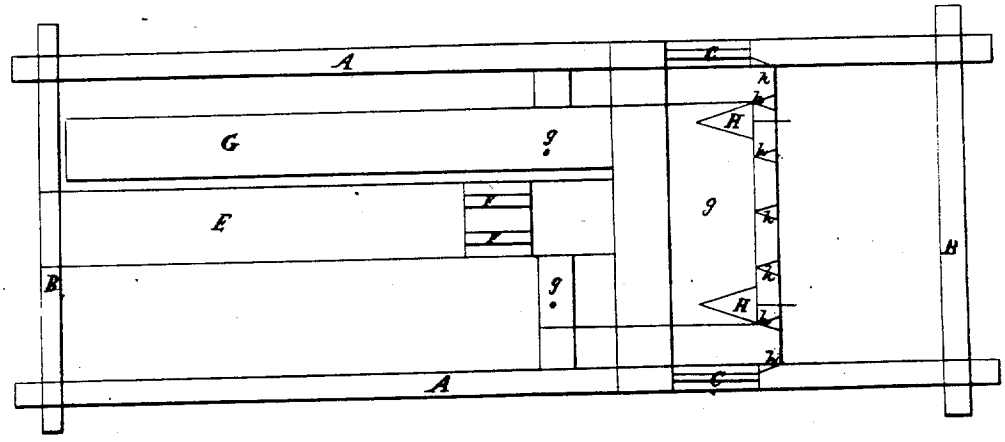
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Brick Machine.

Patented Feb. 20, 1835

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Dec 20 1855 9,652 X

Peleg Sweet Ashtabula Ohio

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 Peleg Sweet himself of his improvement in Brick making, called "Sweets Brick Machine."

To all to whom these presents shall come: Be it known that I Peleg Sweet of Ashtabula in the County of Ashtabula and State of Ohio, have invented a new and useful improvement in the art of making Brick, and that the following is a full and exact description of the construction and operation of the said Machine as invented or improved by me, reference being had to the plates numbered and parts lettered sketched and accompanying this specification.

Plate 1. Birdseye view of the frame and several important parts fully described and referred to.

A.A. Side pieces 7½ feet long 2 inches thick 12 inches wide.

B.B. End pieces 3⅓ feet long 2 do thick 12 inches wide.

Width of the frame from inside to inside 2 feet 11½ inches clear.

Length of the frame from inside to inside 6 feet 8 inches clear.

C.C. 11½ inches from the inside of one end of said frame commences a Mortice into each side piece 5 inches deep, one inch wide to admit the end of the hopper. Mortices to be 8 inches long on the end of each side piece.

D Cross sill, immediately in rear of these Mortices is a cross sill framed into side pieces ½ of an inch above their lower, said piece 5 inches wide and 3½ inches thick.

E Standchion Beam; a piece of timber 7 inches wide and 4 inches thick, framed into and on a level with the cross sills and into, and 4 inch above the level of the rear end piece.

F Mortices for the standchions 7 inches from cross sills 6 inches long 1 inch wide 3 inches diameter from each other and through the beam.

G. The foot lever to give motion to the knife, is formed of a piece of plank

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1 3/4 inches thick 5 1/2 feet long firmly ironed by rivets to a flat roller turning on 2 inch gudgeons, which said rollers play immediately under the rear of the cross sill and 3 inches below said sills. The plank in rear of the cross sill and roller is reduced to 6 inches wide on the left of the standards, but on the roller and at the front end is 19 inches wide See Fig. 2 & 3.

H Irons passing through the knife. To the upper side of the front or wide end of said lever, are attached two irons shaped like a masons trowel, the blade part spiked to the plank by 3 spikes (2 in front and one in rear) and the handle part curved gently over from the blade 5/8 inch diameter and passing through the knife 16 in a part and at equal distance from the sides.

I See plate second. The knife for shaving the brick to a level with the surface of the moulds is formed of iron 1/2 of an inch thick, either of strong sheet or malleable wrought iron 13 inches wide and 29 3/4 inches long gently curved over to the front of the top like a carvers knife — strengthened at the bottom by a bar of iron 1/2 inch thick 1 1/2 inches wide and 28 1/2 inches long rivited on and receives the two iron spears of the foot lever through it together with the main iron of said knife K. Grooves (see plate 2d.) are cut in to each side piece to admit each end of the knife and steady it, the grooves varying two inches in 9 from perpendicular, the upper part of the knife having the greatest front projection. These grooves are continued as high as the top of the generators by means of 2 pieces of cast iron extending from the top of the frame to the upright part of the hopper 2 inches wide 3/16 inch thick, grooved from the inner edges and attached by screws to the front of the hopper.

Plate 2. a side view of the Machine with the manner in which the foot lever is hung and attached to the knife.

K. The ends of the hopper, are composed of 1 1/2 inch plank inserted into side pieces by 8 inch tenons (see letter C) end pieces 2 1/2 feet high & 10 inches wide. During the first 9 1/2 inches from the shoulder of the tenon or surface of the side piece each end piece slopes or projects to the front at a slope of 2 inches for every 9. from this point they ascend perpendicularly to the top. one half inch is grooved from the inner part of each end piece to the

height

height of 9 3/4 inches, this being the height of the propeller which acts immediately under the groove moulders. The front and rear sides of the hopper are formed of boards one inch thick, upward from where the hopper ascends perpendicularly. The end pieces of the hopper from inside to inside will be 30 1/2 inches distant. This space is partly occupied in front by the generators (see letters h.h.h.h.h. on plate first) which are seven pieces of wood edged in the rear and 7/8 inch thick in front. Two of these may be formed semi-generators, being attached to the inner front of each end piece of the hopper. The remaining 5 stand at 4 inches distance across the open front of the hopper. Between these the mortar is pressed forward into the molds as the lever descends. They assist in forming the brick, and protect the molds from injury. These 5 pieces are morticed into a bottom board that extends from the knife grooves to the opposite in rear of the Hopper. and are halved into the perpendicular bottom front of the hopper, and secured there by a strip of iron 3 inch thick and one inch wide which is attached to the hopper by screws passing through it into the front board of the hopper.

The moulds (see plate 3d letter M) may be of any size or shape to suit the maker and such parts of the Machine as are necessary varied accordingly. They are described as forming bricks of common size. The bars of the mold are all exclusive 5/8 of an inch thick. Each bar of the mold is covered and protected by a generator as the mold is placed edgewise in front of them to receive the Mortar. The molds resting in two sloping grooves cut into the upper part of the side pieces of the frame.

The mold stay is of two parts. First a 1/2 inch board (see letter I.) falling a little below the molds in front of them which turns on 1/2 inch gudgeons let into the side pieces chamfered to 3/4 inch thickness at the other edge. The molds may be raised to a position to receive the Mortar by raising up the board, upon which together with the moulds the arm of the stay is known to hold the molds firmly to their place until filled. This board prevents the bottom of the molds from being pressed out and serves for the molds to rest on (ready for the carries) when it falls down on two sloping blocks,

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the Molds being full and the back or arm stay thrown up and with=drawn by a downward pressure on the front part of it by the manual the lever. M. The arm stay. an arm is attached to each end of the hopper by an iron bolt one inch diameter the head inward, which bolts pass through the end pieces of the hopper and are secured by nuts. said bolts are 10½ inches from the surface of the side frame piece and 8 inches in rear of the front. These arms are united by a substantial cross piece 5= inches wide firmly affixed to the ends of the arms, but the rear ends of the arms play on the bolts as the arm stay is raised or brought down to confine or liberate the molds either or both their arms may extend to the rear of the hopper at a convenient slope, and may be united thereby a cross piece for the convenience of having the man at the lever handle the molds with more facility.

N. an end view of the molds placed to receive the mortar and supported by the board or back, and arm stays.

O. The Stanchions are 12 inches high 3 inches thick & 6 inches wide paping through the stanchion bearer by inch tenons and keyed below, they being placed two inches apart and 5 inches in rear of the cross sill, and firmly secured in their rear by two braces two= inches from each other.

P. The Propelling Lever is a firm piece of timber four feet 9= inches long and 3 inches thick enlarging towards the main end= where it terminates in a semicircular shape. through the centre of this circular termination is a hole bored with iron to 5/8 inch diameter through which passes the bolt, and through the stanchions on which the lever plays. from the centre to the circumjacent line of the wooden part of the semicircle the distance is 3 3/8 inches. around the circumjacent surface of the semicircular end of the lever is affixed firmly the cog= ment of a cast iron cog wheel to the amount of a half circle evenly of 5/8 inch base and 5/8 inch cogs, 1¼ inches wide 9/16 in space between cogs. the number of cogs will be ten, and apparently at each end of the iron cog gives place to a 3/8 inch hole through the base of the iron. Along the upper part of the lever is a wrought iron back stay about 4 inches

inches long rounded to a ball at its front extremity, passing through the hole in the end of the cog segment, and is screwed by a nut. A bolt passes through the rear or lower end of the cog segment through the wooden part of the lever in the rear of the centre of the same circle, and through the back stay where it is nutted. The back stay at its extreme rear is further secured to the lever by a rivet. The bolt on which the lever plays is secured by a nut.

Q Q. The advanced Propeller is of two parts, viz, the beam, and the head. The beam is three feet long 2 inches thick, 10 inches of its front end are 6 3/4 inches wide, and its rear part 2 1/2 inches of firm timbers mortised into the centre of the head plank by a double tenon and braced to the same on each side. The upper portion of the head is the same as the fore head plank, 2 inches thick 6 3/4 inches wide and 30 1/2 inches long, pinned to each other at the top, the upper plank resting at its centre on the forward or wide portion of the beam, and the front of the advanced propeller projects forward on the same slope as the under part of the hopper the space whereof it exactly fills. Thirteen inches in the immediate rear of the front board is the first of eleven cogs of the same base distance and height, as in the cog segment. The base being a straight piece of iron 1/2 inches wide inserted into the centre of the beam the cogs extending from and above the surface and mutually acting with the cogs of the segment in giving motion to the advanced propeller. This latter cog iron is bolted at each end to the beam immediately under the bolt on which the lever hangs is a cast iron roller 3 inches diameter and 2 inches long turning on iron gudgeons in the Hanchion bearer, and just above the surface of the bearer for the beam to play on. These gudgeons should rest in steel bearings being subject to much pressure.

Plate 3. is a view of the open Moldes set in position to receive the mortar; also a front view of the hopper.

The operation of the machine is; The lever is thrown up perpendicularly which draws the head of the advanced propeller to the rear of the hopper which will contain enough for 100 Brick. From the shape of the hopper there is little friction

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to hinder the descent of the Mortar. The space between the head of th
advanced propeller and generators and Molds is filled; the lever
is brought down which throws the head of the advanced propeller forwa
against the map of Mortar between it and the Molds, the mortar
cannot escape but is forced through the generator into the Mold
(which may be three filled by bringing the lever once down) the
Molds are at once filled perfectly; the man at the lever places one
foot on the foot lever, the knife is forced upward (touching the su
face of the Molds) between the generator and Molds, the Mortar
in the Molds is thus separated from the map in the hopper the
hand of the man touches the arm stay with a downward motion
and the Molds all forward filled ready for the carrier. The knif
is drawn back by pulling the foot lever upward and the same
process repeated.

The subscriber claims exclusively the discovery
of properly confining and supplying the mortar properly a
placing the Moulds, and forcing the Mortar into the Molds
by the immediate action of the propeller so as to leave no brick
imperfect. The operation of the machine is rapid; sure to
produce perfect bricks (moulded in sand) and is the best
labour saving Machine for the purpose within his knowledge

Witnesses
P. R. Spencer
Wm Woodbury
Chester Ward

Peleg Sweet

(Drawing)

(25 Aug 1841)