2 Sheets--Sheet 1.

T. M. SCHLEIER.

Machine for Cleaning Bricks.

No. 133,893. Patented Dec. 10, 1872.

FIG. 1.

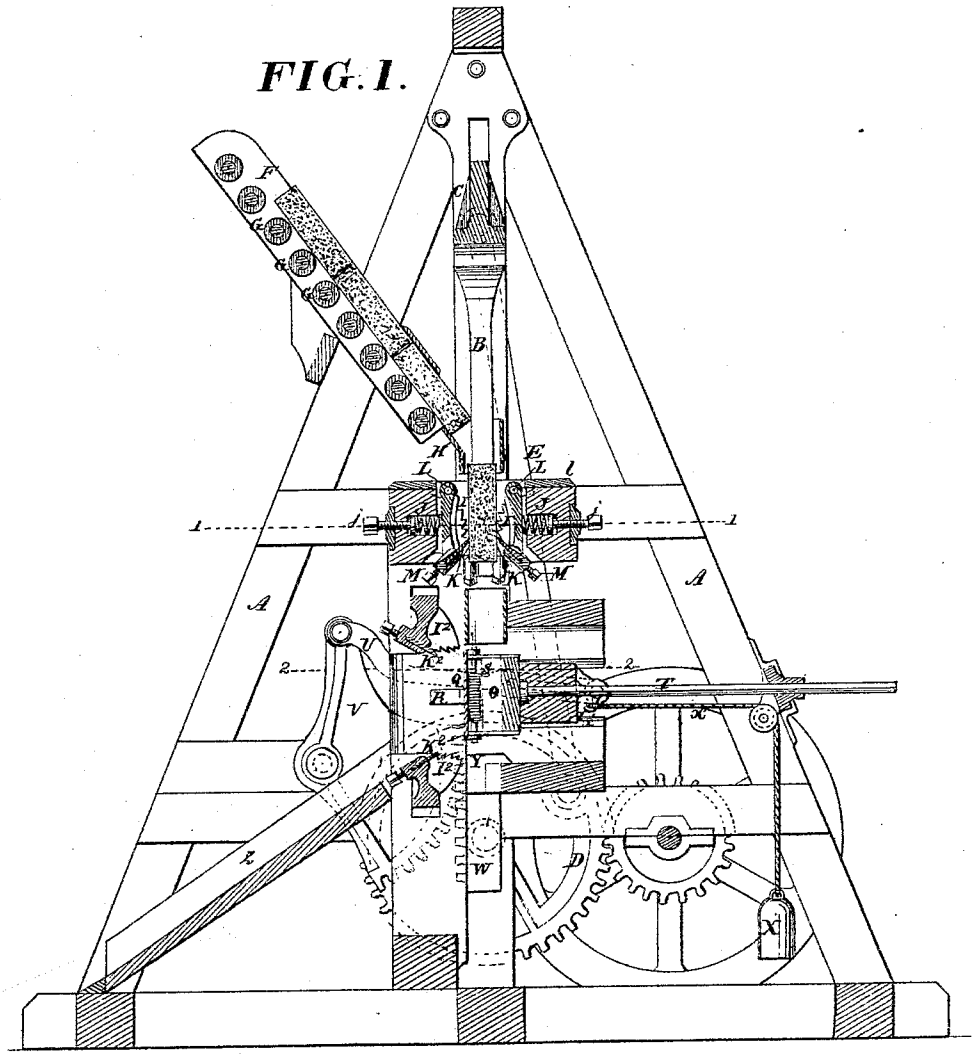
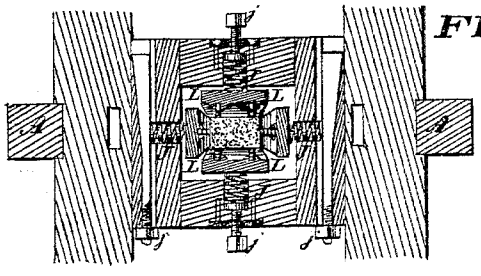


FIG. 3.



Witnesses

Jas. L. Ewin

Walter Allen

Inventor.

Theodore M. Schleier

By Knight Bros

Attorneys.

2 Sheets--Sheet 2.

T. M. SCHLEIER.

Machine for Cleaning Bricks.

No. 133,893. Patented Dec. 10, 1872.

FIG. 2.

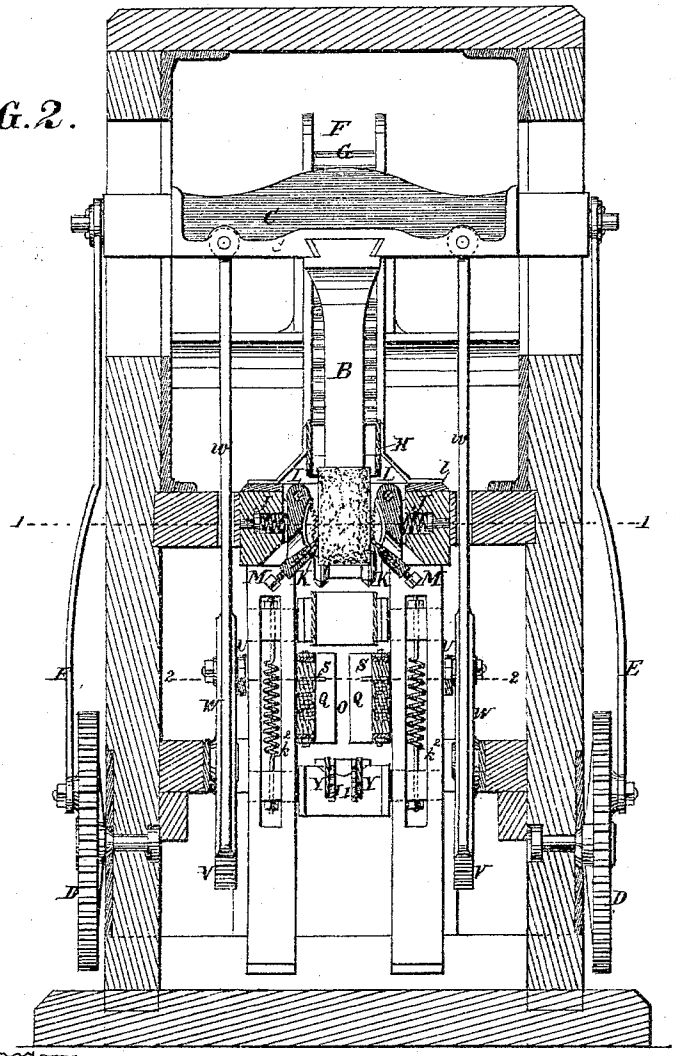


FIG. 5.

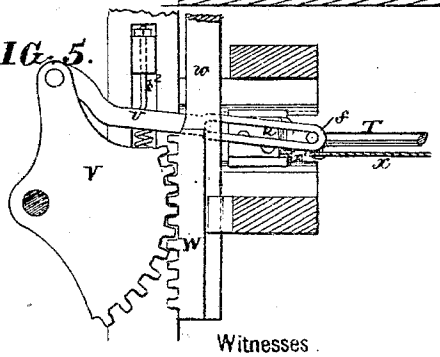
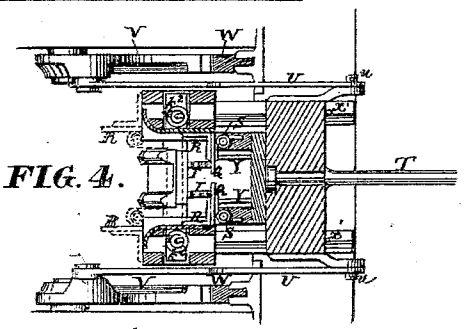


FIG. 4.



Witnesses.

Jas. L. Ewin

Walter Allen

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Theodore M. Schleier

By Knights Bros

Attorneys

UNITED STATES PATENT OFFICE.

THEODORE M. SCHLEIER, OF KNOXVILLE, TENNESSEE.

IMPROVEMENT IN MACHINES FOR CLEANING BRICKS.

Specification forming part of Letters Patent No. **133,893**, dated December 10, 1872.

To all whom it may concern:

Be it known that I, THEODORE M. SCHLEIER, of Knoxville, in the county of Knox and State of Tennessee, have invented an Improved Brick-Cleaning Machine, of which the following is a specification:

Nature and Objects of the Invention.

My machine is constructed with adjustable knives assembled together in such a manner as to effectually scrape mortar from the four sides of bricks as the latter are driven through by the action of a plunger. To cause the bricks to be presented centrally to the scraping-knives, although the said bricks may be unequally coated or may have a body of mortar on one or more sides and not on others, I employ toothed guides adapted to penetrate the superimposed body of mortar and come in contact with the surface of the brick itself on all sides. From the first set of knives the brick descends into a box, which then receives a horizontal movement, carrying the ends of the brick across a set of guides and knives, operating on the same principle, to remove any mortar which adheres to the ends. The cleaned brick is then discharged and the sliding box retracted.

Description of the Accompanying Drawing.

Figure 1 is a central vertical section of a machine illustrating my invention. Fig. 2 is a central vertical section of the same in a plane at right angles to that shown in Fig. 1. Fig. 3 is a horizontal section at 1 1, Figs. 1 and 2. Fig. 4 is a horizontal section at 2 2, Figs. 1 and 2. Fig. 5 is a sectional elevation of devices employed to scrape the ends of the bricks.

General Description.

A A represent parts of a frame-work of any suitable form. B is a plunger projecting downward from a cross-head, C, which is moved up and down by crank-wheels D through the medium of pitmen E E. For the smaller class of machines, which can be used by hand, a single crank-wheel and pitman, located above the cross-head, may be used if preferred. F is a chute or trough through which the bricks are fed to the machine. To cause them to pass down more freely the bottom of the trough is preferably formed of rollers G G. H is a guiding-hopper by which the bricks are received from the trough F, or the trough may form a part of or be made in one with the hopper. I I are removable guides formed with teeth or serrations adapted to penetrate the mortar and present the bricks centrally to the knives K K, though the said bricks may be coated unequally with mortar on different sides. The knives K K scrape the mortar from the four sides of the bricks as they are forced down by the plunger B. The guides I I and knives K K are mounted in hinged plates L, which together form the cleaning-box for the bricks, as illustrated in the sectional view, Fig. 3. The plates L may be hinged at top within the central opening of a stationary horizontal plate, *l*. If preferred, toothed wheels may be substituted for the guides I I. Springs J and set-screws *j*, acting on the plates L, serve to regulate the positions of the guides and knives and cause them to bear with proper force upon the bricks. M are screws for setting up the knives as they wear away, or to regulate their action on the faces of the bricks so as to cause them to clean without injuring them. From the knives K K the bricks are delivered to a vertical box, O, open at top and bottom, and having its front formed of hinged doors Q, which are held in their closed position by rigid arms R bearing against the faces of the stationary frame so long as the box is in position to receive the brick, but pressed open by springs S when the box is moved forward. The box is attached to a guiding-rod T, and is drawn forward by connecting-rods U attached to the heels of cogged segments V, which are operated by racks W on rods *w* projecting downward from the cross-head C. A cord, *x*, and weight X assist in retracting the box as the cross-head descends. When the box first receives the brick, and until it is moved forward, the brick is supported by one or more bars, Y. When moved forward the ends of the brick are carried over toothed guides I^2 to knives K^2, which effectually scrape and clean the ends of the bricks. They then fall on an inclined chute, Z, and are thereby discharged, or may be carried off by an endless apron. Springs K^2, of any suitable form, either separate or combined, are employed to keep the knives K^2 up to their work, and suit-

able stops limit their movement toward each other. The connection between the rods U and box O is formed by slots *u* in the said rods, working over pins or lugs *f* on the box. This permits some movement of the plunger independently of the sliding box, the latter being drawn home by the weight X, so that the empty box may be in position to receive the brick before the plunger has completed its descent. A stop, *x'*, is employed to limit the backward movement of the box.

Operation.

The bricks to be cleaned are shown at B B in Figs. 1 and 2. They are thrown endwise into the chute F, which may be kept constantly full, and as each brick is carried down to the knives the next is kept from following until the proper moment, by resting against the side of the plunger, as shown in Fig. 1. The descending plunger drives the brick completely through the throat formed by the knives K K, and into the box O with its top, bottom, and edges effectually cleaned, the removed mortar passing freely away through cavities *k* behind the knives. This is effected by the down-stroke. The up-stroke then carries forward the box O, cleaning the ends of the brick against the knives K^2, after which it is dropped onto the discharge-chute Z, the doors Q opening to let it out and being closed again by the pressure on the arms R, when the box is again drawn back for the reception of another brick.

My machine is also found very valuable for paring or planing partially-dried bricks before burning. By this means I am enabled to produce a surface about equal in smoothness to that of pressed brick without the violence to the substance of the brick caused by repressing.

Claims.

I claim as my invention—

1. The chute F, plunger B, guides I, and adjustable scraping-knives K, combined to operate substantially as herein set forth.

2. The springs J and set-screws *j* arranged in combination with the plates L, guides I, and knives K, substantially as and for the objects stated.

3. The box O provided with doors Q, arms R, and springs S, and operating in combination with the guides I^2 and end-cleaning knives K^2, substantially as described.

4. The slotted rods U in combination with the sliding box O and operating segments, and with a weight or other suitable appliance to retract the box, substantially as set forth.

5. The combination and arrangement of the cross-head C, plunger B, rods E U, segments V, and sliding box O, constructed and operating substantially as set forth.

To the above specification of my improved brick-cleaning machine I have hereunto set my hand this 16th day of November, 1872.

T. M. SCHLEIER.

Witnesses:
OCTAVIUS KNIGHT,
WALTER ALLEN.