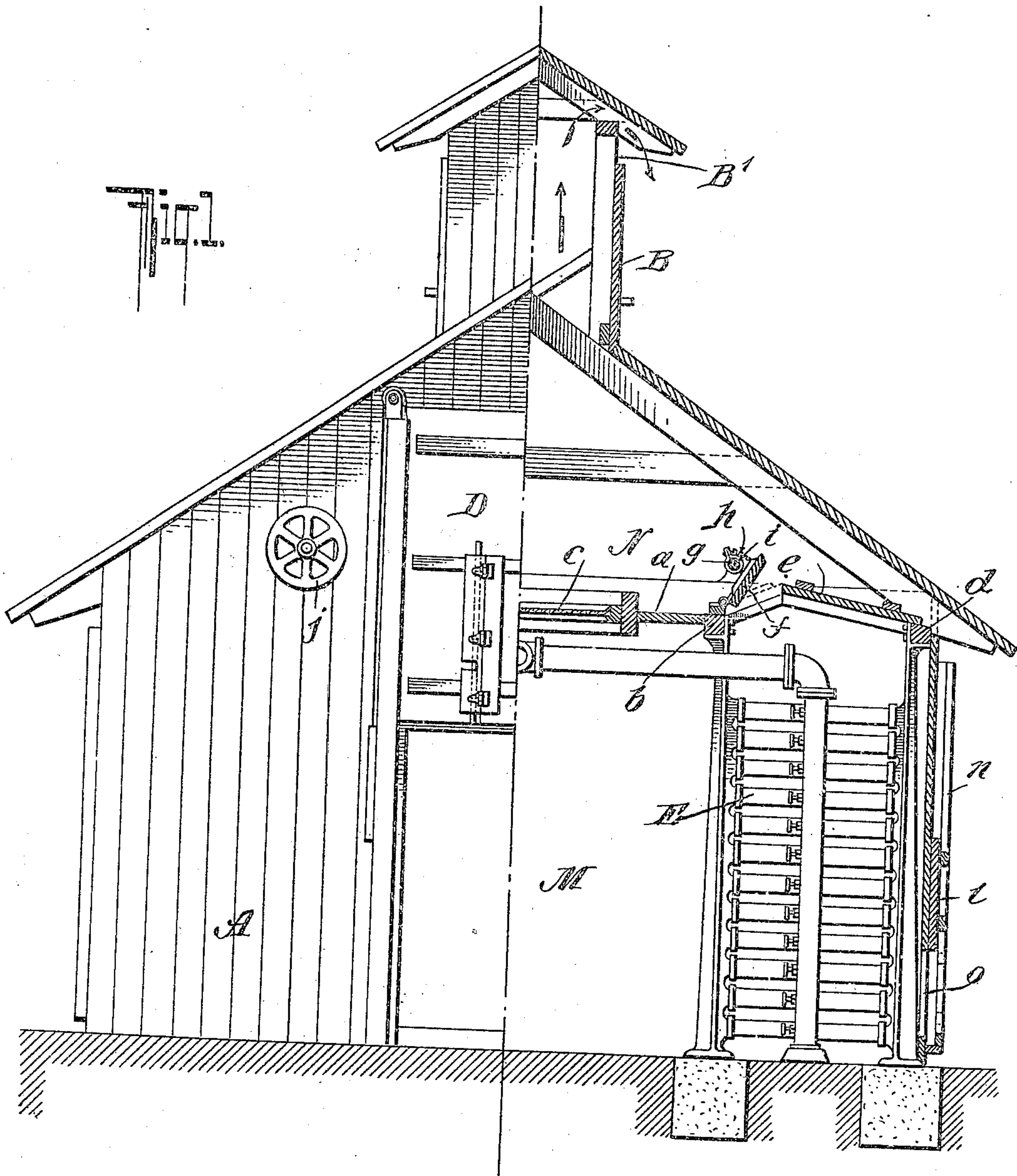


952,230.

E. H. CALLAWAY.  
BRICK DRYING SHED.  
APPLICATION FILED DEC. 17, 1907.

Patented Mar. 15, 1910.

2 SHEETS—SHEET 1.



WITNESSES  
*Julius H. Metz*  
*Le B. Schroeder*

INVENTOR  
*Edward H. Callaway*  
BY *Chas. A. Fisher*  
ATTORNEY

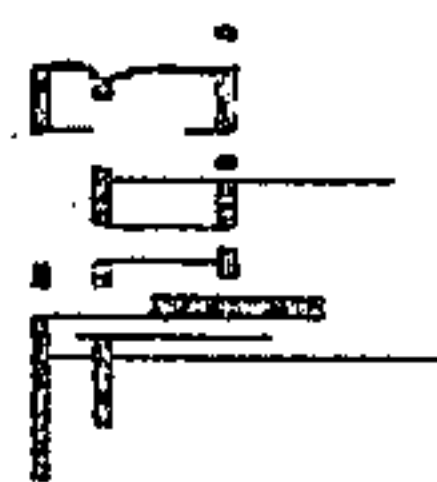
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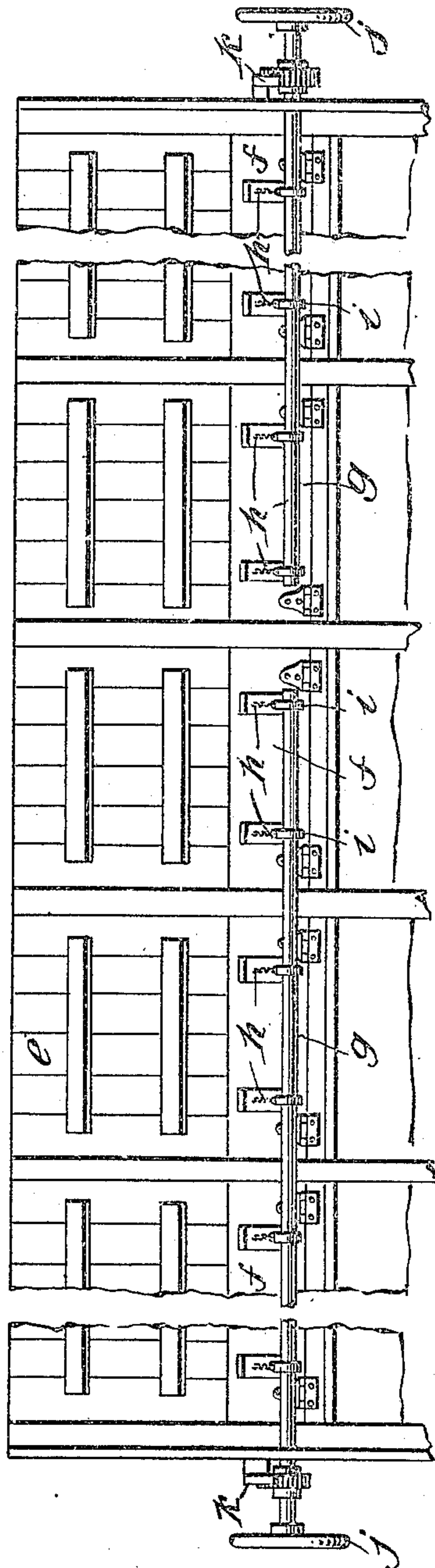
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2 SHEETS—SHEET 2.

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WITNESSES  
Julius H. Hutz  
L. B. Schroeder.



INVENTOR  
Edward H. Callaway,  
BY  
Fred W. Fisher  
ATTORNEY



# UNITED STATES PATENT OFFICE.

EDWARD H. CALLAWAY, OF WESTFIELD, NEW JERSEY, ASSIGNOR TO THE AMERICAN CLAY MACHINERY COMPANY, OF BUCYRUS, OHIO, A CORPORATION OF OHIO.

## BRICK-DRYING SHED.

952,230.

Specification of Letters Patent.

Patented Mar. 15, 1910.

Original application filed March 25, 1907, Serial No. 364,503. Divided and this application filed December 17, 1907. Serial No. 406,931.

*To all whom it may concern:*

Be it known that I, EDWARD H. CALLAWAY, a citizen of the United States of America, and a resident of Westfield, Union county, State of New Jersey, have invented certain new and useful Improvements in Brick-Drying Sheds, of which the following is a specification.

This invention relates to new and improved apparatus for drying bricks, tiles and like substances after the same have been formed by the brick-making or other machines.

The present application is a division of a co-pending application filed by me March 25, 1907, Serial No. 364,503, for improvements in brick-driers.

The present application relates to the building inclosing the heating system, and in various details and peculiarities of said building or structure; whereas the pipe arrangement of the heating system is contained in the aforesaid co-pending application, being therein fully described and claimed.

The chief object of the present invention is to provide an efficient and novel brick-drying shed which is constructed and ventilated in an improved manner.

With this and other objects in view, the invention consists in the novel features of construction, combination and arrangement of parts, and in numerous details and peculiarities thereof substantially as will be hereinafter fully described and finally pointed out in the claims.

In the accompanying drawings illustrating my invention, Figure 1 is a front elevation, half in section, of a brick-drying apparatus, more particularly the shed therefor, constructed in accordance with my present invention. Fig. 2 is a side elevation of the shed or building. Fig. 3 is a plan view of the covers and dampers arranged inside of the building above the drying shelves, which dampers have a function in connection with the air current, there being shown in connection therewith the operating mechanism for said dampers.

Similar characters of reference designate like parts throughout the different figures of the drawings.

A designates an example of drying shed which is preferably long and narrow, as

shown in Figs. 1 and 2, and is provided with the usual slanting roof and with a cupola B, extending longitudinally, substantially throughout the length of the shed, said cupola B being provided with a permanently open longitudinal slot or opening B<sup>1</sup> of greater or less width and size, so that the interior of the cupola, as also the interior of the shed, may have a permanent communication with the outside atmosphere at that point. The cupola is also preferably provided along the sides with windows C by which the interior of the shed may be lighted. Furthermore, the shed A is provided at the sides with windows W and at each end with a door D, and said doors preferably slide vertically and are counter-weighted, as shown in Fig. 1. The parts as described, however, may vary in construction and arrangement within very wide limits as they are not essential features of my present invention.

The lower part M of the shed is divided from the upper part N by means of a central horizontal partition *a*, extending throughout the length of the shed and supported on longitudinal beams *b* as shown. Said partition is provided with a plurality of horizontal skylights *c* through which the light from the upper window C falls. Between the beams *b* and certain outer beams *d* which support the roof, there are arranged covers *e* which coöperate with the partition *a* in completely shutting off the lower portion M of the shed from the upper portion N, said covers *e* being arranged immediately above the brick-drying racks E, one of which racks extends preferably along each side of the shed. It is unnecessary to enter into any detailed construction of the brick-drying racks at this point, inasmuch as they are made the subject of the aforesaid copending application hereinabove referred to, and since the detailed construction may vary within very wide limits.

The covers *e* of the brick-drying racks are provided with a plurality of dampers *f* hinged adjacent the beams *b* and arranged to swing upwardly in order to permit the warm moist air to pass upwardly from the brick-drying racks into the upper part N of the shed, immediately beneath the roof, from which such air escapes through the cupola B.



at B<sup>1</sup>. The dampers *f* extend only part of the way across the covers *e* and swing transversely of the latter, as indicated in Fig. 1. The covers *e* preferably consist of a series of comparatively narrow parallel strips or boards located transversely of the shed, and inclined downwardly toward the outside of the rack, all as indicated in Figs. 1 and 3. The dampers *f* are also preferably inclined in an opposite direction to that of the inclination of the covers *e*, as shown in the same figures. The object of making the covers *e* of narrow transverse boards, and of inclining them, will now be stated. In the operation, it is very useful to cover the rack, as I do with these covers, and allow the steam to heat the air up to the proper point to dry the bricks thoroughly and evenly. This heating of the air impregnates it with moisture. It is expected that before any condensation of this moisture occurs, the attendant will open the dampers *f* and allow the air draft to be created which will carry off the moist air from the top of the shed, but with the best of care, it is not always possible to open the dampers *f* at just the right time, and so precipitation sometimes occurs, and when it does, drops of water will form on the under side of the covers *e*. The inclined position of these covers, and the narrow piece of which they consist, will cause this precipitated moisture to run along down the under face of the covers *e*, and drop therefrom outside of the rack, instead of upon the bricks, because drops of water falling on the bricks would spot and injure them.

The dampers *f* on each side of the shed or building A may be opened and closed simultaneously by means of shafts *g*, of which there are preferably two arranged end to end, as indicated in Fig. 3, and extending longitudinally of the shed above said dampers *f* at each side of the shed. Each damper *f* is connected at two points by chains *h* with fixed collars *i* carried by the shafts *g*. Upon the ends of the shafts *g*, which extend without the shed, are provided hand-wheels *j* by which said shafts may be rocked in order to open and close the dampers *f*. There is also associated with each shaft *g* a pawl and ratchet device *k* (see Fig. 3) by which the shaft may be locked in any desired position, for the purpose of holding the dampers *f* in any position to which they may be adjusted.

At the lower part of each side wall of the shed is arranged a longitudinally extending series of ventilators *l* consisting of small doors arranged to slide vertically in guides *n* applied exteriorly to the side of the shed. I am not restricted, however, to arranging these doors so that they will slide, or of otherwise connecting them to the side of the shed so that they may be opened to a greater

or less extent. These ventilators cover and uncover openings *o*. When they are in a raised position above said openings, an upward draft of air is caused to pass through the racks and through the shed, in case the dampers *f* are open. The creation and use of this air draft is of large importance in the successful working of the drying apparatus. The ventilators *l* are independently movable so that the proper amount of draft may be obtained. Referring to Fig. 1, it will be seen how this air draft passes in the direction of the arrows, through the openings *o* when the ventilators *l* are open upward through the drying rack, then passing the dampers *f* when they are open, and then on through the upper portion of the shed and its cupola to the atmosphere at B<sup>1</sup>.

In using the apparatus, steam is admitted to the drying-rack E on which the bricks are placed, said bricks being usually arranged on steel pallets. The heat from the pipes of the rack is rapidly and effectively transmitted to the bricks and they are quickly dried. A very large number of bricks may be supported upon the racks, the latter being very accessible in the excellent arrangement provided. At the beginning of the operation, it is customary to keep the dampers *f* shut and then the racks E inclosed within the surrounding casing until the steam has had an opportunity to heat the air and begun to impart to the bricks an even and effective drying action, care being taken to open the dampers before moisture is precipitated from the humid air, as already quite fully explained. When the dampers are open, the moist air is carried off from the shed through the lower ventilators *l* and past the dampers *f*, as heretofore fully explained, by which an upward draft of air is created and the dry air is heated in its upward passage so as to have a maximum drying action on the bricks. In some cases more steam will be introduced than in others, all of this depending upon the character of the clay used for the bricks and the nature of the bricks or other articles to be dried and the requisite temperature required for the drying, it being of course essential that this drying should take place uniformly, and with a due regard to all the various characteristics of the substances and articles being dried.

Many variations in the construction, combination and arrangement of parts may be made without going outside the legitimate scope of the invention, and I reserve the liberty of varying and reconstructing the details so far as this may be found necessary in securing the best results.

Having thus described my invention, I claim:

1. In apparatus for drying bricks, the combination of a rack, a cover therefor hav-



ing openings, upwardly swinging dampers to cover said openings, a shaft above said dampers, means connecting said dampers with said shaft, means whereby said shaft may be normally rocked, and means for locking said shaft in predetermined position.

2. In an apparatus for drying bricks, a main inclosure provided with substantially horizontal members separating it into upper and lower compartments, drying racks extending along the opposite sides of the lower compartment, adjustable ventilators for ingress of air in the outer sides of the lower compartment, ventilators in the top of the main inclosure, an inclined interior roof over each of said racks, said roof constituting part of said substantially horizontal members and consisting in part of inclined dampers, whereby the flow of air from the lower compartment to the upper compartment is controlled, there being an interme-

diate central passage-way for delivering and removing the bricks to and from said racks.

3. In an apparatus for drying bricks, the combination with a main inclosure provided with a ventilated roof and divided by partition members into upper and lower compartments, the lower compartment being provided with longitudinal drying racks along its outer sides, of closable draft devices along said sides, said partition comprising interior inclined water-shedding roofs over the racks, said roofs being composed in part of dampers which control the exit of the air from the lower compartment to the upper compartment.

Signed at New York city, this 2nd day of December, 1907.

EDWARD H. CALLAWAY.

Witnesses:

JOHN H. HAZELTON,  
C. B. SCHROEDER.