

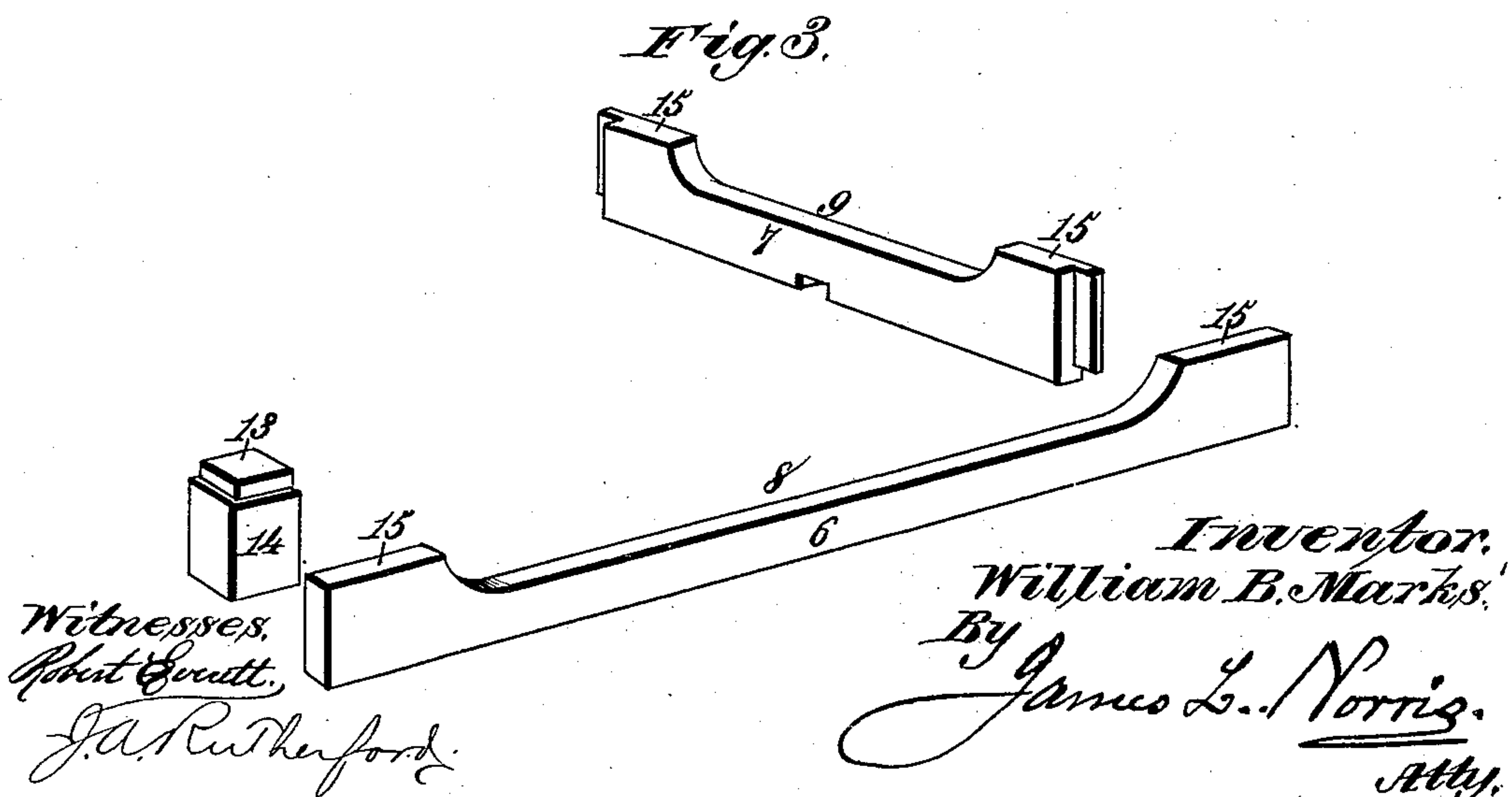
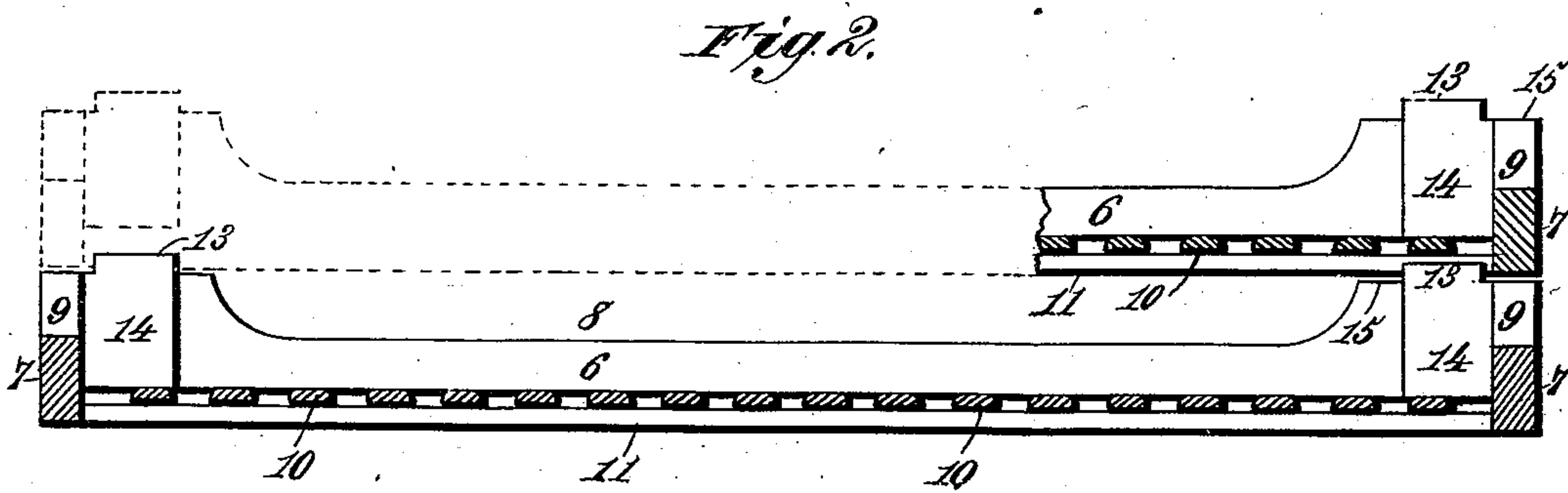
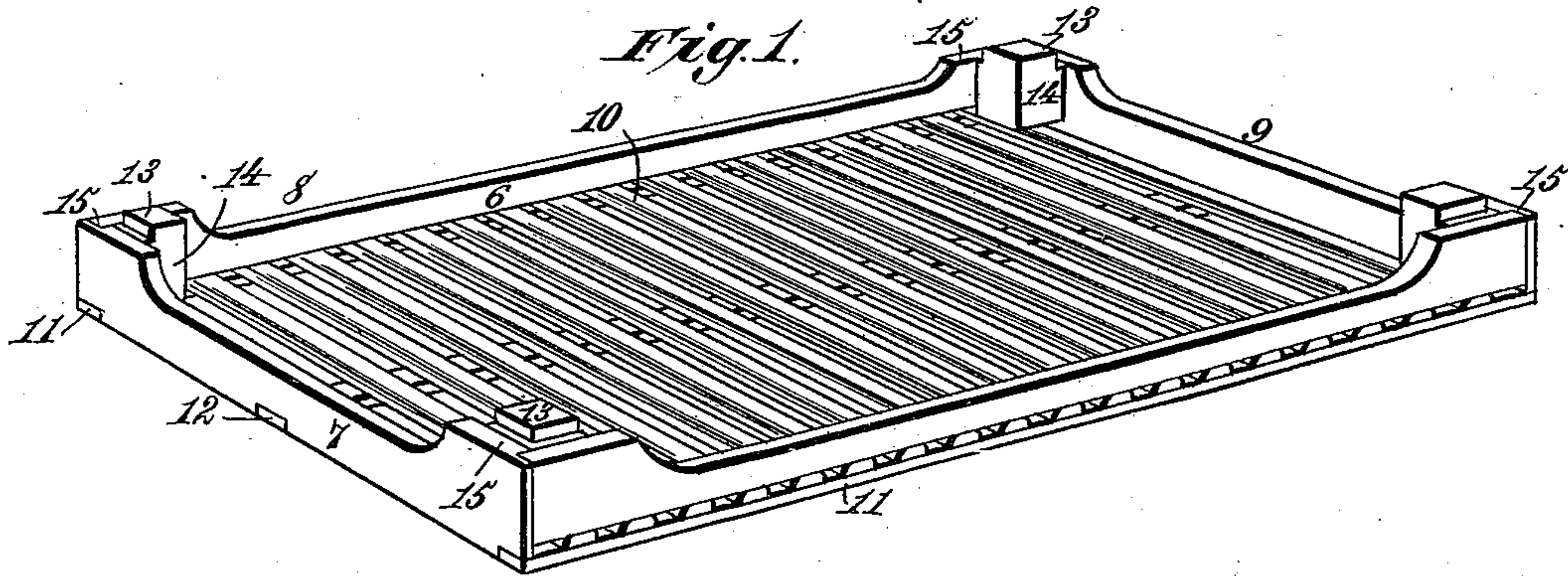
(No Model.)

2 Sheets—Sheet 1.

W. B. MARKS.
TOBACCO DRIER.

No. 465,382.

Patented Dec. 15, 1891.



Witnesses,
Robert G. Smith,
J. A. Rutherford.

Inventor,
William B. Marks.
By James L. Norris,
Atty.

(No Model.)

2 Sheets—Sheet 2.

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Fig. 4.

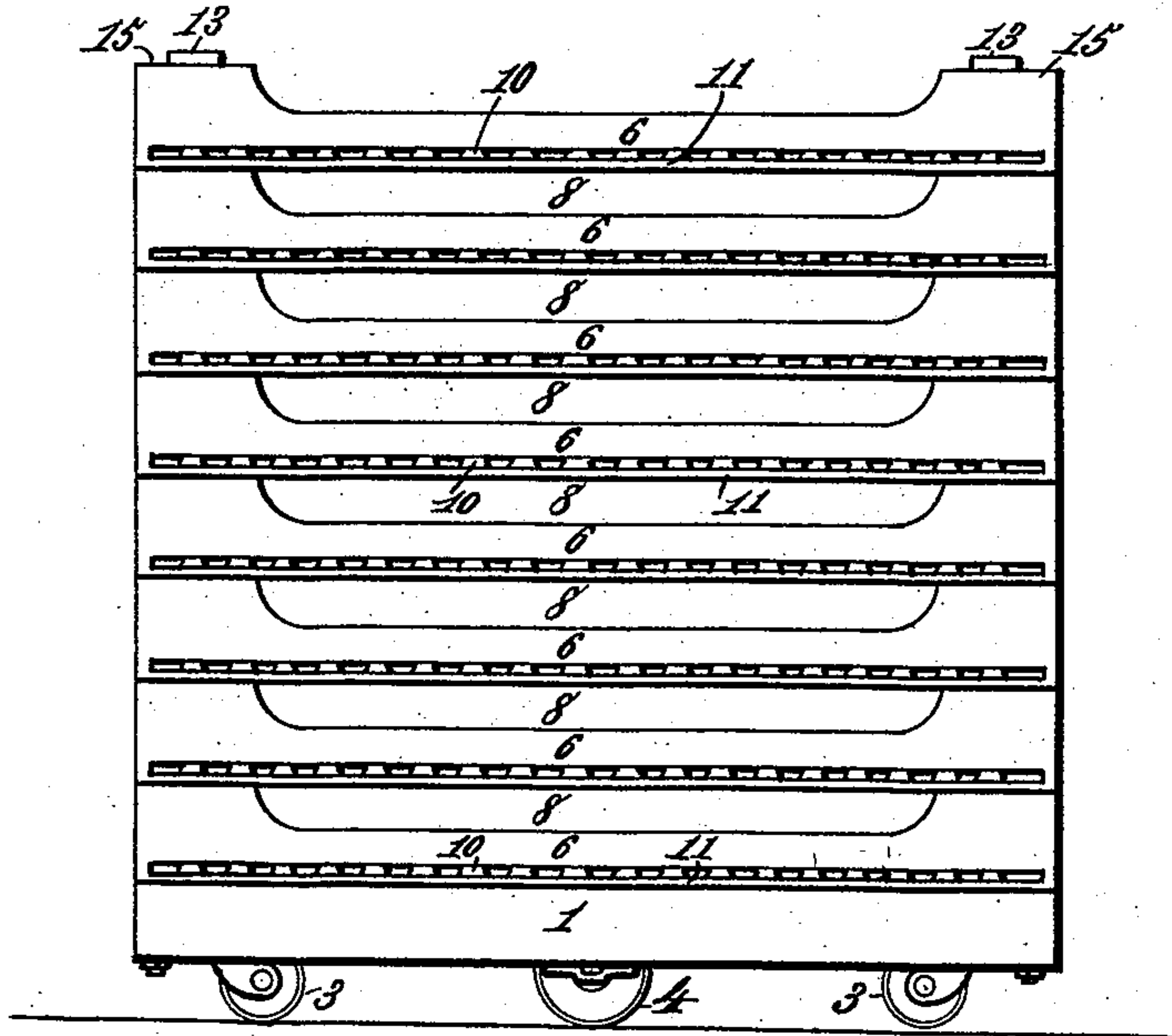


Fig. 5.

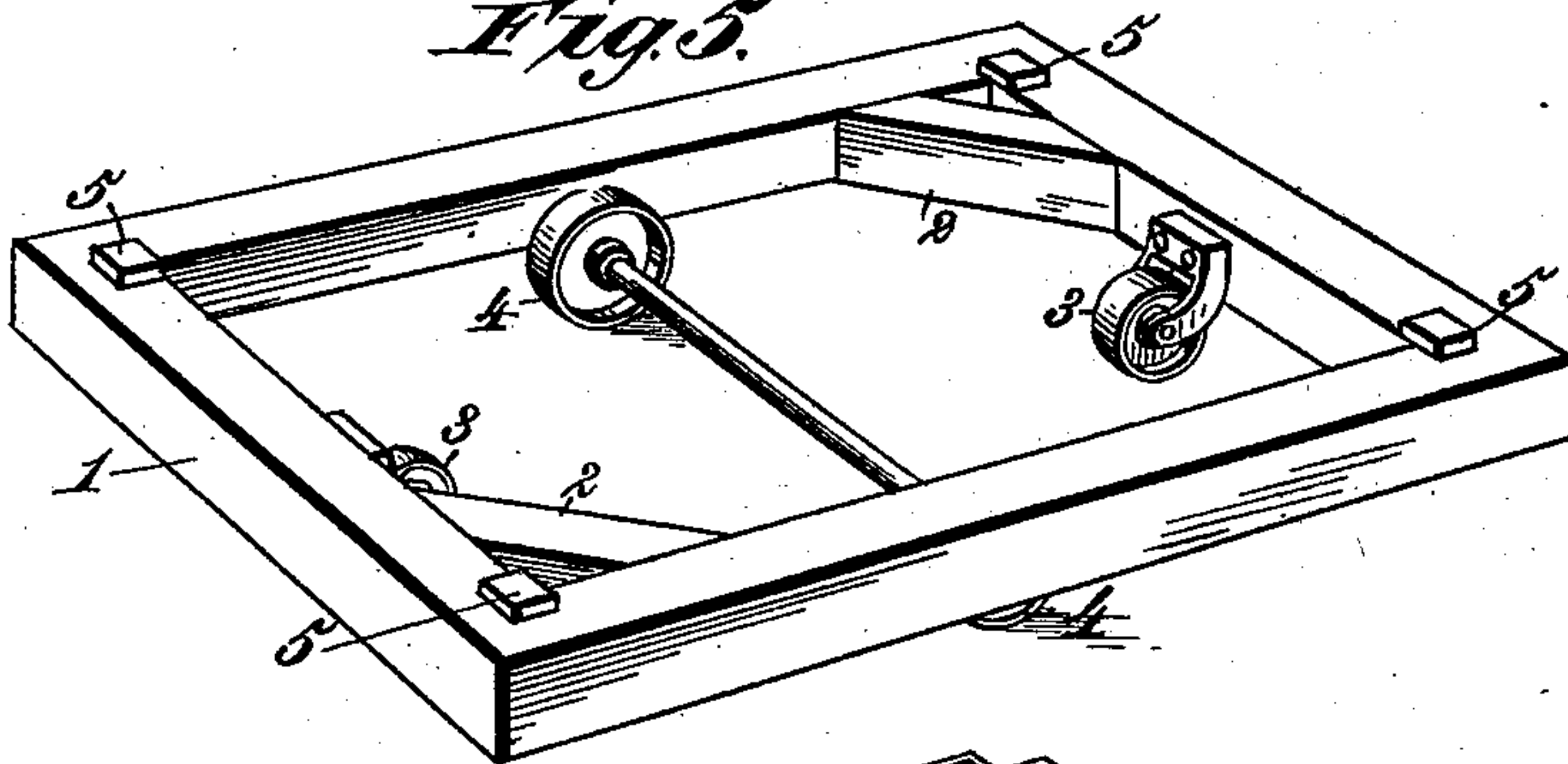
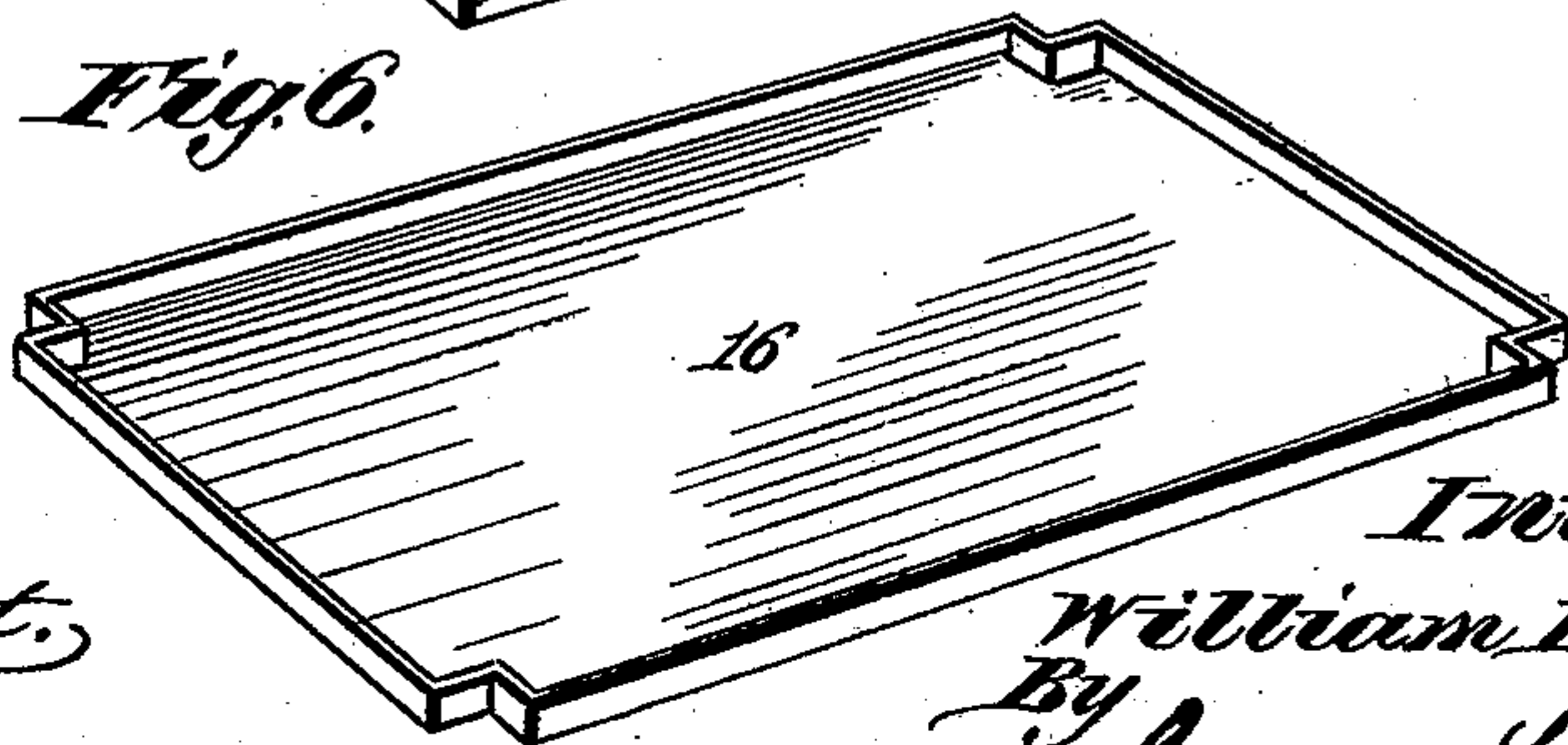


Fig. 6.



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UNITED STATES PATENT OFFICE.

WILLIAM B. MARKS, OF PETERSBURG, VIRGINIA.

TOBACCO-DRIER.

SPECIFICATION forming part of Letters Patent No. 465,382, dated December 15, 1891.

Application filed February 24, 1891. Serial No. 382,568. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. MARKS, a citizen of the United States, residing at Petersburg, in the county of Dinwiddie and State of Virginia, have invented new and useful Improvements in Tobacco-Driers, of which the following is a specification.

This invention relates to a tobacco-drier adapted to facilitate the uniform drying and convenient handling of tobacco in bulk; and it consists in a drying apparatus comprising a number of superposed removable trays or drying-frames provided with vertically-projecting lugs or locking-blocks engaged with the under sides of similar adjacent trays to hold the same in place, said trays being provided with suitable intervening air-spaces, and a truck on which said trays or drying-frames are piled, said truck being also provided with vertical locking-blocks.

The invention also consists in the construction and combination of devices in a drier, as hereinafter described and claimed.

In the annexed drawings, Figure 1 is a perspective of a tray or drying-frame illustrating my improvements. Fig. 2 is a longitudinal section of the same, together with a portion of a superposed tray. Fig. 3 is a detail view of one of the side pieces, one of the end pieces, and one of the corner-blocks provided with locking-lug. Fig. 4 is a side elevation of a number of trays or drying-frames piled on a truck. Fig. 5 is a view of the truck. Fig. 6 is a view of an evaporating-pan.

Referring to the drawings, the numeral 1 designates the frame of a truck, on which the trays or drying-frames are placed one above another and piled to any convenient height, so as to be easily moved about from the time the process of drying begins until the contents of the truck are delivered to the "ordering-room" ready for treatment, and thence to the "dumper," whence the truck and empty trays are returned for reloading to the point from which they were moved.

The truck-frame is strengthened by suitable braces 2, and is provided at each end with a wheel or roller 3 and at the center of its opposite sides with wheels or rollers 4, that extend a little below the end wheels. When the loaded truck is moved, the weight will be supported by the central side wheels 4 and

either of the end wheels 3, and by tipping either end the truck can be turned or moved around on the wheels 4 as on a pivot, thus facilitating the handling of the load.

Secured to the top of the truck-frame near each corner is a vertical lug or lock-block 5 to engage the under side of a removable tray or drying-frame and hold a pile of trays in place on said truck, each of the trays being engaged with the other in a similar manner, as hereinafter explained.

Each tray or drying-frame comprises side pieces 6 and end pieces 7, preferably connected by rabbeted joints and firmly secured together by any suitable means. The upper edge of each side piece and each end piece is cut away, as shown, to form, in connection with a superposed tray, the air-spaces 8 and 9 at the sides and ends of the drier, thus providing for a free circulation of air across each tray or drying-frame from side to side and from end to end. To the under edges of the side pieces 6 are secured parallel transverse slats 10, that form the bottom of the tray and on which the tobacco is supported. The under edges of the end pieces 7 extend below the lower level of the slats 10, as shown. The ends of each end piece 7 are rabbeted on the under edge to receive the ends of longitudinal bars or stringers 11, that extend from end to end of the tray along and in contact with the ends of the transverse slats. A central longitudinal bar or stringer 12 has its ends secured in mortises in the under edges of the end pieces 7 and serves to brace the slats 10 centrally. The outer bars or stringers 11 are nailed or otherwise firmly secured to the side pieces 6 at suitable intervals, and each slat 10 is preferably nailed or otherwise secured to the central bar or stringer. It will be observed that the lower faces of the longitudinal bars or stringers 11 and 12 are flush with the lower edges of the end pieces 7 and together therewith project below the slatted bottom of the tray. This construction enables each tray to stand firmly and squarely on another or on the truck upon which the several trays are piled, and also affords beneath each tray a space or recess to permit the pieces 7 and bars 11 to engage the locking blocks or lugs 5 of the truck or similar locking blocks or lugs 13 on the top of posts or

blocks 14, one of which is secured in each corner of a tray. The horizontal upper edges of the side pieces 6 and end pieces 7 form bearings 15, adjacent to the locking blocks or lugs 13, and on which the tray next above rests while engaged with said locking or holding devices.

With this drying apparatus the tobacco can be moved in bulk without difficulty to and from any part of the drying-room or to any other part of the factory, and the driers or trays can be safely packed, one on top of another, to any height desired without liability of turning over, being firmly held in place by the several locking-lugs, and yet readily removable whenever required. By thus handling or moving a number of drying frames or trays at once a large saving of time is effected, and the tobacco is protected from injury and waste incident to handling the trays or frames one at a time. With this apparatus, also, a perfect ventilation or free passage of heat is afforded and the tobacco will thus dry in uniform condition.

While this apparatus is especially designed for the drying of tobacco, it can also be employed to advantage for the convenient drying and handling of other material. By fitting a pan 16 in each drying frame or tray fruits or any substances requiring evaporation can be dried or evaporated with economy and uniformity; but this constitutes no essential part of my invention.

The novel construction of trays and truck described and shown enables a large number of trays to be arranged in a stack or column one upon the other, while they are so firmly interlocked with each other and with the truck that lateral and endwise movement cannot occur, whereby the truck carrying the stack or column of loaded trays can be pushed to and from the drying-room of the factory without liability of displacing the stack or column or any tray thereof, even though the force for pushing the truck and its load be applied to the column of trays at or near the top portion of the same. This is important in the drying of large quantities of tobacco where the trucks with their loads require to be expeditiously wheeled to and from the drying-room. The peculiar construction of tray is also important in that it enables the desired

quantity of wet or pulpy tobacco to be introduced and confined between the side bars or walls of the tray. The slatted and braced bottom fulfills the conditions required for the proper support of the bulk of tobacco and the vertical circulation of the heated drying-fluid through all the trays, while the cut away edges of the side bars provide for the requisite horizontal circulation of the drying-fluid.

What I claim as my invention is—

1. A drying apparatus consisting of a wheeled truck having at each corner an upwardly-projecting locking-block and a series of trays, each composed of the side and end walls having their upper edges cut away to form spaces for the circulation of air, parallel separated slats secured to the lower edges of the side pieces, parallel longitudinal bars secured to the end pieces and extending beneath the extremities of the slats, and the vertically-projecting locking blocks or posts attached to the inner sides of the end and side pieces and rising from the tray at the corners and above the bottom thereof to engage the inner surfaces of the side and end pieces of a superimposed tray, whereby a column of the trays can be locked together and to the wheeled truck, substantially as described.

2. A tobacco-drying tray consisting of side and end pieces having their upper edges cut away to form spaces for the circulation of air, parallel separated slats secured to the lower edges of the side pieces, the parallel longitudinal bars attached to the end pieces and extending beneath the extremity of the separated slats, and the posts or blocks attached to the inner surfaces of the side and end pieces at the corners and above the bottom of the tray and each formed with a locking-lug rising above the uppermost edges of the side and end pieces to engage the inside surfaces of the side and end pieces of a superposed tray, substantially as described.

In testimony whereof I have hereunto set my hand and affixed my seal in presence of two subscribing witnesses.

WILLIAM B. MARKS. [L. S.]

Witnesses:

ROLO CAMERON,
J. FRANK TAPPEY.