(No Model.)

3 Sheets—Sheet 1.

E. W. ANTHONY.

DRY CLOSET.

No. 591,582. Patented Oct. 12, 1897.

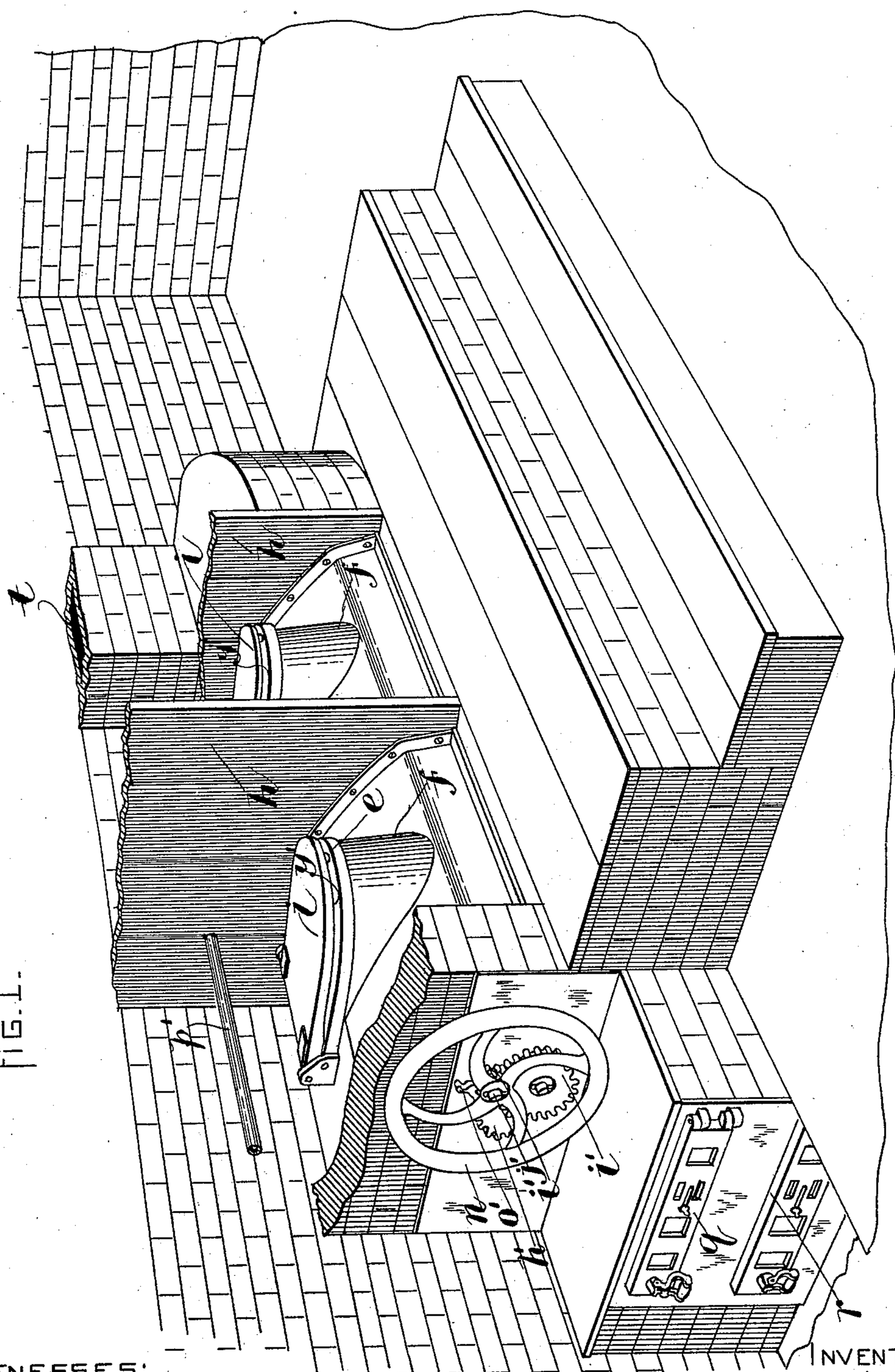

FIG. 1.

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INVENTOR:
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by Wright Brown & Quinby
Attys.

(No Model.)

3 Sheets—Sheet 2.

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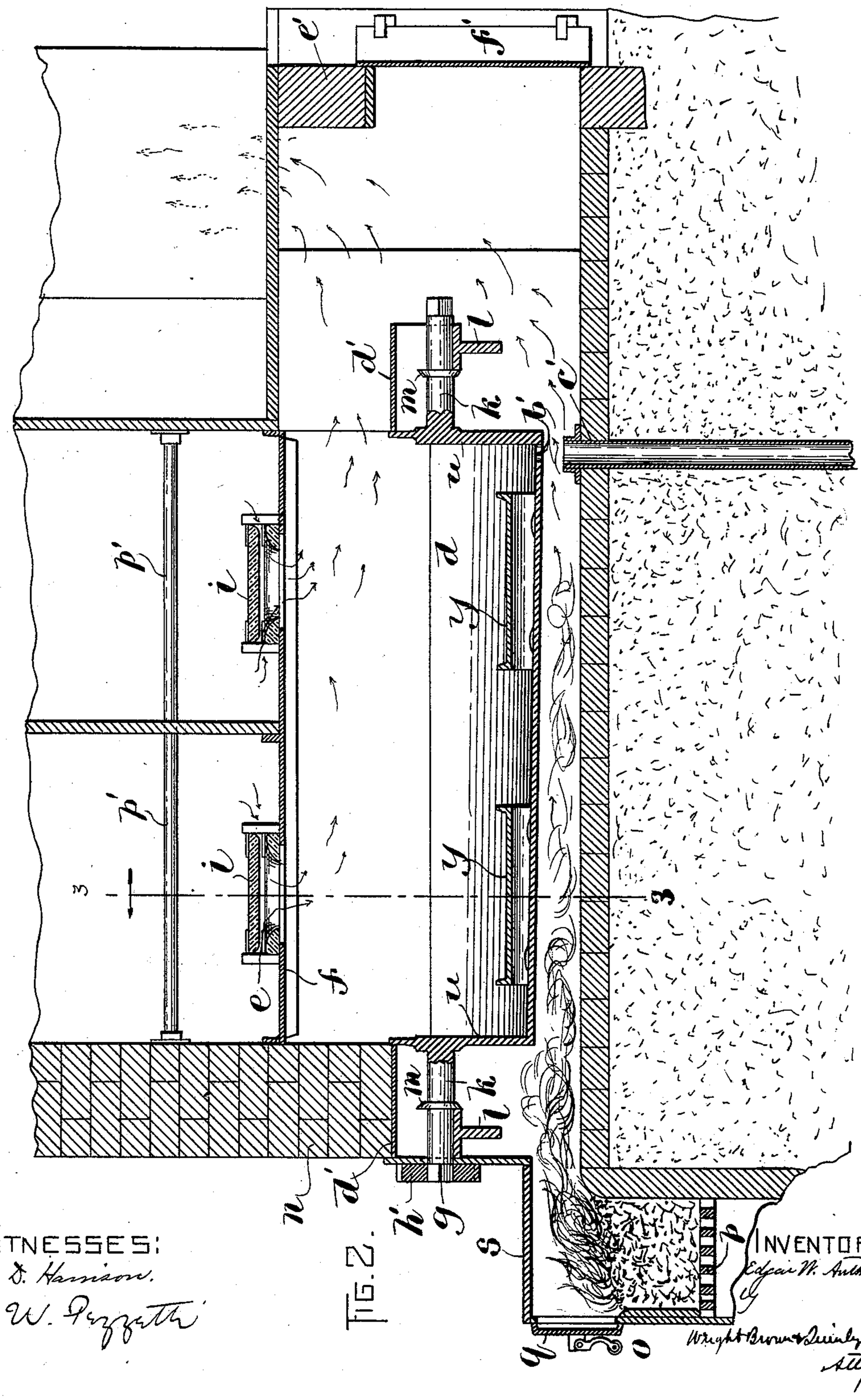

FIG. 2.

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(No Model.) 3 Sheets—Sheet 3.

E. W. ANTHONY.

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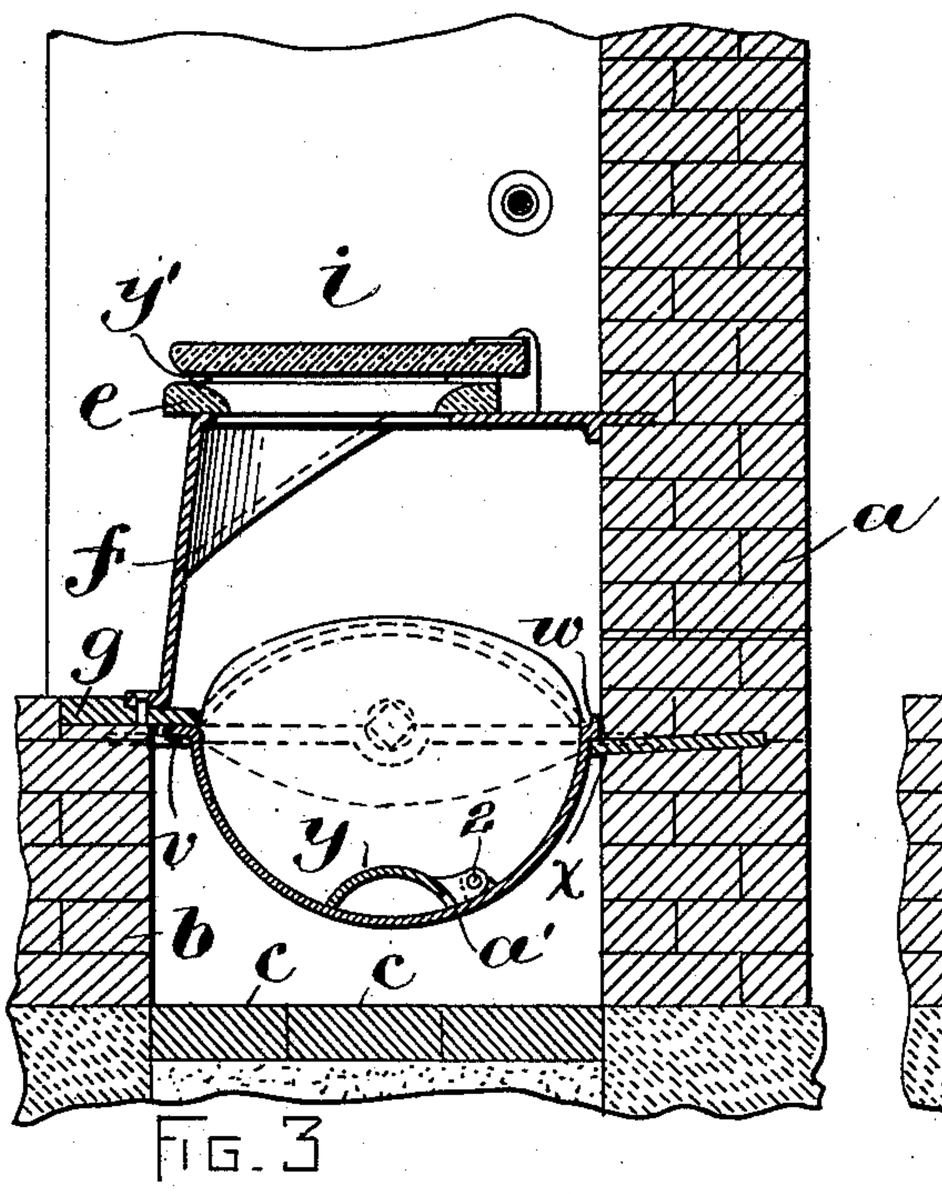


FIG. 3.

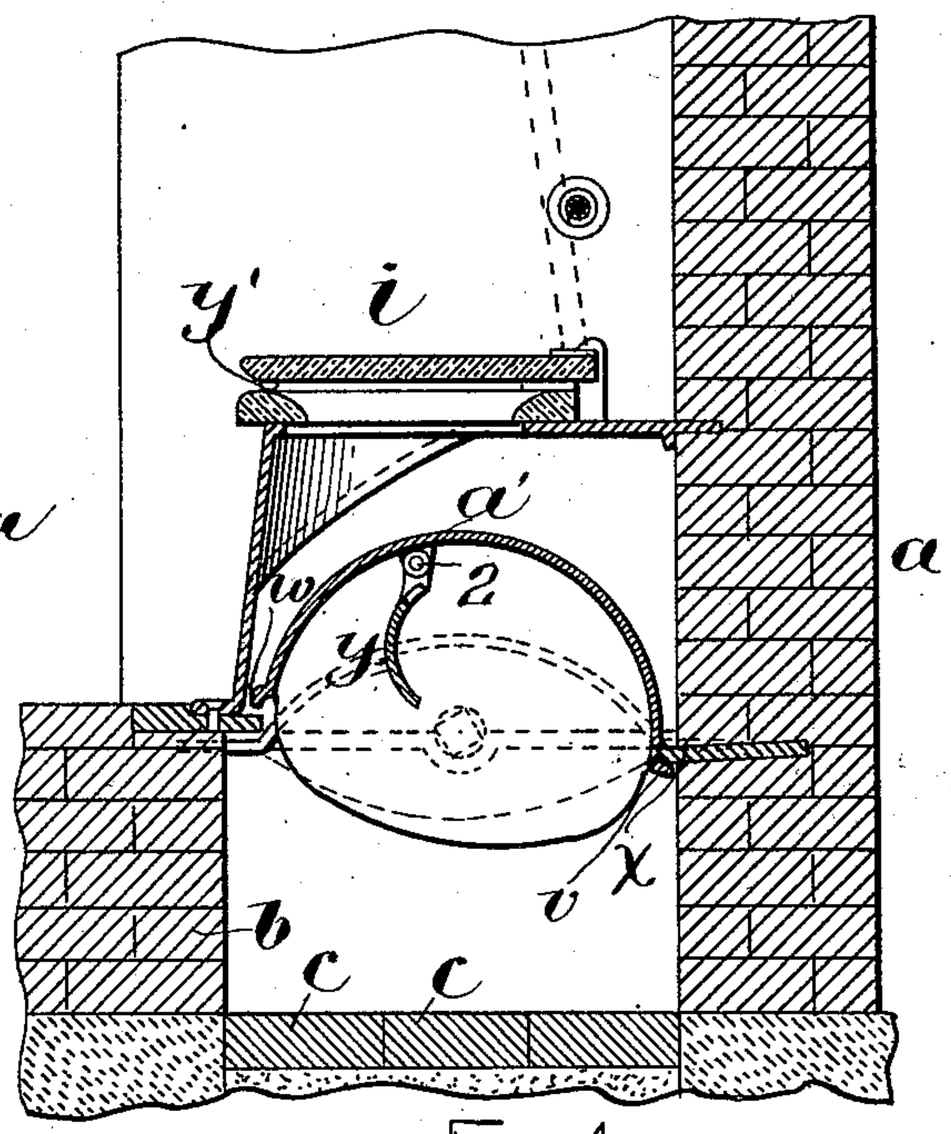
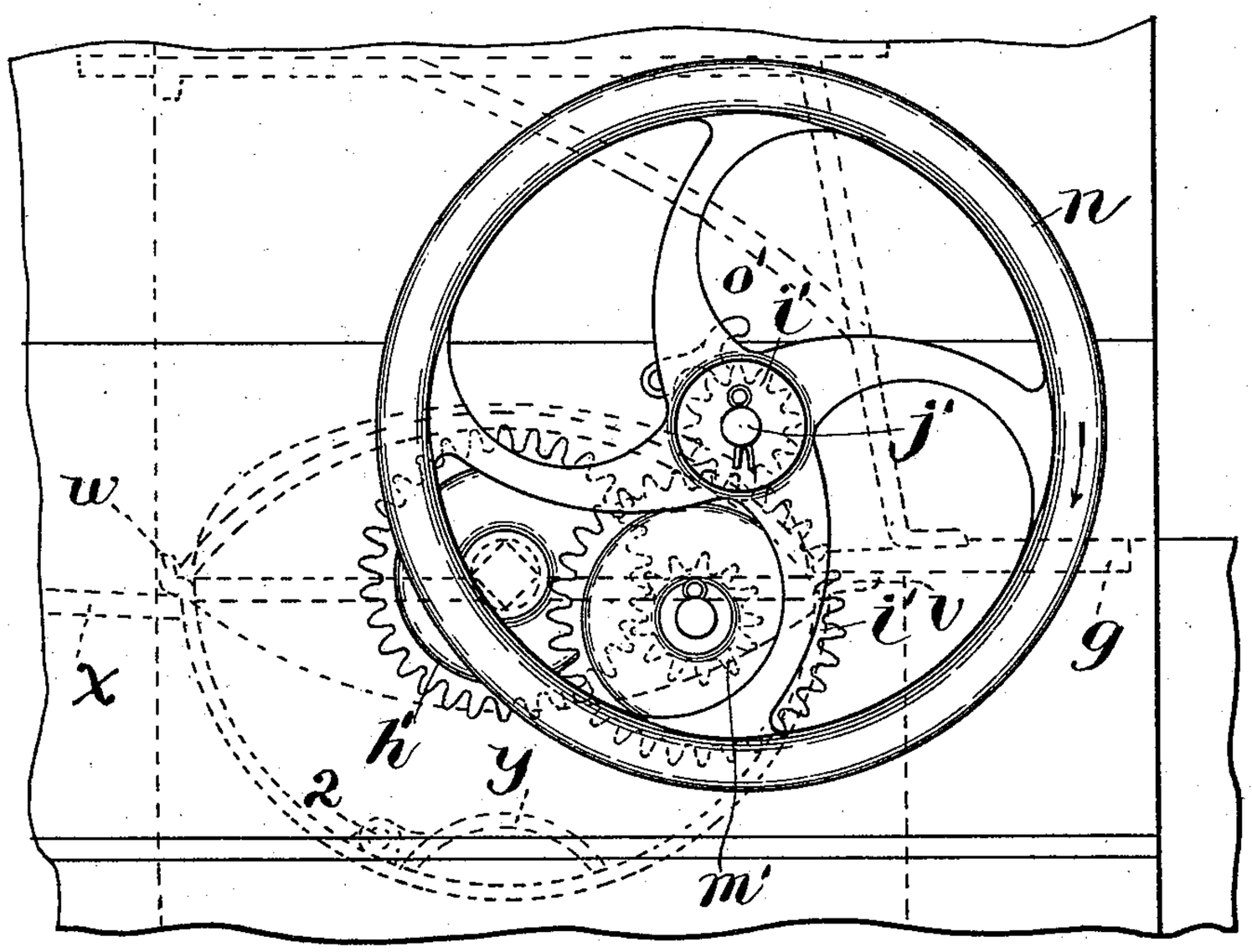


FIG. 4.

FIG. 5.



WITNESSES:
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INVENTOR:
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UNITED STATES PATENT OFFICE.

EDGAR W. ANTHONY, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE SMITH & ANTHONY COMPANY, OF SAME PLACE.

DRY CLOSET.

SPECIFICATION forming part of Letters Patent No. 591,582, dated October 12, 1897.

Application filed August 27, 1896. Serial No. 604,072. (No model.)

To all whom it may concern:

Be it known that I, EDGAR W. ANTHONY, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Dry Closets, of which the following is a specification.

This invention relates to dry closets for school or other buildings in localities where there are no sewer systems and where the waste cannot be carried away by running water.

The objects of the invention are to provide a closet of the character mentioned which shall be so constructed and arranged as to be free from odors or gases and to be sanitary to the highest degree, to provide a waste-receptacle in which the liquids shall be separated from the solids, whereby the latter may be desiccated and finally cremated, and to construct the closet in such way that the waste-receptacle shall be arranged in the path of the heated air or the products of combustion from a fire to dry the waste and be arranged in such way that the currents of air shall be drawn through the seats and discharged through an aspirating-shaft, whereby the room in which the closet is located is thoroughly ventilated.

To these ends the invention consists of a closet possessing those features of construction and arrangement which I have illustrated in the drawings, and hereinafter described in detail and claimed.

Reference is to be had to the accompanying drawings, and to the letters marked thereon, forming a part of this specification, the same letters designating the same parts or features, as the case may be, wherever they occur.

Of the drawings, Figure 1 is a perspective view of a closet embodying my invention. Fig. 2 is a vertical longitudinal section through the same and illustrates the currents of air passing through the same. Fig. 3 is a vertical cross-section illustrating the waste-receptacle in its normal position. Fig. 4 is a similar section showing the receptacle inverted to discharge the waste for the purpose of cremating it. Fig. 5 shows the hand-wheel and gearing for oscillating the waste-receptacle to invert it.

Referring to the drawings, *a* designates the wall of a room, which is utilized as the rear wall of the closet. *b* is a low wall built at a short distance in front of the wall *a*, so as to leave a chamber between them which is floored with fire-brick *c c*. Within the chamber thus formed is placed a waste-receptacle (indicated as a whole by *d*) and above it are placed the seats *e e*.

The seat-support *f* consists, preferably, of iron castings of the shape shown and each having the lower edge of the forward vertical part resting upon a sill *g*, extending along the top of the wall *b* and having its rear edge extending into the wall *a*, to be supported thereby, as is clearly illustrated in Figs. 3 and 4.

For the purposes of illustrating my invention I have shown but two seats separated by a partition *h;* but it will be understood that there may be as many seats as desired, the waste-receptacle being of a length to extend under all or a portion of them.

The seats are provided with covers *i*, hinged in the rear and having cushioning-buffers, so as to leave a space between the said seats and the covers for the passage of the air when the covers are closed, as will be hereinafter explained.

The waste-receptacle *d* is provided at its ends with trunnions *k k*, journaled in the cross-braces *l*, extending from the wall *a* to the wall *b*, there being flanges *m* abutting against the cross-braces to prevent any longitudinal movement of the said receptacle. The said waste-receptacle is semicylindrical in shape, with its convex sides downward, and has closed ends *u u*. One end of the chamber between the front and rear walls is closed by an arched wall *n*, having apertures through which the trunnions *k* extend, and also for the passage of the heated air and products of combustion from the fire in a furnace located at that end of the closet. Said furnace (designated as a whole by *o*) is provided with a grate *p* for the fuel and with doors *q* and *r*, each provided with dampers.

The top of the furnace is closed by a plate *s*, so that the products of combustion and heated air pass from said furnace through the said chamber beneath the seats and are discharged through an aspirating shaft or chimney *t* at the other end of the closet, which

communicates with the said chamber between the front and rear walls.

The waste-receptacle is of such width that its edges *v w* press against or rest on a sill *g* of the wall *b*, and a plate *x* inserted in the wall *a*, so that the compartment above the receptacle is closed to the entrance of the products of combustion from the furnace *o*, although it communicates with the aspirating-shaft, as shown in Fig. 2.

When the receptacle is in the position illustrated in Fig. 3, the waste matter may be discharged therein, and upon inverting it, as illustrated in Fig. 4, the matter therein is dumped or emptied upon the floor *c*.

The concave face of the receptacle is provided with a concavo-convex bridge *y*, hinged at *z* to ears projecting inward therefrom, said bridge being provided with an aperture *a'* for the admission of liquids to the duct thus formed between it and the receptacle.

There may be a bridge beneath each seat for the reception of solid matter, or else a single bridge may extend the entire length of the receptacle, there being a suitable number of apertures leading thereinto.

The bottom of the receptacle slopes to one end, where there is a discharge-aperture *b'* directly over a pipe *c*, leading to a blind-drain or cesspool, as desired.

The solid matter is retained upon the bridge *y*, while the liquids are discharged through the aperture *b'* into the tube or pipe *c'*, and since the receptacle is in the path of the products of combustion and heated air from the furnace the waste solid matter is thoroughly desiccated and dried and afterward cremated, in a way to be described. The trunnions *k k* are suitably protected by bridges or caps *d' d'* at each end of the closet.

The aspirating-shaft may be formed of brick or any other suitable material and extends up high enough to discharge the smoke, gases, and odors into the air at a proper distance from the ground. The end of the closet opposite the wall *n* is closed by the wall *e'* and a door *f'*.

For inverting the waste-receptacle the square end *g'* of one of the trunnions *k* is provided with a pinion *h'*, which may be rotated by a pinion *i* upon a shaft *j'*, through the medium of reducing-gears *l'* and *m'*.

The shaft *j'* is provided with a hand-wheel *m'*, there being a dog *o'* adapted to enter the teeth of the pinion *i'* and prevent it from rotating when the receptacle is in an inverted position, as shown in Fig. 4.

p' is a rod arranged horizontally and above the seats in such way as to engage the lids or covers when the latter are raised and prevent them from swinging back, whereby the covers will fall by gravity when the seats are not occupied.

When the solid waste matter has accumulated within the receptacle to that extent at which it is desired to cremate it, it having been separated from the liquid waste matter and having been thoroughly desiccated and dried and covered with sawdust and petroleum, the receptacle is inverted by means of the wheel *n* and the solid matter is discharged upon the floor *c*. Then when it is set on fire it is cremated and reduced to ashes without emitting any disagreeable odors or gases, as would be the case were it attempted to burn such solid matter without first drying it.

The bridges *y*, being hinged, hang in the position shown in Fig. 4, so as to discharge therefrom any matter that may have accumulated thereon.

By constructing a closet in accordance with the foregoing description it will be seen that the space or flue in which the waste-receptacle is placed is practically closed against the admission of air except through the furnace *o* and the apertures in the seats, and that likewise when the waste-receptacle is in its normal position the passage of the products of combustion through the apertures in the seats is absolutely prevented. The products of combustion and the heated air passing from the furnace pass under this waste-receptacle and are discharged into the air through the aspirating-shaft, in which a steady draft is maintained, so that the air in the room is drawn down through the apertures in the seats and through the space between the covers and the seats into the shaft, thereby preventing any currents coming out through the apertures in the seats and discharging gas in the room. Hence a perfect ventilation in the room is secured by reason of the draft through the apertures in the seats, which is maintained by the draft in the aspirating-shaft.

The waste-receptacle being situated in a flue placed between the furnace and its chimney, or, as I term it, the "aspirating-shaft," insures that the solid matter shall be thoroughly dried before an attempt is made to burn or cremate it, and therefore when the cremation takes place, as before described, no noisome odors or gases are expelled, as would be the case were it attempted to cremate the mass while in a moist condition. The peculiar construction of the waste-receptacle enables a thorough separation of the liquid waste from the solid material, whereby this desiccation of the solid matter is effected.

It will be observed that by placing the aspirating-shaft at one end of the chamber or flue and the furnace at the other end of the flue I am enabled to obtain a direct draft beneath the waste-receptacle, so that the matter is dried rapidly and thoroughly. The receptacle extends beneath the entire battery of seats, and its trunnions project out beyond the latter and are covered and protected by bridges or caps, so that they are unexposed. By forming one single receptacle the waste matter is discharged thereinto without being deposited upon any stationary portions of the closet, as it would be were there a single receptacle for each seat.

It will be further observed that the metal-

lic seat-support has a forwardly-projecting flange resting upon a sill *g*, which latter has a sloping upper surface projecting over the edge of the receptacle, so that any liquid matter striking against the seat-support will find its way into the receptacle, and, moreover, the entire mass of waste may be dumped upon the floor of the flue at one single operation, there being only one single trunnion, which is arranged at the end of the row of seats out of the way of the occupants of the seats. The receptacle being heavy I find it necessary to employ the hand-wheel and the multiplying-gearing for reversing it, and hence the gearing is preferably located adjacent to the furnace, when both can be attended to from the same end of the row of seats.

When the desiccated matter is being burned, the receptacle is inverted, so as to form with the bottom and side walls of the chamber a large uninterrupted flue, so that a good draft is obtained and the matter may be quickly consumed. This would not be possible were the receptacle so formed as to have projecting portions, thereby causing eddies and preventing the fire from burning well.

Having thus explained the nature of the invention and described a way of constructing and using the same, though without attempting to set forth all of the forms in which it may be made or all of the modes of its use, I declare that what I claim is—

1. In a closet, in combination, a furnace, an aspirating shaft or chimney connected with said furnace by a flue, a series of seats located above the flue, a single invertible concavo-convex waste-receptacle located in said flue below the seats and extending entirely across said flue, and also having closed ends, whereby the products of combustion pass below the receptacle to the aspirating-shaft, and are prevented from gaining access to space above the receptacle and below the seats, and means for inverting the said receptacle to discharge the waste matter, said receptacle when inverted forming the upper wall of an uninterrupted flue.

2. In a closet, in combination, a furnace, an aspirating shaft or chimney connected with said furnace by a flue, a series of seats located above the flue, sills on both sides of the said flue, and an invertible concavo-convex waste-receptacle pivoted in the flue and located below the seats, to form the upper wall of the flue, said receptacle having longitudinal lips or flanges to rest against said sills, when said receptacle is in its normal position and when it is inverted.

3. In a closet, the combination with a line of seats, a furnace at one end of said line of seats, and an aspirating shaft or chimney at the other end of said line of seats, of a single waste-receptacle extending continuously under the line of seats and situated so as to be under the influence of the heated air and products of combustion from the furnace, said receptacle being provided with movable means, located in the bottom thereof, for separating the liquid matter from the solid matter, and discharging said liquid matter while the solid matter is retained.

4. In a closet, the combination with a line of seats, a furnace and an aspirating shaft or chimney, of a single invertible waste-receptacle extending under the line of seats and situated so as to be under the influence of the heated air and products of combustion from the furnace, said receptacle being provided with a discharge-aperture for the liquid waste, and a series of movable means for receiving and maintaining the solid waste matter, one of said means being located under each seat.

5. In a closet, the combination with the seat-supports, and the seats, of a waste-receptacle arranged beneath the said seats, said receptacle being constructed to discharge the liquid waste, and being provided with hinged bridges to receive the solid waste, and means for inverting the said receptacle.

6. In a dry closet, the combination of a furnace, an aspirating-shaft, a horizontal flue connecting the same, ledges or flanges along opposite longitudinal walls of said flue and projecting thereinto to present both upper and lower abutments, a waste-receptacle extending longitudinally of the said flue and pivotally supported at its ends to render it invertible, said receptacle underlapping one of the flue-ledges along one longitudinal edge and overlapping the other of said flue-ledges along the opposite longitudinal edge whereby in both positions of said receptacle the flue is closed by abutment of the receptacle against the ledges; and seats over the receptacle which is common to them all.

7. In a dry closet, the combination of a furnace, an aspirating-shaft, a horizontal flue connecting the same, a waste-receptacle extending longitudinally of the said flue and invertible therein, said receptacle carrying arches or bridges on one side and pivotally connected therewith so as to depend automatically when the receptacle is inverted; and seats arranged above the receptacle and over the said bridges respectively.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 24th day of August, A. D. 1896.

EDGAR W. ANTHONY.

Witnesses:
MARCUS B. MAY,
P. W. PEZZETTI.