

No. 637,348.

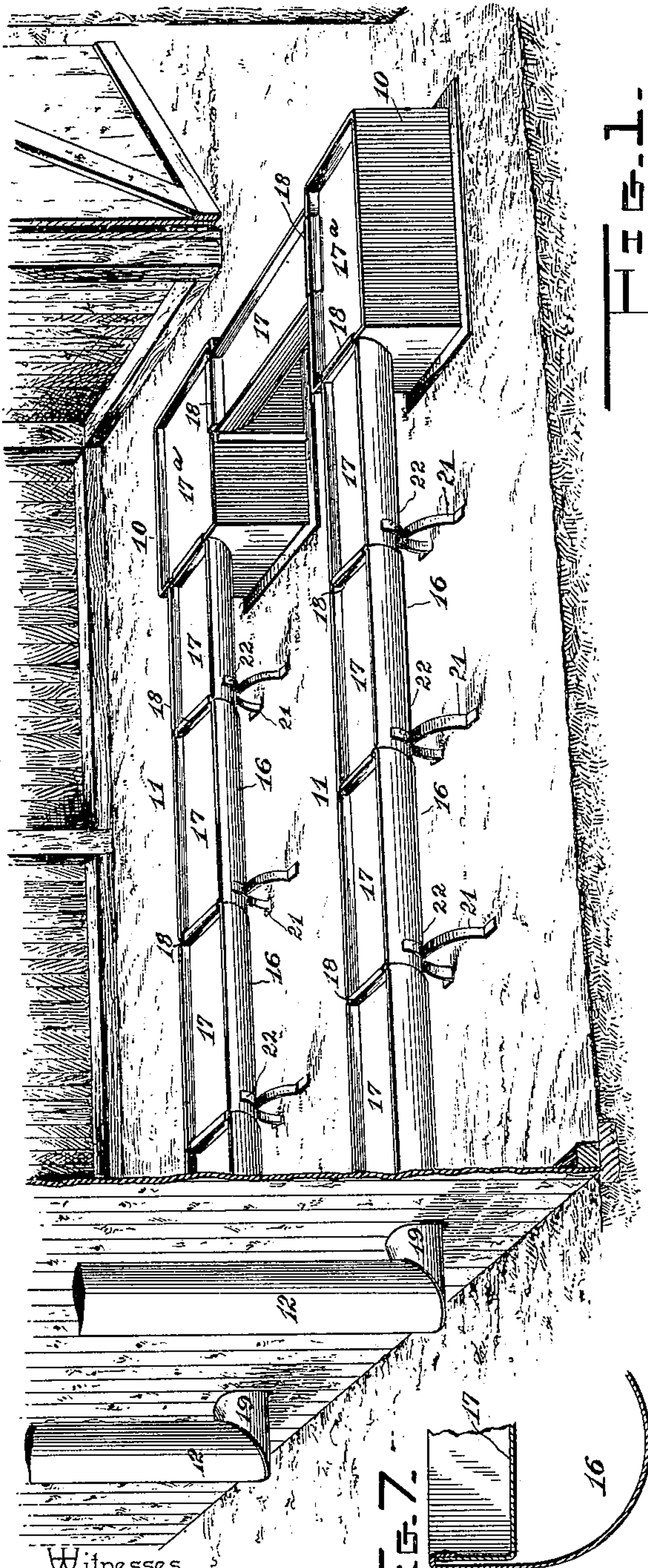
Patented Nov. 21, 1899.

A. W. & W. A. NANCE.
APPARATUS FOR CURING TOBACCO.

(Application filed Dec. 30, 1898.)

(No Model.)

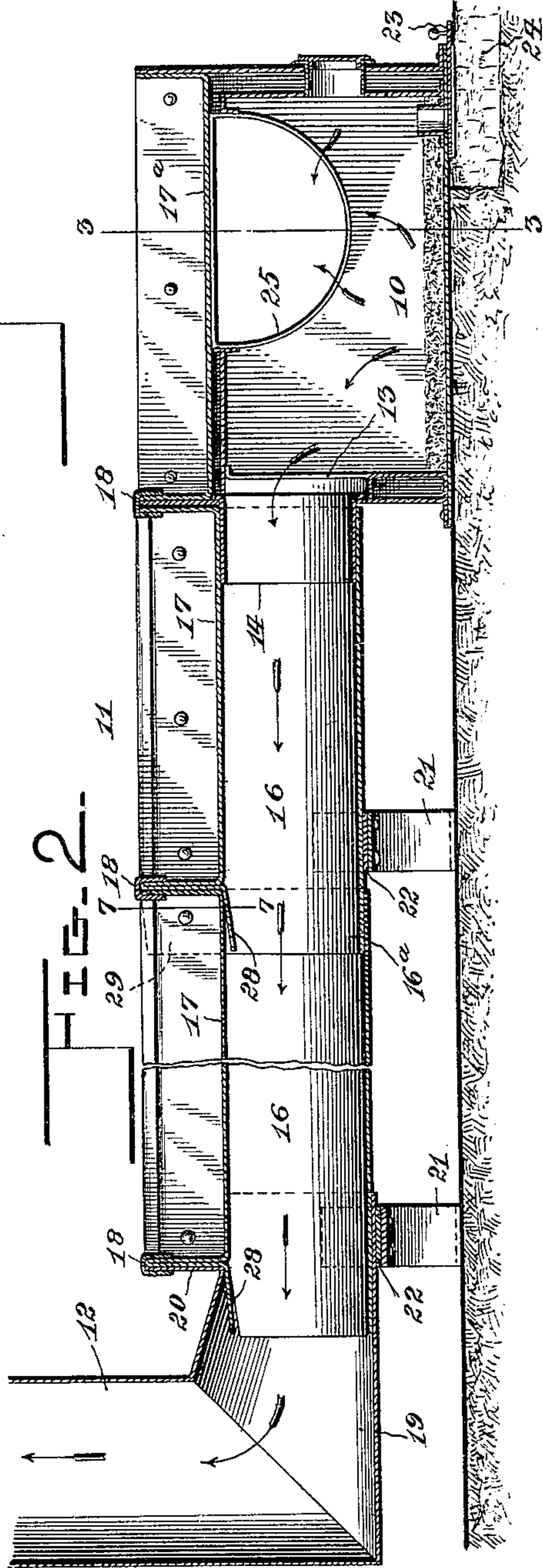
2 Sheets—Sheet 1.



Witnesses
John F. Decker
O. D. Key

FIG. 7.

By their Attorneys.



A. W. Nance,
W. A. Nance,

Inventors

Cashnow & Co.

No. 637,348.

Patented Nov. 21, 1899.

A. W. & W. A. NANCE.
APPARATUS FOR CURING TOBACCO.

(Application filed Dec. 30, 1898.)

(No Model.)

2 Sheets—Sheet 2.

FIG. 3.

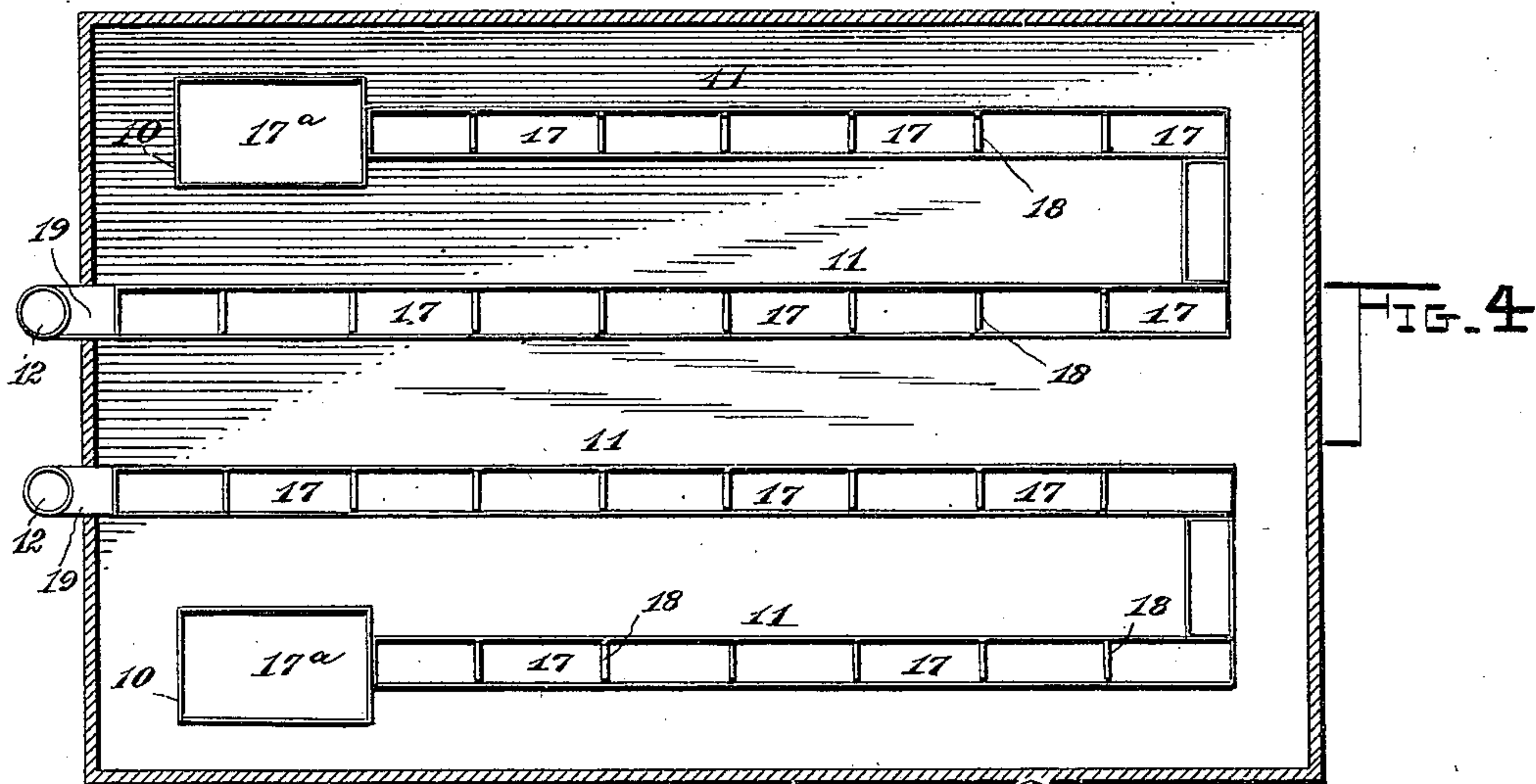
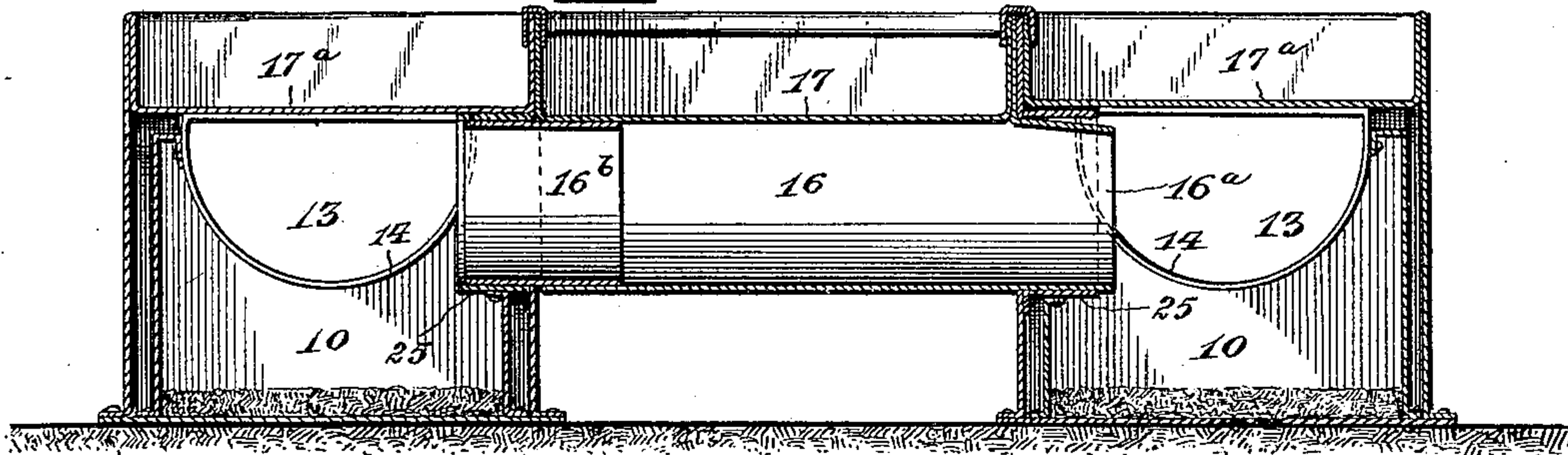


FIG. 5.

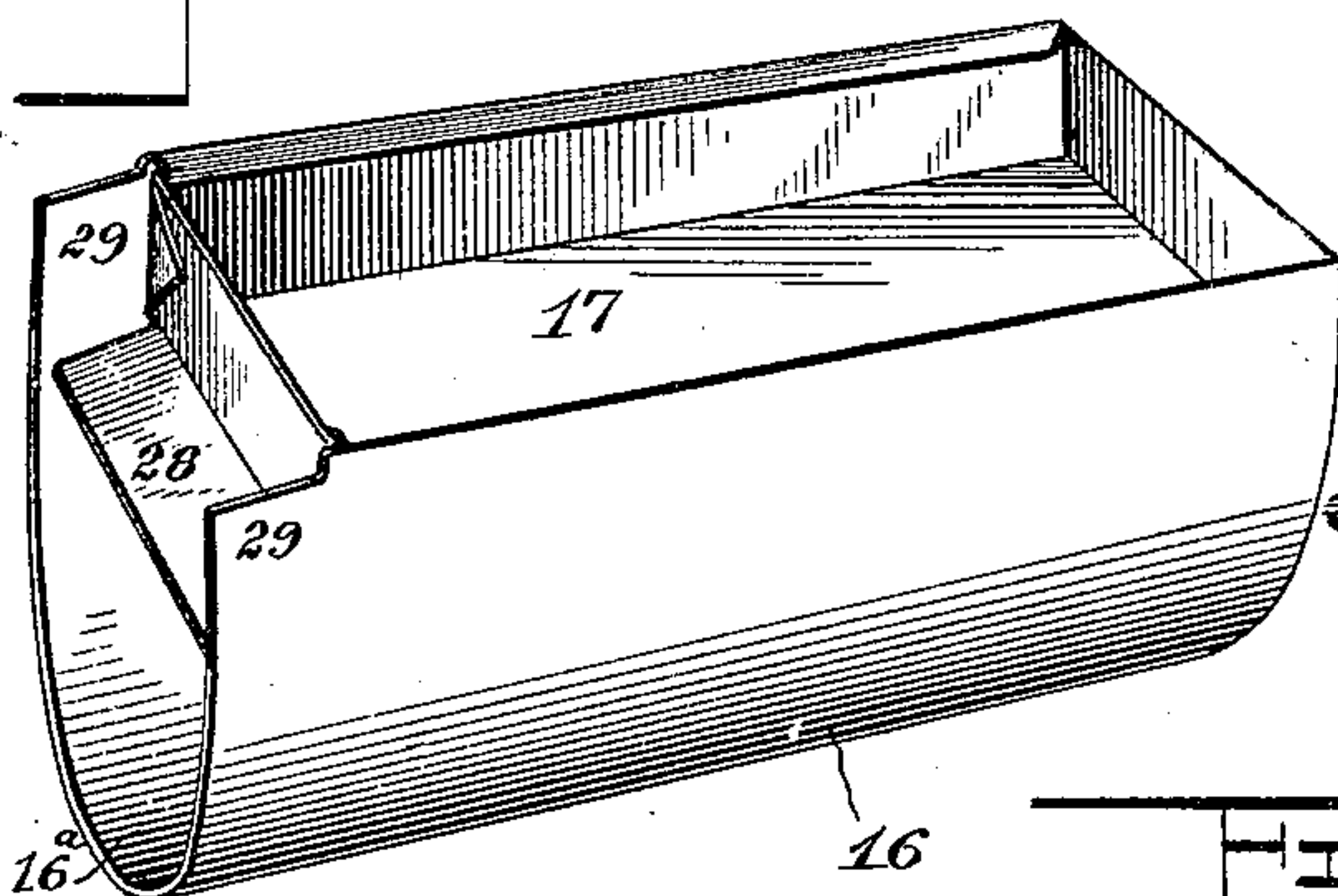
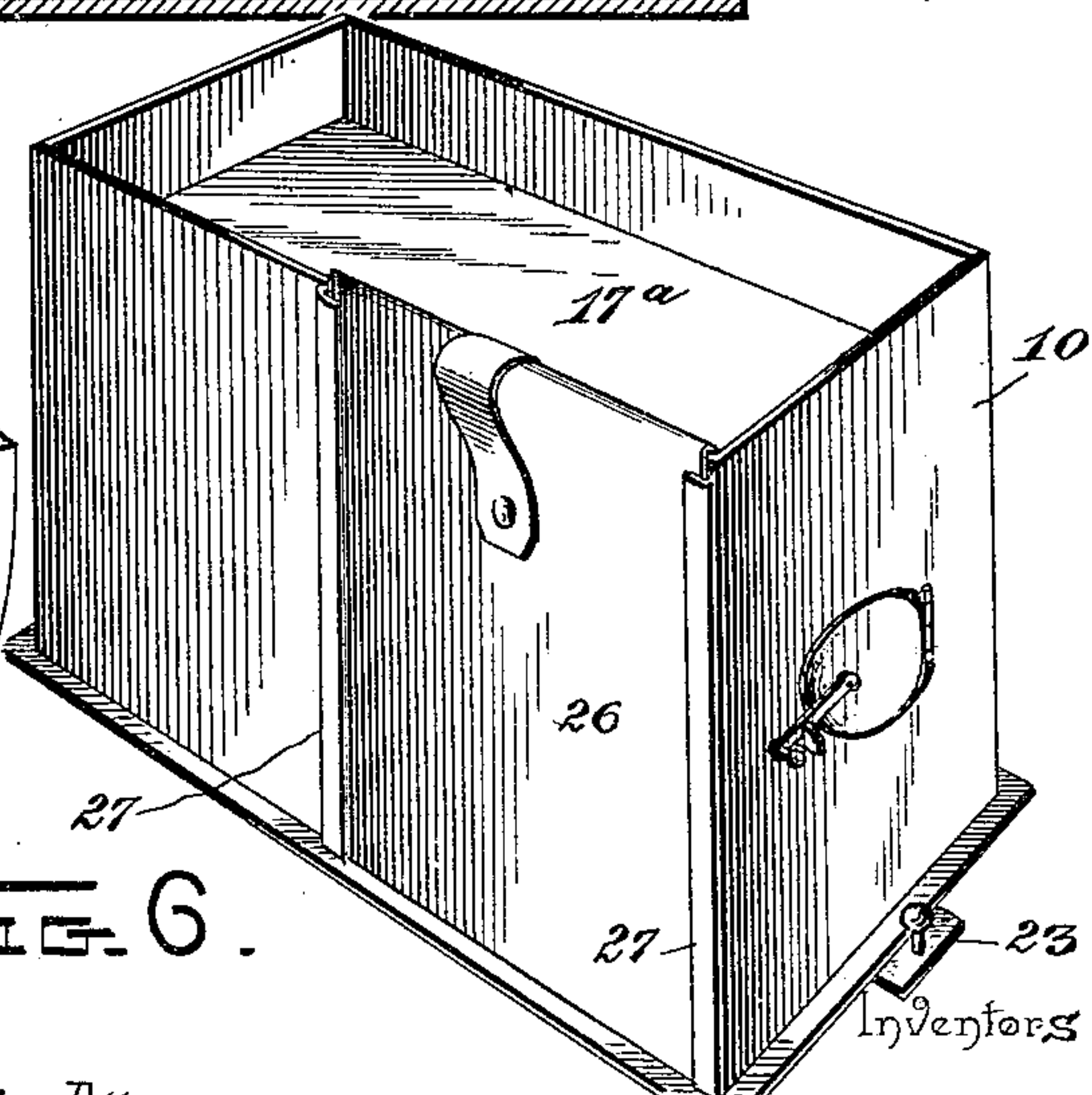


FIG. 6.



Witnesses
John F. Deufferoel
O. E. Hoff

By their Attorneys.

A. W. Nance,
W. A. Nance,

Cañonville.

UNITED STATES PATENT OFFICE.

ALBERT W. NANCE AND WILBUR A. NANCE, OF DAVIS MILLS, VIRGINIA.

APPARATUS FOR CURING TOBACCO.

SPECIFICATION forming part of Letters Patent No. 637,348, dated November 21, 1899.

Application filed December 30, 1898. Serial No. 700,740. (No model.)

To all whom it may concern:

Be it known that we, ALBERT W. NANCE and WILBUR A. NANCE, citizens of the United States, residing at Davis Mills, in the county of Bedford and State of Virginia, have invented a new and useful Apparatus for Curing Tobacco, of which the following is a specification.

The invention relates to an apparatus for curing leaf-tobacco, and particularly to means for supplying moisture to the leaf during the curing operation and in preparing the leaf for handling.

In curing dark tobacco it is necessary to supply the leaves with a certain amount of moisture, which should be applied uniformly, and it is also necessary preparatory to handling the tobacco leaf, as in the manufacture of cigars, to moisten the same sufficiently to allow of their manipulation without breaking, and to provide an apparatus whereby this moistening operation may be performed with facility and with the minimum expense to the manufacturer is an important object of the invention.

Moreover, it is the object of the invention to provide means whereby the apparatus may be adjusted with facility to suit different sizes of drying rooms or barns, and also to provide such a construction that moisture may be supplied only when necessary, the heating device performing its usual function, as during the operation of curing light tobacco, &c.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of an apparatus constructed in accordance with the invention, the same being arranged in operative position in a drying-chamber. Fig. 2 is a longitudinal section of a portion of the apparatus. Fig. 3 is a transverse vertical section on the plane indicated by the line 3 3 of Fig. 2 to show the means whereby the heating devices are connected. Fig. 4 is a plan view showing a slightly-modified arrangement wherein the conveyers are doubled upon themselves to return the products of combustion to the side of the drying-chamber adjacent to the heating devices or furnaces. Fig. 5 is a detail view in perspective

of one of the conveyer-sections. Fig. 6 is a detail view of one of the heating devices or furnaces. Fig. 7 is a detail sectional view through a portion of one of the conveyers on the plane indicated by the line 7 7 of Fig. 2.

Similar reference characters indicate corresponding parts in all the figures of the drawings.

The moisture-supplying apparatus embodying the essential features of the invention comprises a heating device or furnace 10, in communication with which is arranged a conveyer 11, which in turn is in communication with a smoke-flue 12. In practice it is preferable to arrange a plurality of heating devices in series, as indicated in Figs. 1 to 3, the number of devices thus arranged in series operating to suit the size of the heating-chamber in which the tobacco-leaf is to be exposed. Each heating device or furnace, however, is provided with a conveyer, and as the elements of the apparatus are identical in construction a specific description of one will be sufficient. Referring, therefore, to Figs. 1 to 3 and Fig. 5, each element of the apparatus consists of a furnace or heating device 10, as above indicated, the smoke-outlet 13 of which is provided with a collar 14, and the conveyer 11 is constructed in sections, which are terminally interlocked to provide a continuous conductor, the extremity of one of the terminal sections being fitted upon said collar 14 and the remote extremity of the other terminal section having the smoke or outlet flue 12 fitted thereon. Each section of the conductor, of which there may be any desired number and of which all correspond in construction, consists of a flat-topped flue or drum 16, supporting an evaporating-pan 17, the floor of the evaporating-pan being formed by the flat top of the flue 16 and the side and end walls of said pan being formed by flanges or up-turned portions. Furthermore, the flue portions of each section of the conductor is extended at one end to form a collar 16^a, adapted to fit into the flue at the adjacent end of the adjoining conveyer-section. To maintain connected conveyer-sections in operative relations, a clip 18 is arranged to straddle and engage the upper edges of the contiguous end walls of the evaporating pans or vessels. In the same way a corresponding clip is arranged

to engage the upper edge of the furnace or heating device and the contiguous end wall of the adjacent conveyer-section. The smoke-flue is provided with a horizontal arm 19 to receive the collar at the adjacent end of the adjoining conveyer-section, and said arm is further provided with an upstanding flange 20, engaged by the contiguous clip 18 to maintain the parts in operative relations. The conveyer-sections may be supported by any suitable means, (shown at 21,) said supports being provided with seats 22, in which the convexed lower sides of the conveyer-sections are fitted.

In addition to the evaporating-pans with which the conveyer-sections are provided it is desirable to provide heating devices or furnaces with corresponding pans 17^a, formed by suitably extending the side and end walls of the furnace, and the said walls may be of double thickness, as indicated, to prevent the too-rapid radiation of heat. Furthermore, a draft-inlet damper 23 may be arranged in the bottom of the furnace, as indicated in Fig. 2, or any equivalent means may be provided to control the supply of air, which, however, should be inducted through an air-supply flue 24, terminating outside of the heating-chamber.

The construction of the elements of the curing apparatus is such that they may be used independently of each other, and the conveyers may be made of such lengths by the multiplication of sections as to present the desired area of radiating-surface and also the desired area of evaporating-surface, it being obvious that the multiplication of conveyer-sections correspondingly increases the number of evaporating-pans. If desirable, also, the conveyers may be doubled upon themselves horizontally, as indicated in Fig. 4, to arrange the smoke-flues at that wall of the drying-chamber adjacent to which the heating devices or furnaces are located. It has been found convenient in practice, however, to connect the furnaces or heating devices in series by forming openings in the facing-walls thereof and providing said openings with inwardly-extending flanges or sleeves 25, one of which is adapted to receive the flue extension 16^a of a conveyer-section, while the other is adapted to receive a separate auxiliary flue-section 16^b, of which the other end fits in the adjacent extremity of the flue of said conveyer-section, as shown in Fig. 3. Obviously this adds to the evaporating area of the apparatus, and hence to the efficiency of the device for the purpose described. Fig. 6 shows a furnace or heating device constructed as in Figs. 1 to 3, inclusive, but with the lateral opening thereof covered by a removable slide 26, fitted at its edges in guides 27.

In operation, as will be understood from the foregoing description, the evaporating-pans are supplied with water or other liquid to be evaporated, and hence the atmosphere within the curing-chamber becomes charged with

moisture, which suitably affects the tobacco-leaf, thereby avoiding the necessity of sprinkling or spraying the leaf when it is desired to dark-cure the same and also when it is necessary to prepare the leaf for manipulation. Furthermore, it will be seen that the apparatus as described is simple, and the sectional construction of the conveyers provides for adapting the apparatus in size to the curing chamber or barn in which it may be located and at the same time dispose the evaporating-pans so as to efficiently and uniformly charge the atmosphere of the curing-chamber with moisture.

The collar extension 16^a, with which one end of each conveyer-section is provided, consists of a rounded wall, constituting an extension of the rounded under wall of the smoke-flue, and a flat upper wall 28 in the plane of the bottom of the evaporating-pan, said upper wall 28 being formed as an extension of the double downturned end wall of said evaporating-pan, as shown in Fig. 5. The extremities of this upper collar-wall 28 are spaced slightly from the side portions of the collar, and said side portions of the collar are extended above the plane of the top wall 28 to form ears 29 in the planes of the side walls of the evaporating-pan to fit snugly between the side walls of the evaporating-pan and the corresponding upward extensions of the flue-walls in the adjoining conveyer-section, as shown in Figs. 2 and 7.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having described the invention, what is claimed is—

1. In an apparatus of the class described, the combination with a heating device, of a sectional conveyer provided with a smoke-flue and having its sections provided with interlocking extremities, and attached superposed open-topped evaporating-pans, of which the bottoms are formed by the upper sides of the conveyer-sections, substantially as specified.

2. In an apparatus of the class described, the combination with a heating device, of a sectional conveyer provided with a smoke-flue and each member of which is provided with a flue and a superposed evaporating-pan, said flue being extended at one end to form an interlocking connection with the adjoining section, whereby the end walls of the pans on adjoining sections may be arranged in contact, substantially as specified.

3. In an apparatus of the class described, the combination with a heating device, of a sectional flue provided with a smoke-flue and having interlocking terminals and superposed attached evaporating-pans, and clamps for engaging the contiguous walls of the pans of adjoining sections to hold said sections together, substantially as specified.

4. In an apparatus of the class described, the combination with a heating device, of a sectional conveyer, of which the sections are terminally interlocked and are provided with superposed attached evaporating-pans, and clamping devices, consisting of clips, engaging the upper edges of the adjacent walls of evaporating-pans carried by adjoining sections to hold said sections together, substantially as specified.

5. In an apparatus of the class described, the combination of a heating device having a smoke-outlet collar, a smoke-flue having an arm provided with an upturned flange, a sectional conveyer comprising members, each provided with an attached open-topped evaporating-pan and a subjacent flue, the flue at one end of each section being extended to fit into the adjacent end of the flue of the adjoining section, and the terminal sections being interlocked at their extremities respectively with said collar of the heating device, and the arm of the smoke-flue, and clips for engaging the adjacent extremities of adjoining conveyer-sections to hold them together, and also securing the terminals of the conveyer respectively to said furnace and the flange of the smoke-flue arm, substantially as specified.

6. In an apparatus of the class described, the combination of a plurality of furnaces, smoke-flues, sectional conveyers having members provided with interlocked extremities, and each consisting of a flue in communica-

tion with a furnace, and a superposed open-topped evaporating-pan, said furnaces being provided with lateral openings, and an auxiliary conveyer-section in communication with said openings of the furnaces, and having a superposed evaporating-pan, substantially as specified.

7. In an apparatus of the class described, the combination of a plurality of furnaces, smoke-flues, sectional conveyers having members provided with interlocked extremities, and each consisting of a flue in communication with a furnace, and a superposed open-topped evaporating-pan, said furnaces being provided with lateral openings, an auxiliary collar movably fitted in the lateral opening of one of the furnaces, and an auxiliary conveyer-section connecting said collar with the other furnace-opening, and having interlocking connections respectively therewith, substantially as specified.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of witnesses.

ALBERT W. NANCE.
WILBUR A. NANCE.

Witnesses as to Albert W. Nance:

SMELTZER V. KEMP,
JOS. AUNSPAUGH.

Witnesses as to W. A. Nance:

E. R. BROWN,
H. A. KERWICK.