

J. M. URGELLES.
DRIER.

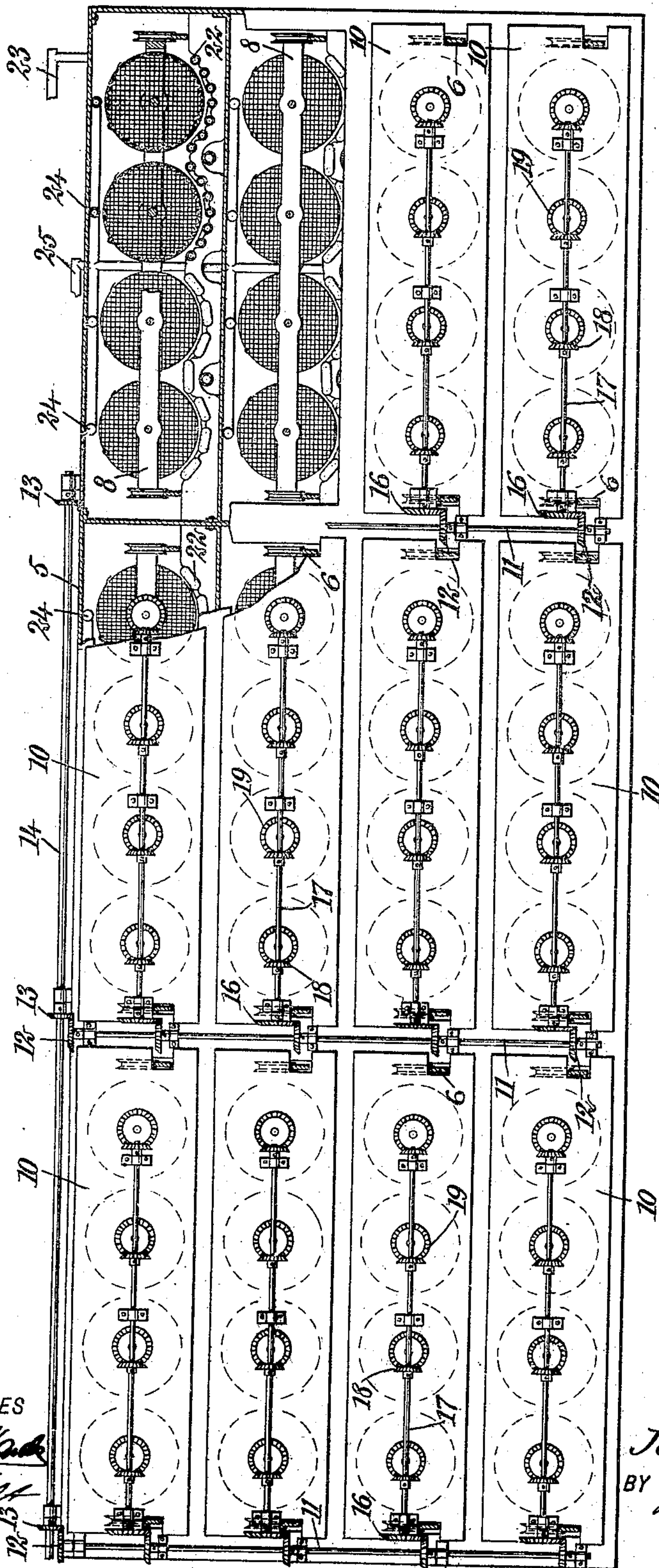
APPLICATION FILED SEPT. 9, 1908.

934,772.

Patented Sept. 21, 1909.

3 SHEETS—SHEET 1.

Fig. 1.



WITNESSES

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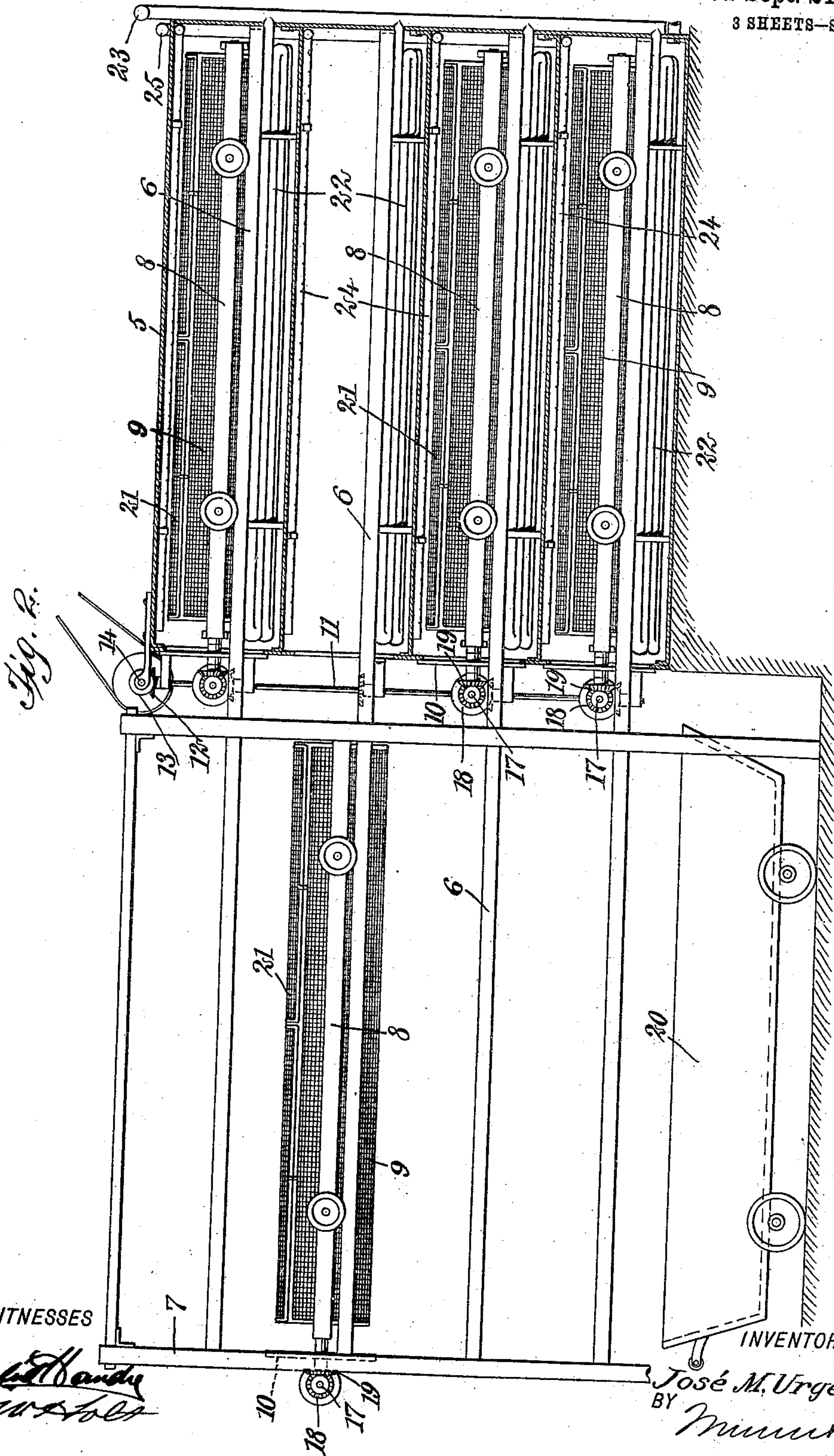
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3 SHEETS—SHEET 3.

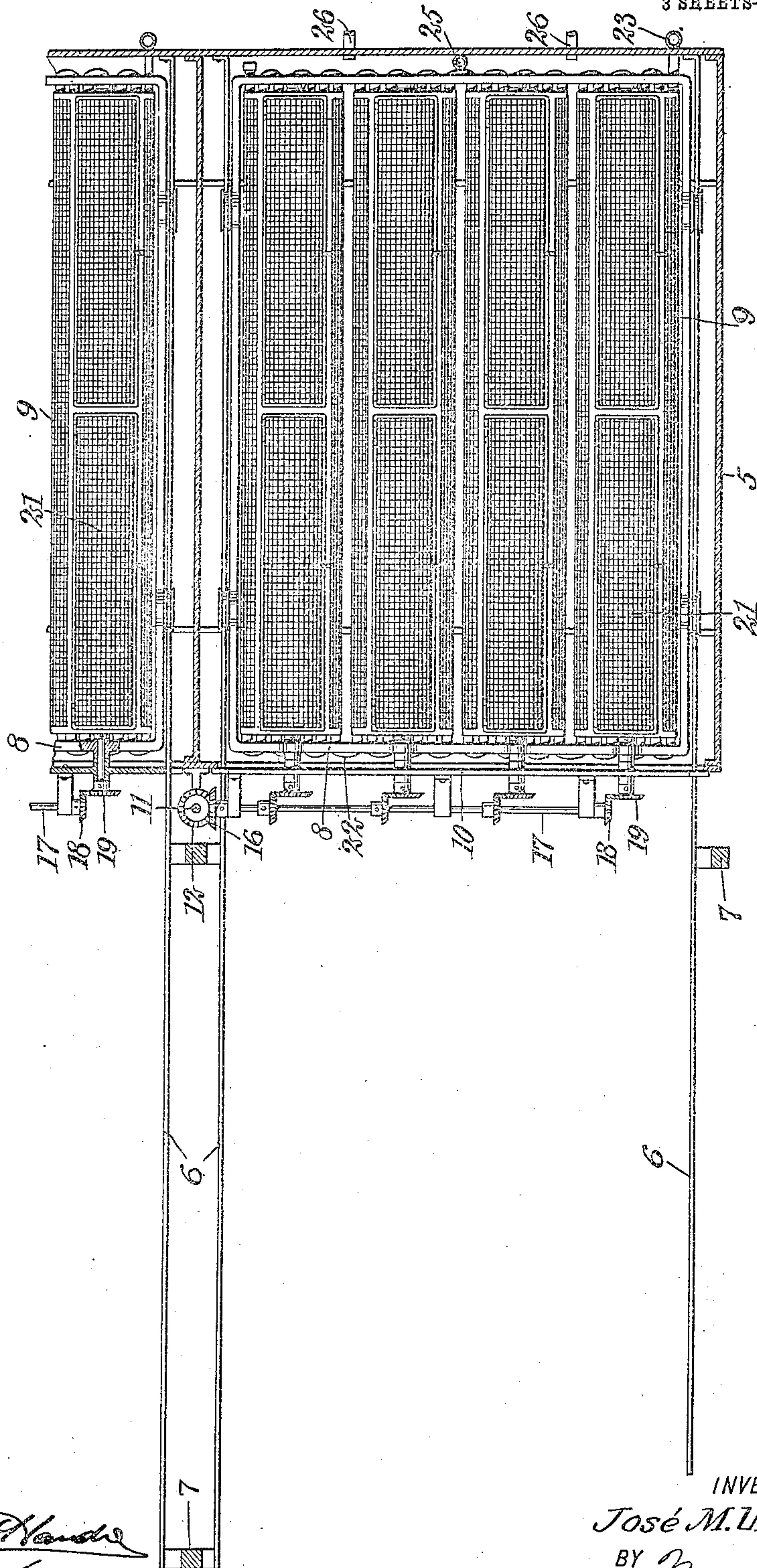


Fig. 3.

WITNESSES

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JOSÉ M. URGELLES, OF BARACOA, CUBA.

DRIER.

934,772.

Specification of Letters Patent. Patented Sept. 21, 1909.

Application filed September 9, 1908. Serial No. 452,195.

To all whom it may concern:

Be it known that I, JOSÉ M. URGELLES, a citizen of the United States, and a resident of Baracoa, Cuba, have invented a new and

Improved Drier, of which the following is a full, clear, and exact description.

The invention is an improved drier, more especially intended for coffee and similar materials, and briefly consists in its preferred construction, of a sectional oven or casing, with each section divided into a number of drying compartments arranged one above the other, each compartment having a track therein which is extended out through the front a distance equal to, or slightly greater than, the depth of the casing, a truck movable over the track, having a number of reticulated or perforated containing drums journaled in the frame thereof, with the axes or journals extended through a plate which forms the front of the compartment and carries means for driving all of said drums, steam coils arranged in the compartment under the drums, and means for introducing hot air jets over the drums.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a front elevation, partly in vertical section, of a drier embodying my invention; Fig. 2 is a cross-section of the same; and Fig. 3 is a fragmentary sectional plan of the drier.

More specifically described, the drier embodies in its construction an oven or casing composed of a number of like sections arranged side by side and joined together, each section being divided into a number of compartments arranged one above the other. In each compartment is a track 6, which is extended out through the front a distance shown to be slightly greater than the depth of the casing, the tracks being supported outside of the casing by a suitable frame or structure 7. A wheeled truck 8 is movable over each track and has an open frame in which is journaled a number of containing drums 9, four of such drums being shown in the present instance, which, however, may be varied as circumstances and conditions may require. The axes or journals of the drums are extended forward of the truck frame and through a plate 10 which forms

the front of the compartment when the truck is moved therein, as when the drying is in progress.

On the division between each section of the casing, at the outside, is journaled a vertical shaft 11, which, at points of its length, is provided with bevel pinions 12, the upper one of which meshes with a corresponding pinion 13 fixed to a driving shaft 14, and the remaining pinions 12 meshing with similar pinions 16 fixed to short shafts 17, each of which is journaled at the outside of one of the front plates 10 and carries bevel pinions 18, in mesh with bevel pinions 19 secured to the outer ends of the axes or journals of the drums. By this construction, when a truck is rolled from its compartment, the gear 16 will move out of mesh with the gear 12, and the revolution of the drums will stop, the reverse action taking place when the truck is again shifted within its compartment to a drying position, thus making it unnecessary to shut off the power from the drums in any compartment when charging and discharging the drums of another or other compartments, the drums being automatically set in revolution and stopped by shifting the truck. The casing or oven will ordinarily be mounted a substantial distance above the ground, at the front, as illustrated in Fig. 2, in order that sufficient room will be available for moving a car 20 under the bottom track, to receive the coffee or such other material as is dried. In order that the drums may be easily charged and discharged, each is provided with a hinged cover 21, forming a substantial portion of its periphery. By opening this cover when it is in its lowest position, the dried material will drop out, as is obvious.

In each compartment of the casing are a number of heating coils 22, corresponding in number to the drums and conforming to the shape thereof, as best shown in Fig. 1. The direction of the heating coils is the same as that of the drums, that is, from the front to the rear of the casing, and are fed from a suitable source of steam supply through a feed pipe 23. In addition to the heating coils for effecting the drying, the latter is facilitated by the introduction of hot air in each compartment above the drums, for which purpose I provide a pipe 24 at the top of each compartment, having perforations on its under side and connecting with a feed pipe 25, the hot air escaping after be-

ing laden with the moisture from the drying material, through discharge pipes 26 arranged at the rear of the casing, as best shown in Fig. 3.

5 By arranging the drying compartments contiguous to each other, both as regards the horizontal as well as the vertical, the heating can be economically carried on, since one
10 compartment will derive a portion of its heat from adjacent compartments through radiation.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

15 1. The combination of a drying compartment having a track arranged therein and extended to the front thereof, a truck movable over the track, a container mounted on the truck, a front plate for closing the com-
20 partment, carried by the truck, and means for operating the container, partly carried by the front plate and automatically connected and disconnected by moving the truck into and out of the compartment.

25 2. The combination of a compartment, a perforated drum revoluble within the compartment, a steam coil arranged in the compartment below the drum, and means for introducing hot air within the compartment
30 above the drum.

3. The combination of a casing divided into a number of sections arranged side by side, each section divided into a number of drying compartments arranged one above
35 the other, a track within each compartment, passing through the front thereof forward of the casing, a truck movable over the track, drums journaled on each truck, a shaft carried by the truck having means for

driving the drums and provided with a 40 pinion, vertical shafts arranged between the sections of the casing, means for driving the vertical shafts, and pinions carried by the vertical shafts, with which the first men-
45 tioned pinions engage and disengage in moving the trucks into and out of the compartments.

4. The combination of a casing having drying compartments, each compartment having a track extended through the front 50 thereof, a truck movable over the track of each compartment, a container drum revolubly mounted on each truck adapted to be charged and discharged when the truck is moved from the compartment upon the ex-
55 tended portion of the track, and heating means arranged below each container, said compartments adjoining each other whereby the heat from one compartment assists in heating the adjacent compartments. 60

5. The combination of a drying compart-
65 ment, a truck movable into and out of said compartment, a series of container drums revoluble on the truck and operatively connected, and a steam pipe coil under each drum, the pipe of each coil extending lon-
70 gitudinally of the drum and arranged in a curved plane substantially conforming thereto, and with the several steam coils successively connected.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

J. M. URGELLES.

Witnesses:

A. M. MOLINA,
JOHN P. DAVIS.