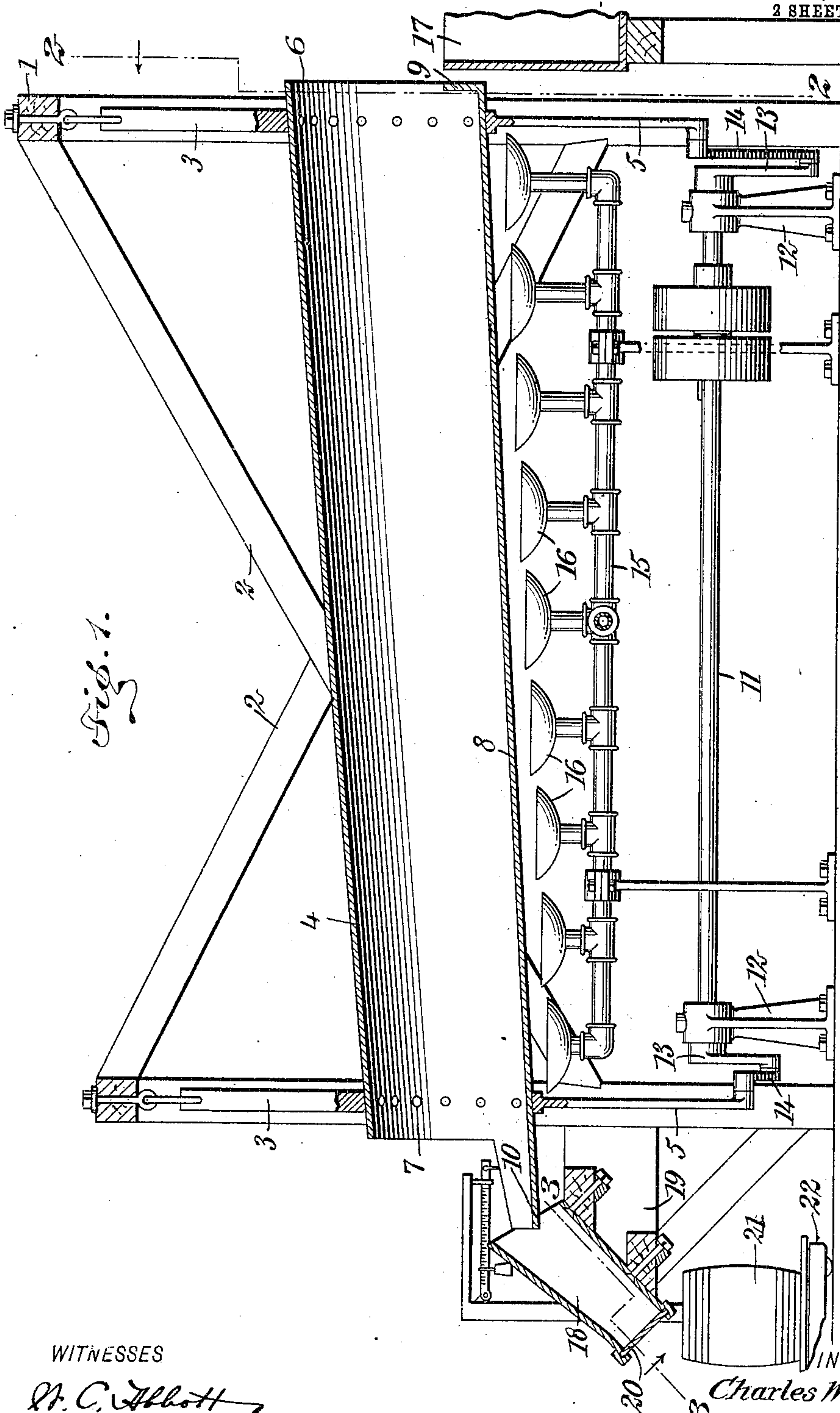


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NAIL COATING MACHINE.
APPLICATION FILED AUG. 9, 1906.

2 SHEETS—SHEET 1.



WITNESSES

R. C. Abbott

C. W. Fairbank

INVENTOR

Charles Waggoner

BY *Munn & Co*

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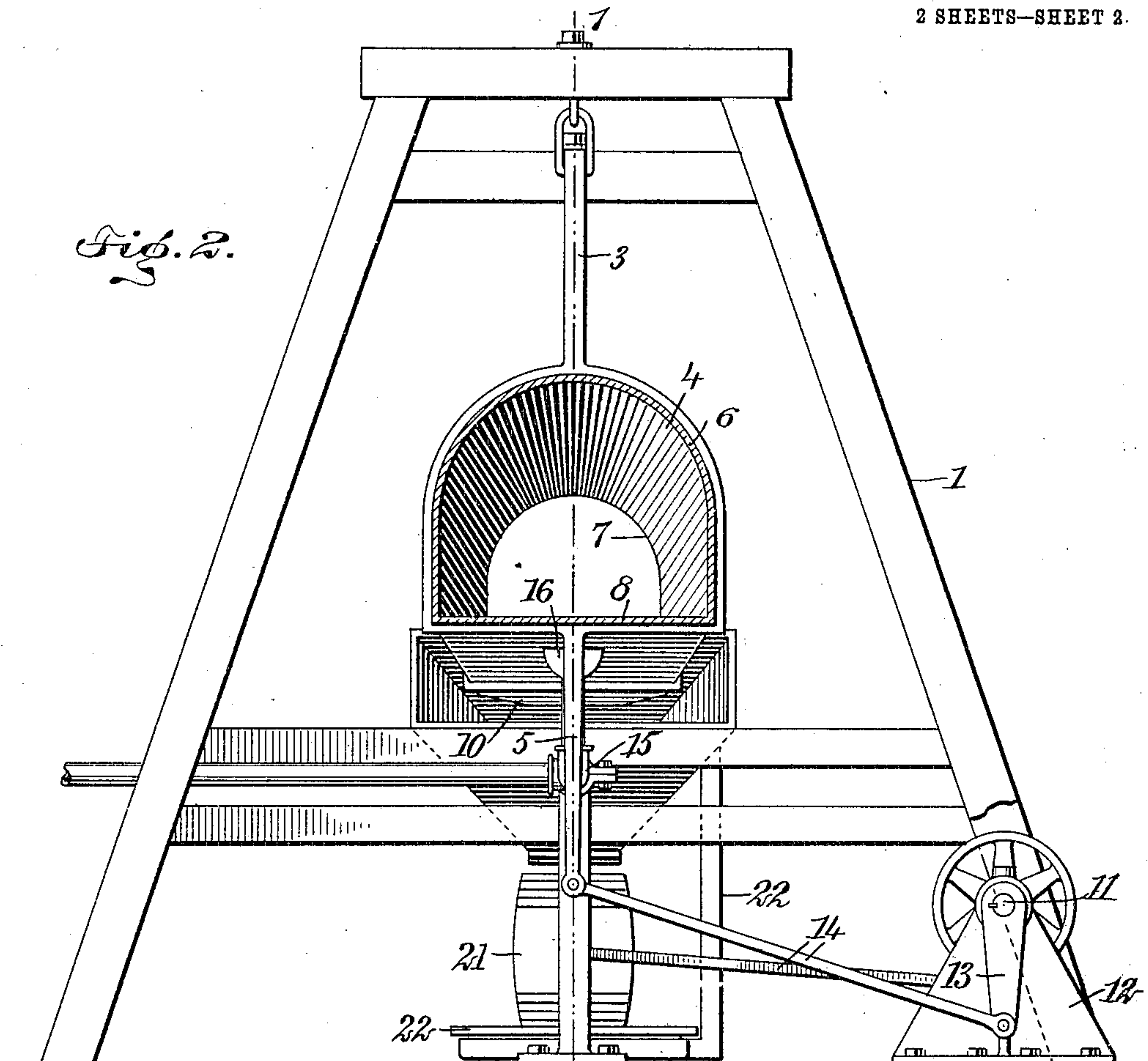
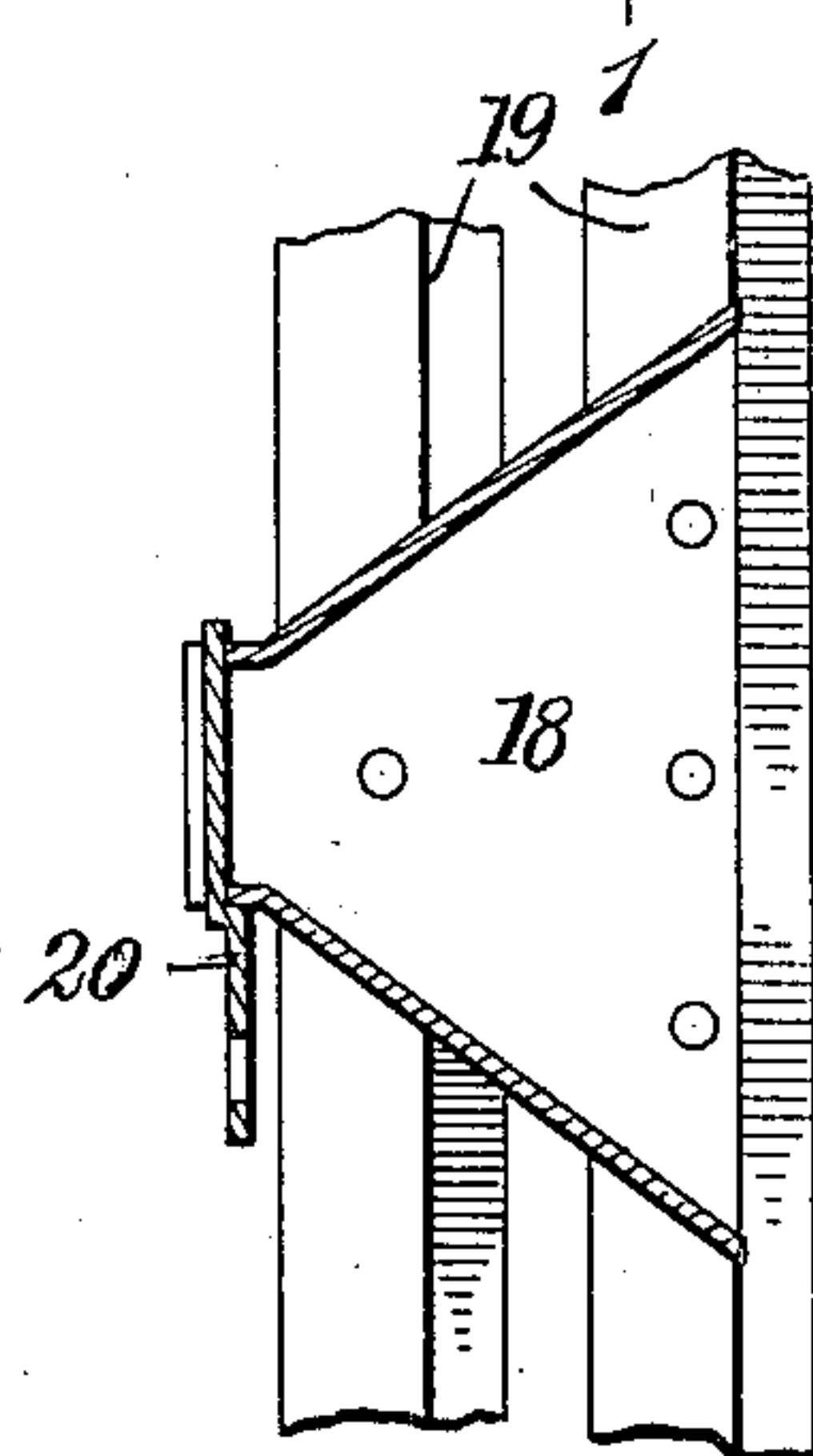


Fig. 3.



WITNESSES

M. C. Abbott

C. M. Fairbank

INVENTOR

Charles Waggoner

BY *Munn & Co*

ATTORNEYS

UNITED STATES PATENT OFFICE.

CHARLES WAGGONER, OF AKRON, OHIO.

NAIL-COATING MACHINE.

No. 837,161.

Specification of Letters Patent.

Patented Nov. 27, 1906.

Application filed August 9, 1906. Serial No. 329,872.

To all whom it may concern:

Be it known that I, CHARLES WAGGONER, a citizen of the United States, and a resident of Akron, in the county of Summit and State of Ohio, have invented a new and Improved Nail-Coating Machine, of which the following is a full, clear, and exact description.

This invention relates to certain improvements in nail-coating machines whereby the operation of machines of this character may be rendered more economical and more easily controlled, such results being due to the oscillatory rather than to the rotary movement of my improved device.

Such structural features as disclosed and covered by the appended claims may be employed in various other machines than those for the purpose specified, and I wish it understood that the device disclosed may be used for other purposes.

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 figures, in which—

Figure 1 is a vertical section of the entire device and taken on the line 1 1 of Fig. 2. Fig. 2 is a vertical section taken on the line 2 2 of Fig. 1, and Fig. 3 is a detailed section of the delivery-hopper and taken on the line 3 3 of Fig. 1.

My device comprises two open frames 1 1, adapted to rest on the ground and suitably spaced apart and held rigid by connecting bars or frames 2. Suspended from each frame and free to oscillate therein I provide a support 3, adapted to carry the main portion 4 of my nail-coating machine and having a downwardly-extending arm 5, by which the said support and main body portion may be oscillated. Each support 3 surrounds and is rigidly secured to one end of the body portion 4, which latter is preferably supported on an incline—namely, with one end higher above the ground than the other and having the upper end 6 substantially larger than the lower end 7. The body portion is substantially semicylindrical in cross-section, the flat side 8 thereof constituting the bottom. The larger upper end has a strip 9 extending across the opening adjacent the lower side, serving to prevent the material from falling out the upper end, while the lower end is provided with an extension con-

stituting a spout 10 to facilitate the delivery of the contents.

Supported at one side of the main frame is a main driving-shaft 11, journaled in suitable supports 12 and provided with a fast and a loose pulley, whereby the shaft may be rotated from any suitable source of power. Each end of the shaft is provided with a crank-arm 13, the arm at the end adjacent the larger end of the body 4 being substantially longer than the arm adjacent the smaller or the discharge end of the body. Each of these crank-arms 13 is pivotally connected to suitable links 14, extending to and pivotally connected with the lower end of the arms 5, extending downward from the main body at the ends thereof. By the rotation of the shaft 11 the main body will be swung from side to side on the pivoted supports 3, and the upper and larger end of the body will be swung through a larger arc than will the lower and smaller end.

Supported beneath the main body is any suitable form of heating means, that shown comprising a gas-supply pipe 15, having a plurality of burners 16 located thereon and adjacent the under side of the body. These burners extend throughout the entire length of the body, and the width of said body in relation to the length of the crank-arms 13 is such that some portion of the bottom of the body is directly over the source of heat at all times during the oscillation of said body.

Any suitable bin 17 is located adjacent the larger or supply end of the body, and a delivery-hopper 18 is supported adjacent the lower end. This hopper is considerably wider than the lower end of the body portion, whereby it may receive the material delivered from said body portion throughout the entire range of which the body portion is capable. The hopper is rigidly supported to the frame of the machine by means of a suitable bracket 19 and is provided at the lower end thereof with a slide-valve 20, by which the discharge from the hopper may be controlled. The lower end of the hopper is preferably at a sufficient distance above the ground so that a keg 21, resting on scales 22, may be inserted beneath the hopper to receive the nails discharged from the body and permit of their weight being readily determined.

In the operation of the machine above de-

scribed when operated as a nail-coating machine a number of kegs of nails are emptied into the bin 17 and the coating compound thrown over them. They are then shoveled
 5 into the upper end of the body a small quantity at a time, and the oscillating motion of the machine carries them to the lower or delivery end, by which time the coating of the nails is completed. The nails drop from the
 10 lower end into the hopper, from which kegs may be filled and weighed and the delivery controlled by the slide-valve 20.

As the device oscillates rather than rotates, it is the bottom which is always in contact with both the heat and the material being treated. In an ordinary rotating machine the under surface as soon as it is heated is moved around to the top of the machine, where the heat is radiated and no useful effect obtained therefrom, while in my device
 20 the top of the machine is not heated at all, as there is no necessity therefor. The heat is only applied at the time when it is needed, and the oscillating motion produces fully as
 25 efficient an agitation of the contents as does the rotating motion. Furthermore, if the machine be stopped the remaining nails may be readily removed with a common rake or hoe, due to the flat bottom of the body.

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

1. In a machine of the class described, a main frame, a body supported therein, said
 35 body having a flat bottom and curved top and side walls, means for oscillating said body, and means for applying heat to the under side thereof.

2. In a machine of the class described, a
 40 suitable frame, an inclined body having the upper end substantially larger than the lower end and being substantially semicylindrical in cross-section, the flat side forming the bottom, means for suspending said body within
 45 said frame, and means for oscillating said body.

3. In a machine of the class described, a simple frame, an inclined body supported therein, said body having a flat under side
 50 or bottom, stationary means beneath said bottom for applying heat thereto, and means for oscillating said body through a

distance less than the width of the bottom, whereby the bottom is directly above the heating means at all times. 55

4. In combination, a main frame, arms suspended within said frame, a semicylindrical body supported by said arms, one end of said body being substantially larger than the other end and being supported at a
 60 higher level, a driving-shaft, and means connected to the ends of said driving-shaft, whereby the two ends of the body may be oscillated different amounts.

5. In combination, a frame, a semicylindrical inclined body supported within said frame, means connected to the ends of said body for oscillating said ends different amounts, a hopper supported by said frame and adjacent the lower end of said body, the
 70 upper end of said hopper being substantially wider than the adjacent end of the body, a slide-valve adapted to close the lower end of said hopper, and means for heating said body substantially throughout its length. 75

6. In combination, a hollow body substantially larger at one end than at the other end, means for suspending said body with the larger end at a higher level than the smaller end, means for oscillating the two
 80 ends of the body and their supporting means different amounts, a spout connected to the lower end of said body, a hopper supported adjacent said spout, and a slide-valve adapted to close the lower end of said hopper. 85

7. A nail-coating machine, comprising two frames, an arm suspended from each of said frames, a semicylindrical body carried by said arms, a main driving-shaft, crank-arms of different lengths on the two ends of said
 90 shaft, connections between the ends of said crank-arms and said body, whereby upon the rotation of the shaft the two ends of the body are oscillated different amounts, a spout connected to the lower end of said body, a
 95 hopper supported adjacent said spout, and means for heating the lower side of said body.

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

CHARLES WAGGONER.

Witnesses:

D. F. FELMLY,
 W. H. WILLIAMSON.