

G. F. HARTLEY.  
WOOD STEAMING APPARATUS.  
APPLICATION FILED APR. 23, 1908.

916,149.

Patented Mar. 23, 1909.

3 SHEETS—SHEET 1.

Fig. 2.

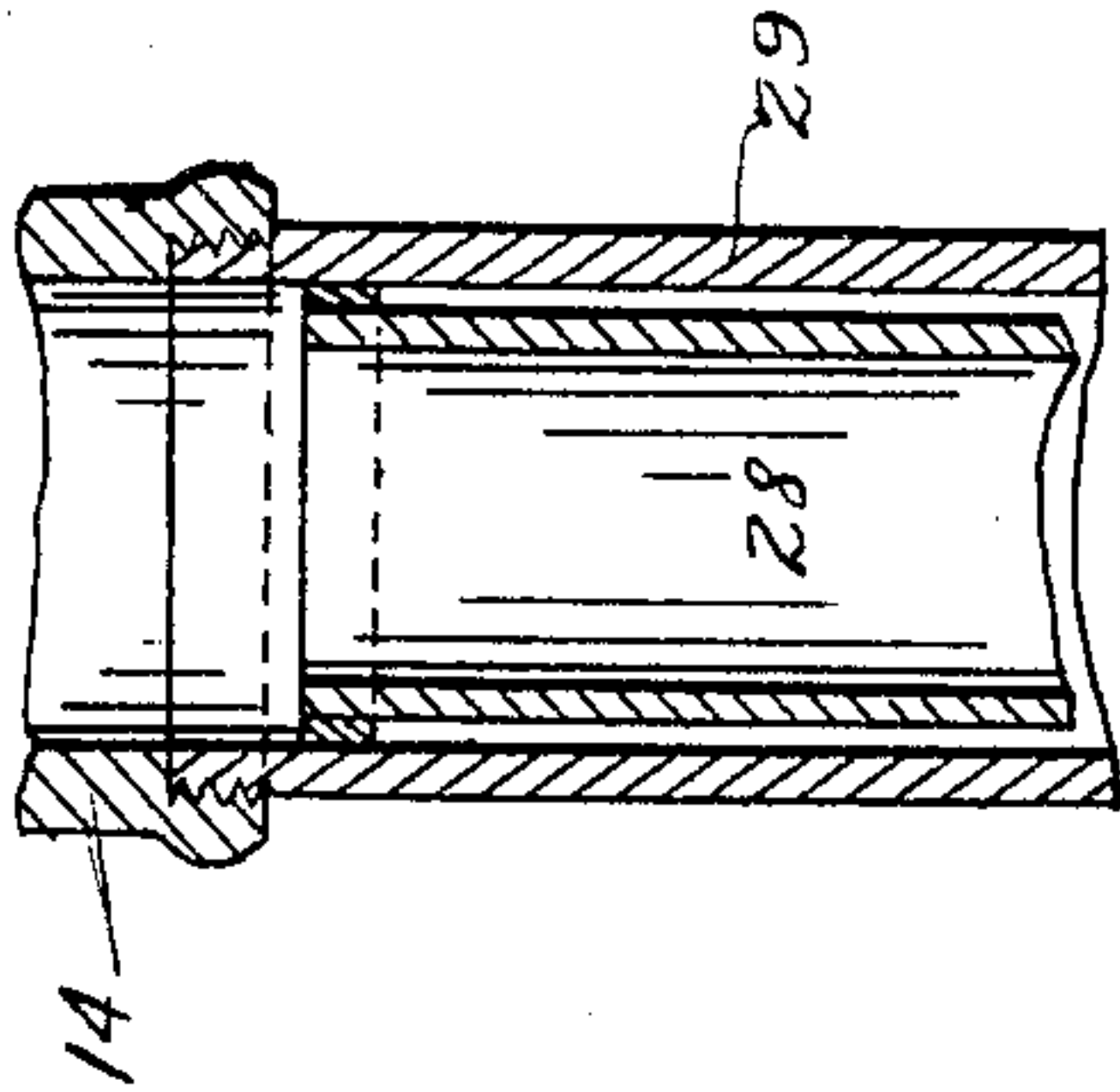
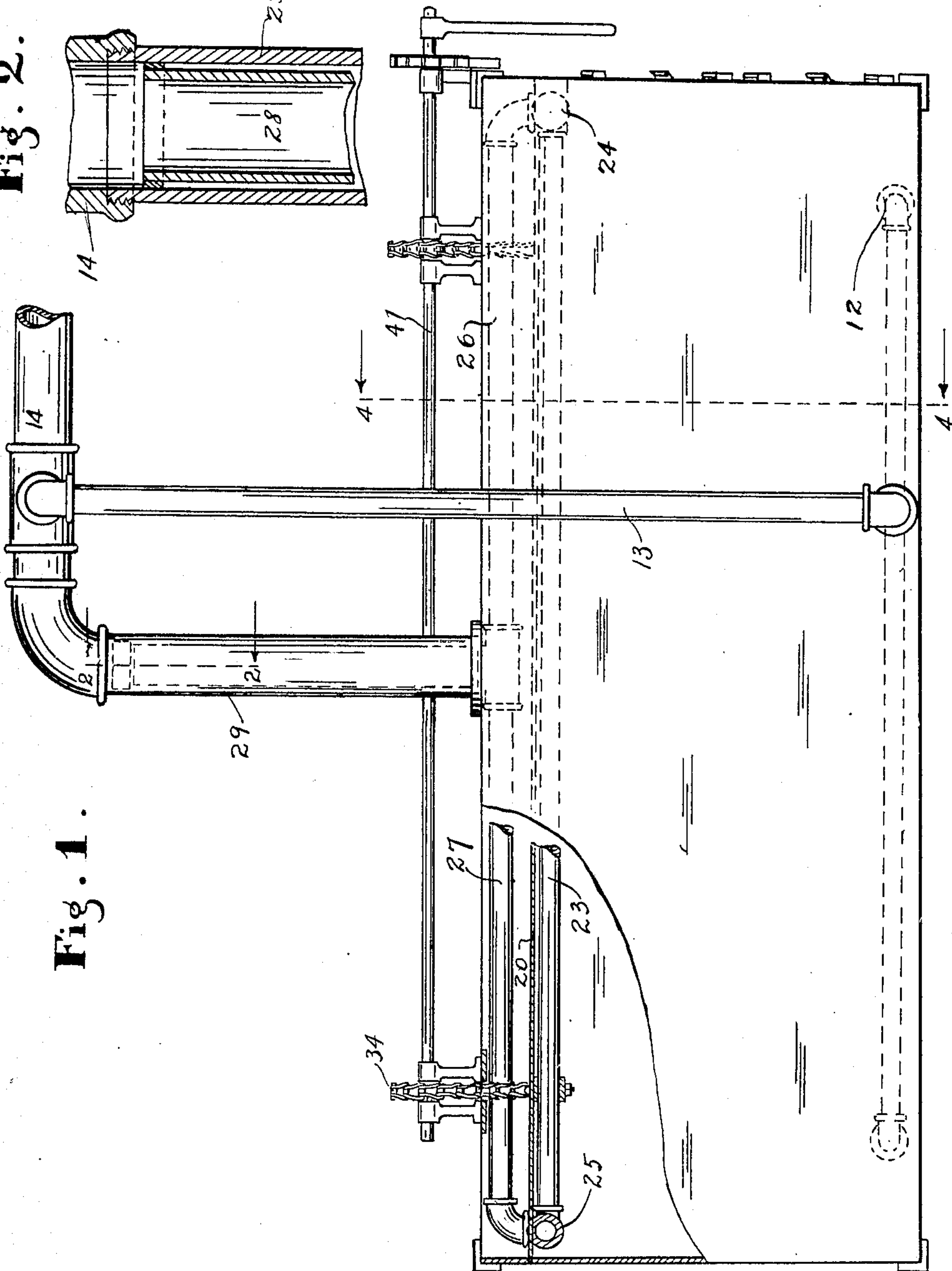


Fig. 1.



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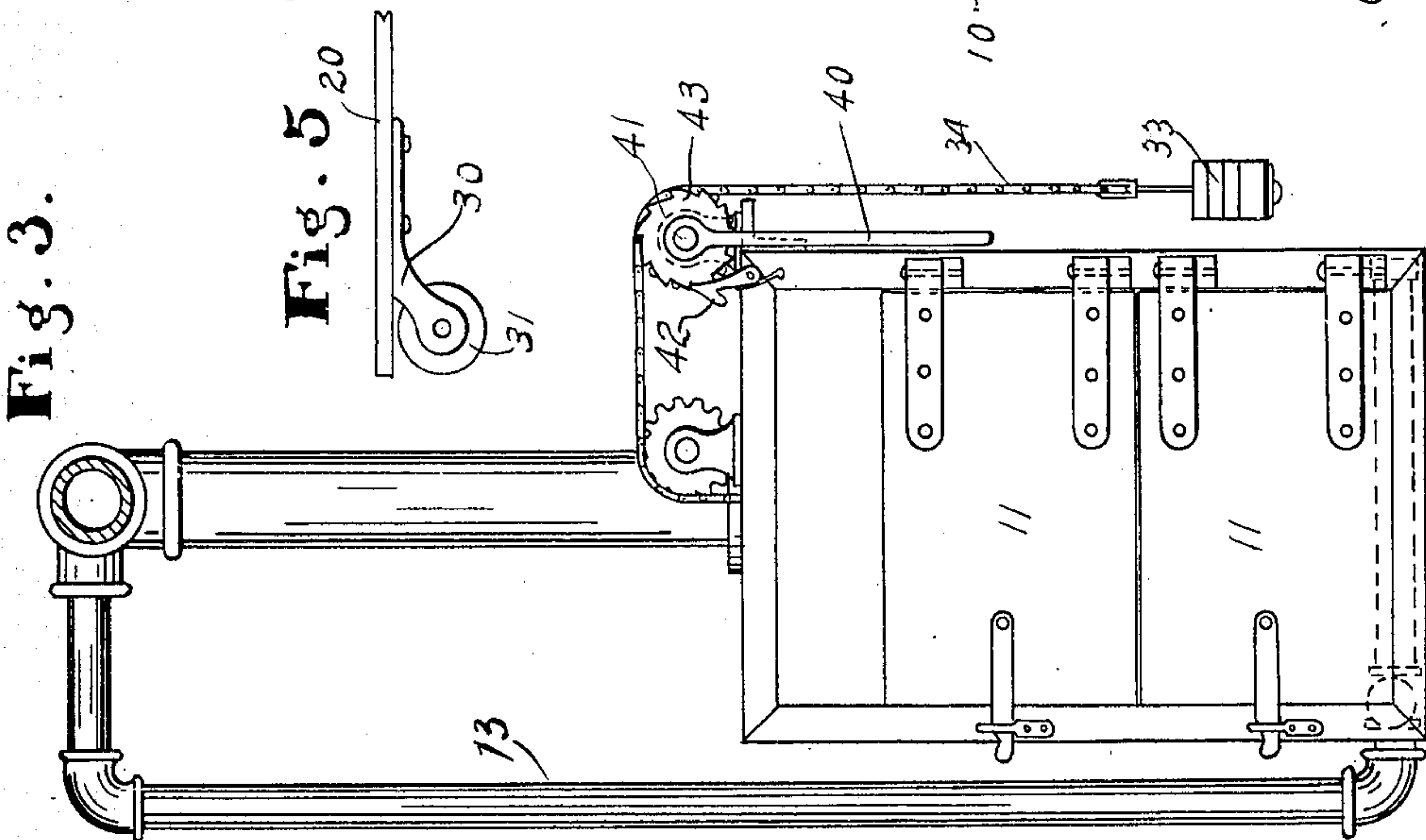
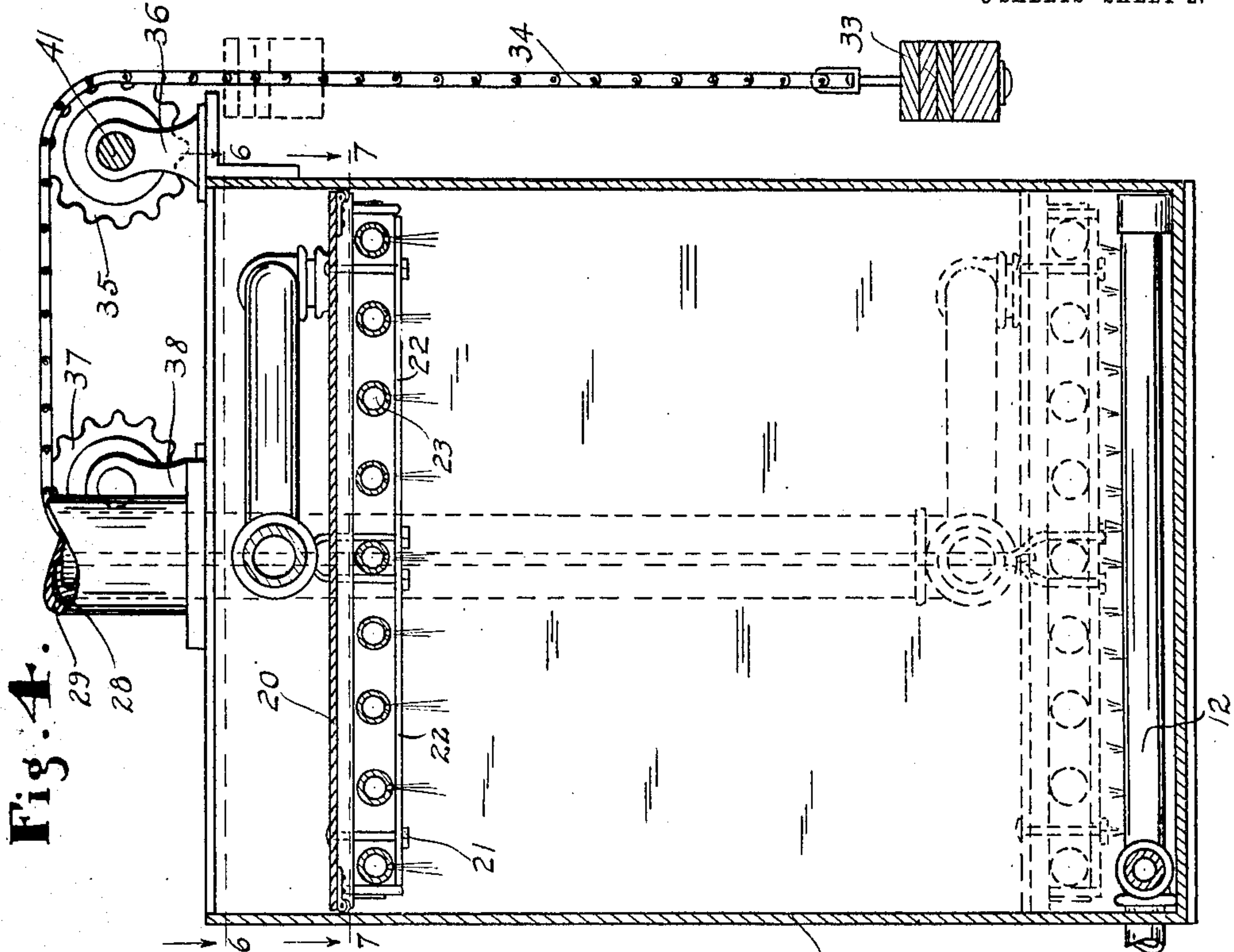
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3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

Fig. 6.

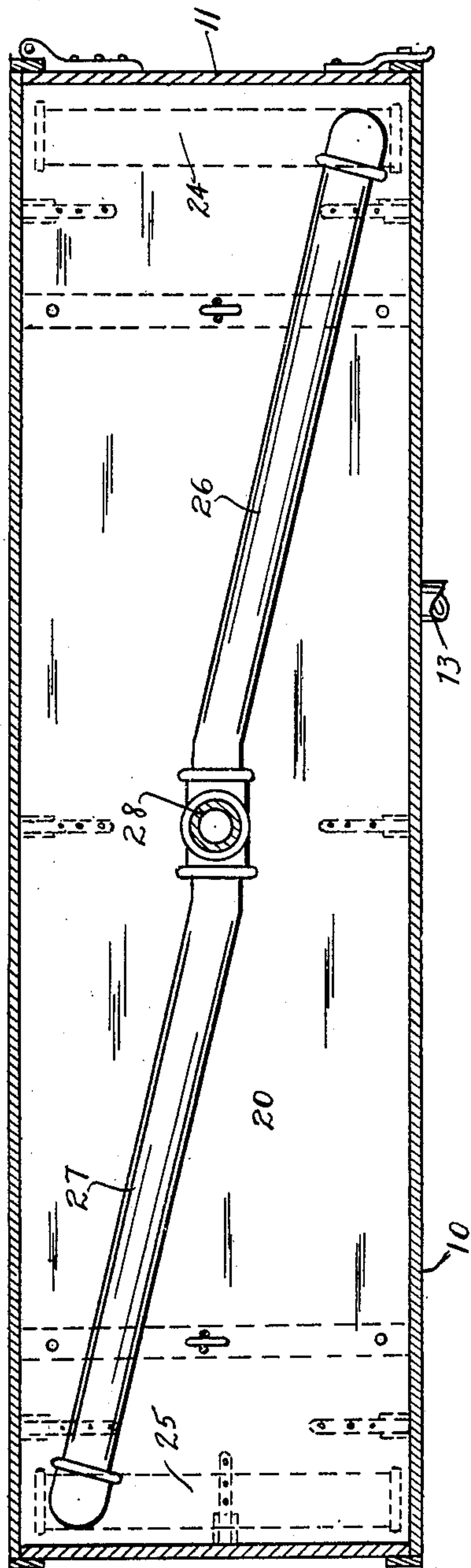
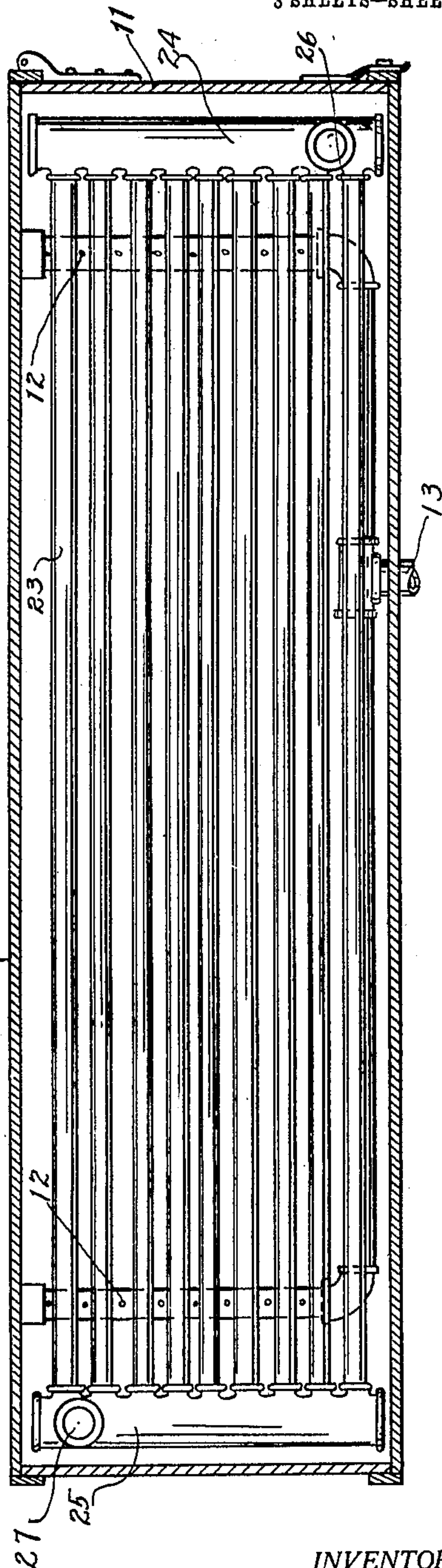


Fig. 7.



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# UNITED STATES PATENT OFFICE.

GEORGE F. HARTLEY, OF MUNCIE, INDIANA.

## WOOD-STEAMING APPARATUS.

No. 916,149.

Specification of Letters Patent.

Patented March 23, 1909.

Application filed April 23, 1908. Serial No. 428,736.

*To all whom it may concern:*

Be it known that I, GEORGE F. HARTLEY, of Muncie, county of Delaware, and State of Indiana, have invented a certain new and useful Wood-Steamng Apparatus; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like numerals refer to like parts.

The object of this invention is to provide practical means for satisfactorily steaming wood for bending it.

The chief object of this invention consists in providing either the means for holding the material or the steam distributing apparatus movable toward the other as the material is gradually removed. Thus, in the form herein shown a stationary means is provided for holding the wood and it has a door to make the wood therein accessible. A steaming means is provided that descends as the material on top of the pile is gradually removed.

This invention enables the steaming means to be always in close proximity to the wood so as to be constantly affecting the same and the supply of steam therethrough may be constantly maintained, whereas in devices heretofore, so far as I know, the steam would be shut off while the wood is being removed.

The nature of the invention will be understood from the accompanying drawings and the following description and claims:

In the drawings Figure 1 is a side elevation of the device with the steam pipes shown by dotted lines and part broken away. Fig. 2 is a section on the line 2—2 of Fig. 1. Fig. 3 is an end elevation. Fig. 4 is a vertical transverse section on the line 4—4 of Fig. 1, showing the heating means in full lines at the top and in dotted lines at its lower position. Fig. 5 is a detail of one of the guides for the heating device. Fig. 6 is a horizontal section on the line 6—6 of Fig. 4, showing the parts in plan view. Fig. 7 is a similar section on the line 7—7 of Fig. 4, showing the parts in plan view.

A suitable receptacle 10 is provided at one end with doors 11 so as to render the wood which is placed in said receptacle to be steamed accessible. In the bottom of said receptacle there are stationary steam pipes 12 which are supplied with steam through the pipe 13 leading from the main steam sup-

ply pipe 14. The strips of lumber are laid upon these stationary steam pipes 12 until the receptacle 10 is filled as full as desired. The steam pipes 12 are perforated on their uppersides so that steam may issue therefrom. A vertically reciprocatory steaming means is provided in said receptacle for use above the lumber piled therein. It consists of the cross bars 22 on which a series of steam pipes 23 are laid, said series of pipes 23 being at each end connected with headers 24 and 25. To these headers 24 and 25 at diagonally opposite points horizontal pipes 26 and 27 lead and pipes 26 and 27 lead from the vertical pipe 28 that projects and telescopes in the pipe 29 that is supplied with steam through the pipe 14, as seen in Fig. 1. Therefore, it is obvious that the pipes 23 will be supplied with steam whether said pipes are in the upper part of the receptacle 10 or lowered even down to the limit. The pipes 23 are perforated on their under side to let the steam escape directly upon the material below. A plate 20 held upon the steam pipes 23 by the bolts 21 closes the receptacle 10 to keep the steam below.

For guiding this steaming apparatus arms 30 are secured to the plate 20 with the rollers 31 that engage the side walls of the receptacle. A counterweight is provided also for said steaming apparatus consisting of weights 33 connected with a chain 34 that passes over sprocket wheel 35 on the stand 36 and the sprocket wheel 37 on the stand and down into the receptacle 10 and secured to the plate 22. There may be two of these chains 34, as shown in Fig. 1.

The steaming apparatus is raised and lowered by the handle or crank 40 secured on the end of the rod 41 on which wheels 35 are mounted, and backward movement is prevented by the spring pawl 42 that engages ratchet wheel 43 of said rod 41, as shown in Fig. 3. The counterweight 33 is slightly lighter than the steaming apparatus so that the normal tendency of the steaming apparatus will be to descend in immediate contact with the wood when permitted.

In operation the steamer is elevated by the handle 40 and the strips of wood desired to be steamed are placed within the receptacle until the pile is as high as desired. Then the steamer is let down near the top of the pile and the material is steamed as long as considered desirable. Then the upper door 11 is opened and the pieces of wood on top of



the pile are removed since they are sufficiently steamed. As the top of the pile lowers by the gradual removal of the material, the steamer is lowered near the pile so  
5 that the steam therein continues to act on the material, as the material is gradually being removed, until it is all taken away. The lower door 11 is opened when the pile gets so low as to require that for removing  
10 the material.

What I claim as my invention and desire to secure by Letters Patent is:

1. A device for steaming wood and the like including a receptacle for holding the  
15 material to be steamed provided with a door or the like to render the material accessible, and a steaming device within said receptacle and extending over the material and vertically movable so that as the material is grad-  
20 ually removed the steaming device can be lowered into close proximity with the upper surface of the material.

2. A device for steaming wood and the like including a receptacle for holding the mate-  
25 rial to be steamed, a centrally disposed steam supply pipe extending vertically from the top of said receptacle, a steaming device within said receptacle and extending horizontally so as to be over all the material, and  
30 a pipe connected therewith that telescopes with said steam supply pipe, whereby the steaming device can be gradually lowered as the material is removed.

3. A device for steaming wood and the like  
35 including a receptacle, a steam supply pipe extending vertically from said receptacle, a

steaming device vertically movable within said receptacle, a pipe connected therewith that telescopes in said steam supply pipe, means for counter-balancing said steaming  
40 device, and means for vertically moving the steaming device.

4. A device for steaming wood and the like, including a receptacle for the material, a  
45 vertically movable steaming device within said receptacle for applying steam to the material, and a plate above the steaming device and movable therewith that substantially closes the receptacle and keeps the steam be-  
50 low.

5. A device for steaming wood and the like including a receptacle for the material, a sta-  
tionary pipe projecting upwardly therefrom, a pipe telescoping within said stationary  
55 pipe and projecting into the receptacle, oppositely projecting horizontal pipes leading from said telescoping pipe, a pair of headers to which the ends of said horizontal pipes are connected, steam pipes secured intermediate  
60 said headers with perforations on their under sides, a horizontal plate secured on said steam pipes, means for supporting said series of steam pipes, and guide rollers mounted in connection with said plate for engaging the  
65 side walls of the receptacle.

In witness whereof, I have hereunto affixed my signature in the presence of the witnesses herein named.

GEORGE F. HARTLEY.

Witnesses:

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