

L. L. LAWRENCE.  
CANNING APPARATUS.  
APPLICATION FILED JUNE 17, 1908.

928,773.

Patented July 20, 1909.  
2 SHEETS—SHEET 1.

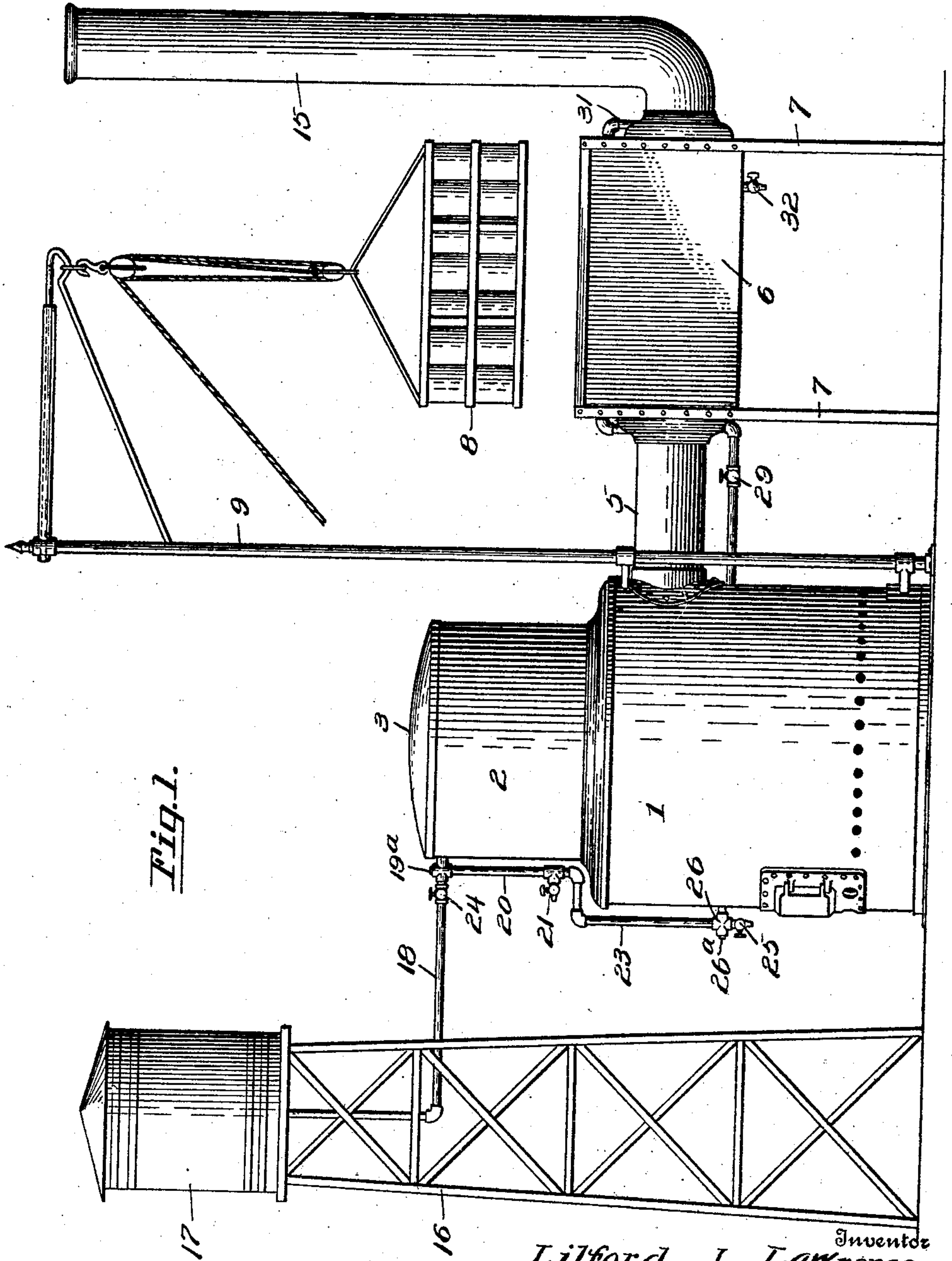


Fig. 1.

Lilford L. Lawrence. <sup>Inventor</sup>

Witnesses  
F. M. Gibson.

C. C. Hines.

By Victor J. Evans  
Attorney

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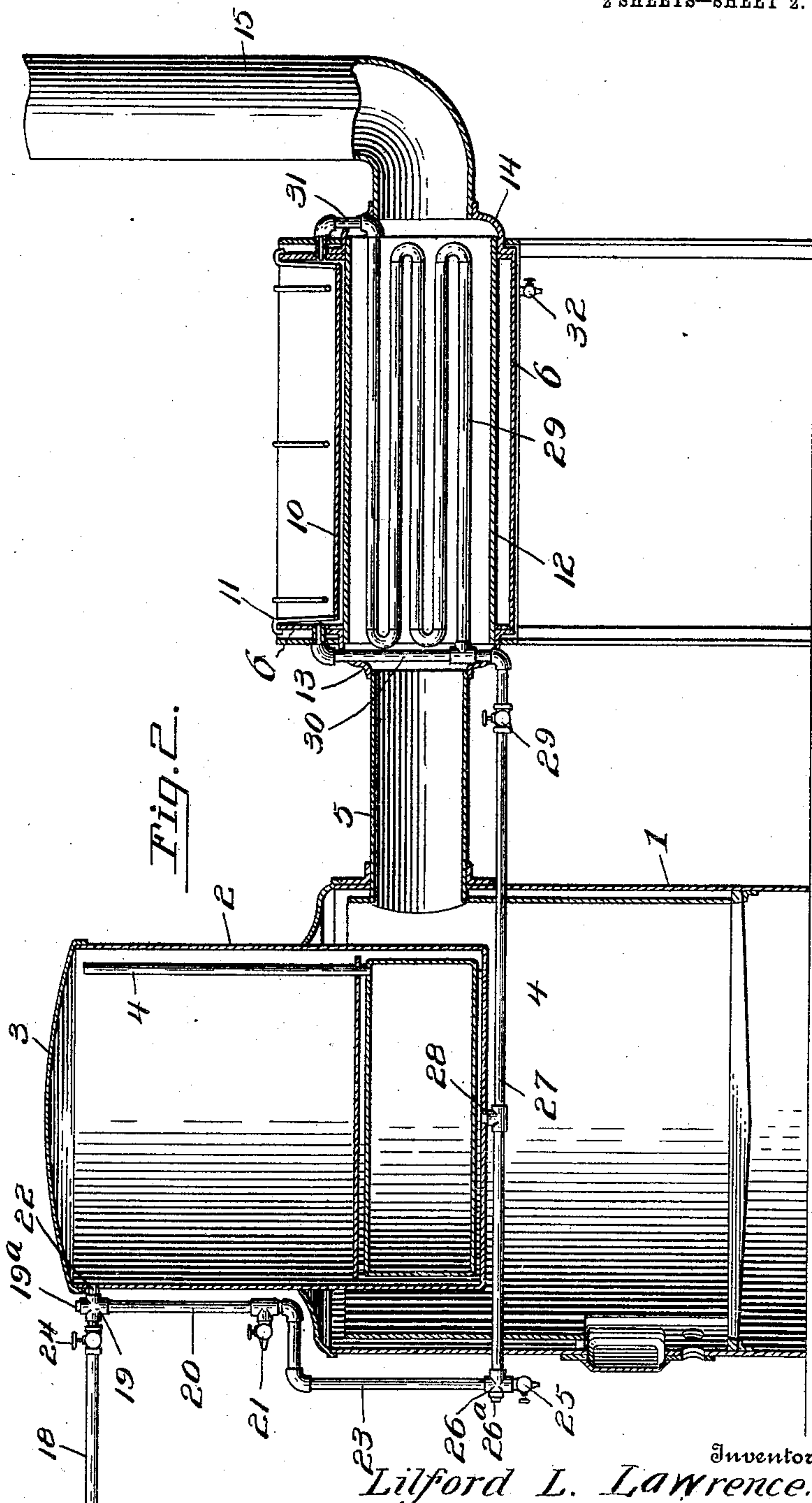


Fig. 2.

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# UNITED STATES PATENT OFFICE.

LILFORD L. LAWRENCE, OF BRIDGEPORT, ALABAMA.

## CANNING APPARATUS.

No. 928,773.

Specification of Letters Patent.

Patented July 20, 1909.

Application filed June 17, 1908. Serial No. 439,031.

*To all whom it may concern:*

Be it known that I, LILFORD L. LAWRENCE, a citizen of the United States, residing at Bridgeport, in the county of Jackson and State of Alabama, have invented new and useful Improvements in Canning Apparatus, of which the following is a specification.

This invention relates to certain new and useful improvements in canning or preserving apparatus of that type especially designed for use of small farmers and gardeners in putting up fruit, vegetables and other perishable substances for future use, and particularly to canning and preserving apparatus of the general type shown in my prior patents No. 717,419, dated Dec. 20, 1902, and No. 865,190, dated Sept. 3, 1907; the object of the present invention being to provide a novel construction of means for supplying the vat or vats of the apparatus with water and heating the same on its passage to the vats, so as to secure economy of operation and increased convenience in the use of the apparatus.

With these and other objects in view, the invention consists of the features of construction, combination and arrangement of parts hereinafter fully described and claimed, reference being had to the accompanying drawings, in which:—

Figure 1 is a side elevational view of the apparatus. Fig. 2 is a vertical longitudinal section of the same, omitting the water tank.

Referring to the drawings, 1 designates a heating furnace within the upper portion of which is supported a process vat 2 having a removable cover 3, which furnace and vat may be of the general construction disclosed in my aforesaid prior patent. The smoke and products of combustion discharge from the fire-box 4 of the furnace through an outlet flue 5.

Arranged in convenient proximity to the furnace is a second vat 6 mounted upon suitable supporting legs 7, and which, for convenience of description, may be termed an exhaust and scalding vat. This vat is open at the top to receive a can cage or basket 8 which may be raised and lowered and transported from one vat to the other or from the vats to receiving tables by a suitable handling crane and tackle 9, and also to receive a capping tray 10 in which the cans are placed during the operation of capping, tipping and exhausting, said tray being provided with suitable suspending hooks 11 to

support it in position. Within the vat 6 is arranged a heating drum 12 extending longitudinally therethrough and open at its ends for connection with collars or sleeves 13 and 14 which project outwardly through the end walls of the vat and respectively receive the outer end of the flue 5 and the inner end of a pipe 15 through which the smoke and products of combustion discharge to the atmosphere.

Arranged on the opposite side of the furnace from the vat 6 is a tower or stand 16 supporting a water supply tank 17 from which extends a supply pipe 18. The pipe 18 is in communication at its delivery end through a coupling 19 with a vertical pipe section 20 disposed alongside the upper portion of the vat 2 and provided with a gage cock 21. The upper end of the pipe section 20 is in communication through the coupling 19 with a pipe or tube 22 communicating with the upper portion of the vat 2, and connects at its lower end with a vertical pipe section 23 disposed alongside the upper portion of the furnace. At any suitable point in the length of the pipe 18 a controlling valve 24 may be provided to regulate or cut off the flow of water between the tank and the pipe section 20.

The lower end of the pipe section 23 is provided with a drain valve or cock 25 to which it is connected by a coupling 26, which also connects said pipe section with a horizontal pipe section 27 extending through the fire-box 4 of the furnace below the bottom of the vat 2, with which it communicates through a T-connection 28, said pipe section 27 being provided beyond the opposite side of the furnace with a controlling and cut-off valve 29. When this valve is closed and the valve 24 is opened, water from the tank may be supplied through the pipes 20, 23 and 27 and the connection 28 to the vat 2 to fill the latter to the desired level, which may be indicated, when the valve 24 is subsequently closed, by opening the valve 21 which will, from the discharge of water therethrough, indicate that the vat is filled to a level above the level of said valve. If there should be any excess of water in the vat 2 after closure of the valve 24, the excess amount may be discharged by opening the valves 21 and 25, through which latter also the water may be drained when it is desired to empty the vat and pipe. If during the operation the water should rise



in the vat to an objectionable degree, escape of the water will be afforded through the pipes 22 and 20, which will operate as an overflow connection, thus obviating the liability of the scalding water escaping from the top of the vat. This construction and arrangement of the piping also allows the water to circulate from the top of the vat through the pipes to the bottom of the vat, thus adapting the water to be thoroughly heated by the action of the fire on the inclosed portion of the vat and the inclosed portion of the pipe 27. Each coupling 19 and 26 is of the four-way type, and the free or unconnected ports thereof are arranged in alinement with the respective pipe sections 20 and 27 and normally closed by plugs or caps 19<sup>a</sup> and 26<sup>a</sup>, upon the removal of which clean out rods or wires may be inserted to free said pipes from any sediment or accumulations of foreign matter therein.

Arranged within the drum 12 of the vat 6 is a water heating coil 29, which is heated by the products of combustion flowing there-through from the furnace to the discharge pipe 15. The drum transmits its heat by radiation to the water contained within the vat 6, by which it is supplied through a pipe 30 extending vertically through the collar 13 and connected with the adjacent end of the pipe 27. The pipe 30 also connects with the lower or delivery end or convolution of the coil 29, which is connected at its upper or receiving end with the vat to a pipe connection 31. When the valve 29 is open water will pass from the pipe 27 through the pipe 30 into the vat and also into the coil, and, when the vat and coil are filled and the valve 29 is closed, a circulation is established through the heating of the water in the vat by radiation from the drum and that in the coil by the action of the products of combustion on the coil, so that the water will flow from the vat through the connection 31 into the top of the coil, back and forth through the coil and finally into the pipe 30 and up again into the vat, so that it will be constantly kept heated in a thorough and effective manner by the escaping products of combustion. A drain valve 32 is provided at the bottom of the vat by which the water may be drawn off when the vat is not in use.

From the foregoing description, it will be seen that provision is made for supplying the processing vat 2 with water and securing an effective heating and circulation of the water, and also for supplying the exhaust and scalding vat 6 with a supply of water which is heated by the products of combus-

tion escaping from the furnace in which the processing vat is arranged, thus insuring economy and increased convenience in the operation of the apparatus. The construction described obviates the necessity of independently heating the exhaust and scalding vat, and also enables the water supplied to the processing vat to be preliminarily heated.

Having thus fully described the invention, what is claimed as new is:—

1. In an apparatus of the character described, the combination of a furnace having a laterally extending outlet flue, a horizontally arranged vat independent of said furnace, a drum disposed longitudinally in the vat and opening at its ends therethrough, one of said ends being connected with the delivery end of said outlet flue, a discharge pipe connected with the opposite end of the drum, a water supply pipe having a heating portion arranged within the furnace and leading therefrom with its delivery end projecting through the inlet end of the drum and into the vat, a controlling valve in said pipe between the furnace and vat, and a heating coil disposed horizontally within the drum and communicating at one end with the delivery end of the pipe and at its opposite end with the vat.

2. In an apparatus of the character described, the combination of a furnace having a laterally extending outlet flue, a horizontally arranged vat provided at its ends with collars or sleeves extending outwardly therefrom, a drum disposed longitudinally in the vat and having its end portions fitted within said collars or sleeves, one of said collars or sleeves also receiving the proximate end of said outlet flue, whereby said flue communicates with the adjacent end of the drum, a discharge pipe fitted in the other collar or sleeve and communicating with the opposite end of the drum, a water supply pipe having a heating portion arranged within the furnace and extending therefrom vertically through one of said collars and sleeves and communicating with the vat, a controlling valve in said pipe between the furnace and vat, and a heating coil arranged horizontally within the drum and communicating at one end with the vertically disposed portion of the pipe and at the opposite end with the vat.

In testimony whereof I affix my signature in presence of two witnesses.

LILFORD L. LAWRENCE.

Witnesses:

WM. T. BLAND,

ANNA E. KIMLIN.