No. 693,749. Patented Feb. 18, 1902.

E. F. SMITH.

APPARATUS FOR LEACHING TANBARK.

(Application filed June 14, 1901.)

(No Model.)

Fig. 1.

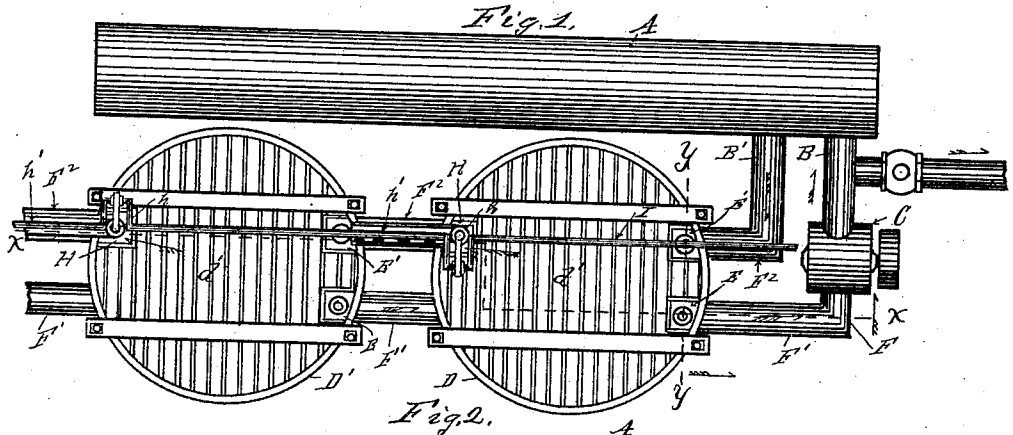


Fig. 2.

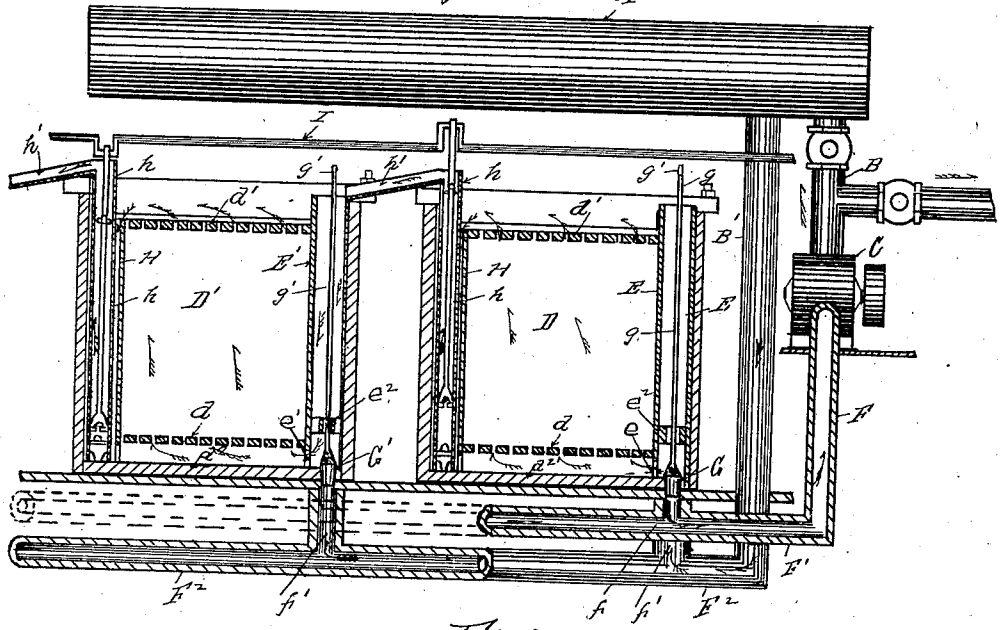
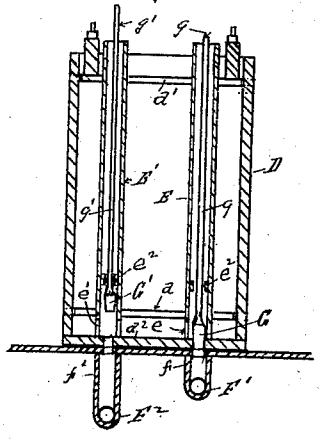


Fig. 3.



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UNITED STATES PATENT OFFICE.

EDWARD F. SMITH, OF BRADFORD, PENNSYLVANIA.

APPARATUS FOR LEACHING TANBARK.

SPECIFICATION forming part of Letters Patent No. 693,749, dated February 18, 1902.

Application filed June 14, 1901. Serial No. 64,602. (No model.)

To all whom it may concern:

Be it known that I, EDWARD F. SMITH, a citizen of the United States, residing at Bradford, in the county of McKean and State of Pennsylvania, have invented certain new and useful Improvements in Systems of Leaching Mechanism; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, forming part of this specification.

This invention relates to improvements in systems of leaching mechanism, and particularly to systems and mechanism for leaching tanbark, consisting, substantially, of a series of tanks so connected that the fluid after passing through one tank from the bottom thereof upward is delivered from the top thereof by means of intermediate mechanism to the bottom of the next succeeding tank and in like manner passing through this tank to the next and to as many succeeding tanks as may be necessary to bring the liquor up to the strength desired.

The features of this invention are more particularly set forth and described, and illustrated in the accompanying drawings, in which—

Figure 1 is a top or plan view of a leaching apparatus embodying my invention. Fig. 2 is a side view of the same, partially in elevation and partially in section, in the line $x\,x$ in Fig. 1. Fig. 3 is a vertical section of one of the leaching-tanks on the line $y\,y$ in Fig. 1.

In the drawings illustrating my invention, A is a heater for heating the water or liquor, from which heater-pipes B and B′ lead to and from the same, the pipe B connecting with a pump C, by means whereof the fluid is pumped into the heater A, which passes out therefrom by means of the pipe B′. In the drawings I show two leaching-tanks D and D′ of a series of such tanks. These tanks are constructed with perforated false bottoms d and perforated removable covers d'. In one side of each of these tanks I secure vertical plug-boxes E and E′, which extend down through the cover d' and false bottom d of the tank, where they are provided with lateral openings e and e' under the false tank-bottom d. From the pump C a pipe F extends downward to a longitudinal pipe F′, which extends longitudinally under the tanks D D′, &c., and is connected therewith by means of branch pipes f, extending up through the bottoms d^2 of said tanks directly under the boxes E therein, where they are provided with shut-off plugs G, the stems g of which pass up through the guides e^2 in the boxes E and out of the tops of said boxes. By means of this construction the contents of any one or more of the series of tanks D and D′ can be pumped out when desired. From the pipe B′ a pipe F^2 extends horizontally under the tanks D D′, &c., and connects therewith by means of branch pipes f', which extend up through the bottoms d^2 of said tanks directly under the boxes E′ therein, where they are provided with shut-off plugs G′, the stems g' of which pass up through the guides e^2 in the boxes E′ and out of the tops of said boxes. By means of this mechanism fluid can be delivered from the heater A into the bottom of any one or more of the tanks D D′, &c., as may be desired.

In one side of each of the tanks D D′, &c., I place a well H, the upper end of which is substantially on a level with the top of the tank-cover d', so that the fluid passing up through the perforations therein will flow into the top of the well H. In the well H, I place an ordinary suction-pump h, provided with a spout h', which leads to and discharges into the top of the box E′ in the next adjacent tank D′, &c., as the case may be, the liquid so discharged from the spout h' passing down the box E′ and out through the openings e' in the box E′ under the perforated tank-bottom d. The pumps h may be operated in any convenient manner—for example, by a crank-shaft I, as illustrated in Figs. 1 and 2.

In operation, the tanks D and D′, &c., being filled with ground tanbark, fluid may be admitted from the heater A through the pipes B′ and F^2 by way of the branch f' into the bottom of the tank D or any other tank of the series desired. The liquid so admitted, rising up through the ground bark in said tank, flows out through the perforated cover thereof and down into the well H, from whence it is pumped and delivered through the spout h' into the box E′ of the tank D′, through which

it passes down into the bottom of the tank D′ and up through the ground bark therein, to be again pumped into the box E′ of a succeeding tank until it has acquired sufficient strength for use.

I have thus described my improved system and mechanism for leaching tanbark so as to enable others to utilize the same; but I am aware that the same may be considerably modified without departing from the spirit of my invention.

Therefore what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a system and mechanism for leaching tanbark, the combination of a tank, a perforated false bottom and a perforated removable cover therein, a heater above said tank, a pipe leading from said heater into said tank under the false bottom therein, a return-pipe communicating with said tank, vertical boxes and shut-off plugs therein for cutting off communication with said inlet and return pipes, and a well and pump in said tank, substantially as and for the purpose set forth.

2. In a system and mechanism for leaching tanbark, the combination of a series of leaching-tanks, perforated false bottoms, and perforated removable covers therein, pipes under said tanks adapted to communicate therewith, vertical boxes and shut-off plugs for cutting off communication between said tanks and pipes, wells and pumps therein in said tanks, and spouts from the pumps to boxes leading to the bottoms of adjacent tanks, substantially as and for the purpose set forth.

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

EDWARD F. SMITH.

Witnesses:

HAROLD M. STURGEON,

F. J. BASSETT.