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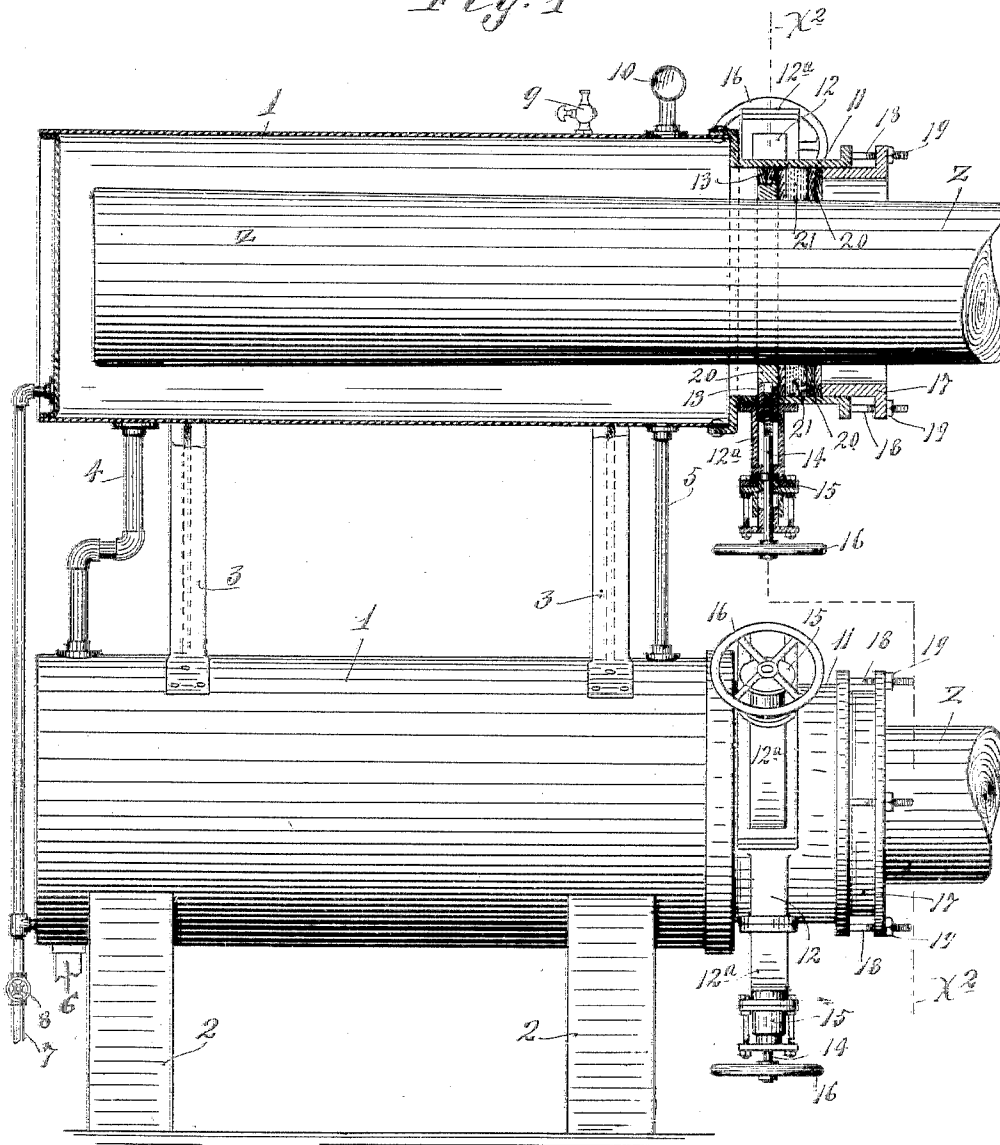
J. L. GILMORE.

APPARATUS FOR CREOSOTING THE ENDS OF POLES, &c.

APPLICATION FILED JAN. 26, 1905.

2 SHEETS—SHEET 1.

Fig. 1



Witnesses.

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By his Attorneys.

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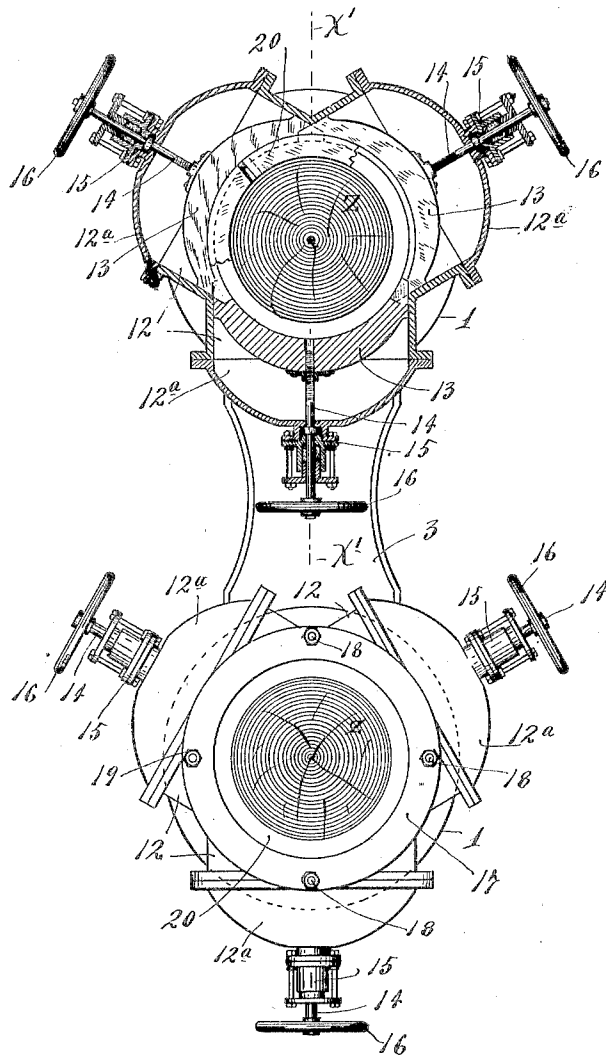
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2 SHEETS—SHEET 2.

Fig. 2.



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UNITED STATES PATENT OFFICE.

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APPARATUS FOR CREOSOTING THE ENDS OF POLES, &c.

No. 797,275.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN L. GILMORE, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Apparatus for Creosoting the Ends of Poles, &c.; 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.

My invention has for its object to provide a simple and efficient apparatus by means of which creosote or similar material may be economically applied to portions only of long poles or bodies—such, for instance, as telegraph-poles.

To the above ends the invention consists of the novel devices and combinations of devices hereinafter described, and defined in the claims.

As is well known to all persons familiar with the subject, wooden bodies—such as blocks, poles, &c.—are treated with creosote in airtight compartments, usually while subject to heat. It is also the common practice to prepare the wood for the application of creosote by subjecting it to steam in a partial vacuum, thereby opening up the pores of the wood, so that the creosote will enter deep into the same.

In apparatus for accomplishing the above result as hitherto constructed it has been necessary to insert the entire body of the pole or other article to which the creosote is to be applied entirely within the creosoting-chamber, and hence to apply the creosote to the entire surface of such pole or body. Hence the creosoting of telegraph and other long poles has not hitherto been practicable because of the immense size of the apparatus required and the large expense incurred in the application of the creosote to the entire surface thereof. Telegraph-poles and other poles which are to be embedded only partially in the ground require creosoting only of that portion which is to be inserted in the ground. My improved apparatus affords means for creosoting only the end portions of such poles without necessitating the application of creosote to the whole body of the pole and is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout both views.

Figure 1 is a view, partly in side elevation and partly in vertical section, on the line $x'x'$ of Fig. 2; and Fig. 2 is a transverse vertical section taken on the irregular line $x''x''$ of Fig. 1.

In carrying out my invention I preferably employ a plurality of creosoting-chambers and connect the same up in batteries or series. In the apparatus illustrated the numeral 1 indicates the creosoting-chambers, which are afforded by horizontally-disposed cylindrical drums, the lower of which is supported from the ground or floor by heavy legs 2 and the upper of which is supported from the lower drum by brackets 3. The said drums at one end are permanently closed by fixed heads and are in communication with each other through pipes 4 and 5. The creosote is introduced into the lower tank and from thence through the pipes 4 and 5 into the upper tank through a supply-pipe 6, and the creosote may also be drawn off from the tanks through said pipe 6.

The numeral 7 indicates a steam-supply pipe which taps both of the drums and, as shown, is provided with a valve 8.

The numeral 9 indicates an air-venting cock located in the top of the upper tank for permitting the escape of air from the tanks and to thereby permit the said tanks to be filled with creosote.

The numeral 10 indicates an outlet-pipe from the upper tank, which in the preferred arrangement would be extended to a vacuum-pump. (Not shown.)

The character z indicates the pole or log the end of which is to be creosoted and which is inserted into the tank through the open end thereof. The device for forming a steam and liquid tight joint between the open end of the drum and the log is the same in both instances and will be described in the singular. At its open end the drum is provided with a large sleeve-like extension 11, that is formed with a plurality of radially-disposed seats 12, as shown three in number and arranged with their inner portions intersecting, all of the said seats being in the same vertical plane. Working radially and with close joints in these seats 12 are clamping-plates 13, formed segmental at their inner portions and having laterally-reduced overlapping ends, so that the three plates when clamped onto the log will

completely surround and firmly hold the same and form a more or less close joint therewith, depending on the contour of the log. These clamping-plates are operated by shafts 14, that have screw-threaded engagement therewith, and are swiveled in stuffing-boxes 15 on detachable outer end sections 12^a of the seats 12. At their outer ends the shafts 14 are provided with hand-wheels 16 or similar devices, by means of which they may be turned to effect the adjustments of the clamping-plates 13. Working telescopically in the outer end of the sleeve 11 is a large gland or annular follower 17, having an outturned flange. Bolts 18, rigidly secured, as shown, to the flanged outer end of the sleeve 11, project loosely through perforations in the outturned flange of the gland 17, and nuts 19 on the outer ends of said bolts serve to draw the gland into the sleeve 11. Fitting within the sleeve 11 and surrounding the log is a metallic packing-ring 20, made up of overlapping segments. In practice packing-rings 20 having different internal dimensions may be provided, so that a ring having approximately the internal diameter of the log to which it is to be applied may be selected. To form a liquid-tight joint with the log, a pliable packing 21, of asbestos, wool, or other suitable material, is placed within the sleeve 11, between the abutment afforded by the clamping-plates 13 and the compressing member afforded by the metallic packing-rings 20. The gland 17 presses against the packing-ring 20 and when forced inward by tightening up the nuts 19 compresses the pliable packing 21 and causes the latter to adapt itself to the irregularities of the log and to form the desired tight joint therewith.

When the log is inserted into the creosoting-chamber afforded by the drum 1 and the tight joint is formed therewith, as above described, steam will usually be turned onto the log by opening up the valve 8 of the steam-pipe 7, so as to thoroughly heat and steam the log or that portion thereof which is to be creosoted. To assist the steam in opening up the pores of the log, so that the creosote will enter deep into the same, the vacuum-pump (not shown) may be thrown into action so as to produce a partial vacuum within the creosoting chamber or drum. After this has been done the steam should be shut off and the vacuum-pipe closed, and then the creosote should be forced into the drum or drums to completely fill the same and of course to completely surround the inserted end of the log or logs. The pressure should then be applied to the creosote to cause the same to penetrate to the desired extent and amount into the log, pole, or other fibrous article which is being creosoted.

The practicability of the apparatus above described is thought to be obvious. It makes

possible the creosoting of the ends of telegraph-poles and other elongated wooden bodies at a comparatively small cost. It will of course be understood that when timbers which are angular in cross-section are to be creosoted by the use of the apparatus clamping-plates and packing-rings adapted to fit their external contour should be provided. It will also be understood that the apparatus described is capable of many other modifications within the scope of my invention as herein set forth and claimed. It will further be understood that the apparatus described is capable of use shown for causing liquid to penetrate porous material.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. The combination with a chamber adapted to receive creosote or other liquid, and provided with an opening at least at one end, of radially-movable clamping-plates, working in the said open end of said chamber and serving to clamp the pole and to positively position same with a portion thereof, within said chamber, and which clamping-plates overlap each other and completely surround the pole clamped thereby, substantially as described.

2. The combination with a chamber adapted to receive creosote or other liquid, and provided with an opening at least at one end, of radially-movable clamping-plates, mounted in the open end of said chamber, and a gland or follower, also working in the open end of said chamber, and cooperating with said clamping-plates, to press a pliable packing onto the pole or other body and which clamping-plates overlap each other and completely surround the pole clamped thereby, the end of which is inserted into said chamber, substantially as described.

3. The combination with a drum, having a sleeve at its open end, formed with radial seats, of clamping-plates working in said seats and having overlapping ends, means for adjusting said plates radially, to force them onto a pole, an annular gland working telescopically in the outer end of said sleeve, a packing-ring made up of sections, interposed in said sleeve, and subject to said gland, means for forcing said gland into said sleeve, and a pliable packing in said sleeve between said clamping-plates and said packing-ring, substantially as described.

4. The combination with a drum 1, having at its open end the sleeve 11 formed with radial seats 12, having detachable caps 12^a, the overlapping segmental clamping-plates 13 working in said seats 12, screw-rods for adjusting said clamping-plates, the gland 17 working in the outer end of said sleeve, nutted bolts connecting said gland to said sleeve, the sectional metallic clamping-ring 20 in said sleeve, subject to said gland, and the pliable

packing 21 in said sleeve, between said packing-ring and said clamping-plates, substantially as described.

5. The combination with a chamber adapted to receive creosote or other liquid, and provided with an opening at least at one end, of radially-movable clamping-plates, mounted in the said end of said chamber for engagement with the pole and which clamping-plates overlap each other and completely surround the

pole clamped thereby and means for pressing a pliable packing onto the pole, and onto said clamping-plates, substantially as described.

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

JOHN L. GILMORE.

Witnesses:

ALEXANDER W. VAN HAFTEEN,
F. D. MERCHANT.