

No. 632,653.

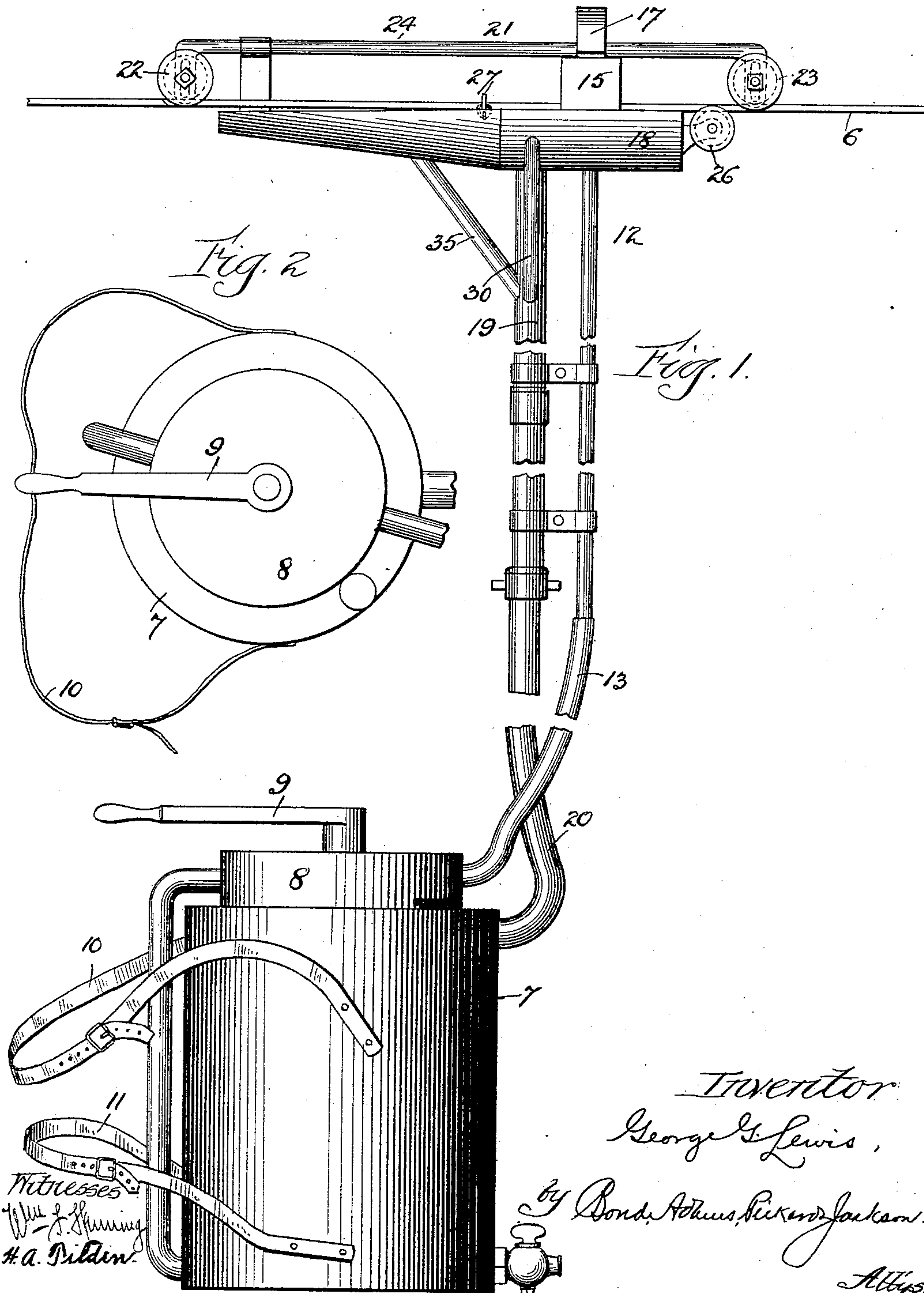
Patented Sept. 5, 1899.

G. G. LEWIS.
PAINTING APPARATUS.

(Application filed Mar. 15, 1897.)

(No Model.)

2 Sheets—Sheet 1.



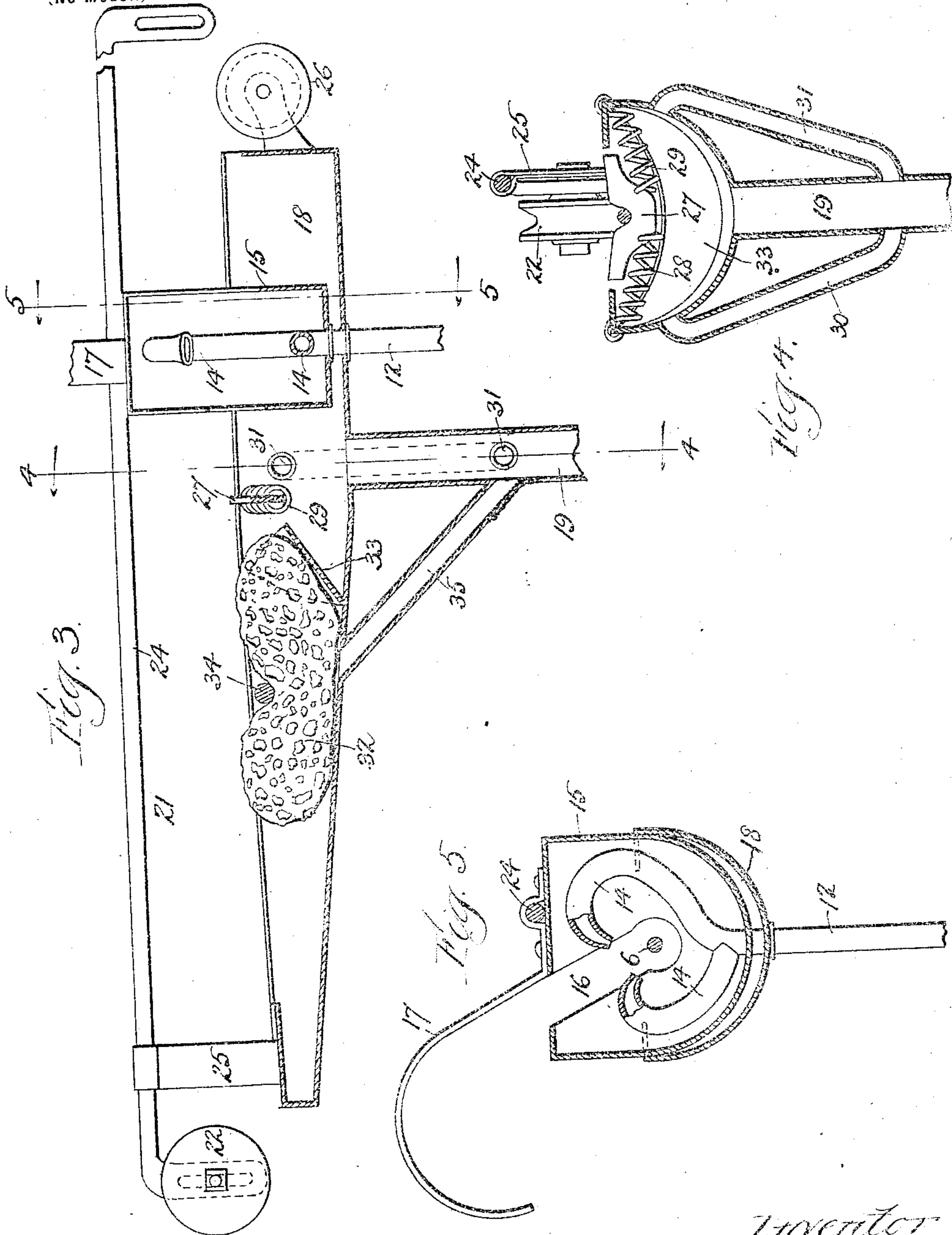
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2 Sheets—Sheet 2.

(No Model.)



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UNITED STATES PATENT OFFICE.

GEORGE G. LEWIS, OF SYCAMORE, ILLINOIS, ASSIGNOR TO HIMSELF AND
WILLIAM A. BUEHL, OF SAME PLACE.

PAINTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 632,653, dated September 5, 1899.

Application filed March 15, 1897. Serial No. 627,595. (No model.)

To all whom it may concern:

Be it known that I, GEORGE G. LEWIS, a citizen of the United States, residing in Sycamore, De Kalb county, Illinois, have invented a certain new and Improved Reinsulating Apparatus, whereof the following is a specification.

My invention has to do with recoating electric wires with insulating material. In electric wires which are exposed to the elements after a comparatively short period of time the insulating-coating wears off, so that it becomes necessary to recoat them, and heretofore it has been customary to take down such wires for the purpose of recoating them, the operation involving considerable expense not only for the taking down of the wires and replacing them, but also for the work of reinsulating them, (in many cases the cost of reinsulation alone being equal to the value of half the wire recoated,) it frequently being the case that those doing the recoating would require as a royalty for their work one-half of the wire to be recoated, and as copper wires are usually those which are recoated the expense of the operation was great.

The object of my present invention is to provide means whereby the wire may be reinsulated without its being taken down and without the employment of skilled workmen, thereby making the cost of the operation very slight. To this end I have provided an apparatus by which the insulating material in liquid form may be raised from a suitable reservoir carried below the wire and applied in a stream to the wire without disarranging the wire in any way, and this, broadly stated, is the principal feature of my invention. My invention, however, further consists in certain additional features, such as the provision of means whereby an operator on the ground may apply the liquid to the wire, means whereby the liquid may be applied to the entire surface of the wire, means whereby the wire is properly wiped after the insulator has been applied to it, means whereby the surplus liquid may be returned to the reservoir, means for preventing spilling or overflow of the liquid, and various other improvements, which will be more fully hereinafter pointed out.

In the drawings, Figure 1 is a side view of my apparatus, certain parts being broken away. Fig. 2 is a plan view of the reservoir.

Fig. 3 is a longitudinal vertical section. Fig. 4 is a cross-section on line 4 4 of Fig. 3. Fig. 5 is a cross-section on line 5 5 of Fig. 3.

Referring to the drawings for a particular description of the form of apparatus embodying my invention therein shown, 6 indicates the wire to be reinsulated, which is supposed to be supported in any suitable manner.

7 indicates a reservoir for the liquid insulator, such reservoir carrying a suitable force-pump 8, by which the liquid may be forced upward and applied to the wire, as will be hereinafter described. 9 indicates a hand-lever for operating the pump. It will be understood that the arrangement of the reservoir and pump may be otherwise than as herein illustrated, as I have merely shown these features in a general way in order to make the explanation of the apparatus more clear, and any approved form of pump and reservoir may of course be used. The reservoir 7 is preferably arranged to be carried by the operator and is provided with straps 10 11 for that purpose.

12 indicates a pipe which communicates with the pump 8, preferably by a flexible tube 13, and extends upward to the wire, as shown in Fig. 5. In the most approved form of my invention the upper end of the pipe 12 is bent to discharge the liquid down upon the wire, and it is bifurcated, having branches 14 14, which are arranged at opposite sides of the wire and are arranged to discharge their contents thereupon in different directions. A suitable passage is provided between the nozzles of the pipe branches 14 in order to permit of the passage of the wire between them.

15 indicates a box or casing which is arranged around the pipe branches 14 and is provided at its ends with suitable slots 16 for the passage of the wire, said slots being diagonally arranged, as shown in Fig. 5. The box 15 also carries a curved arm or hook 17, which is secured to the top thereof and extends laterally beyond the edge of the box, as shown in Fig. 5. The object of this device is to prevent the dropping of the apparatus while in use, as should the device escape from the hands of the operator the hook 17 will catch upon the wire 6, leaving the apparatus suspended.

18 indicates a drip-pan which is arranged

below and is secured to the box 15, as shown in Figs. 1 and 3. The drip-pan 18 is of greater or less length and is arranged to receive the surplus liquid as it is discharged from the branches 14 and to discharge such liquid into a pipe 19, which communicates with said drip-pan and also with the reservoir 7, as shown in Fig. 1, a flexible connection 20 being preferably provided in order to permit free movement of the apparatus. Furthermore, the flexible connections 13 20, which are of rubber, being non-conductors, serve to prevent injury to the operator. Instead of using such flexible connections as non-conductors other non-conductors may be provided, if desired.

As best shown in Figs 1 and 3, the drip-pan, with the box 15 and pipes 12 19, is arranged to be supported upon the wire 6 when in use by means of a trolley 21, which runs upon said wire, said trolley, as herein shown, being formed of wheels 22 23, connected by a bar 24, and a wheel 26, connected to the drip-pan 18. The wheels 22 23 are preferably vertically adjustable in slots in the ends of the bar 24, and said bar is connected by a strap 25 to the drip-pan 18 and is also connected to the top of the box 15, as shown in Fig. 3. The wheel 26 bears against the under side of the wire and serves to resist the tendency of the drip-pan to tilt under the pressure applied to the lower end of the pipe 19 in moving the apparatus along the wire.

27 indicates a spring-guide for the wire, consisting of a plate having a suitable recess arranged in line with the grooves in the wheels 22 23, and springs 28 29, arranged at opposite sides of said plate and connecting it to the sides of the drip-pan 18, as shown in Fig. 4. The springs 28 29 serve to permit rocking movement of the plate 27. The plate 27 serves further to remove the surplus liquid from the wire.

30 31 indicate overflow-pipes, which open into the drip-pan 18 at opposite sides and at some distance from the bottom thereof and also communicate with the pipe 19, as shown in Fig. 4. The object of such overflow-pipes 30 31 is to provide for carrying off the liquid in the drip-pan in case the apparatus is tilted to one side or the other, as is frequently the case in passing an obstruction on the wire, thereby preventing the spilling of the liquid over the sides of the drip-pan.

32 indicates a wiper, preferably a sponge, which is secured in the forward portion of the drip-pan 18, a plate 33 being arranged transversely of said drip-pan, forming a recess which is adapted to receive the wiper. A cross-wire 34 serves further to hold the wiper in place.

35 indicates a return-tube, which communicates with the drip-pan 18 under the wiper and is adapted to conduct drippings from that portion of the drip-pan back to the tube 19.

The operation of my improved apparatus is as follows: The apparatus is placed upon the wire by an upward movement, the wire

passing down through the slots 16 in the box 15, the wheels 22 23 resting upon it, as shown in Fig. 1. The operator then manipulates the pump, forcing a stream of liquid insulator up through the pipes 13 12 to the branches 14, whence it is discharged upon the wire, the surplus falling into the box 15, whence it passes into the drip-pan 18, and thence through pipes 19 20 back to the reservoir 7. As the apparatus is moved along the wire the plate 27 will gently scrape the wire, removing the surplus liquid, and the wire will be further relieved of such surplus liquid by the wiper 32. When an obstruction is met, the apparatus frequently may be tilted sufficiently to avoid it, loss of liquid from the drip-pan being prevented by reason of the presence of the pipes 30 31, through which the liquid may escape.

While I have described my invention in detail, I wish it to be understood that various modifications may be made without departing from it, and I therefore do not wish to be limited to the specific construction shown.

That which I claim as my invention, and desire to secure by Letters Patent, is—

1. A wire-insulating apparatus consisting of a liquid-reservoir carried below the wire, and means for applying liquid from said reservoir in a stream to the wire to be coated, substantially as described.

2. A wire-insulating apparatus consisting of a liquid-reservoir arranged below the wire, and means for discharging liquid from said reservoir upon the wire from above, substantially as described.

3. A wire-insulating apparatus consisting of a liquid-reservoir arranged below the wire, a pipe extending from said reservoir to a point above the wire and adapted to conduct liquid therefrom and discharge it upon the wire, and means for forcing the liquid through said pipe, substantially as described.

4. A wire-insulating apparatus consisting of a liquid-reservoir, a pipe adapted to conduct liquid therefrom to the wire, means for forcing the liquid through said pipe, a drip-pan, a return-pipe, and an overflow-pipe connected with said pan at a point above the opening of the return-pipe, and discharging into the return-pipe, substantially as described.

5. A wire-insulating apparatus consisting of a liquid-reservoir, a pipe adapted to conduct liquid therefrom to the wire, means for forcing the liquid through said pipe, a drip-pan, a return-pipe, and an overflow-pipe at each side of said pan, said overflow-pipes communicating with said pan at a point above the opening of the return-pipe and discharging into the return-pipe, substantially as described.

6. A wire-insulating apparatus consisting of a liquid-reservoir carried below the wire, means for applying liquid from said reservoir in a stream to the wire, and a wiper for removing the surplus liquid from said wire, substantially as described.

7. An insulating apparatus consisting of a

liquid-reservoir arranged below the wire to be coated, a pipe adapted to conduct liquid therefrom and discharge it in a stream upon the wire, means for forcing the liquid through said pipe, and a wiper adapted to remove the surplus liquid from said wire, substantially as described.

8. An insulating apparatus consisting of a liquid-reservoir arranged below the wire, a drip-pan below the wire and supported therefrom, a substantially rigid pipe adapted to conduct liquid from said reservoir and discharge it in a stream upon the wire, said pipe serving also as a handle for moving said drip-pan, means for forcing the liquid through said pipe, and a trolley connected to said drip-pan and adapted to run upon the wire, substantially as described.

9. An insulating apparatus consisting of means for applying a liquid insulator to a wire, a reservoir adapted to contain the liquid insulator, and a device which extends over the wire and is normally out of contact, therewith, said device being adapted to engage the wire to prevent the apparatus from falling, substantially as described.

10. An apparatus for reinsulating electric wires consisting of a device for applying liquid insulator to the wire, means for supporting said liquid-applying device from said wire, a substantially rigid handle, and a guide arranged forward of said handle and bearing against the under side of the wire, substantially as described.

11. A reinsulating device consisting of a trolley adapted to rest on the wire, a drip-pan connected thereto, a substantially rigid handle, a guide adapted to bear on the under side of the wire, and means for applying reinsulating material to the wire, substantially as described.

12. A reinsulating apparatus consisting of a trolley adapted to rest on the wire, a drip-pan connected thereto, a substantially rigid handle, a guide adapted to bear on the under side of the wire, means for applying reinsulating material to the wire, and a passage for the wire, substantially as and for the purpose specified.

13. A reinsulating device consisting of a trolley, a drip-pan suspended from said trolley, a pipe for applying liquid to said wire, means for forcing the liquid insulator through said pipe, and a guide-wheel carried by said drip-pan, substantially as described.

14. A reinsulating device consisting of a liquid-reservoir, a pipe adapted to conduct

liquid therefrom to the wire, means for forcing the liquid through said pipe, a drip-pan, a return-pipe, and a spring guide-plate carried by said drip-pan, substantially as described.

15. A reinsulating device consisting of a liquid-reservoir, a pipe adapted to conduct liquid therefrom to the wire, means for forcing the liquid through said pipe, a drip-pan, a return-pipe, a guide-plate 27, and springs 28 29 connecting said guide-plate to said drip-pan, substantially as described.

16. A reinsulating device consisting of a pipe 12 having branches 14 extending at opposite sides of the wire to be coated, and means for forcing liquid insulator through said pipe, substantially as described.

17. A reinsulating device consisting of a liquid-reservoir, a pipe adapted to conduct liquid insulator from said reservoir to the wire to be coated, means for forcing liquid insulator through said pipe, and a device connected to said pipe and adapted to engage the wire to prevent falling of said pipe, substantially as described.

18. A reinsulating device consisting of a liquid-reservoir, a pipe adapted to conduct liquid insulator from said reservoir to the wire to be coated, means for forcing the liquid insulator through said pipe, and a hook connected to said pipe and extending over the wire to be coated, substantially as and for the purpose specified.

19. A reinsulating device consisting of a liquid-reservoir, a pipe adapted to conduct liquid therefrom to the wire, means for forcing liquid insulator through said pipe, and means for insulating the upper portion of said pipe from the lower portion thereof, substantially as described.

20. A reinsulating device consisting of a reservoir, a pipe communicating therewith and adapted to apply liquid insulator to the wire, means for forcing the liquid through said pipe, a drip-pan, a box 15 inclosing the upper end of said pipe, and means for supporting the drip-pan and pipe from the wire, substantially as described.

21. A reinsulating device consisting of means for applying insulating material to the wire, a guide-plate 27, said guide-plate having springs 28 29 at opposite sides thereof, and a drip-pan, substantially as described.

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Witnesses:

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