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INTERNAL PIPE PAINTING DEVICE

Filed Jan. 30, 1928

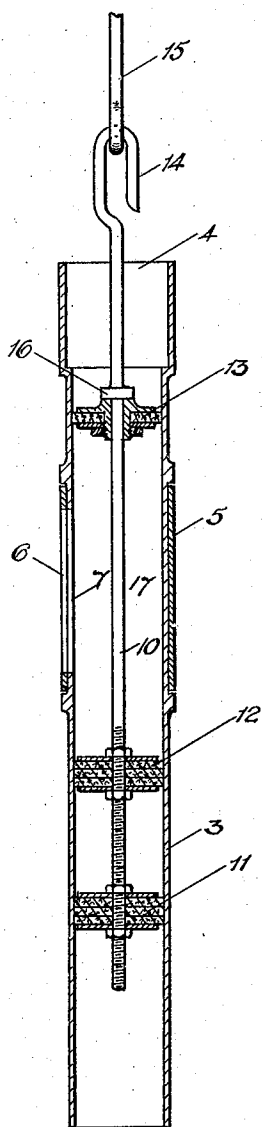


Fig. 1.

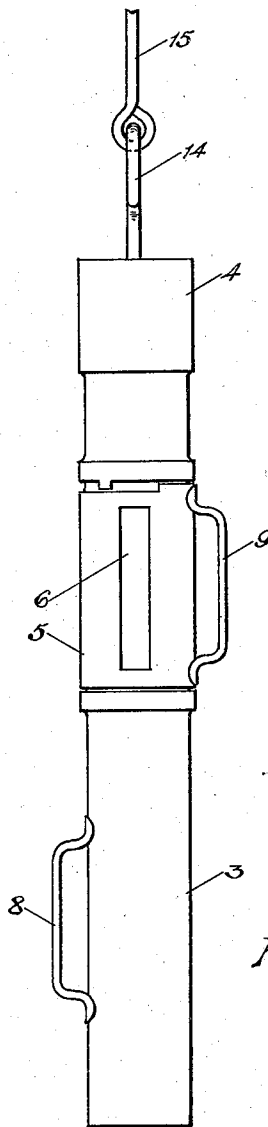


Fig. 2.

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INTERNAL PIPE-PAINTING DEVICE

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This invention relates to a painting device for use in coating the internal surfaces of pipes or conduits. Its object is the provision of a simply constructed and inexpensive attachment which may be readily placed in position for painting, and which will give a uniformly distributed coating to the internal surface of the pipe without any waste of coating material.

The device consists essentially of a tube of the same size as the pipes it is intended to coat, provided with a movable central rod carrying three washers or plungers of fibrous material, two of these being fixed rigidly to the rod and the third slidably mounted therefrom.

The cylindrical space inside the pipe between the fixed and sliding plunger forms a chamber or reservoir for the coating material, which is introduced through a revolving sleeve aperture in the side of the tube, which is opened to allow the coating material, in liquid form, to be inserted and thereupon closed. The attachment is then mounted upon trestles or other suitable supports so that its axis is approximately horizontal, and the pipe to be internally painted is inserted in the enlarged end of the attachment and supported so that it is in axial alignment therewith.

A rod somewhat longer than the pipe is then passed through the pipe from the far end and secured to the end of the central rod of the attachment. The rods are then drawn right through the pipe to the far end, carrying with them the plungers and the coating material between, which is thereby deposited evenly over the internal surface of the pipe.

The sliding plunger is constrained by a stop collar on the central rod, but can move towards the fixed plungers and the coating material is placed between the sliding plunger and the first fixed plungers. The object of this construction is to allow for the diminution in volume of the coating material in the chamber as it is deposited upon the inside of the pipe, as the approach of the sliding plunger to the fixed plunger diminishes the length of the chamber containing the coating material and thus forces this material to be always

in contact with the internal surface of the pipe.

After the rods and plungers have been pulled through, the pipe is removed, the central rod and plungers replaced in the attachment, the supply of coating replenished, another pipe placed in position, and the operation repeated as often as required.

The details of the invention are more clearly described by the drawings herewith forming part of this application and in which:

Fig. 1 is a section through the device showing the fixed and sliding plungers, the central rod and the hook attachment for the pipe rod.

Fig. 2 is a side view showing the method of rotating the revolving sleeve or door by means of a handle, the rotating and end movements of the sleeve being controlled by means of stops.

In these drawings 3 indicates the tubular body of the device, provided with an enlarged end 4 into which a pipe of the same internal diameter as the tube 3 can be inserted.

A sleeve 5 is revolvably mounted upon the tube 3 and is provided with a slot or opening 6 corresponding in size with the slot 7 cut in the tube. This sleeve can be revolved upon the body by the handle 9 until the openings 7 and 6 coincide, the body being steadied and prevented from revolving by the handle 8.

A rod 10 is centrally mounted in the tube and carries three plungers 11, 12 and 13 of felt or other suitable fibrous material. The plungers 11 and 12 are adjustably fixed in position on the rod by means of lock-nuts and washers, but the plunger 13 is slidably mounted thereon and can move upon the rod 10 between the stop collar 16 and the fixed washer 12. The rod 10 ends in a hook 14 by which it can be caused to move axially along the tube 3.

The coating material is introduced into the chamber 17 formed by the tube 3, the fixed washer 12 and the slidable washer 13, and when this chamber is filled and the door closed by revolving the sleeve 5, one end of the pipe to be coated is inserted in the end 4 and supported in line with the tube 3, and a long rod 15 is passed through the pipe from

the far end and engaged with the hook 4. The rods 15 and 10 are then drawn through the inside of the pipe to be painted, carrying with them the coating material which is compressed between the fixed plunger 12 and the sliding plunger 13 and forced out into contact with the internal surface of the pipe. The fixed plunger 11 follows the plunger 12 and removes any excess of coating from the pipe surface.

For adjusting the size of the paint chamber to contain just sufficient coating for varying lengths of pipes, the plunger 12 can be altered in position upon the rod 10 by means of lock-nuts, so that waste of coating material can be eliminated.

Having now particularly described my invention, what I claim and desire to be protected in by Letters Patent, is:

1. In a device for painting the inner surface of tubes the combination comprising, a tubular member adapted to engageably connect with so as to form an extension of the tubular member to be painted, a pair of pistons approximately fitting and slidable within the interior of the said members, said pistons being connected together but spaced apart to form a cylindrical cavity adapted to receive the paint medium, an aperture in the said tubular member adapted for the introduction of painting medium into the said cavity, a closure member for the said aperture, a disc brush member fitting and slidable within the interior of the said tubular member, said brush member being connected to but spaced apart from one of the said pistons, attachable and detachable means for drawing said pistons and said brush through said tubular member to be painted whereby the painting medium contained within said cavity exuding around the periphery of the said piston is spread evenly upon the interior surface of the tube under operation.

2. In a device for painting the inner surface of tubes the combination comprising, a tubular member adapted to engageably connect with so as to form an extension of the tube to be painted, an external aperture in the said tubular member adapted for the introduction of the painting medium, a closure member for the said aperture, a pair of pistons approximately fitting and slidable within the interior of the said member and the said tube, a rod central of said member and passing through said pistons, a shoulder on said rod, one of said pistons being slidable upon said rod and abutting against said shoulder, the other said piston being in fixed relation with said rod, the two said pistons with the said member thus forming a self-adjustable cylindrical cavity for the reception and delivery respectively of the painting medium within the said tubular member and the said tube, a shallow cylindrical brush secured to said rod and spaced apart from said fixed

piston, attachable and detachable means whereby said pistons and said brush may be drawn through said tube.

In testimony whereof I affix my signature.

MILES P. COTTON.

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