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L. P. HYNES
ELECTRIC PIPE HEATER
Filed Nov. 25, 1924

Fig. 1

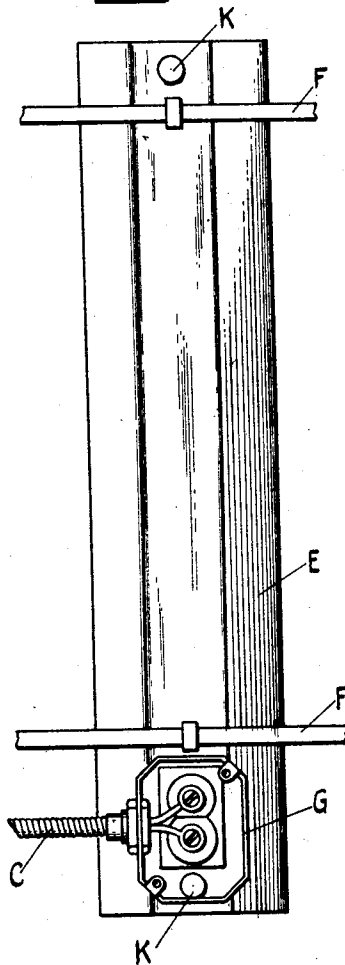


Fig. 4

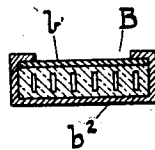


Fig. 3

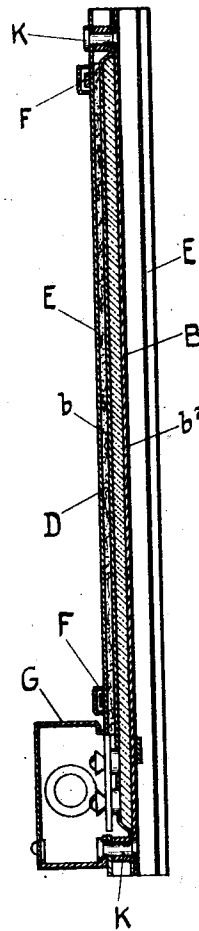
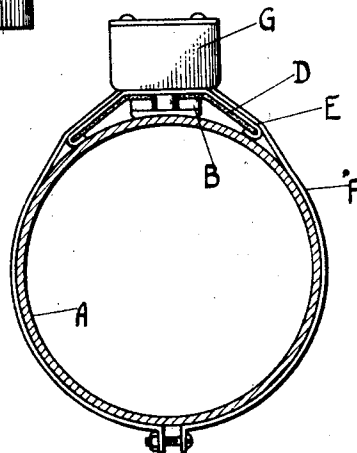


Fig. 2



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ELECTRIC PIPE HEATER.

Application filed November 25, 1924. Serial No. 752,141.

For a detailed description of the present form of my invention, reference may be had to the following specification and to the accompanying drawing forming a part thereof, wherein

Fig. 1 is a plan,

Fig. 2 a transverse section, and

Fig. 3 a longitudinal section of my device;

Fig. 4 is a cross section of the casing.

My invention relates to an electric heater designed to be applied directly to a pipe which carries water or other fluid which it is desired to heat without immersing the heater therein.

Referring to the drawings, A represents a pipe to which the heater is to be applied. The heater itself is a narrow, rigid and flat body designed to lie longitudinally on the pipe and be secured thereto. It comprises a flat, rigid casing B composed of a bottom plate of metal b^2 having its side edges bent up and across to overlie the side edges of a top plate b . Between the top and bottom plates is a body of refractory insulating material in which a resisting conductor is embedded. This casing is laid on the pipe longitudinally thereof, the bottom plate being in contact with the pipe. Above the top plate b is a strip of heat insulation such as asbestos D, and over that is a wider strip E of metal having its side edges bent down to meet the curved surface of the pipe at a point below the level of the casing so as to limit lateral rocking of the casing with respect to said pipe. At one end a local metal box or extension G is seated above the plate E and secured by a rivet K which passes through the above said top plate b and the plate E and also through an intumed flange on the lower edge of the extension. The opposite end of the extension is secured by a strap passing under the bottom plate b^2 and riveted to a similar intumed flange on the extension. The rivet K is one of two rivets K, K which secure the wide plate E and insulating plate D to the body of the heater. The extension G serves as a junction box for the electrical connections and on its floor are two connector terminals leading to the respective ends of the resisting conductor aforesaid. The extension G also has a removable cover plate and a side opening for the conduit C. Thus the

extension is rigid with and forms an essential part of the heater. This is of material advantage, since it permits the heater to be clamped to a pipe in a wide variety of situations and under difficult conditions independently of the electric conductors which may be subsequently brought to the heater and connected thereto within the protected interior of the extension. The extension projects above the surface of the flat heater and is therefore accessible and of adequate size for making a good connection job. The heater is also provided with transverse flexible metal straps F, F, for clamping the heater to the pipe. These straps pass through loops on plate E and are fastened together on the opposite side of the pipe by a bolt, as shown in Fig. 2. The described device constitutes an article that is strong, rugged and compact which can readily be carried about and clamped to a pipe at any desired point thereon under the most difficult conditions and when applied is immune to dampness, rough usage, electrical troubles and other unfavorable incidents of practical service.

What I claim as new and desire to secure by Letters Patent is:

1. An electric pipe-heater comprising a flat metal casing adapted to seat on the outside of the pipe, with a heating resistance enclosed therein, a hollow extension with a removable cover secured on the said casing and projecting above it, connection-terminals in the said extension, an insulating cover on the casing, a metal plate on said cover, and means for clamping the casing on the outside of the pipe.

2. An electric pipe-heater comprising a narrow rigid metallic casing adapted to rest longitudinally on the pipe and containing a resisting conductor, an insulating plate outside said casing and a wider metallic cover extending down to meet the sides of the pipe below the level of the casing.

3. An electric pipe heater comprising a flat rigid metal casing adapted to seat on the exterior of the pipe to be heated, a heating resistance enclosed within said casing, a strip of heat insulating material above the top of said casing, and a metal support for said insulating material.

4. An electric pipe heater comprising a flat rigid metal casing adapted to seat on

the exterior of a pipe to be heated, a heating resistance enclosed within said casing, means secured to said casing for limiting lateral rocking thereof, and means for securing said casing to the pipe.

5. An electric pipe heater comprising a flat rigid metal casing adapted to seat on the exterior of a pipe to be heated, a heating resistance enclosed within said casing, means secured to said casing for limiting lateral rocking thereof, a hollow extension secured to said casing and to said rocking limiting means, heater connection terminals

in said extension, and means for securing said casing to the pipe.

6. An electric pipe heater comprising a flat rigid metal casing adapted to seat on the exterior of the pipe to be heated, a heating resistance within said casing, a plate above the top of said casing provided with loops, and straps passed through said loops to secure the heater to a pipe.

Signed at Albany, county of Albany and State of New York, this 22nd day of November, 1924.

LEE P. HYNES.