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D. EVANS

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AUTOMATICALLY ACTING AND PERMANENTLY RESIDING TUBE CLEANER

Filed May 2, 1922

Fig. 1.

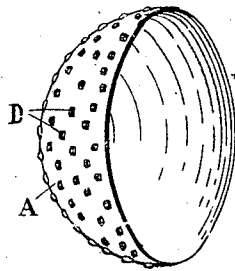


Fig. 2.

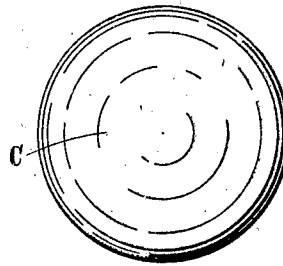


Fig. 3.

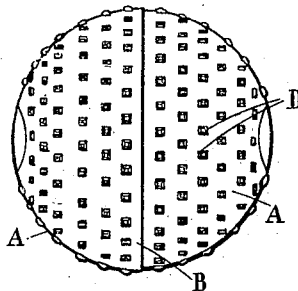
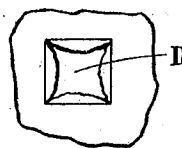


Fig. 4.



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AUTOMATICALLY-ACTING AND PERMANENTLY-RESIDING TUBE CLEANER.

Application filed May 2, 1922. Serial No. 558,003.

To all whom it may concern:

Be it known that I, DAVID EVANS, a subject of the King of England, residing at Bury Port, Carmarthenshire, in the Kingdom of England, have invented new and useful Automatically-Acting and Permanently-Residing Tube Cleaners, of which the following is a specification.

My invention relates to an automatically acting and permanently residing tube cleaner which consists in a spherical perforated metal shell, casing or body, containing a buoyant wooden or cork or other core, to keep out foreign matter, while integral roughened edges connected with the shell or body permit of the performance of an effective and constant picking and hammering action.

The spherical outer shell or metal casing forms a body which is advantageously made in two parts soldered or otherwise secured together.

The shell can be made in various sizes and need not of necessity be a true sphere, but the shape may be slightly varied to suit the actual cleaning work required for the removal of corrosion in water pipes and so forth. Further, the shell is to be rendered buoyant, for which purpose the cork centre or core is particularly serviceable. The outer casing may be made of steel or of any other appropriate metal roughened on the outside, such as by the punching of perforations in such a manner as to form projecting cutting edges for continued automatic action by the shell during service hours as will be hereinafter explained.

In order that my invention may be fully understood and readily carried into effect, I will describe the same with reference to the accompanying drawings, which show a typical example and wherein:—

Figure 1 shows a perspective view of one half of an outer metallic casing made according to this invention; Fig. 2 shows the core for buoyancy; Fig. 3 shows a face view

of the complete casing; and Fig. 4 shows an enlarged view of a portion having the rough surface of a perforation.

The outer shell, casing or body consists of two portions such as A arranged to fit together, as shown at Fig. 3, say by soldering at B or otherwise. The outer casing A contains a core C of appropriate buoyant material, and is perforated with holes D to form roughened edges or surfaces as indicated at Fig. 4.

These balls A or the like are put in a water pipe or pumping conduit and are caused to travel through the length of the pipe by impulses in the flow or jet of water delivered by pumping action which causes the automatically travelling tube cleaner to produce continued scraping and picking or hammering actions on the internal surface of the pipe or other conduit.

In a pipe of 8 or 9 inches diameter, I prefer to use balls of about 3 inches diameter to the number of about 12 to 20 balls, according to the length to be kept clean.

The great advantage derived is that the pipes do not have to be taken apart which is important in the case of pumping installations. It is of course immaterial at what inclination the pipes are set or whether there are bends in the pipe or not. The invention has been tried in actual practice and is found to be highly efficient, the cleaning operation being automatically effected thus saving time and labour over the ordinary method of dismantling the tubes for cleaning.

I claim:

An automatically acting and permanently residing tube cleaner consisting in a spherical shell, casing or body, integral projecting roughened edges connected with said body and a buoyant core contained in said body, as and for the purpose stated.

DAVID EVANS.