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APPARATUS FOR LOOSENING CEMENTITIOUS WATER-LAID PIPE FROM A MANDREL

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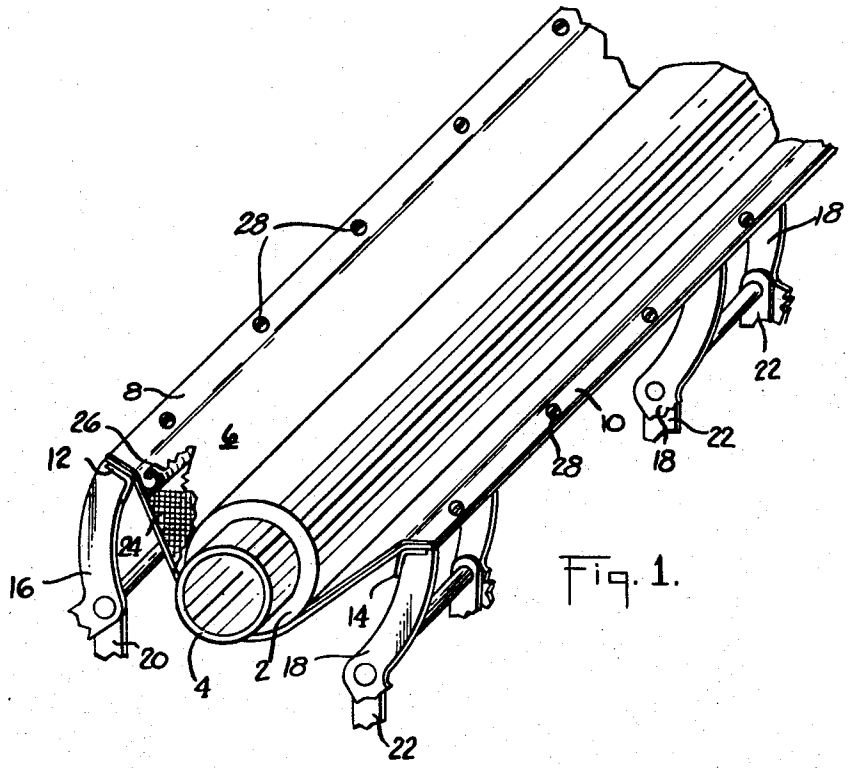


Fig. 1.

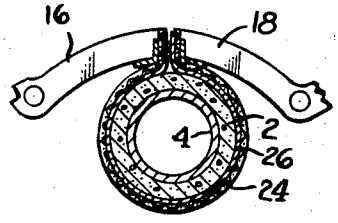


Fig. 2.

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APPARATUS FOR LOOSENING CEMENTITIOUS WATER-LAID PIPE FROM A MANDREL

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ABSTRACT OF THE DISCLOSURE

Apparatus for loosening wet cementitious pipe from a mandrel wherein an electrically conductive, non-metallic, non-corrosive cloth is positioned between and in contact with a metal mesh screen and the wet cementitious pipe so as to provide passage for the electric current used to loosen the pipe from the mandrel.

This invention relates to apparatus for loosening a wet cementitious pipe from a mandrel on which it is formed. While the invention is directed particularly to the loosening of asbestos-cement pipe, it is understood that the invention is applicable in principle to other articles similarly formed on a mandrel.

In Whalen, U.S. Patent No. 2,992,157, there is disclosed apparatus for loosening wet cementitious pipe from the mandrel on which it is formed in which an electrically conductive screen is wrapped around the pipe and an electric current is passed through the screen, the pipe and the mandrel to effect the loosening. The screen in Whalen comprises a knitted, metal wire mesh which has a tendency to deteriorate and produce rust-like stains on the outer surface of the cementitious pipe.

It is an object of the instant invention to provide an improved screen for use in the electrical loosening of wet cementitious pipe from the mandrel which screen will not mar the outer surface of the pipe.

In one embodiment of the invention, the screen comprises a knitted, metal wire mesh having its operative surface covered by an electrically conductive cloth. Preferably, the cloth comprises a fibrous material impregnated with a graphite and resin mixture.

The invention will be more fully understood and further objects and advantages thereof will become apparent when reference is made to the following description of a preferred embodiment of the invention and the accompanying drawing in which:

FIG.1 is a pictorial representation of a portion of the apparatus and illustrating the screen of the instant invention having a wet cementitious pipe on a mandrel thereon; and

FIG. 2 is an end view of the portion of the apparatus of FIG. 1 and illustrating the screen wrapped around the wet cementitious pipe on a mandrel.

In the drawing, there is illustrated a wet asbestos-cement pipe **2** bonded to a hollow steel mandrel **4** and supported on a screen **6**. The longitudinal edges **8** and **10** of the screen **6** are secured to bars **12** and **14** supported on a plurality of spaced crank arms **16** and **18** which are pivotally mounted on spaced supports **20** and **22**. The movement of the arms **16** and **18** about the supports **22** and **24** may be accomplished by any conventional apparatus such as the apparatus shown and described in FIGS. 3 and 4 of the Whalen patent.

The screen **6** comprises a knitted, metal wire mesh **24** over which is a cloth **26**. Preferably, the cloth **26** is conterminous with the mesh **24**. The cloth **26** is impregnated with a suitable material such as graphite and resin mixture so as to make the cloth an effective electrical conductor. The cloth **26** and the mesh **24** are secured to bars **12** and **14** by suitable fasteners **28**.

In the preferred embodiment of the invention, the mesh **24** comprises a fairly heavy, electrically conductive wire, preferably a stainless steel, having a relatively close mesh and capable of supporting the wet cementitious pipe and mandrel. The cloth **26** comprises any vegetable, animal, mineral or synthetic fiber, which are normally nonelectrical conductors, such as a 10-ounce burlap, impregnated with a suitable material such as a graphite and resin mixture. The cloth **26** is impregnated by saturating it in a mixture comprising three parts of a water base acrylic resin having approximately a 30% solids content and one part of flake graphite. The resin acts as the carrier for the graphite and after drying provides the bond between the graphite and the cloth. The resin also forms a continuous moisture impervious membrane which prevents the migration and deposition of stains from the steel mesh onto the outer surface of the pipe. Furthermore, this membrane keeps the moisture from the wet cementitious pipe from contacting the steel mesh **24** so as to prolong the life of the mesh **24**.

In operation, the mandrel **4** having a wet asbestos-cement pipe **2** thereon is placed on the screen **6** with the wet pipe **2** in contact with the cloth **26**. The screen **6** and the mandrel **4** are connected in any suitable manner, such as that described in the Whalen patent, to a D.C. generator such as a 150 volt D.C. generator of a rated capacity of 600 amps. The arms **16** and **18** are actuated to wrap the screen **6** around the wet asbestos-cement pipe **2** and an electric current is passed through the screen, the pipe and the mandrel to loosen the pipe from the mandrel. The mesh **24** acts to support the wet cementitious pipe and mandrel and also to provide an efficient electrical conductor to insure good distribution of the electric current through the cloth **26** to all surface areas of the web asbestos-cement pipe **2**.

The foregoing details have been given for illustration purposes only, and it is understood that these details need not be strictly adhered to and that various changes and modifications may suggest themselves to one skilled in the art, all falling within the scope of the invention as defined by the subjoined claims.

What I claim is:

1. In apparatus for loosening a wet cementitious pipe from a mandrel wherein an electrically conductive metal mesh screen is wrapped around said wet cementitious pipe and electric current is passed through the screen, the pipe and the mandrel to loosen the pipe from the mandrel, the improvement wherein said screen comprises:

(a) an electrically conductive, non-metallic, non-corrosive cloth in contact with said metal mesh screen and positioned to contact said wet cementitious pipe.

2. Apparatus as defined in claim **1** wherein:

(a) said cloth is moisture impervious.

3. Apparatus as defined in claim **2** wherein said cloth comprises:

(a) a nonelectrically conductive fibrous material impregnated with an electrically conductive mixture.

4. Apparatus as defined in claim **3** wherein said mixture comprises:

(a) a resin and graphite mixture.

References Cited

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S. LEON BASHORE, *Primary Examiner.*

U.S. Cl. X.R.

162—192; 204—132, 216; 156—344, 584