

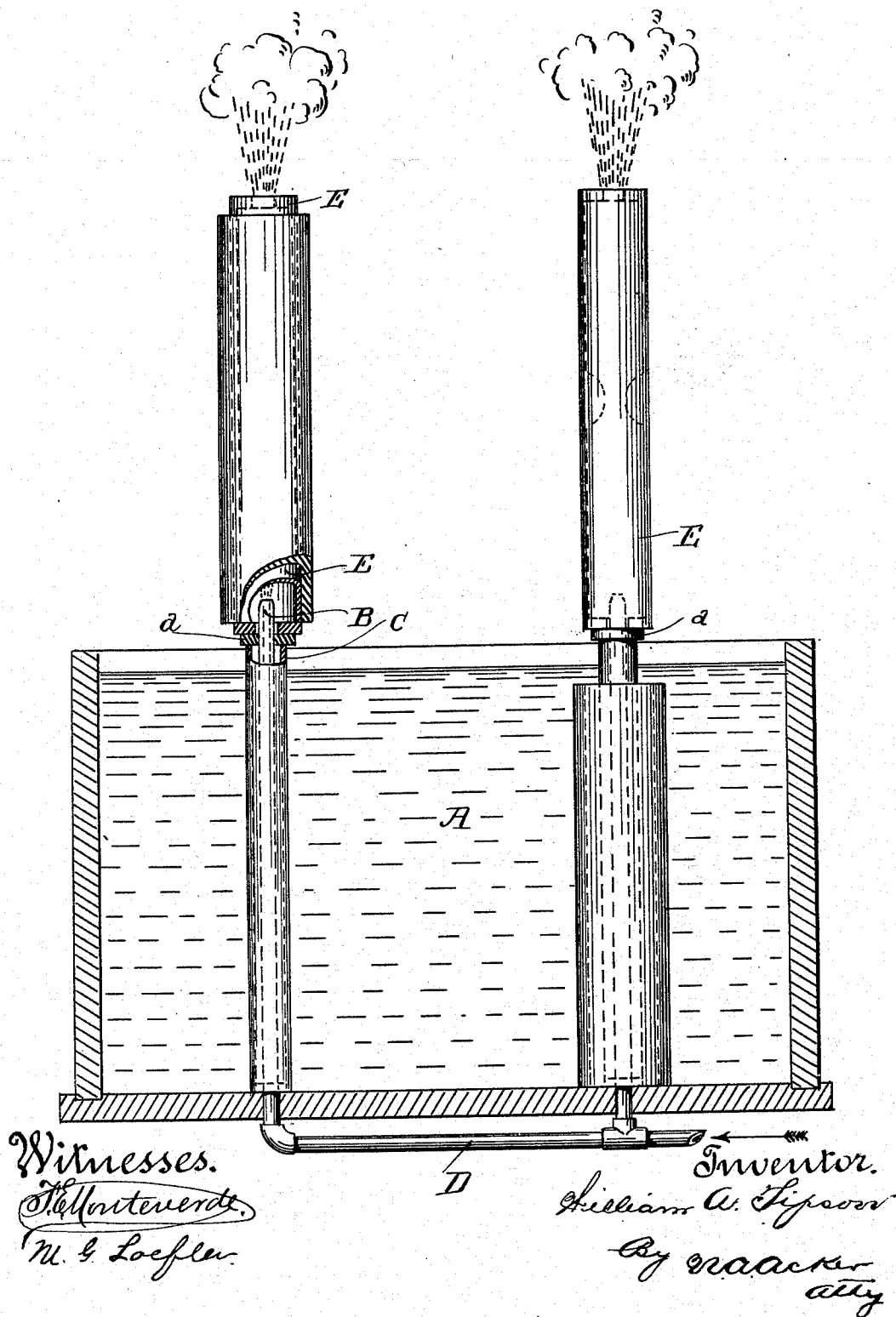
(No Model.)

W. A. TIPSON.

REMOVING ARTIFICIAL PIPE FROM MANDRELS.

No. 518,557.

Patented Apr. 17, 1894.



UNITED STATES PATENT OFFICE.

WILLIAM A. TIPSON, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR TO THE
PACIFIC ASPHALTUM PIPE COMPANY, OF CALIFORNIA.

REMOVING ARTIFICIAL PIPE FROM MANDRELS.

SPECIFICATION forming part of Letters Patent No. 518,557, dated April 17, 1894.

Application filed May 29, 1893. Serial No. 475,834. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. TIPSON, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Methods of and Apparatus for Removing Artificial Pipe from Mandrels; and I do hereby declare the following to be a full, clear, and exact description of said invention, such as will enable others skilled in the art to which it most nearly appertains to make, use, and practice the same.

My present invention relates to an improved method and apparatus for removing artificial pipe, such as made of asphaltum or bitumen, from off the forming mandrel for the pipe, as will be hereinafter more fully set forth and described.

Heretofore in the manufacture of asphalt or bitumen pipe, great trouble has been found in successfully removing the finished pipe from the mandrel, and in order to do so it has been customary to wrap the mandrel with paper or other material before rolling the material thereon. While the mandrel thus wrapped will permit the removal of the finished pipe therefrom it is subject to a serious defect, which consists in the fact that the paper or other wrapper wound around the mandrel adheres to the pipe when removed, inasmuch as the material out of which the pipe is made is rolled upon the mandrel while in a plastic condition. The removal of this lining involves great expense and if it be not removed the pipe will quickly become clogged by the flow of water therethrough.

In order to more fully comprehend my invention, reference must be had to the accompanying drawing, which is a side elevation of the steaming and cooling apparatus, showing the cooling chest in section and position of the pipe before and after removal from the mandrel.

In the drawing the letter A indicates the receiving and cooling chamber or tank, which is filled with cold water, into which the pipe is submerged after removal from the mandrel. Within this tank, I secure the vertical steam or hot air pipe B, which projects beyond the top and bottom of said tank. This pipe is

surrounded by the shell C, which prevents the water contained within the tank from contacting therewith and becoming heated. To the lower end of the pipe B, is connected the pipe D, as shown, which pipe preferably runs from an engine, located at any suitable point and receives the exhaust therefrom. The top of shell C, is provided with an annular flange a, which provides a seat for the hollow mandrel E, which fits over the projecting end of pipe B, as shown. Upon this hollow mandrel is rolled the plastic material which forms the pipe F.

After the pipe has been formed within the machine upon the hollow mandrel E, which is constructed of metal, the same is removed from the machine and carried to the steaming and cooling apparatus in order to remove the pipe therefrom. In order to do this the end of the hollow mandrel E, is placed over projecting end of pipe B, so as to allow the escaping steam or hot air to enter therein. The steam or hot air completely fills the hollow mandrel and makes its escape through opening in the opposite end thereof. Inasmuch as the outer surface of the mandrel is of metal, it is obvious that the temperature of the steam quickly heats the same. When the mandrel is heated, the inner wall of the pipe becomes somewhat softened and the weight of same will cause it to slip from off the mandrel and gradually descend into tank A, as shown in the drawing. The mandrel is then removed from over the steam pipe and laid aside until required for use by the pipe making machine. The pipe removed therefrom is allowed to remain submerged within the receiving tank until thoroughly cooled.

By my method for removing the pipe, the same is freed from the mandrel in a much quicker time than heretofore, besides completely overcoming danger of the pipe being broken or damaged during the process of removal.

Having thus described my invention, what I claim as new, and desire to secure protection in by Letters Patent of the United States, is—

1. The method of removing and cooling asphaltum or similar pipe from a hollow mandrel, which consists in subjecting the interior

of the mandrel to the action of steam, or hot air, maintaining the same so exposed until the inner wall of the pipe is softened to such a degree as to be moved by its own weight, 5 and causing the pipe to move from off the mandrel into a liquid bath and permitting the same to remain submerged therein until cooled.

2. In an apparatus for cooling and removing asphaltum or similar pipes from a hollow mandrel, the combination with a receiving tank containing a liquid bath, of the steam or hot air supply pipe extending above said tank, said pipe designed to discharge into the hollow mandrel. 15

3. In an apparatus for cooling and remov-

ing asphaltum or similar pipes from a hollow mandrel, the combination with a receiving tank containing a liquid bath, said tank designed to receive the pipe as moved from the 20 mandrel, of the steam pipe extending through and above the receiving tank, and over which the hollow mandrel fits, and of the outer shell for preventing the liquid bath within the receiving tank from contacting with the steam 25 pipe.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM A. TIPSON.

Witnesses:

N. A. ACKER,
LEE D. CRAIG.