PATENT SPECIFICATION

754,225

Date of Application and filing Complete Specification: Feb. 8, 1954.

No. 3642/54.

Application made in Italy on Feb. 20, 1953.

Complete Specification Published: Aug. 8, 1956.

Index at acceptance:—**Class 99(2)**, I5.

COMPLETE SPECIFICATION

Improvements in or relating to the Manufacture of Fibro-cement Pipes

I, ALESSANDRO MAGNANI, an Italian Citizen, of 8, Via Roma, Broni, Pavia, Italy, do hereby declare the invention for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to machines for manufacturing fibro-cement pipes by winding and compressing on a metal mandrel a thin layer of aqueous slurry of cement and fibrous material carried by a felt, of the type comprising a frame, a guide roller for the felt rotatably mounted in said frame, which roller actuates the felt carrying the fibro-cement slurry layer and carries the mandrel on which the said layer is wound, and a pair of parallel pressure rollers superimposed on the mandrel or on the fibro-cement pipe being formed thereon, said pressure rollers being acted upon by rams fixed to the machine frame for pressing the said pressure rollers against the mandrel or against the fibro-cement pipe being formed thereon, said pressure rollers being covered with rubber or similar resilient material.

According to the present invention the said pressure rollers extend throughout the mandrel length, and are acted upon by three auxiliary rollers supported by the movable member of the rams, arranged in laterally spaced relationship and bearing on said pressure rollers, said auxiliary rollers being driven in order to transmit their rotational movement through the pressure rollers to the pipe being formed.

In order that the invention may be more readily understood, reference will now be made to the accompanying drawing which shows by way of example an end elevation of the machine according to the present invention.

The machine shown in the drawing comprises a metal frame 10 and a metal mandrel 1 on which the pipe 2 is formed by winding on the mandrel a thin layer 3 of slurry produced by known means and conveyed by a felt 4; the felt 4 is actuated by the driven guide roller 5 which is rotatably mounted in the frame 10 and on which bears the mandrel 1, pressed against the guide roller 5 by a pair of pressure rollers 11 and by means of rams 7 or equivalent means. By reducing the diameter of the roller 5 the force applied by the rams 7 can be reduced accordingly, the effective pressure on the pipe 2 being formed remaining the same, which advantageously results in a lighter frame or, the weight of the frame being the same, in a more efficient compression of the pipe. In order to enhance this advantage by using a roller 5 of considerably reduced diameter, it may be necessary to support the roller by suitable intermediate members, which are shown on the drawing in the form of pairs of rollers 9. It has been found in practice that the diameter of rollers 5 should conveniently not exceed 25 centimeters.

The pair of pressure rollers 11 is superimposed on the pipe being formed. These rollers apply pressure throughout the length of the pipe 2, by direct action on the pipe and are rubber-covered in order to distribute the pressure evenly.

Since the pressure rollers are of small diameter, intermediate support is provided in the form of three auxiliary rollers 12 similar to the rollers 9 supporting the roller 5. These rollers are utilised also for transmitting a rotating movement to the pressure rollers 11.

What I claim is:—

1. A machine for manufacturing fibro-cement pipes by winding and compressing on a metal mandrel a thin layer of aqueous slurry of cement and fibrous material carried by a felt, of the type comprising a frame, a guide roller for the felt rotatably mounted in said frame, which roller actuates the felt carrying the fibro-cement slurry layer and

[*Price* 3/-]

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I, ALESSANDRO MAGNANI, an Italian Citizen, of 8, Via Roma, Broni, Pavia, Italy, do hereby declare the invention for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to machines for manufacturing fibro-cement pipes by winding and compressing on a metal mandrel a thin layer of aqueous slurry of cement and fibrous material carried by a felt, of the type comprising a frame, a guide roller for the felt rotatably mounted in said frame, which roller actuates the felt carrying the fibro-cement slurry layer and carries the mandrel on which the said layer is wound, and a pair of parallel pressure rollers superimposed on the mandrel or on the fibro-cement pipe being formed thereon, said pressure rollers being acted upon by rams fixed to the machine frame for pressing the said pressure rollers against the mandrel or against the fibro-cement pipe being formed thereon, said pressure rollers being covered with rubber or similar resilient material.

According to the present invention the said pressure rollers extend throughout the mandrel length, and are acted upon by three auxiliary rollers supported by the movable member of the rams, arranged in laterally spaced relationship and bearing on said pressure rollers, said auxiliary rollers being driven in order to transmit their rotational movement through the pressure rollers to the pipe being formed.

In order that the invention may be more readily understood, reference will now be made to the accompanying drawing which shows by way of example an end elevation of the machine according to the present invention.

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1. A machine for manufacturing fibro-cement pipes by winding and compressing on a metal mandrel a thin layer of aqueous slurry of cement and fibrous material carried by a felt, of the type comprising a frame, a guide roller for the felt rotatably mounted in said frame, which roller actuates the felt carrying the fibro-cement slurry layer and

[*Price* 3/-]

* C L M S *

carries the mandrel on which the said layer is wound, and a pair of parallel pressure rollers superimposed on the mandrel or on the fibro-cement pipe being formed thereon, said pressure rollers being acted upon by rams fixed to the machine frame for pressing the said pressure rollers against the mandrel or against the fibro-cement pipe being formed thereon, said pressure rollers being covered with rubber or similar resilient material, characterised by the fact, that the said pressure rollers extend throughout the mandrel length, and are acted upon by three auxiliary rollers supported by the movable member of the rams, arranged in laterally spaced relationship and bearing on said pressure rollers, said auxiliary rollers being driven in order to transmit their rotational movement through the pressure rollers to the pipe being formed.

2. A machine for manufacturing fibro-cement pipes, constructed and arranged substantially as described herein with reference to the accompanying drawing.

For the Applicant,
F. J. CLEVELAND & COMPANY,
Chartered Patent Agents,
29, Southampton Buildings, Chancery Lane,
London, W.C.2.

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