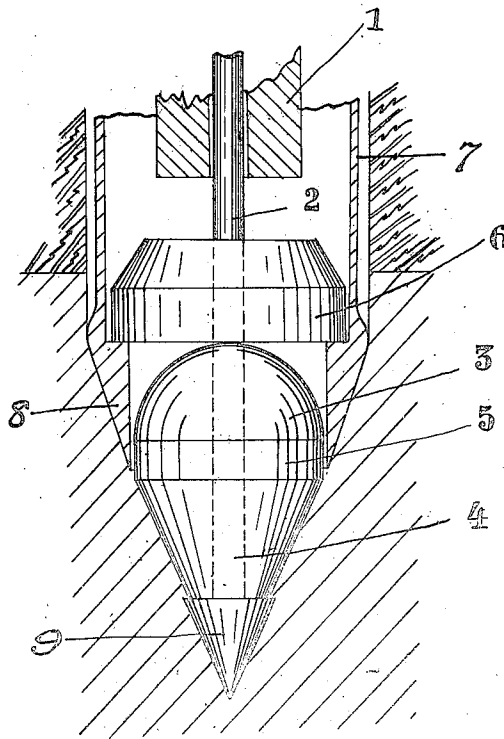


E. FRANKIGNOUL.
TUBING FOR BORING.
APPLICATION FILED JULY 1, 1911.

1,052,809.

Patented Feb. 11, 1913.



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UNITED STATES PATENT OFFICE.

EDGARD FRANKIGNOUL, OF LIEGE, BELGIUM.

TUBING FOR BORING.

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Specification of Letters Patent.

Patented Feb. 11, 1913.

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To all whom it may concern:

Be it known that I, EDGARD FRANKIGNOUL, a subject of the Kingdom of Belgium, residing at 196 Rue Gretry, Liege, Belgium, have invented certain new and useful Improvements in Tubing for Boring; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This application is a division of an application filed by me under date of April 25th, 1911, Ser. No. 623,138.

This invention relates to tubular boring apparatus in which a tubular structure is sunk into the soil by a succession of blows directed to act adjacent to the forward portion of the apparatus.

An object of my invention is to provide a directing portion for the tubular structure which will prevent ingress of earthy matter or fluid into the tubular structure, the arrangement of parts being such, when the tubular structure is in place, that the directing portion may be withdrawn through the interior of the tube.

In the drawing forming part of this specification, 7 designates a portion of a tubular structure provided with a driving flange 8 at the lower end thereof. The upper portion of said driving flange forms an internal shoulder adapted to receive a suitable disk 6 adjacent to the margin thereof. Subjacent to said disk 6 is a guiding plug comprising two metallic portions 3 and 4 and an interposed portion 5 of expansible material there between. This layer 5 is of lead or such material as will deform and enlarge laterally under the blows so as to continuously pack the joint between the plug and the driving flange. A rod 2 passes through the portions 3, 4 and 5 and through the disk 6 to act as a guide means for a ram 1 which

is adapted to act upon the disk 6 for sinking the apparatus. The lower end of the rod 2 is provided with a conical guide portion 9 which constitutes the entering or the advance portion of the apparatus.

The operation of this device is as follows:—When the apparatus is in a position for driving, the structure is advanced by blows of the ram 1, the guide rod 2 and advance portion 9 serving to position the structure as desired. The impact upon the disk 6 and portion 3, which is in contact therewith, due to the action of the ram 1 compresses the portion 5 which expands laterally, contacting with the interior wall of the member 7 thus preventing ingress of earthy matter or fluid into the structure. When it is desired to extract the plug and disk from the tubular structure, the rod 2 is raised, carrying with it such parts through the engaging portions 4 and 9.

I claim:—

1. In tubular boring apparatus, a casing section having a driving flange, and a driving plug fitting within the flange, said plug having an expansible portion arranged to be forced out against the wall of the driving flange under the blows of driving and pack the tube against ingress of earth or water; substantially as described.

2. In tubular boring apparatus, a casing section having a driving flange with an internal shoulder, a driving plug within the flange having a plurality of separate parts, an expansible member between said parts arranged to pack the joint between the plug and driving flange, and a leading stem extending through a hole in the plug; substantially as described.

3. In a tube boring apparatus, the combination with a boring tube provided with an internal shoulder, of a member adapted to engage said shoulder, a plug subjacent said member and including rigid portions and an expansible portion therebetween, one of said rigid portions being in contact with said first mentioned member, and a ram

adapted to act upon said first mentioned member for driving the tube and compressing the said expansible portion of said plug to expand the same laterally against the interior of the tube to close the same against
5 ingress of earthy matter or fluid.
In testimony that I claim the foregoing

as my invention, I have signed my name in presence of two subscribing witnesses.

EDGARD FRANKIGNOUL.

Witnesses:

GEORGES VANDER HAEGHEN,
LÉONARD LEVA.
