

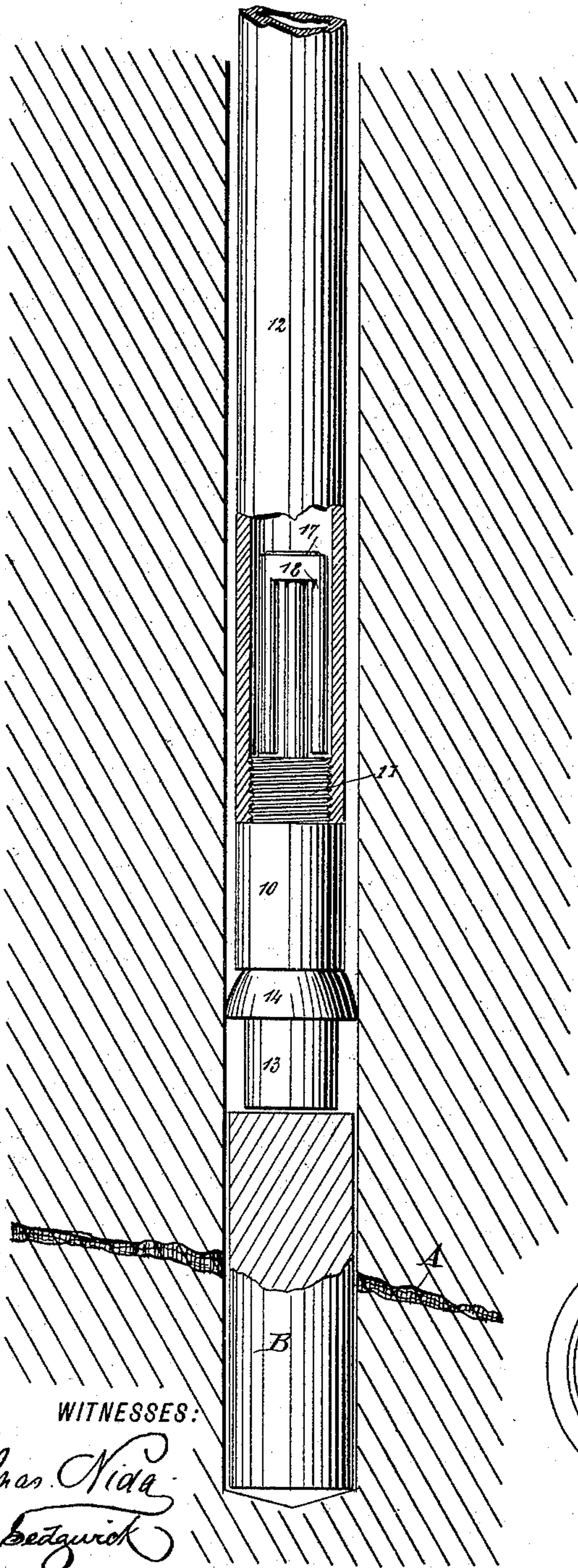
(No Model.)

M. GARVEY.
METHOD OF STOPPING SEAMS.

No. 442,037.

Patented Dec. 2, 1890.

Fig: 1.



WITNESSES:

Chas. Nida
Bedgwick

Fig: 2.

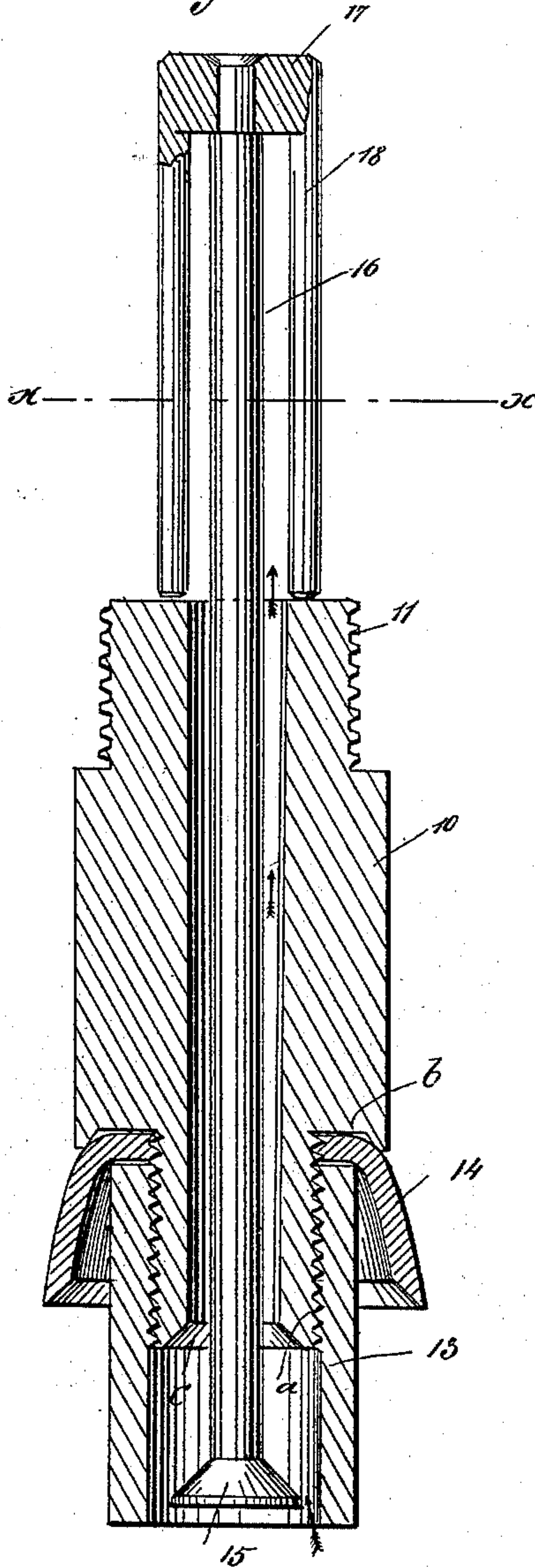
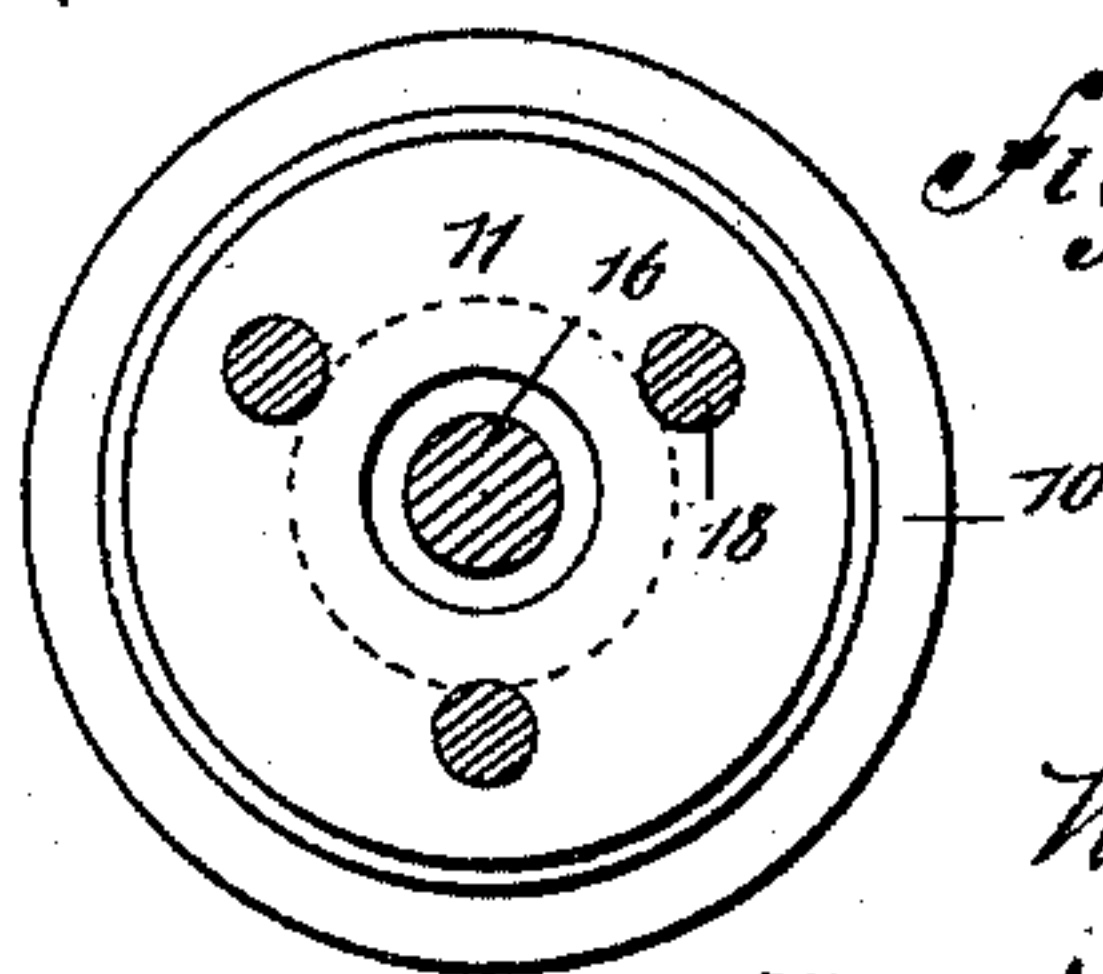


Fig: 3.



BY

INVENTOR:

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UNITED STATES PATENT OFFICE.

MATTHIAS GARVEY, OF HAMMONDVILLE, NEW YORK.

METHOD OF STOPPING SEAMS.

SPECIFICATION forming part of Letters Patent No. 442,037, dated December 2, 1890.

Application filed September 24, 1889. Serial No. 324,933. (No model.)

To all whom it may concern:

Be it known that I, MATTHIAS GARVEY, of Hammondville, in the county of Essex and State of New York, have invented a new and
5 Improved Method of Stopping Seams, of which the following is a full, clear, and exact description.

In boring artesian wells or in drilling for any purpose whatsoever it frequently happens that seams are struck which it is desirable to plug up or stop.

My invention relates to a method of stopping such seams, and is substantially as follows: After the seam has been struck the
15 drill-rod is withdrawn, the bit removed, and a cartridge of wax or paraffine, tallow, or analogous material placed in the drill hole or well. A cartridge-placing attachment is connected to the drill-rod, and the cartridge is
20 then subjected to heavy pressure, whereby the material composing the cartridge is forced into the seam that it is sought to stop, all as will be hereinafter fully described, and specifically pointed out in the claims.

25 Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

30 Figure 1 is a view of a drill hole or well which has passed through a seam, the cartridge and cartridge-placing attachment being represented in position for use and prior to the time when pressure has been applied, the parts being shown in section. Fig. 2 is a
35 central sectional elevation of the cartridge-placing attachment, and Fig. 3 is a sectional view on line $x x$ of Fig. 2.

In the drawings, 10 represents a heavy
40 tube, the upper portion of which is formed with a thread 11, that is arranged for engagement with a tubular drill-rod 12, while the lower portion is formed with a thread a , that is within a shoulder b . The thread a is arranged for engagement with an internal
45 thread formed upon a sleeve 13, the sleeve being employed to hold a packing-ring 14 to place, the arrangement being such that by turning up the sleeve the packing will be
50 bound against the shoulder b , as clearly represented in Fig. 2. The extreme lower end of the tube 10 constitutes a valve-seat c ,

against which there is at times seated a valve 15. This valve 15 has an upwardly-extending stem 16, that is connected to a plate 17, 55 provided with two or more downwardly-extending legs 18, which normally rest upon the top of the tube 10, as shown in the drawings, the weight of the valve and its stem holding the parts in the position in which they are
60 shown, thus allowing all water to pass upward, as indicated, until pressure from beneath forces the valve to its seat. When a vein—such as the one shown at A in Fig. 1—is struck and it becomes necessary to stop the
65 flow from or through said vein, the drill-rod is withdrawn, and a cartridge B, of paraffine or other proper material, is dropped into the drill or well. The apparatus illustrated in Fig. 2 is then connected to the drill-rod and
70 lowered to the position in which it is shown in Fig. 1, the water passing upward through the bore of the tube 10, after which the cartridge is subjected to heavy pressure, which is accomplished by any desired means, but
75 preferably by tightening a feed-screw on the drill-rod and turning said screw with a wrench, thereby forcing said rod and pressure devices down against the cartridge. When very
80 heavy pressure is required, I employ jack-screws to exert pressure from above on the drill-rods. The packing-ring 14 prevents any escape of the cartridge material upward about the peripheral face of the tube 10. The application of this heavy pressure, which at
85 times would exceed five thousand pounds to the square inch, will act to force the paraffine or other material of which the cartridge B is composed into the seam A, and immediately after the application of such pressure
90 the drill-rod, and with it the apparatus shown in Fig. 2, may be withdrawn, and the bit having been again attached to the drill-rod the drilling may be resumed.

I am aware that cement has been employed 95 for closing the veins of drill-holes; but the cement has to be poured into the holes and allowed to set before it can be bored out, so that the boring can be resumed. Then, again, the cement will not enter the vein to any
100 great extent, and will imperfectly set at the vein, owing to its being kept moist by the water from said vein, it being well known that cement will only properly set when it dries.

By the employment of paraffine, wax, tallow, and the like and subjecting it to pressure it can be forced quite a distance into the vein to effectually close it, it is not affected by the
5 water, and the boring can be resumed immediately, no time being lost waiting for it to set.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

10 1. The method herein described of stopping veins leading to drill-holes, consisting in depositing a cartridge of paraffine or its stated equivalent in the said hole, the cartridge being of such a size as to extend above the
15 vein, and then applying pressure to the top of the said cartridge, whereby the cartridge

will be compressed and the paraffine forced into the vein to effectually close it, as specified.

2. The herein-described method of stop- 20 ping veins leading to drill-holes, consisting in depositing a paraffine cartridge in said holes, the said cartridge being of such a size as to extend above the vein, then lowering a pressing device on the cartridge, then withdrawing 25 the water above the cartridge, and finally applying pressure to said device, as set forth.

— MATTHIAS GARVEY. —

Witnesses:

J. H. PARKER,
F. T. LOCKE.