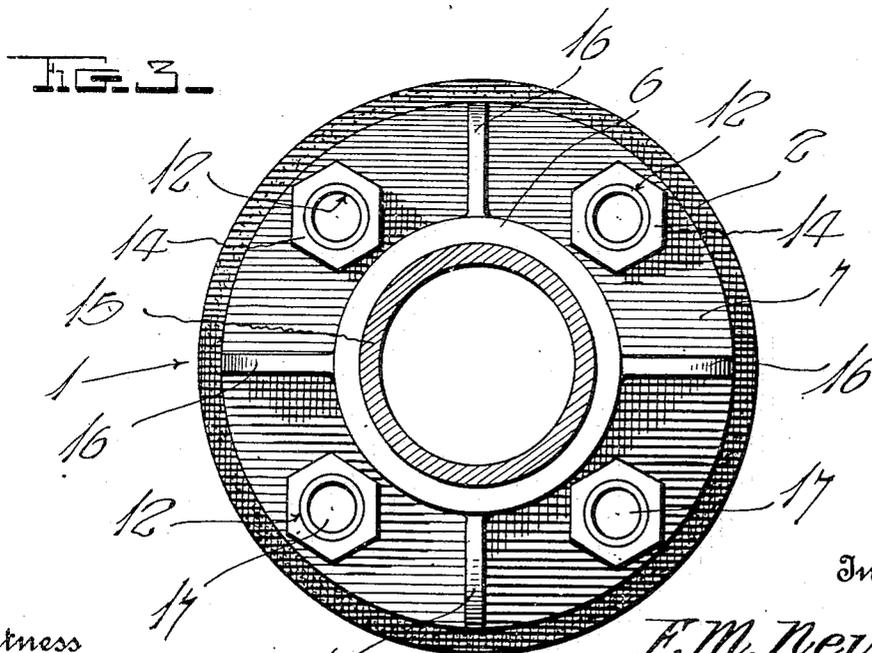
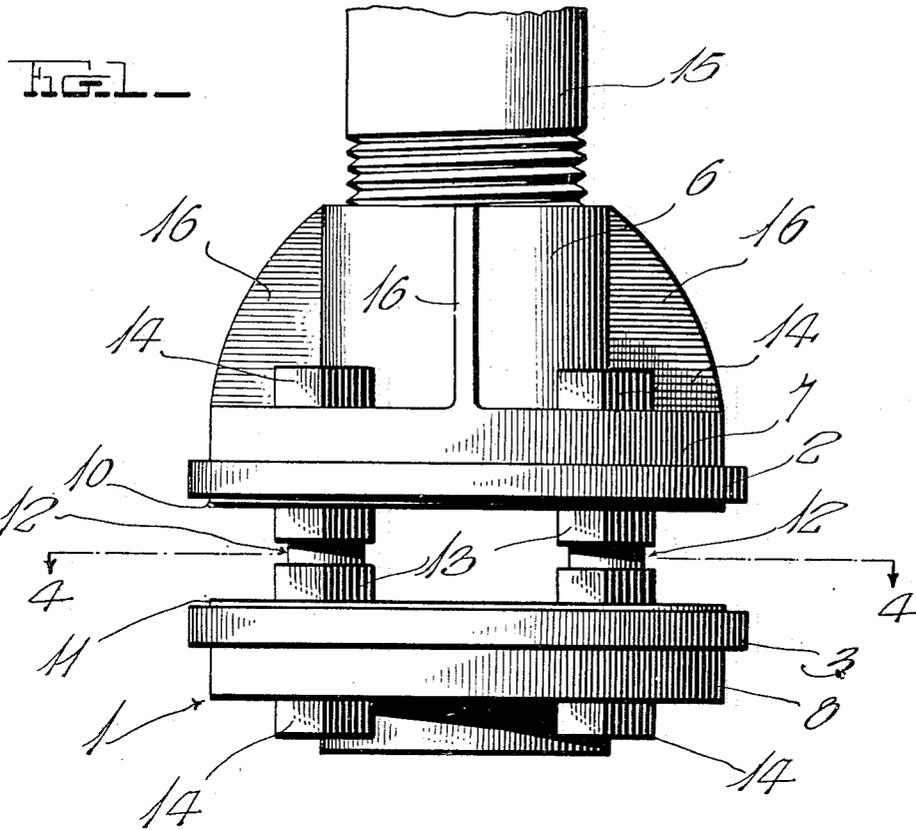


F. M. NEVINS.
 PERFORATION CLEANER FOR WELL CASINGS.
 APPLICATION FILED JAN. 10, 1918.

1,298,083.

Patented Mar. 25, 1919.
 2 SHEETS—SHEET 1.



Witness
H. Woodard

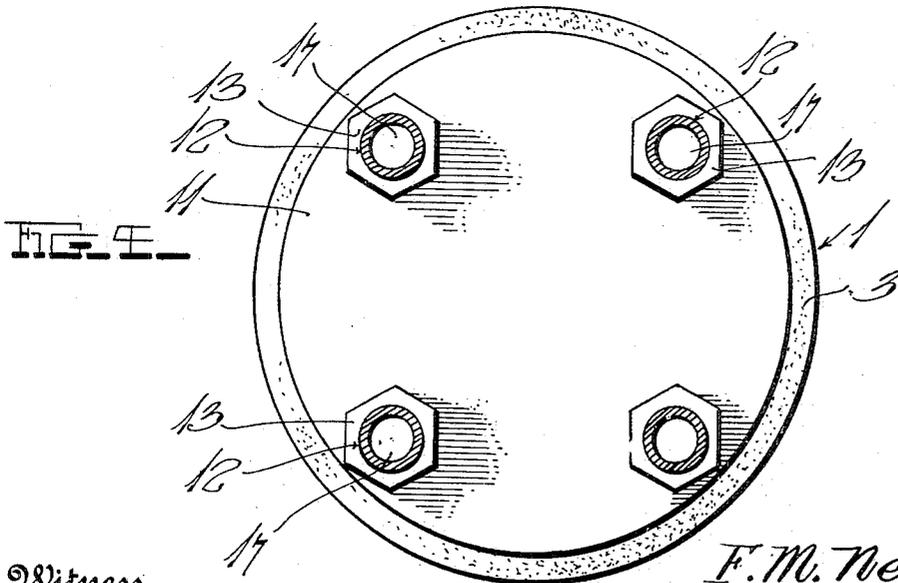
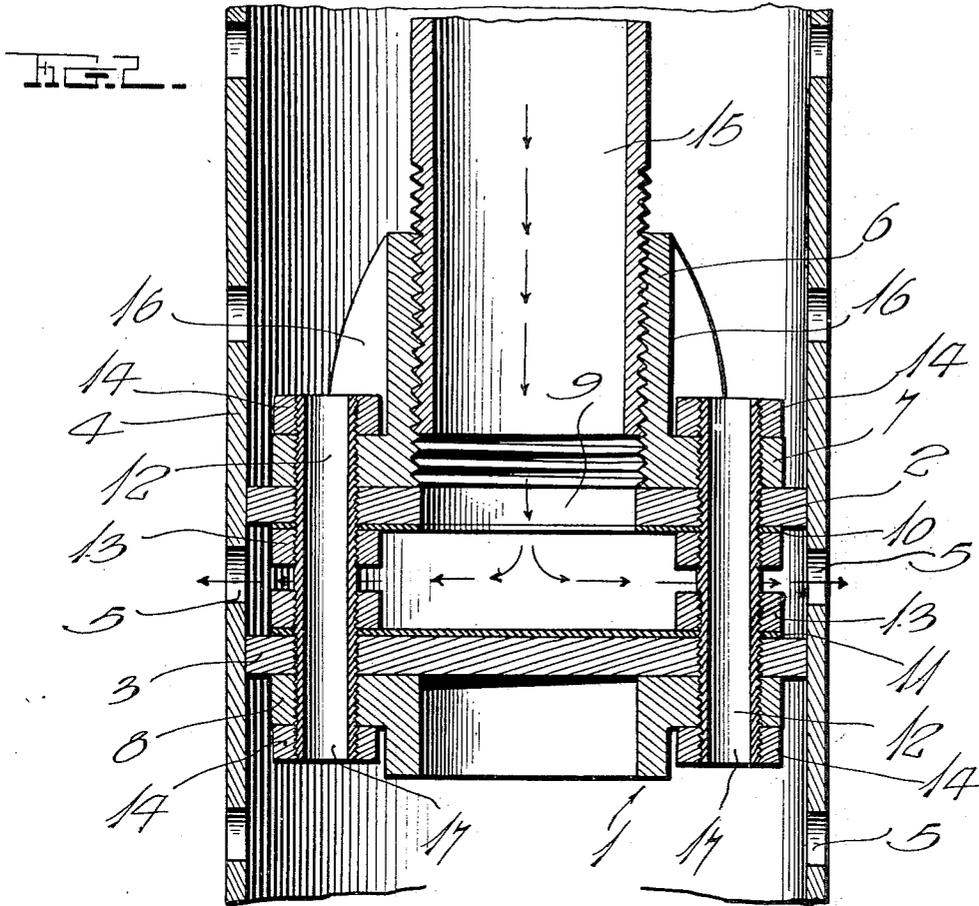
Inventor
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Inventor

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UNITED STATES PATENT OFFICE.

FRANK M. NEVINS, OF COALINGA, CALIFORNIA.

PERFORATION-CLEANER FOR WELL-CASINGS.

1,298,083.

Specification of Letters Patent. Patented Mar. 25, 1919.

Application filed January 10, 1918. Serial No. 211,208.

To all whom it may concern:

Be it known that I, FRANK M. NEVINS, a citizen of the United States, residing at Coalinga, in the county of Fresno and State of California, have invented certain new and useful Improvements in Perforation-Cleaners for Well-Casings; and I do 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.

My invention has for its object to provide a simply constructed and inexpensive, yet highly efficient and durable device for cleaning the perforations in the casings of wells, particularly oil wells, by forcing fluid under pressure therethrough; and with this general object in view, the invention resides in the novel features of construction to be hereinafter fully described and claimed, the descriptive matter being supplemented by the accompanying drawings which form a part of this specification and in which:

Figure 1 is a side elevation of the device;

Fig. 2 is a vertical section showing the cleaner in use;

Fig. 3 is a top plan view, and

Fig. 4 is a horizontal section on the plane of the line 4-4 of Fig. 1.

Briefly speaking, the device consists of a head 1 adapted to be lowered into the casing and having upper and lower packers 2 and 3 respectively, designed to seal the casing 4 above and below the perforations 5 as shown in Fig. 2, said head having an inlet 6 which communicates with the space between the two packers, for the purpose of supplying fluid under pressure thereto.

The head 1 includes upper and lower sections 7 and 8 respectively, said sections being spaced apart vertically and having the packers 2 and 3 positioned in contact with their inner faces. The packer 3 is in the form of a solid disk, whereas the other packer 2 is of annular formation in order to permit registration of its central opening 9 with the inlet 6. Upper and lower washers 10 and 11 respectively, of any suitable design, contact with the inner sides of the packers 2 and 3, and vertical tie bolts 12 are passed through these washers, through the packers, and through the sections 7 and 8 of the head. Nuts 13 are threaded on the bolts 12 in contact with the washers 10

and 11, and other nuts 14 are positioned on said bolts in contact with the outer sides of the sections 7 and 8. By this construction, the two sections of the head are rigidly held together in properly spaced relation.

The inlet 6 is preferably in the form of a tubular nipple rising from the upper section 7, and in order to prevent any possibility of the device tilting within the casing 4, should the pipe line 15 become disconnected from the head, webs 16 preferably radiate from said nipple as shown.

In order to permit the air and gas in the casing to escape as the head 1 is lowered, and to permit free movement of this head through the liquid in the well, passages 17 are provided, these passages being shown in the present form of the invention, as formed through the tie bolts 12. When this construction is followed, the bolts in question may well be formed of piping and are therefore inexpensive.

In use, the head 1 is threaded on the lower end of the pipe line 15 and by means of this line, is lowered into the casing. Any required fluid under pressure may be forced downwardly through the pipe 15 and it will thus be obvious that as the head is lowered, this fluid and any accumulated matter in the perforations 5 will be blown outwardly through said perforations, escape of the fluid above and below the head, being prevented by the packers 2 and 3 which contact with the casing 4 in a fluid tight manner.

From the foregoing taken in connection with the accompanying drawings, it will be obvious that although my invention is of comparatively simple and inexpensive nature, it will be highly efficient and durable. Since probably the best results are obtained from the specific details shown and described, these details are by preference employed, but I wish it understood that within the scope of the invention as claimed, numerous minor changes may well be made.

I claim:

A perforation cleaner for well casings comprising a head adapted to be lowered into the casing and formed of upper and lower vertically spaced sections, packers carried by said sections for sealing the casing above and below the perforations, the upper section of said head having an inlet opening into the space between the two sec-

tions and adapted to supply fluid under pressure thereto, and tie bolts extending between said sections of the head to secure them relatively, said tie bolts having passages therethrough with open ends located at the upper and lower ends of the head.

In testimony whereof I have hereunto set

my hand in the presence of two subscribing witnesses.

FRANK M. NEVINS.

Witnesses:

F. M. BERRY,

I. S. SHARP.