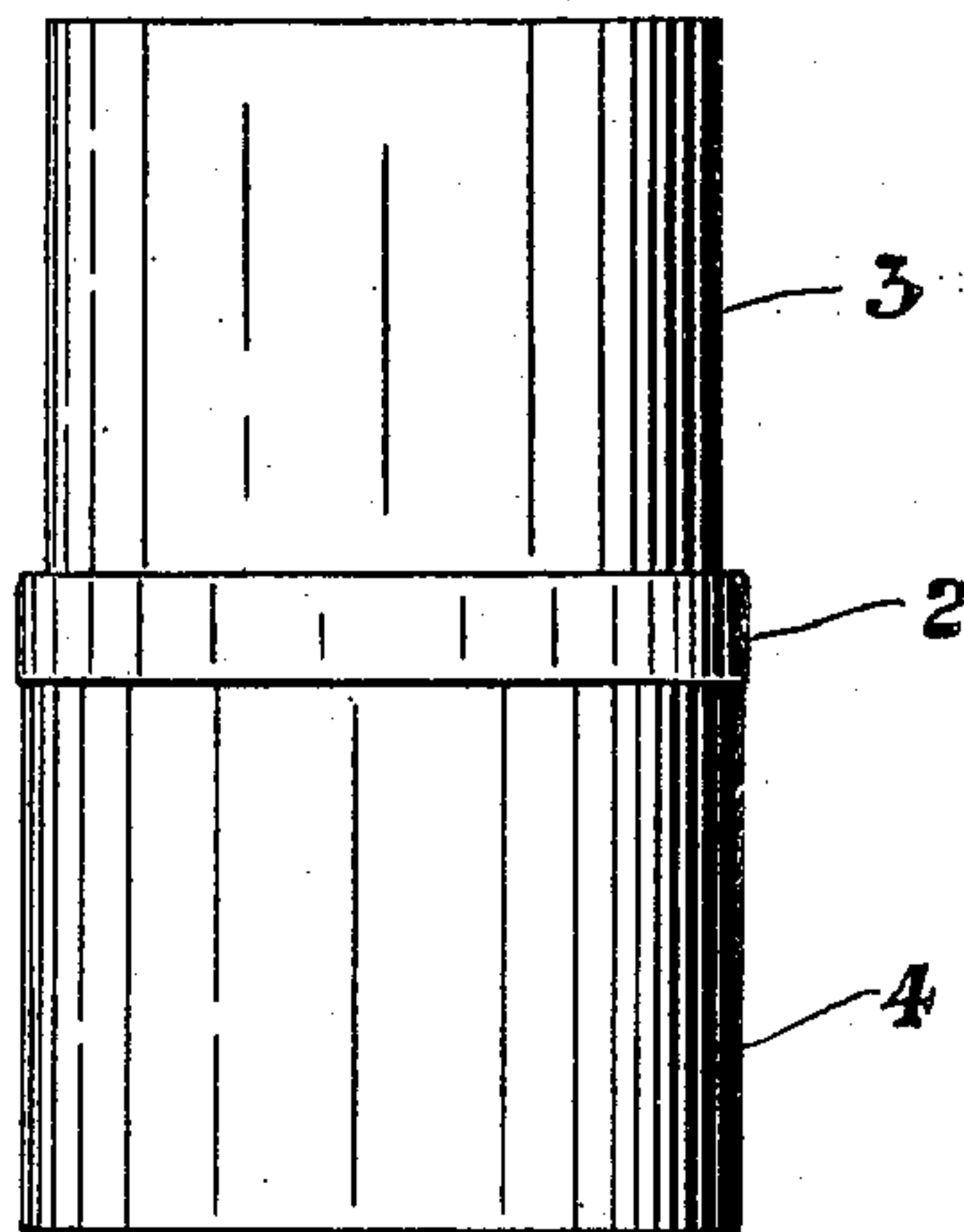


No. 887,836.

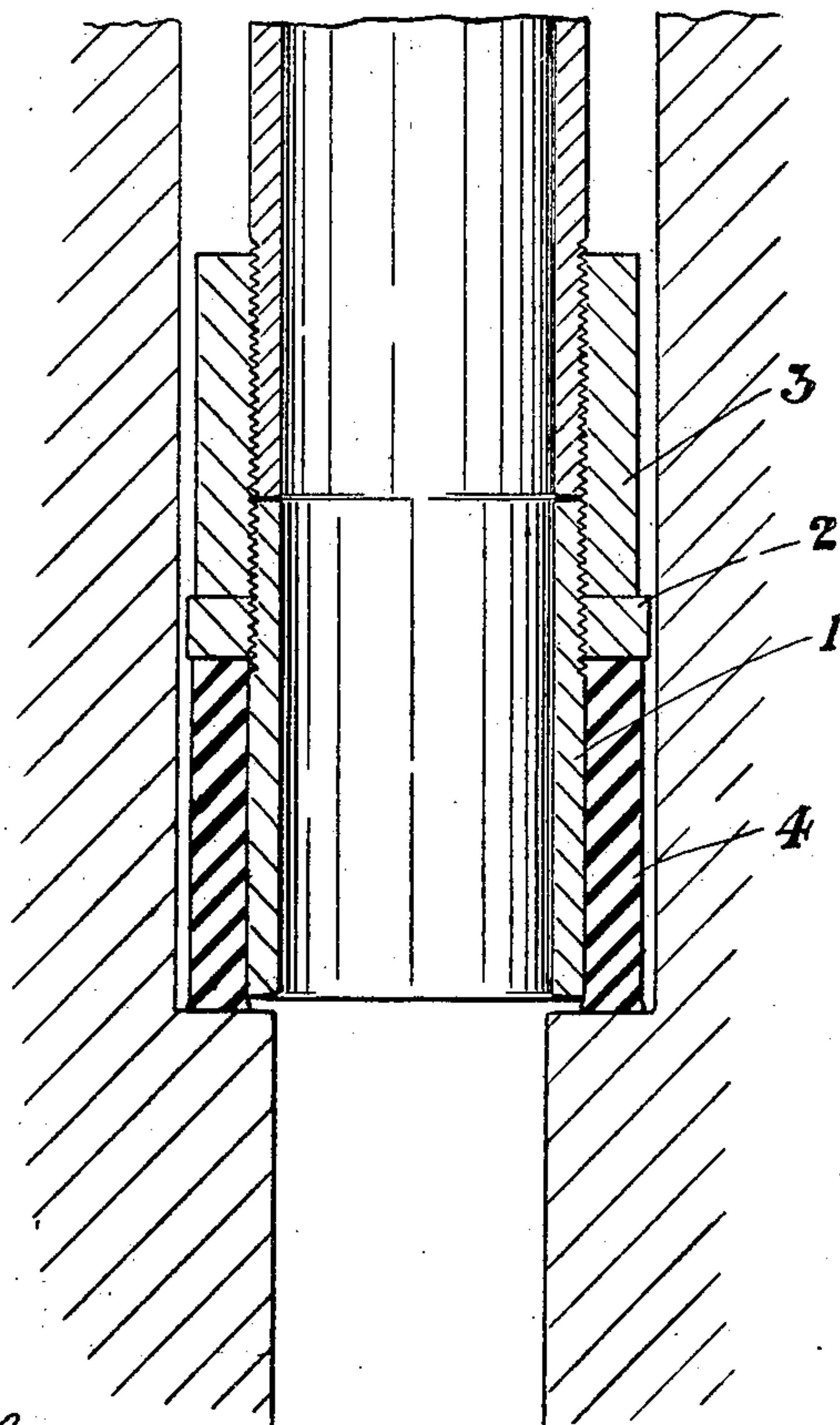
PATENTED MAY 19, 1908.

H. J. NEWHOUSE.  
WATER STOP FOR DEEP WELLS.  
APPLICATION FILED DEC. 17, 1906.

*Fig. 1.*



*Fig. 2.*



WITNESSES:

*A. J. Runyan*  
*Ella Wiley*

INVENTOR

*Harvey J. Newhouse.*  
BY  
*Thomas L. Ryan.*  
ATTORNEY

# UNITED STATES PATENT OFFICE.

HARVY J. NEWHOUSE, OF YORKTOWN, INDIANA.

## WATER-STOP FOR DEEP WELLS.

No. 887,836.

Specification of Letters Patent.

Patented May 19, 1908.

Application filed December 17, 1906. Serial No. 348,341.

*To all whom it may concern:*

Be it known that I, HARVY J. NEWHOUSE, a citizen of the United States, residing at Yorktown, in the county of Delaware and State of Indiana, have invented a new and useful Water-Stop for Deep Wells, of which the following is a specification.

My invention relates to improvements in deep well casings, and has for its object to provide a device whereby the water seeping into the completed well may be effectually shut out and prevented from entering the well.

In the drilling of deep wells the maximum diameter of the hole is preserved until the lime stone or water-bearing strata is reached then the well is walled with a suitable metallic casing or tubing whereby the earth and gravel is prevented from falling into the well. Boring is then continued with a drill of smaller size, until the water-bearing strata has been passed through and the underlying formation of rock has been reached. Then the well is lined with a second casing, the bottom section whereof rests directly on the rock-bottom of the well, the function of the latter casing being to shut out the water continually seeping through the walls of the well. Boring is then continued with a still smaller drill until the entire depth of the well is drilled out.

In the construction of wells for oil or gas, it is very desirable that the water seeping continually through the walls of the well, be shut completely out and effectually prevented from entering inside the casing during the drilling of the well below the water-bearing strata and during the use of the well after completion. Great difficulty has been experienced, in appliances as at present devised and in use, in obtaining such jointure at the bottom of the casing with the seat upon which it rests, that the water surrounding the casing may be prevented from entering inside the casing.

The object of my invention is to provide means of simple construction and easy application whereby the difficulty named may be overcome, and whereby the water may be shut out and effectually prevented from entering inside the casing of the well.

The aforementioned objects are accomplished by the novel construction described herein, illustrated in the accompanying drawings and pointed out in the appended claims.

In the drawings Figure 1 represents a side view of my improved water-stop complete; Fig. 2 is a vertical central sectional view of my invention as it appears when in use in a well, the section of well-casing screwed therein being shown as having its upper portion broken away.

Similar characters of reference refer to similar parts through the views.

1 designates the main sleeve provided with threads at its upper portion. The collar 2 suitably threaded so as to fit snugly the threaded portion of the main sleeve, is then screwed down on the main sleeve to its proper position.

3 designates a secondary sleeve suitably threaded and screwed down on the main sleeve and into close jointure with the collar 2.

4 designates a ring or band of pliable material such as rubber, or preferably, of a combination of rubber and canvas, so that it will be tough and impervious and durable, as well as pliable or elastic; this ring or band is of length sufficient so that its lower edge protrudes slightly beyond the line of the bottom of the main sleeve.

In the practice of my invention, my improved water-stop is screwed on the section of casing which is to form the lower-most section of the well casing. When the casing having my improved water-stop secured thereto is brought to rest in the well at the proper place, the pliable or elastic band immediately conforms to every irregularity of the rock ledge bottom of the water-bearing strata, whereby the line of connection of the casing to the ledge constituting the seat of the well, is completely closed, and not the slightest amount of water can enter into the well. The additional and superincumbent sections of casing necessary to complete the well are then placed in position and the well completed.

My improved device is not only exceedingly useful in the proper construction and handling of new wells, but it is useful and of great value in the rehabilitation of old wells. In old wells when the casing is removed and the well cleaned, the rock ledge forming the seat for the casing is often mutilated and rendered irregular and out of true alinement and contour. By virtue of my improved water-stop the line of jointure of the casing with the bottom of the water-bearing strata



will be closed effectively and the water which would otherwise percolate within the casing is effectively shut out.

What I claim as my invention, and desire  
5 to secure by Letters Patent, is—

A device of the kind described, comprising  
an open annular main member suitably  
threaded on its upper portion, a ring screwed  
down thereon to the base of the threads, and  
10 a secondary open annular member threaded  
on its interior and screwed down on the main  
member into close contact with the ring,

and a non-porous elastic sleeve secured to the  
main member its upper end bearing against  
the lower side of the ring and its lower end 15  
extending slightly below the lower edge of  
the main member, substantially as described.

In testimony whereof I have hereunto  
signed my name, in the presence of two sub-  
scribing witnesses.

HARVY J. NEWHOUSE.

Witnesses:

E. V. CHARMAN,  
THOMAS L. RYAN.