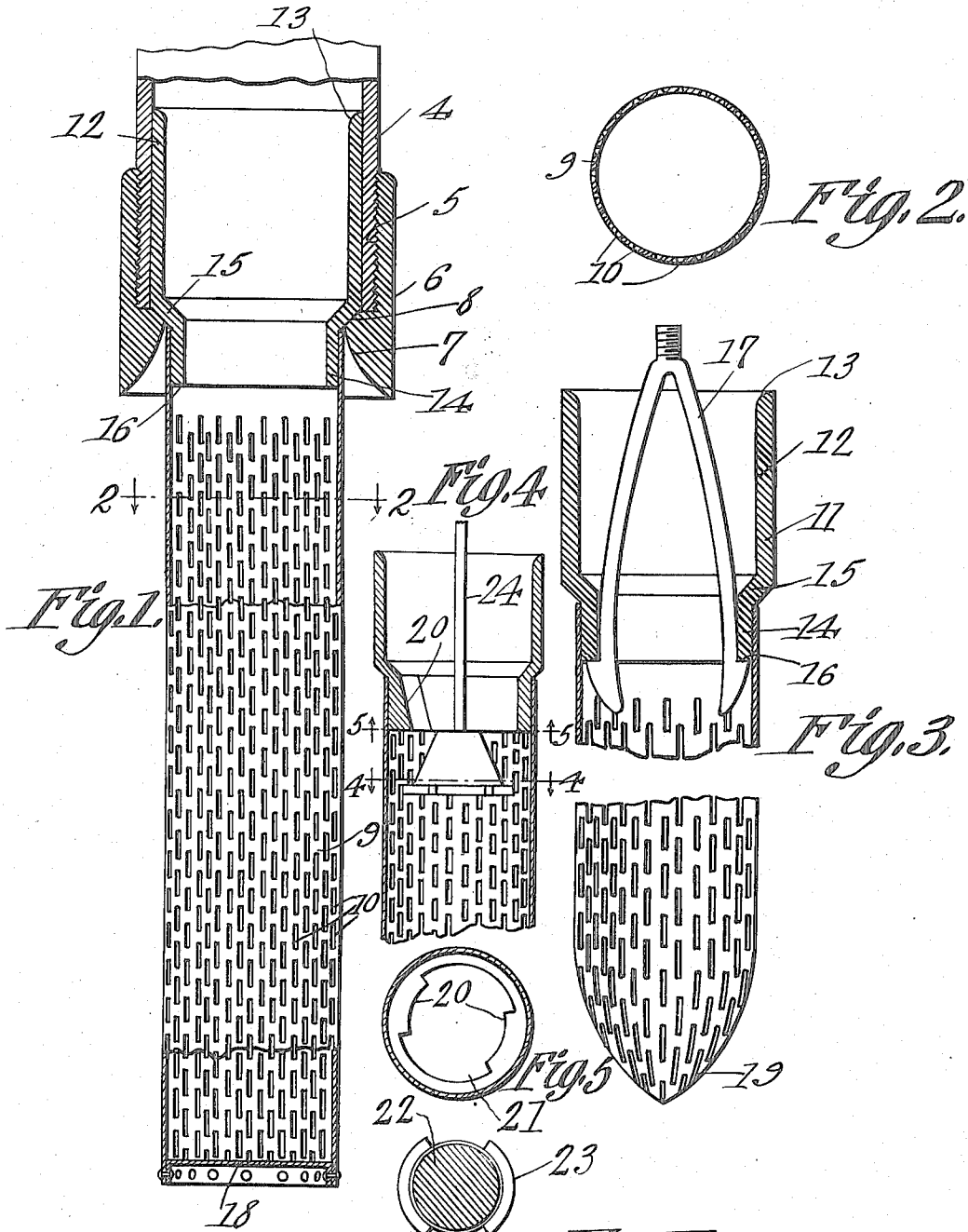


E. JONES.
WELL STRAINER,
APPLICATION FILED JAN. 21, 1914.

1,135,809.

Patented Apr. 13, 1915.



Witnesses

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Fig. 6. E. Jones,

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UNITED STATES PATENT OFFICE.

ELI JONES, OF LEXINGTON, TENNESSEE.

WELL-STRAINER.

1,135,809.

Specification of Letters Patent. Patented Apr. 13, 1915.

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To all whom it may concern:

Be it known that I, ELI JONES, a citizen of the United States, residing at Lexington, in the county of Henderson and State of Tennessee, have invented a new and useful Well-Strainer, of which the following is a specification.

This invention relates to improvements in well strainers.

10 An object of the present invention is to provide a well strainer which may be easily and readily secured to the lower extremity of a well pipe or casing.

15 A further object is to provide a well strainer which is dropped down into the well casing or pipe after the latter has assumed its final position and with the result that the strainer will assume the desired position, in which position it may be held by gravity or it may be wedgedly held in place by the inserting of a suitable cone shaped tool within the casing or pipe.

20 With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, can be made within the scope of what is claimed, without departing from the spirit of the invention.

25 In the drawings accompanying this specification and forming a part thereof, the preferred embodiment of my invention is illustrated, in which:—

30 Figure 1 is a longitudinal sectional view of the lower extremity of a well casing pipe and with my improved strainer secured thereto. Fig. 2 is a cross sectional view taken on the line 2—2 of Fig. 1. Fig. 3 is a longitudinal sectional view of a somewhat modified form of strainer. Fig. 4 is a detail view of a somewhat modified form of ferrule. Fig. 5 is a cross sectional view taken on the line 5—5 of Fig. 4. Fig. 6 is a cross sectional view taken on the line 4—4 of Fig. 4.

35 Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 4 is the lower extremity of a well casing or pipe and is externally threaded as at 5 and upon which threaded extremity is positioned the strainer retaining member 6.

40 The strainer retaining member 6 is formed

as an internally threaded sleeve which engages the threaded portion 5 of the pipe 4 and is provided with the inwardly projecting ledge 7 which is sloped or beveled as at 8 so that while the strainer is being dropped into position through the pipe, if the bottom of the strainer should hit upon the ledge 7 it will, by reason of the beveled portion 8, be guided centrally of and through the strainer retaining member. 60 65

The strainer is formed of a thin tube 9 which is provided with a plurality of longitudinal slots 10 and which slots are of limited length and are spaced in staggered relation so as to maintain a maximum strength. These slots 10 as illustrated in Fig. 2, are milled from the inside and taper in transverse cross section so that the slots enlarge as they extend through and inward of the side wall of the tube 9, thus preventing and eliminating all tendency for the slots to become choked and filled with foreign material during the actual use of the strainer. Rigidly secured to and forming a part of the strainer tube 9 is the upper strainer attaching member 11 which is of the nature of a ferrule and is preferably formed of some malleable metal, such as lead, so that the side walls may be expanded into forced contact with the side walls of the pipe 4. 70 75 80 85

The strainer attaching member or ferrule includes the upper portion 12 which is provided with the beveled extremity 13 which allows for a cone-shaped tool to be inserted within the upper sleeve-like portion 12 in order to expand the same. A lower and restricted end 14 is connected to the sleeve portion 12 by the conical portion 15 and which conical portion is slanted or beveled at an angle to conform with the obliquity of the beveled portion 8 of the strainer retaining member upon which it rests. The strainer tube 9 extends over and forms a permanent portion of the lower or restricted end 14 of the ferrule and thus the connection between the tube and lower portion defines a shoulder 16 which serves as a ledge for a pair of grappling tongs 17 which are used when it is desired to withdraw the strainer from the pipe should the same be found desirable. 90 95 100 105

The lower extremity of the strainer tube is closed by a bottom plate 18 which is rivetedly secured to the extremity of the tube or the end of the tube may be rounded as illustrated at 19 in Fig. 3. Thus when the 110

strainer constructed as above described, is dropped into the pipe 4, it being noted that the pipe 4 is provided with the strainer retaining member 6 previously attached thereto, the ferrule will seat on the beveled edge of the ledge 7 and prevent any foreign material from entering between the side walls of the strainer and the pipe. If it should be so desired, the side walls of the upper portion 12 of the ferrule may be expanded into forced contact with the walls 4 and if so expanded it will insure that the strainer will remain rigidly in place and effect a tight joint with the side walls of the pipe.

15 A further modification is illustrated in Figs. 4, 5 and 6, in which the lower restricted end of the ferrule is provided with the inwardly extending beveled teeth or lugs 20, of which as illustrated in Fig. 5, there are 20 two spaced at diametric points and between which is the recessed or enlarged portion 21. A cone 22 is provided with the outstanding lugs 23 which are adapted to fit within the recessed portion 21 when properly alined 25 therewith, the cone being introduced and manipulated in the pipe by the rod 24. When it is desired to withdraw the strainer, the cone is passed below the ferrule and rotated a quarter of a turn so that the outstanding lugs 23 will engage the lugs 20 for 30 the withdrawing of the device. Mention is also made of the fact that this method may be used for lowering the strainer and ferrule into position.

35 Having thus fully described my invention what I claim as new is:—

1. The combination with a pipe with an externally threaded end, of a strainer retaining member threadedly engaging the

same and provided with an inwardly extending annular beveled shoulder, a strainer attaching member including an upper cylindrical sleeve slidably contacting with the inner surface of said pipe, a lower restricted sleeve carried by said upper sleeve and joined thereto by a conical portion, said conical portion seating upon the annular beveled shoulder and guided into such relation by the sliding contact between the upper sleeve and the inner surface of said pipe, and a strainer tube carried by said lower sleeve. 50

2. The combination with a pipe with an externally threaded end, of a strainer retaining member threadedly engaging the 55 same and provided with an inwardly extending annular beveled shoulder, a strainer attaching member including an upper cylindrical sleeve slidably contacting with the inner surface of said pipe, a lower restricted 60 sleeve carried by said upper sleeve and joined thereto by a conical portion, said conical portion seating upon the annular beveled shoulder and guided into such relation by the sliding contact between the upper sleeve and the inner surface of said 65 pipe, and a strainer tube disposed upon and exteriorly of the lower sleeve, whereby the lower edge of the sleeve defines a ledge to be engaged by a strainer withdrawing 70 means.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

ELI JONES.

Witnesses:

JNO. L. SULLIVAN,
L. H. REEVES.