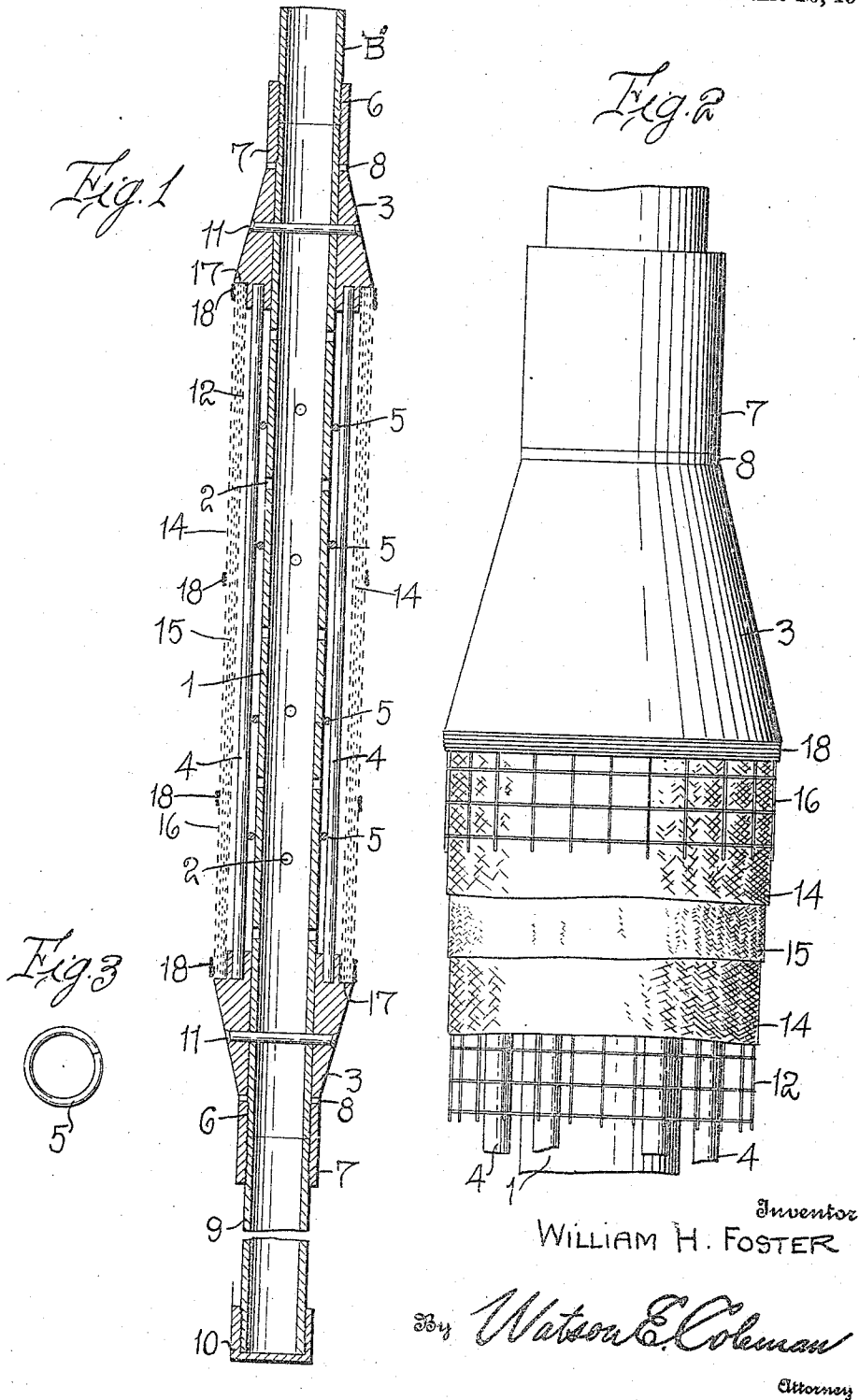


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STRAINER.

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STRAINER.

1,229,437.

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To all whom it may concern:

Be it known that I, WILLIAM H. FOSTER, a citizen of the United States, residing at Bartlesville, in the county of Washington and State of Oklahoma, have invented certain new and useful Improvements in Strainers, of which the following is a specification, reference being had to the accompanying drawings.

10 This invention relates to certain improvements in strainers for pumps and has relation more particularly to a device of this general character especially designed and adapted for use in connection with oil wells or the like; and it is an object of the invention to provide a novel and improved strainer adapted to be engaged with the lower end of the working barrel of a pump and through which the oil is adapted to be drawn, and which serves to effectively separate sand or the like from the oil as it passes therethrough.

Furthermore it is an object of the invention to provide a novel and improved strainer of this general character having its lower end portion provided with a removable collecting member at the lower end thereof and into which is adapted to drop the sand or the like which may pass within the strainer.

30 The invention also has for an object to provide a novel and improved device of this general character which may be assembled with convenience and facility and wherein the several parts comprised therein may be easily removed when the requirements of practice may so necessitate.

40 The invention consists in the details of construction and in the combination and arrangement of the several parts of my improved strainer whereby certain important advantages are attained and the device is rendered simpler, less expensive and otherwise more convenient and advantageous for use, all as will be hereinafter more fully set forth.

The novel features of the invention will hereinafter be definitely claimed.

50 In order that my invention may be the better understood, I will now proceed to describe the same with reference to the accompanying drawings, wherein—

Figure 1 is a longitudinal sectional view with parts in elevation of a strainer constructed in accordance with an embodiment of my invention;

Fig. 2 is an enlarged fragmentary view in elevation of the strainer as herein embodied; and

Fig. 3 is a view in plan of one of the spacing rings herein employed.

As herein embodied, my improved strainer comprises an elongated tubular member 1 of predetermined dimensions and having its intermediate portion provided with the restricted openings or perforations 2.

70 The opposite end portions of the tubular member 1 are disposed through the tapered sleeves 3 connected one to the other through the medium of the rods 4 spaced relative to the tubular member 1 and maintained in such spaced relation through the medium of the rings 5 embracing the tubular member 1 intermediate the length thereof and preferably in equidistantly spaced relation.

75 The tubular member 1 extends beyond the sleeves 3 and said extended portions are threaded, as at 6, to be engaged by the collars 7, and interposed between the collars 7 and the sleeves 3 are the gaskets 8 of lead or other compressible material whereby it will be perceived that the entrance of sand or other foreign substances into the strainer between the collars 7 and the sleeves 3 is prevented.

85 Operatively engaged with the upper collar 7 is the working barrel B while the lower collar 7 has detachably engaged therewith the imperforate pipe section 9 of predetermined length and which has its lower end closed by the removable cap 10. The pipe section 9 serves as a collecting member and is adapted to receive the fine particles of sand or other material which may pass between the member 1 through the openings 2 thereof.

90 It is to be understood that the sleeves 3 will be secured to the elongated member 1 in any desired manner but it is preferred that the pins or rivets 11 be employed, said pins being disposed through the sleeves and the member and having their outer end portions upset.

105 12 denotes a perforate cylinder preferably comprising a sheet of reticulated material and which is surrounded by the sheets 14 and 15 of fabric, the sheet 14 being preferably burlap and the intermediate sheet 15 of cheese cloth. It has been found of especial import to employ the sheet 15 as the mesh thereof is finer than the burlap and serves to effectively coact with fine sand.

The sheets 14 and 15 are held in operative position relative to the cylinder 12 through the medium of the outer perforate cylinder 16 herein disclosed as comprising a sheet of
 5 reticulated material of materially larger mesh than the mesh of the first named cylinder 12. It is also to be understood that if preferred the sheets 14 and 15 may be of a greater number than shown in the accompanying drawings as the requirements of
 10 practice may determine.

The ends of the cylinders 12 and 16 and the intermediate sheets 14 and 15 overlie the annular shoulders or grooves 17 formed
 15 at the inner ends of the sleeves 3 and have coating therewith the clamping members 18 whereby said cylinders 12 and 16 and the intermediate sheets 14 and 15 are effectively secured in applied position. The clamping
 20 members 18 preferably comprise wrappings of wire as do the intermediate clamping members 18. It will be self-evident that as the oil is drawn through the perforations 2 into the tubular member 1, the cylinder 12
 25 together with the sheets 14 and 15 serve to separate sand or kindred substances from the oil, and it will also be noted that the rods 4 together with the rings 5 serve to hold the cylinder 12 away from the tubular member
 30 1 so that the oil is assured a free access to the tubular member 1.

From the foregoing description, it is thought to be obvious that a strainer constructed in accordance with my invention is
 35 of an extremely simple and comparatively inexpensive nature and is particularly well adapted for use by reason of the convenience and facility with which it may be assembled, and it will also be obvious that my invention
 40 is susceptible of some change and modification without material departure from the principles and spirit thereof and for this reason I do not wish to be understood as

limiting myself to the precise arrangement and formation of the several parts herein
 45 shown in carrying out my invention in practice, except as hereinafter claimed.

I claim:

1. A strainer of the character described comprising an elongated hollow member
 50 having its intermediate portion provided with perforations, sleeves secured to the perforate member in predetermined spaced relation, rods connecting said sleeves, and a
 55 pervious cylinder interposed between the sleeves and surrounding the rods and perforate member.

2. A strainer of the character described comprising an elongated hollow member
 60 having its intermediate portion provided with perforations, sleeves secured to the perforate member in predetermined spaced relation, rods connecting said sleeves, a pervious cylinder interposed between the sleeves
 65 and surrounding the rods and perforate member, and rings surrounding the perforate member and interposed between said member and the rods.

3. A strainer of the character described comprising an elongated hollow member
 70 having its intermediate portion provided with perforations, the opposite end portions of said member being enlarged, rods connecting said enlarged portions of the member, a
 75 pervious cylinder interposed between the enlarged portions of the member and surrounding the rods and hollow member, and means interposed between the hollow member and the rods for maintaining said rods
 80 spaced from the hollow member.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

WILLIAM H. FOSTER.

Witnesses:

J. F. PARKER,

K. D. DONOHUE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."