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F. K. WESTPHAL

1,546,528

WELL STRAINER

Filed Dec. 16, 1924

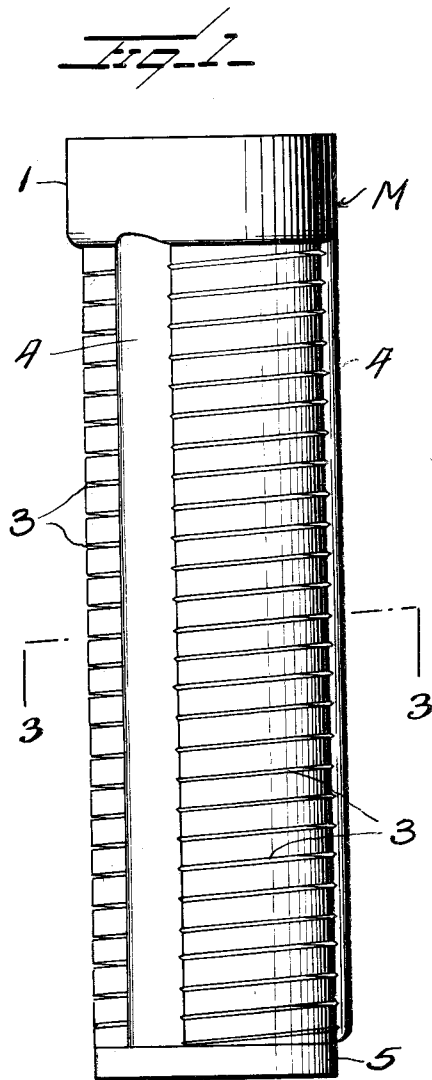
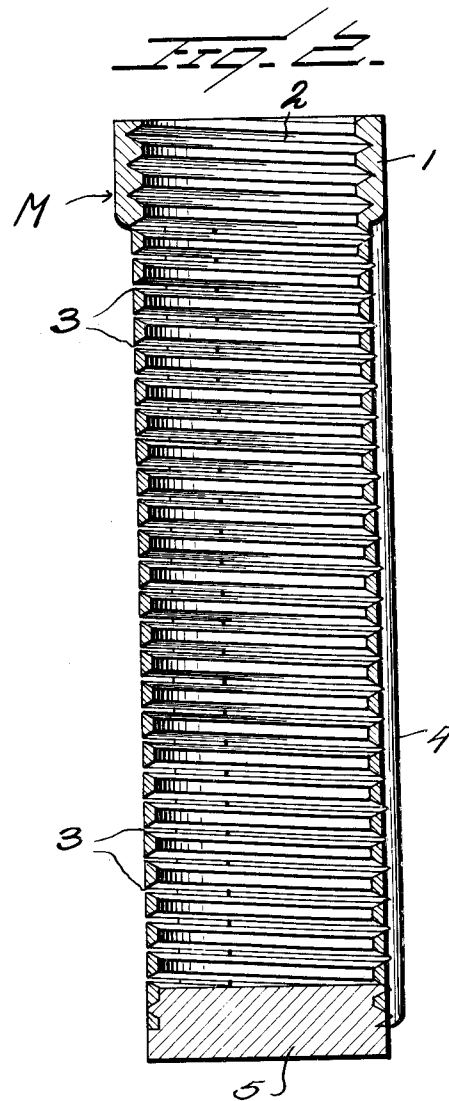
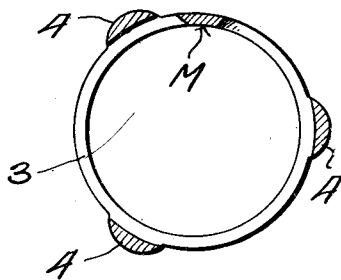


Fig. 3

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WELL STRAINER.

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To all whom it may concern:

Be it known that I, FRED KARL WESTPHAL, a citizen of Germany, residing at Webster, in the county of Day and State of South Dakota, have invented certain new and useful Improvements in Well Strainers, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to certain improvements in tubular strainers and has relation more particularly to a device of this general character especially designed and adapted for use in deep wells and it is an object of the invention to provide a novel and improved strainer of this kind which is provided substantially from one end to the other with a continuous spiral groove together with reinforcing members associated with the tube for maintaining the desired structural assembly.

Another object of the invention is to provide a novel and improved strainer of this kind constructed in a manner whereby the same may be readily and effectively cleaned without removing the strainer from the well.

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

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

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 view in elevation illustrating a strainer constructed in accordance with an embodiment of my invention;

Figure 2 is a longitudinal sectional view taken through the device as illustrated in Figure 1;

Figure 3 is a sectional view taken substantially on the line 3—3 of Figure 2.

As disclosed in the accompanying drawings, my improved strainer comprises a tubular member M adapted to particularly fit the pipe of a well having its upper portion 1 of a major diameter slightly in excess of the major diameter of the remaining portion of the member. The portion 1 is

provided with an internal thread 2 the valley of which being continued by a continuous spiral slit 3 extending from the portion 1 to the opposite or lower end of the member M. The material between the convolutions of the spiral 3 is maintained in requisite fixed relation by the exterior beads 4 extending from the portion 1 to the opposite or lower end of the member M, said beads 4 being welded or otherwise attached to the member M or more particularly the slitted portion thereof. These beads 4 are equidistantly spaced circumferentially from the member M and herein disclosed as three in number.

The spiral 3 extends entirely through the wall of the member M between the ribs or beads 4 thereby providing requisite openings to admit the fluid but preventing sand, gravel or the like from entering the strainer. The spiral slit 3 is V-shaped in cross section with its smaller or apex portion outwardly directed.

The bottom or lower end of the member M is closed by a plug 5 or the like threaded therein from below. By having in continuity with the thread 2 a spiral slit 3 with said spiral, and also the thread 2, V-shaped in cross section, it is possible to clean the spiral slit 3 by threading within the member M a tap of suitable construction such operation of the tap effectively cleaning the strainer and particularly corroded material. This cleaning of the strainer may be effectively accomplished without removing the strainer from its pipe and also facilitating such cleaning operation in the event the strainer should be so removed. The cross sectional configuration of the spiral slit and the threads facilitates the operation of the tap.

From the foregoing description it is thought to be obvious that a tubular strainer constructed in accordance with my invention is particularly well adapted for use by reason of the convenience and facility with which it may be assembled and operated, and it will also be obvious that my invention is susceptible of some change and modification without departing 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 shown in carrying out my invention in practice except as hereinafter claimed.

I claim:—

1. A well strainer comprising a tubular member having one end portion imperforate, said imperforate portion being provided with an internal thread having its valley continued by a continuous spiral slit in the remaining portion of the member, said member being provided with external ribs extending therealong for maintaining the material between the convolutions of the slit in assembled relation.
2. A well strainer comprising a tubular member having one end portion imperforate, said imperforate portion being provided with an internal thread having its valley continued by a continuous spiral slit in the remaining portion of the member, said member being provided with external ribs extending therealong for maintaining the material between the convolutions of the slit in assembled relation, said spiral slit being V-shaped in cross section.
3. A well strainer comprising a tubular member having one end portion imperforate, said imperforate portion being provided with an internal thread having its valley continued by a continuous spiral slit in the remaining portion of the member, said member being provided with external ribs extending therealong for maintaining the material between the convolutions of the slit in assembled relation, said spiral slit being V-shaped in cross section with its apex upwardly directed.
4. A well strainer comprising a tubular member having one end portion imperforate, said imperforate portion being provided with an internal thread having its valley continued by a continuous spiral slit in the remaining portion of the member, and means for maintaining in assembled relation the material between the convolutions of the slit.
5. A well strainer comprising a tubular member having one end portion imperforate, said imperforate portion being provided with an internal thread having its valley continued by a continuous spiral slit in the remaining portion of the member, and means exterior of the member for maintaining in assembled relation the material between the convolutions of the slit.
- In testimony whereof I hereunto affix my signature.
- FRED KARL WESTPHAL.