No. 864,673. PATENTED AUG. 27, 1907.

J. H. McEVOY.

WELL STRAINER.

APPLICATION FILED JUNE 29, 1906.

Fig. 1.

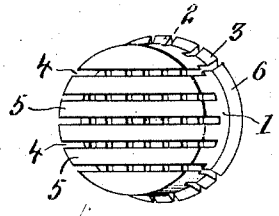


Fig. 2.

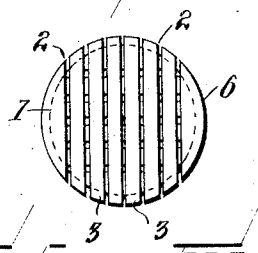


Fig. 3.

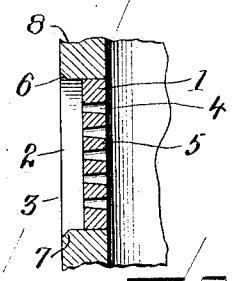


Fig. 4.

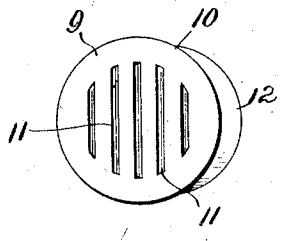


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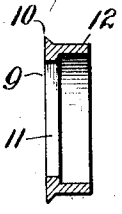


Fig. 6.

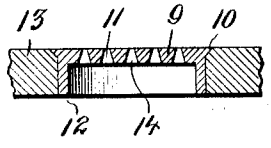


Fig. 7.

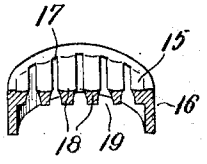


Fig. 8.

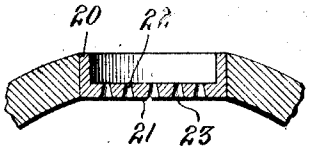


Fig. 9.

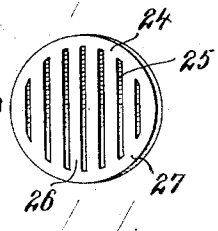


Fig. 10.

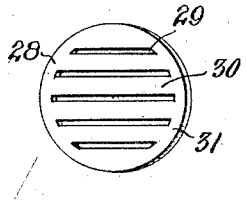


Fig. 11.

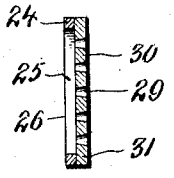


Fig. 12.

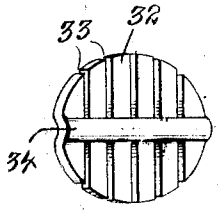


Fig. 13.

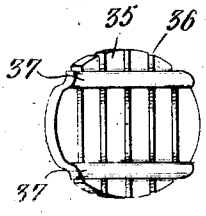


Fig. 14.

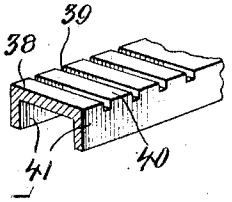


Fig. 15.

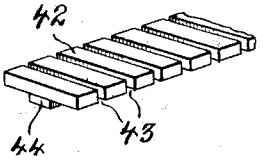
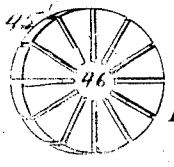


Fig. 16.



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UNITED STATES PATENT OFFICE.

JOSEPH H. McEVOY, OF HOUSTON, TEXAS.

WELL-STRAINER.

No. 864,673. Specification of Letters Patent. Patented Aug. 27, 1907.

Application filed June 29, 1906. Serial No. 324,099

To all whom it may concern:

Be it known that I, JOSEPH H. McEVOY, a citizen of the United States, residing at Houston, in the county of Harris, State of Texas, have invented certain new and useful Improvements in Well-Strainers, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to a well strainer, and particularly to a straining plug adapted to be inserted in a pipe section.

The invention has for an object to provide a plug having a series of parallel straining slits in the body thereof, said plug being adapted to be inserted in an aperture formed in the side wall of a pipe section.

A further object of the invention is to provide a plug having its opposite faces provided with a series of slits, those in one face being disposed at an angle to those upon the other, together with means for retaining the bars between said slits in their fixed relation to each other.

Other and further objects and advantages of the invention will be hereinafter set forth and the novel features thereof defined by the appended claims.

In the drawings:—Figure 1 is a perspective of the plug slitted in opposite directions; Fig. 2 is a front elevation thereof; Fig. 3 is a vertical section of the plug inserted in a pipe; Fig. 4 is a front elevation of a modified form where the plug is formed as a cap; Fig. 5 is a vertical section through the same; Fig. 6 is a horizontal section of the cap plug inserted; Fig. 7 is a sectional perspective showing a modified construction of the cap plug; Fig. 8 is a similar view showing a further modification in which the head of the cap is next the interior of the pipe; Fig. 9 is a detail perspective of a modified form showing a slotted disk; Fig. 10 is a similar view of a coöperating disk; Fig. 11 is a vertical section of the disks shown in Figs. 9 and 10 assembled; Fig. 12 is a detail perspective of a plug formed of bars connected together; Fig. 13 is a modified form of the plug shown in Fig. 12; Fig. 14 is a detail perspective of a channel strainer; Fig. 15 is a modified form of the same, and Fig. 16 is a perspective of a further modification.

Like numerals of reference indicate like parts in the several figures of the drawing.

The numeral 1 designates the body of the plug as shown in Figs. 1, 2 and 3 which is provided upon its front with a series of parallel straining slits 2 which leave ribs or bars 3 intermediate of the slits and connected together by the body of the plug. The rear of the plug, as shown in Fig. 1 is provided with a coöperating series of slits 4 having the intermediate bars 5 between the same and extended at an angle to the slits 2 so as to provide rectangular straining openings of any desired capacity. It will be observed that the slits upon the front of the plug are greater in number and of less diameter than those upon the rear, which materially assists in the straining function and allows a clearance of the holes toward the inner face of the pipe. This plug is also provided with a beveled peripheral flange 6 at the front thereof adapted to fit a correspondingly countersunk seat 7 in the pipe section 8, as shown in Fig. 3. In this form of the invention the plug may be formed from a single piece of material by simply slitting the same upon its opposite faces at an angle to each other. As shown in Figs. 4, 5 and 6 this plug may be formed as a cap 9 provided with a peripheral flange 10 and having its head formed with a series of slits 11 within the edges thereof. The side walls 12 of this cap are adapted to be inserted within the pipe section 13, as shown in Fig. 6, while the slits 11 are tapered or widened inwardly, as shown at 14 in order to freely discharge any material which may collect therein.

The straining slits may be formed in any desired manner, for instance, by punching the head of the cap hereinbefore described, and in order to form them of the desired limited diameter, the side walls of the slits may be swaged or forced together, as shown in Fig. 7, where the head 15 of the cap 16 is first punched with a series of parallel slits 17 and subsequently pressure is applied to the intermediate bars 18 so as to spread the upper face thereof thus partially closing that portion of the slit to render it of the desired diameter and yet leaving the discharge 19 sufficiently large to form a clearance for clogging material. Under some conditions it is desirable to clean these slits and this may be effectually accomplished by using the plug as shown in Fig. 8, wherein the plug cap 20 has its head 21 provided with a series of slits 22 which taper toward the outer face of the head having their widest portion at 23 at the inner periphery of the pipe so that they can be conveniently cleaned by a brush or other suitable device inserted in the pipe. In this form the head of the cap is reversed from the position shown in Fig. 6 and disposed at the inner face of the pipe.

In Figs. 9, 10 and 11 a modified form of the invention is shown wherein the functions of the plugs shown in Figs. 1, 2 and 3 are accomplished by means of the slitted disks, shown in Figs. 9 and 10 which may be used either alone or combined, as shown in Fig. 11. The disk 24, as shown in Fig. 9 is provided with a series of parallel straining slits 25 within the body thereof so that the intervening bars 26 are retained by the periphery or edge wall 27 of the disk. The disk shown in Fig. 9 has a greater number of slits than that shown in Fig. 10 and is intended for the front of the strainer, while the disk 28, as shown in Fig. 10 is provided with horizontally disposed slits 29, the intermediate bars 30 being secured together by the edge portion 31 of the disk, and when

these disks are combined or secured together, as shown in Fig. 11, a structure embodying the series of slots disposed at an angle to each other, similar to what is shown in Fig. 1 is secured.

In Fig. 12 a form of plug is shown in which the bars 32 are properly spaced apart to form the straining slits 33 and secured together by a cross piece 34 connecting each of the bars in their proper relation.

A similar construction to that shown in Fig. 12 is disclosed by the modified form shown in Fig. 13, wherein the bars 35 are spaced to form the slits 36 and connected by the cross pieces 37 to retain them in proper spaced relation.

In Fig. 14 a channel plug of rectangular configuration is shown and comprises the body portion 38 having a series of parallel straining slits 39 extending entirely across the same so as to leave the intermediate bars 40 which are connected together by the side walls 41 of the plug.

The same functions may be secured by the modified form shown in Fig. 15, wherein the bars 42 are spaced apart to form the series of straining slits 43 and held in fixed relation by means of the connecting piece 44 disposed at one side thereof, as shown in Fig. 12.

Fig. 16 shows a modified form in which the plug 45 is radially slitted outwardly from the solid center 46 thereof. These slits may be formed by saw kerfs swaged to form the proper width of straining opening.

These several forms of the plug may be constructed in any desired manner or of any preferred material, the most desirable feature being the formation of the plug for insertion in a pipe section by which the weakening of the pipe due to the slitting of the walls thereof is entirely avoided, and a series of straining slits formed which are not liable to be clogged by gravel, sand or other material, as their extended capacity permits a flow of liquid through at least a portion of the slit which in its action tends to clear the slit of any clogging or interfering material. It will therefore be seen that the invention presents a simple, efficient and economical construction of straining plug adapted to be used in walls of any desired character.

Having now described my invention and set forth its merits, what I claim and desire to secure by Letters Patent is:—

1. A plug provided with a plurality of parallel straining openings and a supporting body extended transversely across said openings.

2. A plug provided with a plurality of series of parallel straining slits therein, one series of said slits being disposed at an angle to the other.

3. A plug provided with a plurality of series of parallel straining slits therein, one series of said slits being disposed at an angle to the other and extended entirely across the body of the plug.

4. A plug provided with a plurality of series of parallel straining slits therein one series of said slits being disposed at an angle to the other and tapered to present their greatest diameter at the inner face of the plug.

5. A plug provided with a plurality of series of parallel straining slits therein, one of said series having a greater number of slits than the other and extending at an angle thereto.

6. A plug comprising a body having upon one face a series of slits and upon the opposite face a series of slits disposed at an angle to the first mentioned series.

7. A plug provided with a body having upon its front face a series of parallel slits extending entirely across the same and upon its rear face with a series of wider slits less in number than the front slits and disposed at an angle thereto.

8. A plug provided with a body having upon its front face a series of parallel slits extending entirely across the same and upon its rear face with a series of wider slits less in number than the front slits and disposed at an angle thereto, and a peripheral beveled flange at the front face of said body.

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

JOSEPH H. McEVOY.

Witnesses:
EARL WARREN,
C. B. WOOD.