April 30, 1963 R. J. DODSON 3,087,560

WATER WELL STRAINER

Filed May 15, 1961

Fig. 1

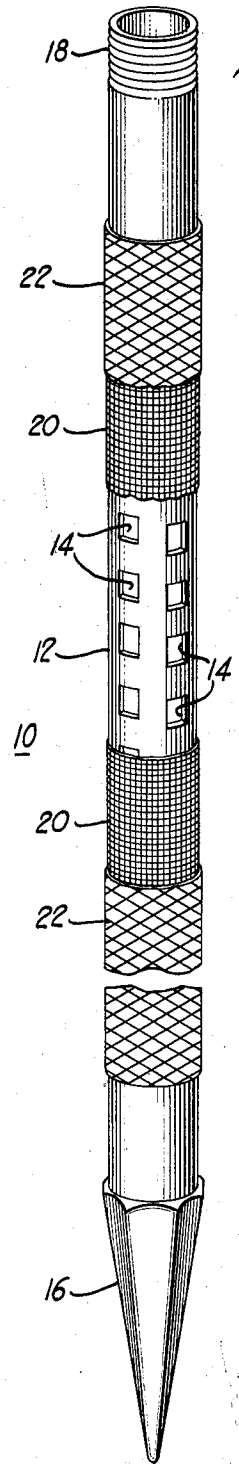


Fig. 2

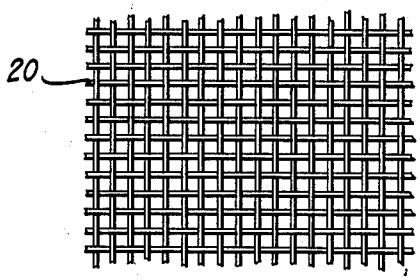
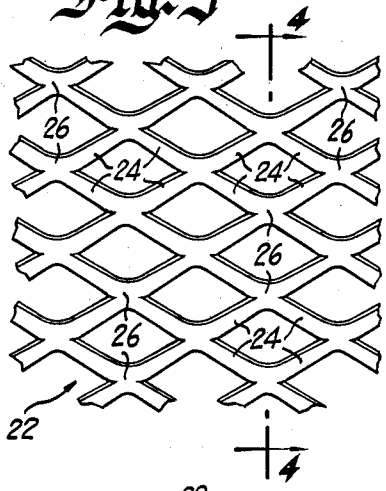


Fig. 3



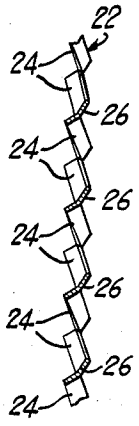


Fig. 4

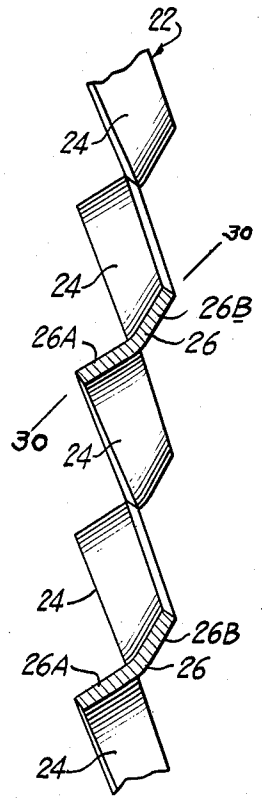


Fig. 5

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WATER WELL STRAINER

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The present invention relates to water well strainers and has for its primary object the provision of a water well point or the like having a new and improved jacket.

Heretofore water well points have generally been made with screening means including an outer jacket of brass with holes punched oin it. Jackets of this type require substantial material, considerable work and have limited water way, i.e., area through which the water flows.

It is an object of the present invention to provide a new and improved screening means especially adapted for water well points and the like having an outer jacket which can be fabricated more economically than jackets having holes punched therein and which have a maximum water way for given strength and can readily be driven into the ground without damage to or plugging the screening means.

In brief, the jacket of the present invention is made of expanded metal and the lattice work is so constructed and arranged, by bending the lattices, that the major dimensions of the lattice structure are inclined so as to be somewhat parallel to the path of flow of fluid. For example, in a tubular well point, the lattice work is bent to be more normal to the axis of the tube. Also, the jacket is so arranged that the inclination of the lattice structure is upwardly and outwardly of the point, whereby driving of the point into the ground is facilitated and clogging minimized.

Other objects and advantages of the present invention will become apparent from the ensuing description of an illustrative embodiment of the invention, in the course of which reference is had to the accompanying drawing, in which:

FIG. 1 is a vertical elevational view partly broken away of a drive well point constructed in accordance with the invention;

FIG. 2 is an enlarged fragmentary view of the filter (which is conventional) used in the well point;

FIG. 3 is an enlarged fragmentary view of the outer expanded metal jacket of the present invention;

FIG. 4 is a cross sectional view along the line **4—4** of FIG. 3; and

FIG. 5 is an enlargement of FIG. 4.

Referring now to the drawing, and first to FIG. 1, the present invention has been illustrated as it is embodied in a drive well point **10**. The point includes the conventional inner steel pipe **12** having a series of rectangular openings or perforations **14** and a drive point **16** secured to it. The upper end of the well point is threaded at **18** for coupling purposes. The apertured portion of the point is closely surrounded by the conventional relatively fine mesh filtering screen or gauze **20**.

In accordance with the present invention, the filter gauze **20** is closely surrounded by a new and improved protective jacket **22** which takes the form of a covering of wide mesh tubular expanded metal, such as brass. It will be noted, especially from FIG. 3, that the struts of the lattice structures are, as indicated by reference character **24**, bent so that they are somewhat edgewise of the point, as also shown in the sectional views of FIGS. 4 and 5. This edgewise disposition (or inclination so as to

be somewhat parallel to the flow of the liquid) of the lattice provides maximum water way or flow area for a given strength.

The inclination or edgewise disposition of the lattice structure **24** results from expansion of the metal by movement of the apical portions **26** toward the upper part of FIGS. 3 to 5, inclusive, and thus lengthwise toward the upper end of the point, as shown in FIG. 1. As a result of this expansion, the apical portions include the angularly related parts **26A** and **26B**.

The inclination of the lattice structure is upwardly and outwardly, as indicated by the line **30—30** in FIG. 5, whereby driving of the point into the ground is facilitated and clogging during such driving is minimized.

Making the jacket of expanded metal also reduces substantially the cost of the jacket. Less material is required and the fabrication is simpler than punching. Accordingly, the cost of manufacture is reduced.

While the invention is disclosed in connection with a drive well point, it should be understood that it may be otherwise used. For example, it can be used in open end extensions and screens generally. Accordingly, it is intended that the illustrated details are not intended to be limitative of the invention except insofar as they are set forth in the accompanying claims.

Having thus described my invention, what is claimed as new and desired to be secured by Letters Patent of the United States is:

1. A well tubing section having a bottom end and a top end adapted to be driven into the ground bottom end first, comprising an inner tube having a series of perforations therethrough intermediate the ends of the inner tube, a filter screen contiguously overlying and surrounding said inner tube and covering said perforations, and an outer jacket contiguously overlying and surrounding said screen, said jacket being of wide mesh expanded sheet metal and providing a lattice network of interconnected sheet metal struts lying generally in planes extending outwardly from said screen and upwardly relative to said bottom end.

2. A well tubing section as set worth in claim 1, wherein said struts define generally diamond shaped openings in said jacket with the minor axes of said openings running substantially axially of said inner tube.

3. A well tubing section having a bottom end and a top end, comprising an inner tube having a series of perforations therethrough intermediate the ends of the inner tube, a filter screen contiguously overlying and surrounding said inner tube and covering said perforations, an outer jacket contiguously overlying and surrounding said screen, said jacket being of wide mesh expanded sheet metal and providing a lattice network of interconnected sheet metal struts lying generally in planes extending outwardly from said screen and upwardly relative to said bottom end, and a drive point affixed to and depending from said bottom end to facilitate driving of the section into the ground.

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