No. 673,398. Patented May 7, 1901.

A. KELLER & M. JEFFIRS.

FILTER OR STRAINER FOR WELL TUBES.

(Application filed Jan. 5, 1901.)

(No Model.)

Fig. 1.

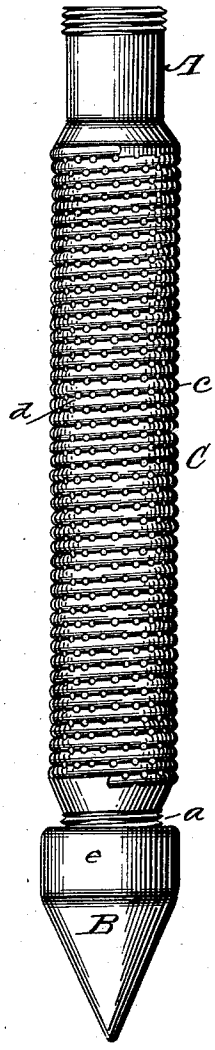


Fig. 3.

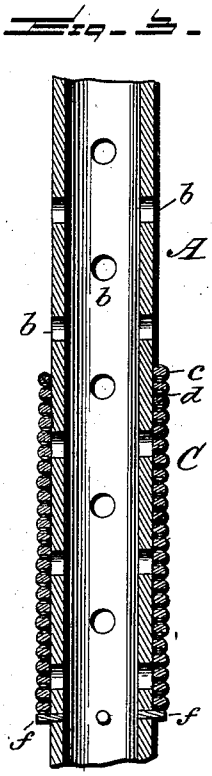
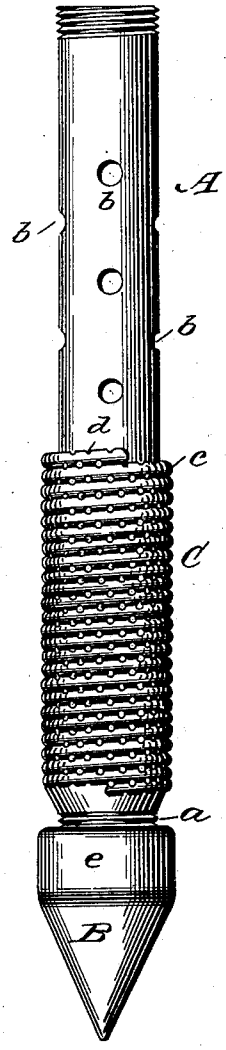


Fig. 2.



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UNITED STATES PATENT OFFICE.

ANTHONY KELLER AND MICHAEL JEFFIRS, OF PLYMOUTH, INDIANA.

FILTER OR STRAINER FOR WELL-TUBES.

SPECIFICATION forming part of Letters Patent No. 673,398, dated May 7, 1901.

Application filed January 5, 1901. Serial No. 42,264. (No model.)

To all whom it may concern:

Be it known that we, ANTHONY KELLER and MICHAEL JEFFIRS, citizens of the United States, residing at Plymouth, in the county of Marshall and State of Indiana, have invented certain new and useful Improvements in Filters or Strainers for Well-Tubes; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon.

The present invention has relation to drive-well tubes; and the object thereof is to provide the point or lower section of the tube with a filter or strainer to prevent fine particles of sand from entering the well-tube when driving the same into the ground, said filter or strainer possessing the required strength and durability and effective in preventing the particles of foreign matter from entering the tube when the drill-point is forced into the ground.

The invention consists of a strainer or filter for driven well-tubes, constructed substantially as shown in the drawings and hereinafter described and claimed.

Figure 1 of the drawings is a side elevation of the drill-point or lower section of a well-tube with our improved filter applied thereto; Fig. 2, a sectional elevation showing a portion of the tube and coiled-wire covering. Fig. 3 is an elevation showing a portion of the coiled-wire covering removed.

In the accompanying drawings, A represents the lower section of a well-tube, which is provided with the usual drill-point B, connected thereto by a screw-shank *a* entering and engaging the interior screw-threaded socket *e* upon the upper end of the drill-point, thereby forming a perfect coupling between the well-tube section and point. The tube-section A has perforations, as shown at *b*, and is screw-threaded at its upper end for coupling thereto one of the upper tube-sections as required in drilling the well. The perforated tube A has a covering C, comprising a wire coil, the wire *c* of said coil having indentations *d* upon both sides thereof. The wire first passes through a machine which makes these small indentations, and the wire so indented is securely wrapped around the perforated well-tube, with the coils abutting each other. The indentations are formed on both sides of the wire instead of on one side only, as shown in the drawings, so that when the wire is wrapped around the tube the indentations of one coil will be opposite the indentations of the adjacent coil, thereby forming a mesh of the necessary size without the necessity of forming deep indentations when on one side only of the wire, which would tend to weaken the wire, and consequently reduce the strength of the wire-coil covering.

Indenting the wire as above described enables the coils to be brought close together, so that the coils will touch each other, and thereby provide a strong and durable covering for the well-tube that will withstand any rough usage in the drilling of the well. The indentations of the wire remove the necessity of the coils being separated to form a passage for the water into the tube, the separation of the wire coils materially weakening the covering and in time rendering it useless.

Pins *f* are used to form supports and fastenings for the lower end of the wire coil of the filter or strainer, or any suitable and well-known means may be provided for securing the filter or strainer to the well-tube section as found most practical.

Having now fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A filter or strainer for well-tubes, comprising a perforated tube-section having wound around it coils of round wire with indentations upon both sides thereof and on line with each other, the indentations of one coil registering with those of the adjacent coil to form meshes for the passage of the water, substantially as and for the purpose set forth.

2. A filter or strainer for well-tubes, comprising a perforated tube-section provided with a point and having wound around it coils of round wire with indentations upon both

sides thereof, the indentations of one coil registering with those of the adjacent coil to form meshes for the passage of the water, said tube-section having a screw-threaded shank at its lower end, and the drill-point having a screw-threaded socket for engaging therewith, substantially as and for the purpose described.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

ANTHONY KELLER.
MICHAEL JEFFIRS.

Witnesses:
ADAM E. WISE,
JOHN RENTSCHLER.