(No Model.)

J. STUBBE.

WIRE OILING DEVICE.

No. 302,051. Patented July 15, 1884.

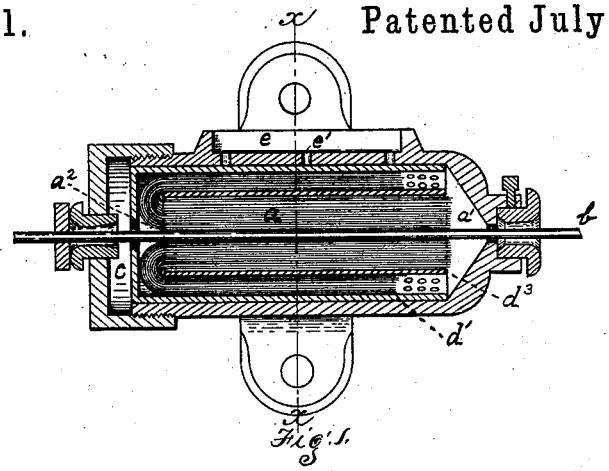

Fig. 1.

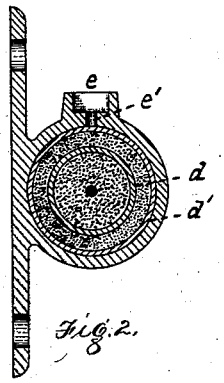

Fig. 2.

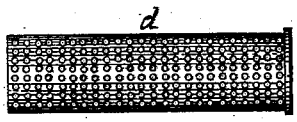

Fig. 3.

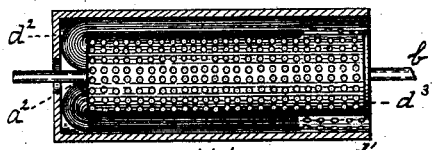

Fig. 4.

Witnesses.
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UNITED STATES PATENT OFFICE.

JOHN STUBBE, OF PITTSBURG, ASSIGNOR TO JAMES B. OLIVER, OF SEWICKLEY, PENNSYLVANIA.

WIRE-OILING DEVICE.

SPECIFICATION forming part of Letters Patent No. 302,051, dated July 15, 1884.

Application filed April 24, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOHN STUBBE, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Wire-Oiling Devices; and I do hereby declare the following to be a full, clear, and exact description thereof.

In the manufacture of barbed fence-wire it is customary to oil the wire before it is put through the barbing-machine, so that it shall pass through the guides of the latter with minimum friction. The usual way of oiling is to dip the hank or coil into a bath of oil or to pour the oil over it. The objection to this plan is that the oil is not perfectly applied and the waste is very great, as the oil remains on the surfaces and in the interstices of the inner coils, and cannot be dripped or drained out, but remains until the coil is unwound, when it drops or runs down and is lost. Moreover, the waste oil falls on the floor and other surrounding objects and makes them very dirty and disagreeable, as well as increases fire-risks. Attempts have been made to apply the oil by passing the wire through an oiler containing oil, saturated cotton, or wool waste, and similar material; but these attempts have not been attended with perfect success, for the reason that the oil-saturated material was caused by the movement of the wire to tamp or compact itself into a closely-knit and nearly impenetrable mass, which wedged in around the wire and prevented its free passage through the oiler.

It is the object of my invention to obviate this trouble and to provide a means whereby fibrous material can be used with success and without danger of compacting or tamping.

To enable others skilled in the art to make and use my invention, I will now describe it with reference to the accompanying drawings, which form part of this specification, and in which—

Figure 1 is a vertical longitudinal section of my wire-oiling device. Fig. 2 is a vertical cross-section on the line *x x*, Fig. 1. Figs. 3 and 4 are views of parts of the device.

Like letters of reference indicate like parts wherever they occur.

The case *a*, which contains the oil-applying medium, is preferably of cylindrical shape, having a tapering end, *a'*, provided with a hole for the exit of the wire *b*. The other end is closed by a cap, *c*, screwed or otherwise removably fastened thereto. This cap has a central opening for the entrance of the wire, and a conical or concave face for convenience in guiding the end of the wire into the hole.

Placed inside of the case *a* is a removable perforated cylinder, *d*, which is used for convenience in packing the oil-applying medium, and of putting it in and removing it from the case *a*. It is also useful because it allows the oil to pass down between it and the sides of the case *a*, and so gain access to the oil-applying medium on all sides through the perforations.

On the upper side of the case *a* is an oil cup or trough, *e*, which communicates with the interior of the case by means of holes or slots *e'*.

The material I use in the oiling-box for applying oil to the surface of the wire is preferably the fibers of cotton wicking or other similar fibrous material—such as yarn or wool—which is arranged within the cylinder *d*, with its fibers extending longitudinally from one end to the other of the cylinder. The fibers are secured in any suitable manner at the end *c* of the oiler, so that as the wire is drawn through the oil-saturated material it may not pull its fibers with it, and thus cause them to tamp in the other end, *a'*. I effect this arrangement of the wicking preferably in the following manner: A hank of the wicking is doubled upon itself and drawn through the cylinder *d* by means of a hook or suitable instrument inserted in the loop of the doubled hank. Enough wicking should be used to completely fill the cylinder *d*, and the doubled hank should be somewhat longer than the cylinder—preferably twice as long. The wicking is drawn through the cylinder toward one end of the same, until the free ends of the wicking have reached the other end, d^3. The looped end of the hank is then cut, and the cut fibers drawn around the outside of the perforated cylinder *d*. A second larger perforated cylinder, *d'*, is then forced over the cylinder *d*, and over the wicking which surrounds it, and thus pulls the fibers tightly over the inside

cylinder, and holds them securely in place. By this means a slight depression or concavity, a^2, is made in the center of the wicking at the end of the cylinder, which is useful in guiding the wire into the oil-saturated material as it passes through the cap *c*. For greater security the cylinder *d* may be provided with a cap, d^2, which fits over the doubled wicking, and has a central hole for the entrance of the wire. The cylinders *d* and *d'* being placed in the case *a* with the depression a^2 adjacent to the opening in the cap *c*, the oil passing through the holes *e'* and around the cylinder *d'*, enters the perforations and saturates the wicking contained between the two cylinders. From thence it passes through the perforations into the cylinder *d*, and is absorbed by the longitudinal fibers of wicking therein. The wire *b* is drawn lengthwise through the box *a* from the end *c* to the end *a'* thereof. The wicking being saturated with oil, the latter is applied evenly and properly to the wire, and as the fibers are longitudinal and parallel, and are secured at the end *c* of the case, they can be used for a long time without compacting or tamping so as to affect the free passage of the wire.

Wicking arranged as I have above described has a more perfect wiping action than any other substance known to me, and for this reason removes all surplus oil from the surface of the wires and gives it a smooth and uniform coating.

I have particularly mentioned wicking as the preferred material. I do not desire, however, to limit myself thereto, but include also any other similar fibrous materials, some of which are named, arranged as described.

It will be found in practice that however tightly the fibers be packed in the cylinder *d*, if they be substantially longitudinal and parallel, the wire can readily be drawn through them.

The cylinders *d* and *d'* may be dispensed with, and the fibers of wicking attached within the case *a* in any suitable manner; but I prefer to use both the cylinders, for the reasons already stated, and because thereby the wicking is more perfectly kept in position, and lint is prevented from accumulating around the oil-passages *e'*, and stopping the free flow of the oil into the contents of the case *a*. If desired, the tapering end *a'* of the case *a* may be dispensed with, so that the end d^3 of the inner wicking-filled cylinder may rest snugly against a flat bottom on the case *a*. This is the preferable construction, since it prevents lint and loose material from the wicking from tamping around the exit-opening of the case *a*, and impeding the passage of the wire.

I do not limit myself to a cylindrical or any other particular form for the box *a* and the cylinders *d* and *d'*.

My improved wire-oiling device may be conveniently attached to the frame of wire-barbing machines or of spooling-machines, so that the wire may be oiled during the process of barbing or spooling, as desirable.

I am aware that sawdust and similar materials have been used for the purpose of oiling wire, and that attempts have been made to use loose cotton waste and yarn for this purpose. I do not therefore desire to claim the same, broadly, but only when the fibers thereof are arranged parallel or substantially parallel with the line of motion of the wire as drawn through them.

Having thus described my improvement, what I claim as my invention, and desire to secure by Letters Patent, is—

A wire-oiler consisting of a suitable case containing cotton wicking or similar fibrous material, the fibers of which are arranged parallel with the line of motion of the wire to be drawn therethrough, and are capable of being saturated with oil, substantially as and for the purposes described.

In testimony whereof I have hereunto set my hand this 22d day of April, A. D. 1884.

JOHN STUBBE.

Witnesses:
JNO. DOYLE,
C. EVANS.