(No Model.)

J. H. KNOWLES.

WEFT FORK FOR LOOMS.

No. 445,627. Patented Feb. 3, 1891.

Fig. 1.

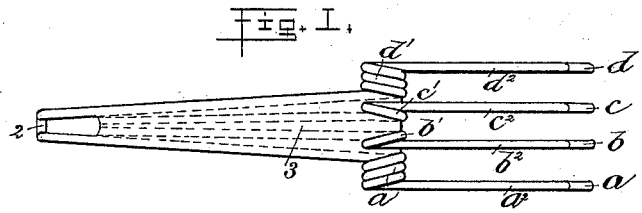
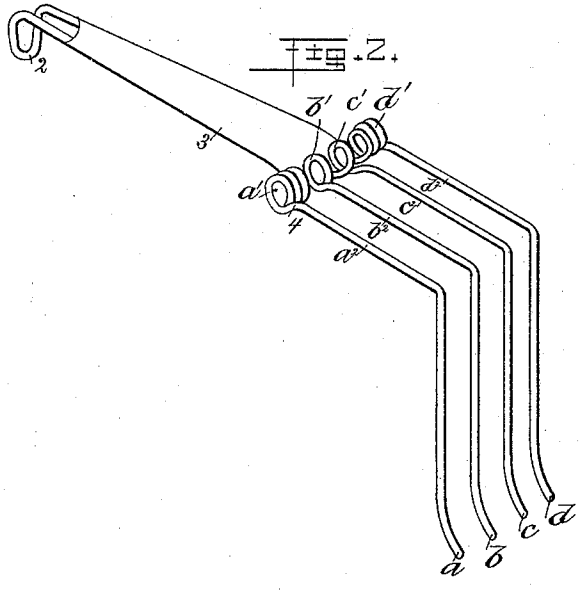


Fig. 2.



Witnesses.
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JACOB H. KNOWLES, OF LAWRENCE, MASSACHUSETTS.

WEFT-FORK FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 445,627, dated February 3, 1891.

Application filed April 11, 1890. Serial No. 347,440. (No model.)

To all whom it may concern:

Be it known that I, JACOB H. KNOWLES, of Lawrence, county of Essex, State of Massachusetts, have invented an Improvement in Weft-Forks for Looms, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention is an improvement upon that represented in United States Patent No. 139,251, heretofore granted to me. The weft-fork described in the said patent is composed of several pieces of wire bent to form fingers and a spring-like portion, the ends of the wires beyond the spring-like portions and most remote from the fingers being soldered or united together to form a shank with a depending lip. In the construction shown in the said patent the wire at the spring-like portions was coiled in such direction that when the fingers were caught against a shuttle, as frequently happens when the loom stops, the strain was such as to unwind the coils.

In my experiments to improve this class of weft-fork I have found that this difficulty may be obviated by so coiling the spring portion of each finger that such strains against the inner sides to the fingers will be in a direction to further wind up or, rather, unwind the coils of the spring portion.

In the accompanying drawings, Figure 1 in top or plan view represents a weft-fork embodying my present invention, and Fig. 2 a perspective view thereof.

The weft-fork herein shown is represented as having four fingers *a b c d*, those *a* and *d* being shown as made from a single piece of wire, the middle portion of which is extended beyond the coils, to be referred to, far enough to form parts of the shank of the weft-fork, the doubled part of the said wire being bent down, as at 2, to form a catch against which the usual weft-hammer may strike. The fingers *b c* are made from separate wires, portions of which beyond their coiled parts are extended into the shank and all united together by solder, as at 3. In this present invention the wire constituting the fingers is coiled to form springs, as a' b' c' d', and in coiling the wire to form these springs care is taken to bend the wires in such direction that the branches a^2 b^2 c^2 d^2 at that side of each coil nearest the fingers *a b c d* leave the said coils at the under sides thereof, as represented at 4 in Fig. 2, so that when the near sides of the fingers *a b c d* come in contact with a shuttle during the movement of the lay away from the breast-beam the strain put upon the fork is in a direction to further wind the coils rather than to unwind them, as in the patent referred to. By bending the coils in the direction shown rather than in the opposite direction strains upon the tines, as when they catch on a shuttle or other part of the loom, tend to further coil rather than slacken or unwind the spring portions, and as a result thereof the improved fork will last for a very much longer time without repairs or injury to the parts.

It is obvious that I may use any desired number of fingers and wires to accord with any usual weft-fork.

I claim—

A weft-fork provided with fingers composed of wire having spring-coils therein, the coils being in the direction, substantially as described, to cause strain upon the inner sides of the fingers to further wind the coils, as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JACOB H. KNOWLES.

Witnesses:
GEO. W. GREGORY,
EMMA J. BENNETT.