

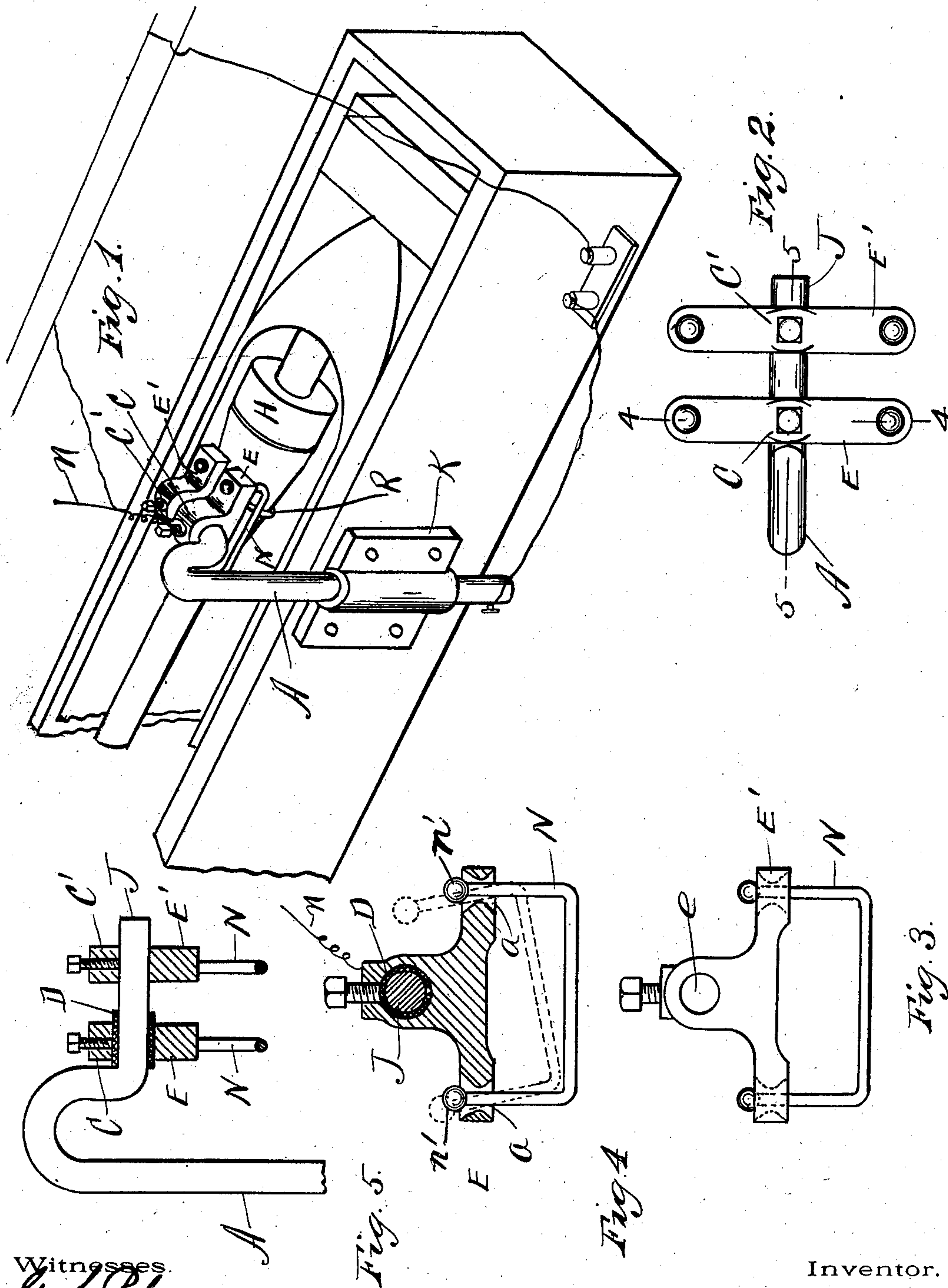
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T. McAULIFFE.
WEFT FEELER FOR REPLENISHING LOOMS.

APPLICATION FILED FEB. 28, 1902.

NO MODEL.



Witnesses.
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THOMAS MCAULIFFE, OF FALL RIVER, MASSACHUSETTS.

WEFT-FEELER FOR REPLENISHING LOOMS.

SPECIFICATION forming part of Letters Patent No. 720,457, dated February 10, 1903.

Application filed February 28, 1902. Serial No. 96,058. (No model.)

To all whom it may concern:

Be it known that I, THOMAS MCAULIFFE, a resident of the city of Fall River, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Weft-Feelers for Replenishing Looms; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to the class of weft-feelers for looms for weaving; and it consists in a new mode of constructing the feeler device that comes in contact with the thread on the bobbin in the shuttle to insure its making a proper contact therewith regardless of the exact position of the bobbin and without any risk of injuring the thread. It is fully described and illustrated in this specification and the accompanying drawings.

Figure 1 represents in perspective a part of a shuttle-box of a loom with enough of the shuttle and bobbin to show the position of the feeler when in use. Fig. 2 shows a top view of the feeler. Fig. 3 is a view of the "feeler," taken from the back of the lay. Fig. 4 is a vertical section of one of the bars, taken on line 4 4 in Fig. 2. Fig. 5 is a vertical cross-section of the feeler-bars, taken on line 5 5 in Fig. 2.

The construction of the device and method of holding and applying it to a shuttle-box of a loom are as follows: A rod A of suitable size is provided, and a "gooseneck" or half-turn is made in its upper end. Then a portion of the end J is turned off horizontally. (See Fig. 5.) Two bars E E' are made, each bar being provided with a hub C C' on its upper side, and holes e e are made through the hubs to fit easily on the portion J of the main rod A, and the hub C has a layer of electrically-insulating material D put around inside its hole to insulate the bar from the rod J. (See Fig. 5.) The bars E and E' also have vertical holes a a made through them near their ends, (see Fig. 4,) and wire loops or staples N are made to slide loosely up and down in the holes a a, with small knobs n' n' on their upper ends to prevent them from slipping out of the holes when the bars are raised from

the bobbin. A guide-plate K is made fast to the front of the shuttle-box, and the rod A is fitted to slide up and down freely in a groove in the plate to receive a short vertical motion as the lay beats up by means of a connection (not shown) with some portion of the running mechanism of the loom.

The bar E and its wire N are connected to one of the electric-circuit wires that run along over the loom by a separate wire n, connected to the hub C, and the bar E' is connected, through the rod J and A and the operating connections of that rod with a wire, to the other wire of the overhead circuit. When in the beating up of the lay of the loom the rod A and the bars and wires N N drop on the bobbin H in the shuttle, if there is thread enough on the bobbin to cover the metal ring R, which is held on the bobbin, the loom will continue to run; but if the thread is so nearly run out as to expose the ring R, so that the wires N N will come in contact with it, the circuit between the two overhead wires will be closed thereby, and an electromagnet included in that circuit will be energized, and the mechanism that stops the loom or that shifts the empty bobbin for a full one will be put in operation, so there will be no liability of making a broken pick in that way.

As will be seen by reference to Fig. 4, the wire staples N have so much freedom of motion in the holes a that they can readily accommodate their positions to the shape of the thread on the bobbin and strike it on a level when the bobbin is full, so as not to injure the thread, and as the thread begins to unwind on the incline of the bobbin the wires will also incline, as shown by the dotted lines in Fig. 3, and still remain parallel to the surface of the thread and insure a contact with the ring N when it becomes exposed by the unwinding of the thread, and the bars E and E' can also be adjusted on the rod J by means of the set-screws on top of them, so as to still further accommodate the position of the staples N to the incline of the bobbin, if necessary.

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

1. In a weft-feeler for looms the combination of a pair of contact-feelers held sus-

pended over the bobbin in the shuttle from horizontal bars in which said feelers are loosely mounted and adapted to accommodate themselves to the surface of the bobbin
5 when they come in contact with it, said feelers being electrically insulated from each other, a movable rod to support and move said bars, and a bobbin in the shuttle having a ring with which the wires contact to complete the
10 circuit between the contact-feelers, substantially as described.

2. A weft-feeler for looms consisting of a main supporting-rod, two bars held about parallel to each other on a horizontal portion
15 of said rod, and having holes through them near their ends, wire loops or staples held in-

verted to slide loosely up and down in said holes, and arranged to accommodate themselves to the surface of the bobbin when they come in contact with it, insulating material 20 placed between one of said bars and its support, and a bobbin in the shuttle having a ring with which the wires contact to complete the circuit between the wire loops, substantially as described. 25

In testimony whereof I have hereunto set my hand this 19th day of February, A.D. 1902.

THOMAS MCAULIFFE.

In presence of—

HOWARD E. BARLOW,
BENJ. ARNOLD.