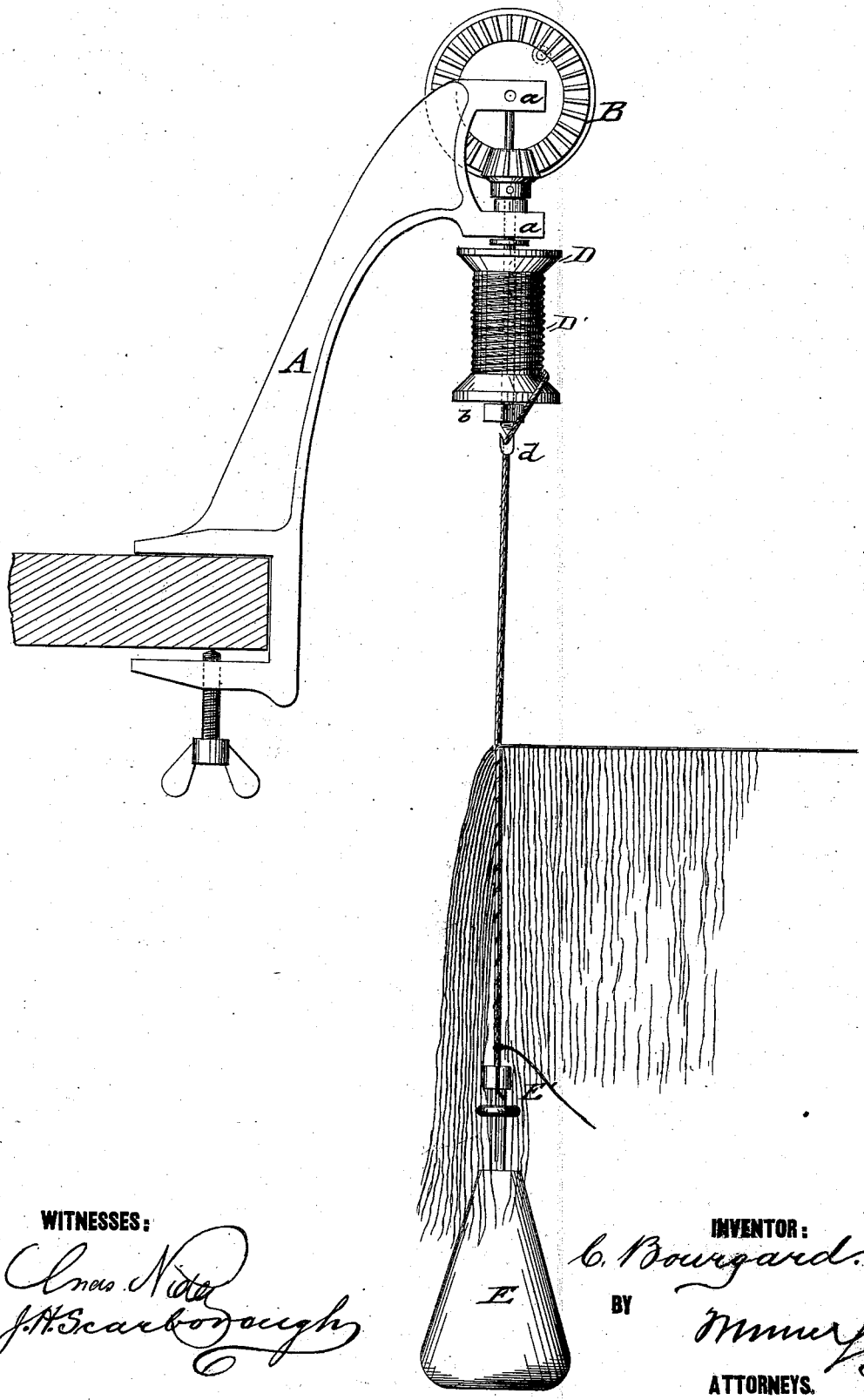
C. BOURGARD.

MACHINES FOR MOUNTING HAIR SWITCHES.

No. 187,590. Patented Feb. 20, 1877.



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IMPROVEMENT IN MACHINES FOR MOUNTING HAIR SWITCHES.

Specification forming part of Letters Patent No. **187,590**, dated February 20, 1877; application filed January 19, 1877.

To all whom it may concern:

Be it known that I, CHARLES BOURGARD, of the city, county, and State of New York, have invented a new and Improved Machine for Mounting Human-Hair Switches, of which the following is a specification:

The accompanying drawing represents a side elevation of my improved machine for mounting human-hair switches, showing the same in the act of winding up the weft of hair on the mounting-cord.

The invention relates to improvements in the machines for mounting human-hair switches, by which one hand may work the machine, while the other hand feeds simultaneously the weft of hair in convenient manner, winding it regularly and without danger of taking in or catching any part of the hair.

The machines hitherto used for mounting switches are arranged so as to wind the woven hair onto a horizontally-stretched mounting-cord, turned by suitable mechanism, the tension being imparted to the cord by the gear turned by one hand, while the other holds the cord.

When sufficient tension is established the cord is allowed to unwind, so as to mount thereby the weft, which is attached thereto and fed by the right hand.

The machine has an objectionable feature, as it winds up or entangles some of the hair around the cord, requiring frequently the entire unwinding of the hair, and giving thereby considerable annoyance.

My invention is intended to obviate this defect, and provide an automatic tension, so that one hand is free to control the winding of the hair, while the other simultaneously revolves the gear. It consists of a loose cord-spool, revolving with a vertical shaft by the tension of the cord, that passes through an end hook of the shaft, and is clamped at the lower end to a tension-weight.

In the drawing, A represents an upright supporting-standard, that is clamped in the customary manner to a table or other support. The standard is curved in forward direction to project beyond the edge of the table, and carries bearings *a* at the upper end for the horizontal shaft of a conical crank-wheel, B, and for the vertical shaft C, that gears by a bevel-wheel, C′, with crank-wheel B, and carries a loose spool, D, below the lower bearing *a*. The mounting-cord D′ is wound on the spool D, and supported on a nut, *b*, screwed onto the lower end of shaft C, which is recessed below the spool to form a hook, *d*, through which the mounting-cord is passed. A tension-weight, E, is attached by a suitable clamping device, E′, to the lower end of the mounting-cord, keeping the cord tightly stretched from the hook downward, and locking the spool by the pressure of the cord D′ on its flange to the shaft, so that it will revolve with the same on turning the crank-wheel. The weight imparts an automatic tension to cord D′, and produces the regular winding up of the weft of hair after the string of the same has been attached to the cord, the hair being fed by hand, so as to be gradually wound around the cord D′ by the revolving of the same.

The perpendicular position of the mounting-cord admits the horizontal feeding of the hair to the same, which prevents, as the winding takes place above the hair, any taking in or catching of the same, and admits the regular, quick, and reliable mounting of the switch at the same time with the revolving of the shaft.

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

1. A machine for mounting human-hair switches, composed of a vertical revolving shaft, with loose spool and lower hook end, and of a spool-binding mounting-cord, with tension-weight clamped to the lower end, arranged and operated substantially as shown and described.

2. A machine for mounting human-hair switches, composed of a vertical frame or supporting-arm, a vertical revolving shaft with loose spool, and automatic mounting-cord tension, to produce mounting of weft simultaneously with turning of shaft, substantially as specified.

CHARLES BOURGARD.

Witnesses:
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