No. 637,614. Patented Nov. 21, 1899.

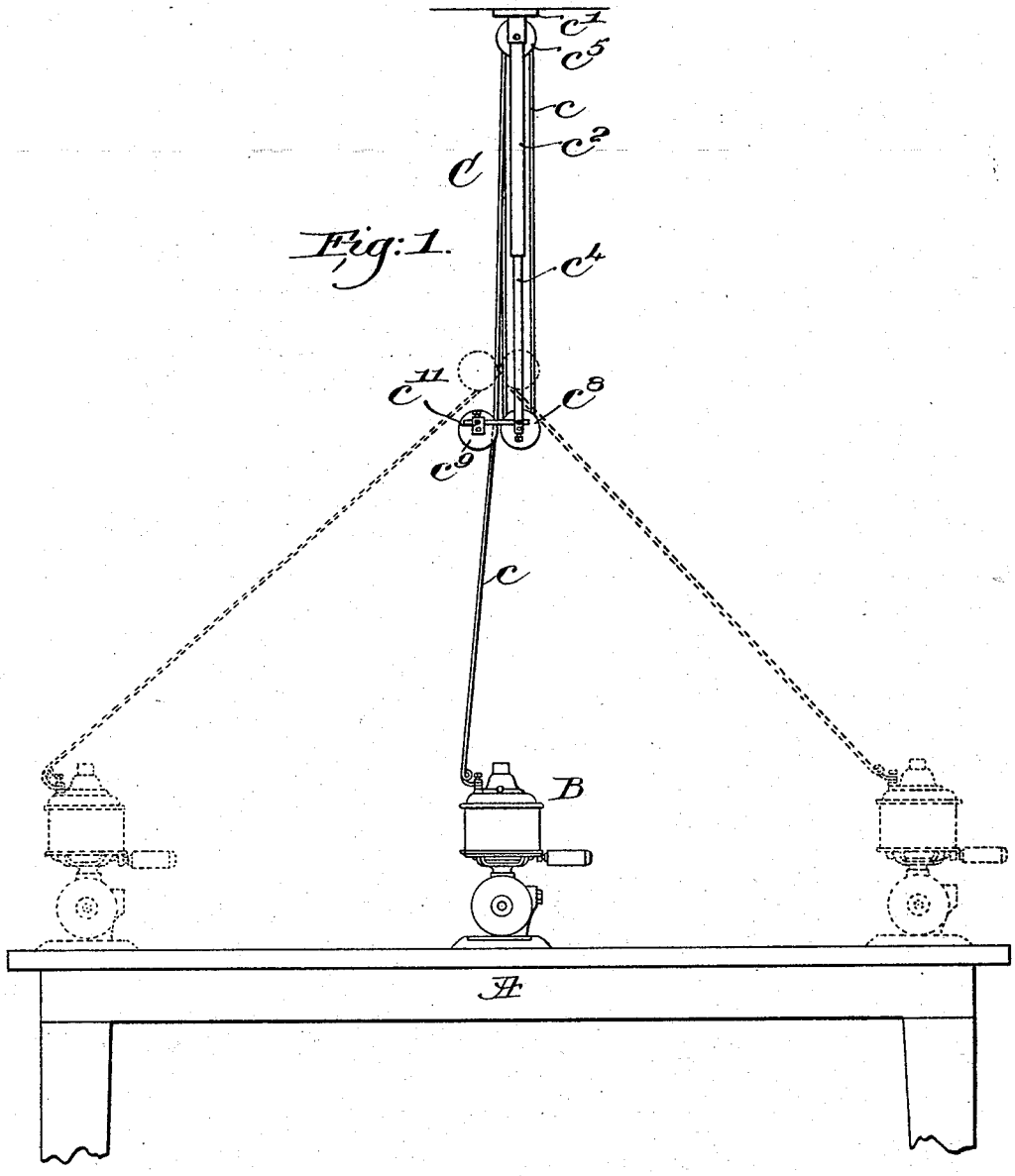
P. HOWE.

TAKE-UP MECHANISM FOR CLOTH CUTTERS, &c.

(Application filed Aug. 22, 1899.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.



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TAKE-UP MECHANISM FOR CLOTH CUTTERS, &c.

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(No Model.) 2 Sheets—Sheet 2.

Fig. 2.

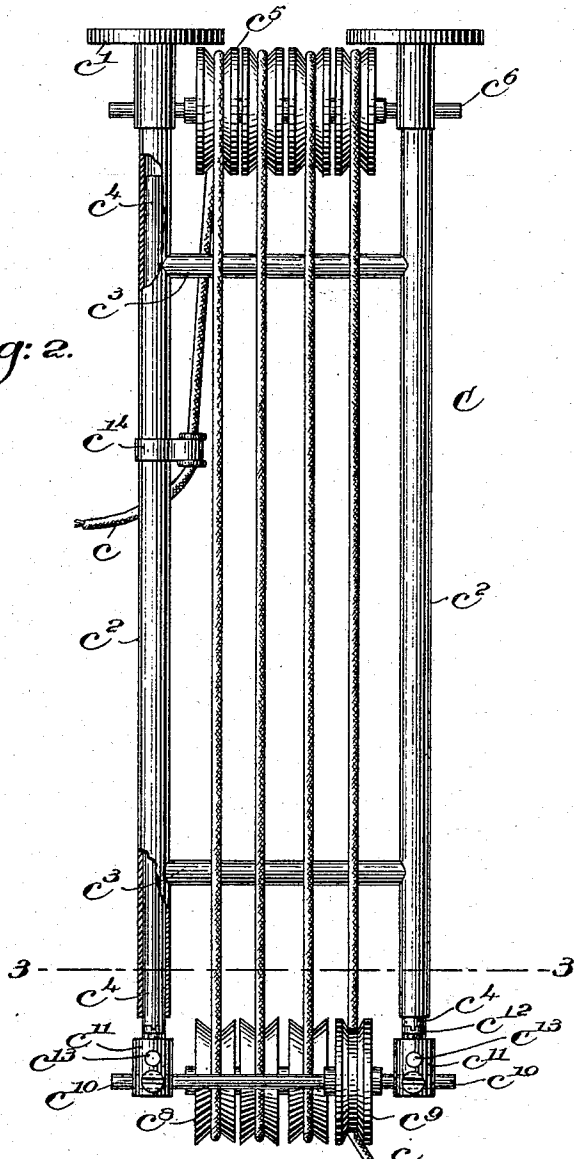
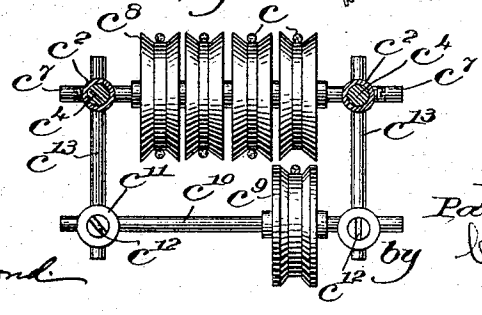


Fig. 3.



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UNITED STATES PATENT OFFICE.

PATRICK HOWE, OF BOSTON, MASSACHUSETTS, ASSIGNOR OF FIVE-SIXTHS TO THE FENNO CLOTH CUTTING MACHINE COMPANY, OF SAME PLACE.

TAKE-UP MECHANISM FOR CLOTH-CUTTERS, &c.

SPECIFICATION forming part of Letters Patent No. 637,614, dated November 21, 1899.

Application filed August 22, 1899. Serial No. 728,059. (No model.)

To all whom it may concern:

Be it known that I, PATRICK HOWE, a citizen of the United States, residing at Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Take-Up Mechanism for Cloth-Cutters, &c., of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My invention is an improved take-up mechanism for electric tools, being particularly intended and adapted for use with electric cloth-cutters.

In using electric cloth-cutters the cloth is laid on tables from twenty to forty feet long and usually in rooms with relatively low ceilings, and it is of course necessary that the feed-wire should be continuously connected with the source of electric energy and yet should be maintained out of the way of the operator as he moves the cutter back and forth over the long table, following the various intricacies of the pattern being cut, and accordingly I have invented the herein-described means for maintaining the feed-wire under proper tension, so that it is always held out of the way and yet is always free to follow the operator wherever required throughout the extent of the table.

The details of construction of my invention and the operation thereof will be more particularly pointed out in the following description, reference being had to the accompanying drawings.

In the drawings, in which I have shown a preferred embodiment of my invention, Figure 1 is a front elevation showing my invention in operative position as in use with an electric cloth-cutter. Fig. 2 is an enlarged view, in side elevation, parts being broken away, showing the mechanism for taking up and giving out the electric feed-wires as required according to the movements of a cloth-cutter. Fig. 3 is a transverse horizontal section thereof on the line 3 3, Fig. 2.

My invention is herein illustrated as applied to cloth-cutting machines, inasmuch as this is the particular device for which my take-up mechanism is particularly intended.

In practice the tables used in cloth-cutting establishments have a considerable length; but for convenience of illustration I have herein shown a short table A, on which is an electric cutter B, connected by a usual feed-wire c to the take-up mechanism C, which is secured by flanged feet c', screwed to the ceiling of the room immediately above the table. The operator, as will be understood, moves the cutter B back and forth from one end to the other of the table according to the requirements of the pattern, and the feed-wires c must of course have a length to correspond to the extreme movements of the cutter, and yet if this long feed-wire is permitted to hang simply from the usual low ceiling of the room it will materially interfere with the successful operation of the cutter, particularly in the case of a cutter designed, as my present cutter is, for cutting sharp and intricate curves and angles. Accordingly, it will be seen that I have provided a take-up mechanism C, herein shown as comprising a stationary frame made up of hollow side bars or tubes c^2, connected by braces c^3, and in which slide or telescope parallel rods c^4, preferably of steel or other heavy material, the frame carrying a plurality of grooved wheels or pulleys c^5, herein shown as four in number and mounted loosely on a shaft c^6, fixed in the sustaining-supports of the main frame. At the lower end between the rods c^4, journaled on a shaft c^7, are a corresponding number of grooved wheels or pulleys c^8, similar to the pulleys c^5, and in alinement with the delivery one of these pulleys, herein shown as at the right-hand end thereof, Figs. 2 and 3, I mount a guide-pulley c^9 on a shaft c^{10}, parallel to the shaft c^7 and adjustably supported at its ends in blocks c^{11}, preferably adjustable by means of set-screws c^{12} on brackets c^{13}, projecting from the rods c^4, as is clearly shown in the drawings.

The feed-wire c is secured adjacent its incoming end by a bracket or clamp c^{14}, and thence passes over the first pulley c^5 and the corresponding pulley c^8, thence over the next pulley c^5 and corresponding pulley c^8, and so on throughout the series, and finally between the guide-pulley c^9 and the delivery-pulley c^8 to the cutter B, where its conductors are respectively secured to the suitable bind-

ing-posts. As the operator begins cutting at the right-hand end of the table, Fig. 1, moving toward the left, the feed-wire *c* is maintained under the required tension and is all taken up out of the way by the automatic extension of the heavy telescoping portion of the take-up C, and as the operator continues his movement to the dotted-line position at the left of Fig. 1 the cord or wire *c* shifts over to the guide c^9 and gives out as required readily by reason of the compound-pulley action, which enables the operator to lift the weighted telescoping portion without exerting appreciable power in doing so. This simple, noiseless, and absolutely automatic lengthening and shortening of the take-up C continues as the operator moves about over different portions of the table.

The guide-pulley c^9 is adjusted into perfect alinement with the adjacent pulley c^8, so that the meeting edges of the two substantially contact with each other, and thereby the cord *c* is at all times held in its proper place, while left free to be deflected in any direction required, according to the pattern being cut.

Various changes in detail may be resorted to within the scope of my invention.

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

1. The herein-described take-up mechanism for a tool operated by an electric motor, said take-up mechanism consisting of a stationary frame to depend from an overhead support, and a movable member, one telescoping in the other, and each provided with a plurality of alined grooved pulleys, a guide mounted adjacent the last of the series of pulleys on said telescoping member, and an electric conductor-cord secured fixedly relatively to said stationary frame and passed about said several pulleys and between said last pulley and said guide, and thence to said motor, substantially as described.

2. The herein-described take-up mechanism for a tool operated by an electric motor, said take-up mechanism consisting of a stationary frame to depend from an overhead support, and a movable member, one telescoping in the other, and each provided with a plurality of alined grooved pulleys, a guide mounted adjacent the last of the series of pulleys on said telescoping member, means for adjusting said guide, and an electric cord secured fixedly relatively to said stationary frame and passed about said several pulleys and between said last pulley and said guide, and thence to said motor, substantially as described.

3. The herein-described take-up mechanism for a tool operated by an electric motor, said take-up mechanism consisting of a stationary frame comprising parallel tubes connected by suitable cross-braces, means for securing the upper end thereof fixedly to the ceiling of a room, a shaft between the upper ends of said tubes, a plurality of pulleys mounted loosely on said shaft, a rod telescoping in each of said tubes, said rods being connected together at their lower ends by a shaft, one or more pulleys mounted on said last-mentioned shaft, and a conductor-cord secured at one end fixedly relatively to said frame, and passing thence over said several pulleys, and thence to said motor, substantially as described.

4. The herein-described take-up mechanism for a tool operated by an electric motor, said take-up mechanism consisting of a stationary frame comprising parallel tubes connected by suitable cross-braces, means for securing the upper end thereof fixedly to the ceiling of a room, a shaft between the upper ends of said tubes, a plurality of pulleys mounted loosely on said shaft, a rod telescoping in each of said tubes, said rods being connected together at their lower ends by a shaft, one or more pulleys mounted on said last-mentioned shaft, and brackets extending forward from said lower ends of said rods, a third shaft mounted on the forward ends of said brackets, and a guide secured on said third shaft in alinement with the delivery end of said cord as it passes from the delivery-pulley of said rods, substantially as described.

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

PATRICK HOWE.

Witnesses:
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FREDERICK L. EMERY.