

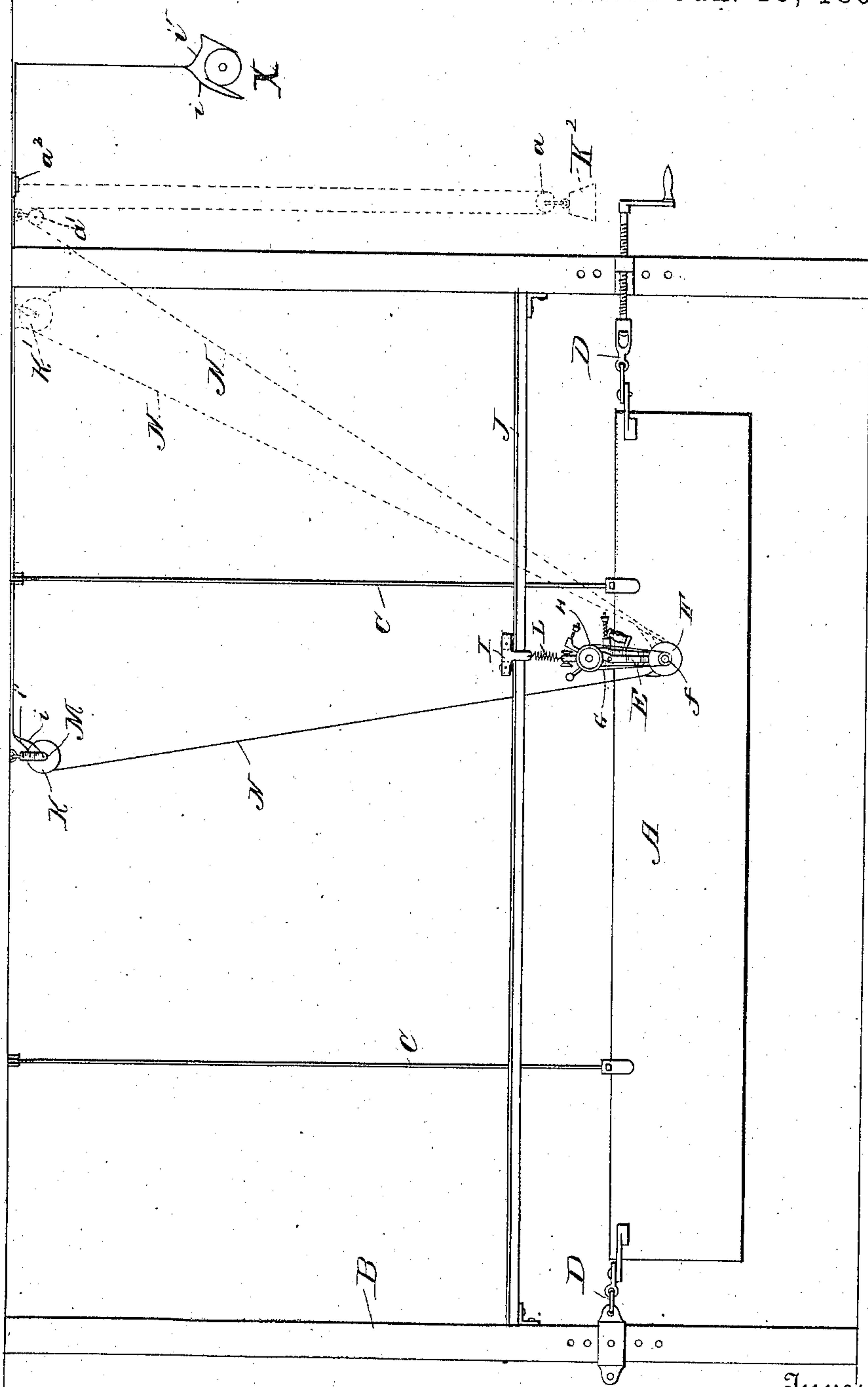
(No Model.)

3 Sheets—Sheet 1.

P. DIEHL & E. H. BENNETT, Jr.  
APPARATUS FOR SEWING CARPETS.

No. 575,392.

Patented Jan. 19, 1897.



Witnesses

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C. M. Sweeney.

Inventors:

Philip Drehl & E. H. Bennett, Jr.  
by Messrs. Calver & Randall,

Attorneys

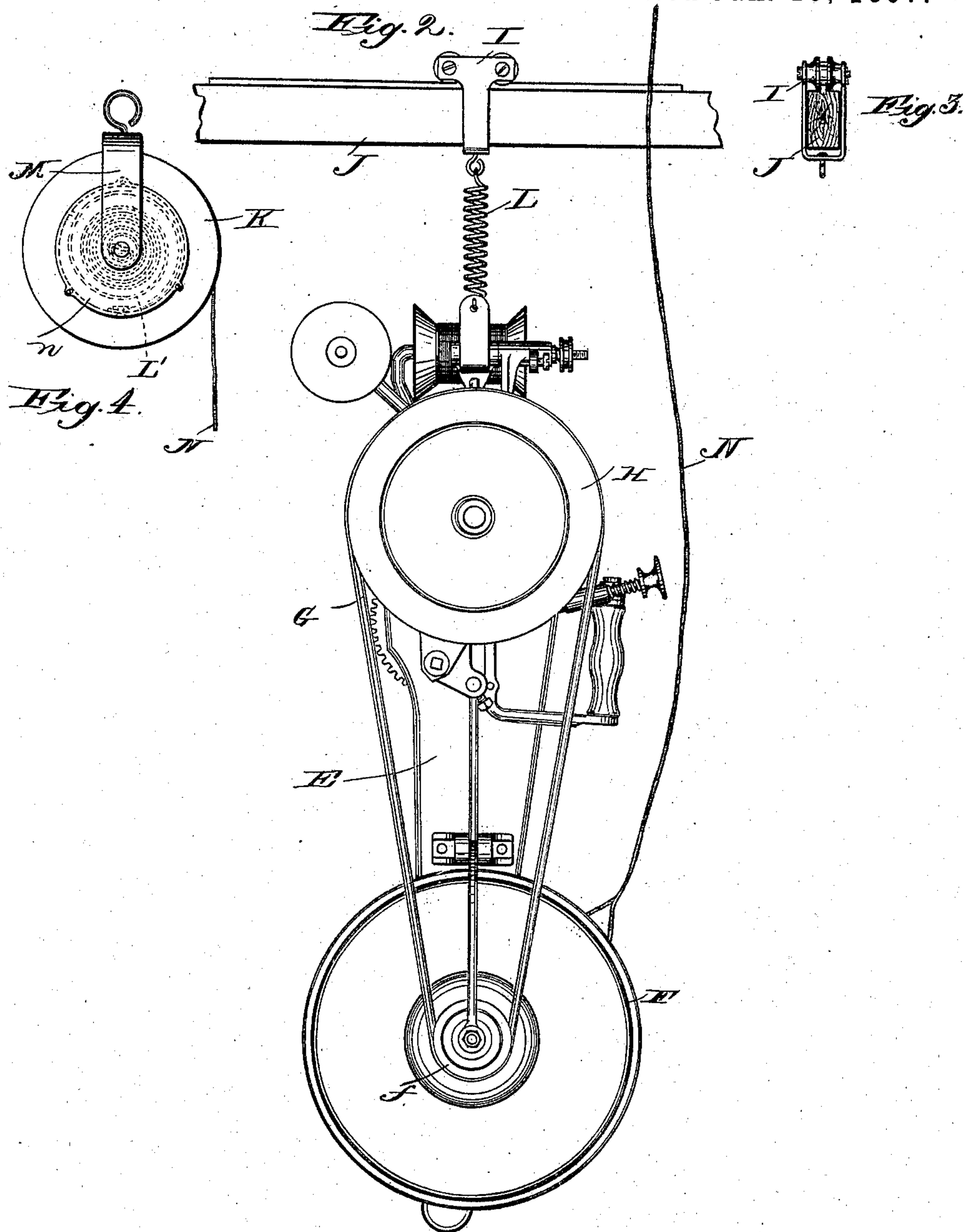
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WITNESSES:

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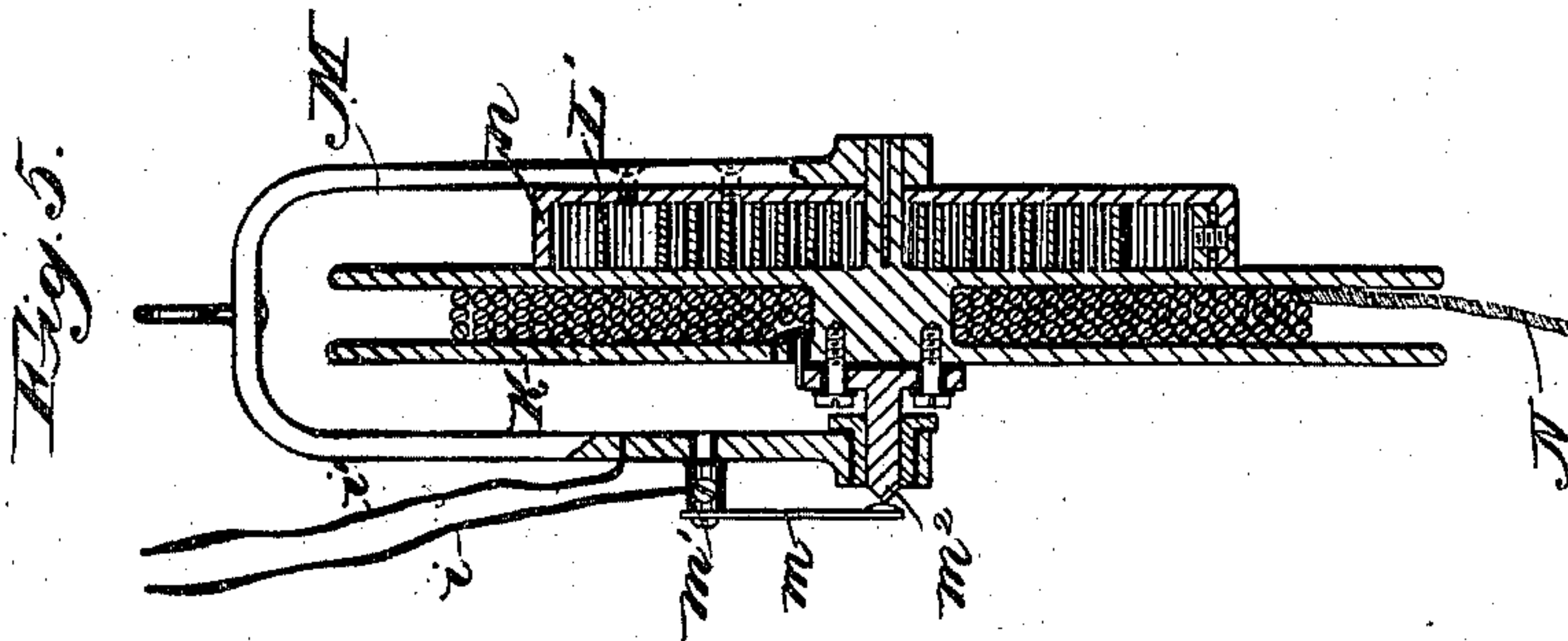
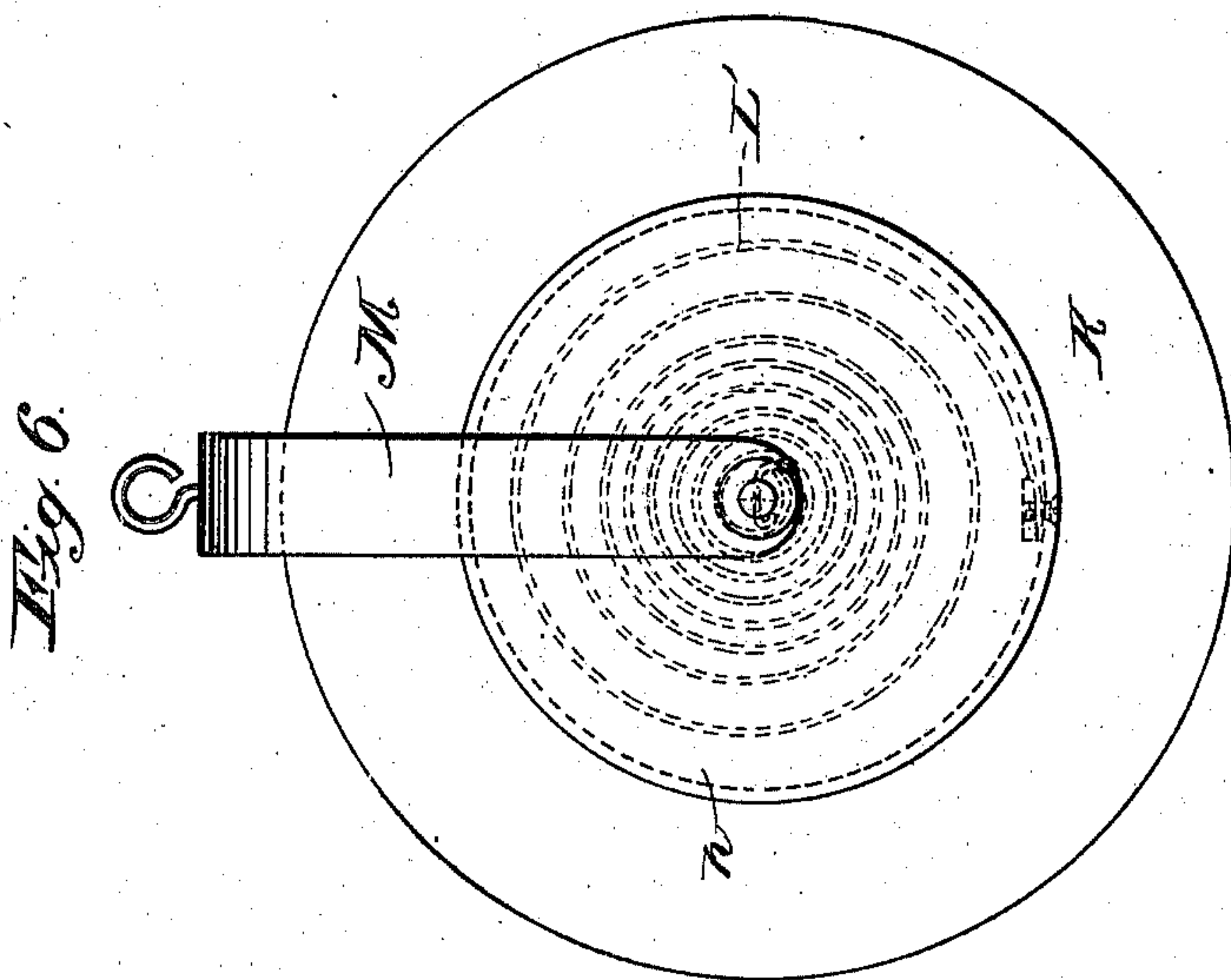
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WITNESSES:

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# UNITED STATES PATENT OFFICE.

PHILIP DIEHL, OF ELIZABETH, AND EDWIN H. BENNETT, JR., OF BAYONNE,  
NEW JERSEY, ASSIGNORS TO THE SINGER MANUFACTURING COMPANY,  
OF NEW JERSEY.

## APPARATUS FOR SEWING CARPETS.

SPECIFICATION forming part of Letters Patent No. 575,392, dated January 19, 1897.

Application filed March 3, 1892. Serial No. 423,637. (No model.)

*To all whom it may concern:*

Be it known that we, PHILIP DIEHL, residing at Elizabeth, in the county of Union, and EDWIN H. BENNETT, Jr., residing at Bayonne, in the county of Hudson, State of New Jersey, citizens of the United States, have invented certain new and useful Improvements in Apparatus for Sewing Carpets, of which the following is a specification, reference being had therein to the accompanying drawings.

Our invention relates to carpet-sewing machines of that class which is adapted to travel upon the edges of the carpets, the latter being suspended in a vertical position; and the object of our invention is to provide means whereby a carpet-sewing machine of the class referred to may be driven by an electric motor mounted upon the machine, and whereby the flexible conductors conveying the electrical current to and from said motor may be properly controlled, so as to be out of the way of the operator. To this end the conductor, which is of duplex character, so as to carry the current to and from the motor, is controlled by a take-up device which will automatically hold the same with a slight tension sufficient to prevent the conductor from falling down in the way of the operator. This take-up device consists, preferably, of a reel or small drum, around which the conductor is wound and with which an ordinary volute spring is connected in such a way as to permit the conductor to be fed out under slight tension, the spring-actuated reel or drum serving to automatically wind up the slack when the machine is traveling toward the drum. The bracket in which the drum is mounted is preferably utilized as a conducting medium, so that the wires conveying the current from the source of the electricity may be connected thereto in any suitable manner, as by binding-screws. Instead of using a spring-controlled drum for taking up the slack of the conductor, a weight may be utilized for the same purpose, if desired.

In the accompanying drawings, Figure 1 is a general view to illustrate our invention in connection with a carpet-sewing machine which rides upon a suspended carpet in a well-known manner. Fig. 2 is a detail view

of the machine and its suspending device. Fig. 3 is a detail view in cross-section of the track on which the traveling carriage or trolley moves; and Figs. 4, 5, and 6 are detail views of the spring-controlled drum which winds up the slack of the conductor.

A denotes a section of carpet held in a suitable stretching-frame B and partly sustained by suspending devices C and being held stretched taut by suitable longitudinally-holding devices D in a well-known manner.

E denotes a carpet-sewing machine of well-known form adapted to ride upon the edges of the stretched carpets, the machine being fed along by the action of the feeding devices forming part of the mechanism of the machine. These carpet-sewing machines have usually been driven by a crank turned by the operator, which is somewhat difficult and laborious, but the machine herein shown is provided with an electric motor F of that well-known form in which the armature-wheel surrounds the field-magnet, the said wheel being utilized directly as the driving-wheel, from which power may be conveyed.

G denotes a belt conveying motion from a pulley *f* on the rotating armature-wheel to the pulley H, which drives the sewing-machine, the latter being suspended from a traveling carriage or trolley I, running upon a suitable track J. A spiral spring L, the elasticity of which will permit the sewing-machine to follow any irregularities caused by sagging of the suspended carpet, preferably forms the connection or a part thereof between the sewing-machine and the traveling carriage or trolley, this elastic connection taking a part of the weight of the machine and its motor, so as partly to relieve the carpet from the weight thereof.

N denotes the flexible conductor, which may be made in duplex form and which is preferably wound into a single cord or strand, said conductor serving to convey the electrical current to and from the motor F. The conductor N extends from a reel or drum K, around which it is wound, and the said drum is provided with a volute winding-spring L', housed in a suitable box *n*, the said spring being so connected to the drum as to wind



up the conductor N with a slight tension when the sewing-machine travels toward the drum, but which will permit the said conductor to be unwound from the drum when  
 5 the sewing-machine is traveling away from the same. The drum K is mounted in a suitable bracket M, preferably formed of a metal frame suitable to serve as a conductor, and to the said frame the wires *i* and *i'*, conveying the electrical current from a suitable  
 10 source of electricity X to and from the motor, are attached in any proper manner, as by binding-screws. A small switch *m* preferably forms part of the connection between  
 15 the binding-post *m'*, which is insulated from the frame M, and the hub *m*<sup>2</sup>, with which the conductor wound upon the reel has a suitable electric connection, as more clearly shown in Fig. 5, the current passing from the conductor  
 20 on the reel or drum through the frame and outward through the conductor *i'*. If desired, the current may be shut off by swinging the switch *m* out of contact with the hub *m*<sup>2</sup> of the drum or reel. This will open the  
 25 circuit, owing to the insulation of the post *m'* from the frame M, and from which post the current passes to the hub *m*<sup>2</sup> through the switch *m* when the circuit is closed.

In Fig. 1 the drum K is shown in full lines  
 30 as being about midway of the length of the sections of carpet to be sewed, so that the conductor will be drawn off from said reel about equally when the machine is at the ends of a section of carpet, but instead of locating the  
 35 said drum centrally over the carpet it may be located at one end of the frame B, as shown at K' in dotted lines, Fig. 1.

Instead of using a spring-controlled reel for taking up the slack of the conductor the  
 40 same result may be effected by means of a weight K<sup>2</sup>, as shown in dotted lines in Fig. 1, the said weight being attached to a pulley-block *a*, while one end of the conductor is secured to a contact-piece *a*<sup>2</sup>, from which the  
 45 conductor runs around the pulley in the pulley-block *a*, and thence over the pulley *a'* to the sewing-machine, the weight in this instance serving as a take-up device instead of the spring-actuated reel or drum first de-  
 50 scribed.

The electric motor F is suitably mounted at the lower part of the frame of the suspended traveling sewing-machine E, and by its weight serves to steady and counterbalance the said machine as the latter runs along on the edges  
 55 of the carpets, which are supported edgewise vertically, the said motor being thus incorporated with the said sewing-machine and forming a part thereof.

Having thus described our invention, we  
 60 claim and desire to secure by Letters Patent—

1. The combination with means for supporting long sections of fabrics edgewise vertically, of a traveling sewing-machine adapted  
 65 to be fed along on said fabrics, and provided with an electric motor operatively connected with the driving-shaft of the said machine, a track or support parallel with the said fabrics, a trolley or carriage traveling on said track or  
 70 support, an elastic connection between said trolley or carriage and said traveling sewing-machine, a conductor having suitable electrical connections with said motor, and a take-up device to control the slack of said  
 75 conductor.

2. The combination with means for supporting long sections of fabrics in an edge-wise vertical position, of a traveling sewing-machine provided with a feeding mechanism  
 80 for moving the same along on said fabric edges, an electric motor forming part of said sewing-machine and operatively connected with the driving-shaft thereof, said motor being mounted at the lower part of the frame  
 85 of said machine, and thus serving not only as a driving medium therefor, but serving also to counterbalance the same in its vertical position, a flexible conductor having suitable electrical connections with said motor, and a  
 90 take-up device to control the slack of said conductor and thereby keep the same out of the way of the operator.

In testimony whereof we affix our signatures in presence of two witnesses.

PHILIP DIEHL.

EDWIN H. BENNETT, JR.

Witnesses:

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J. F. JAQUITH.