

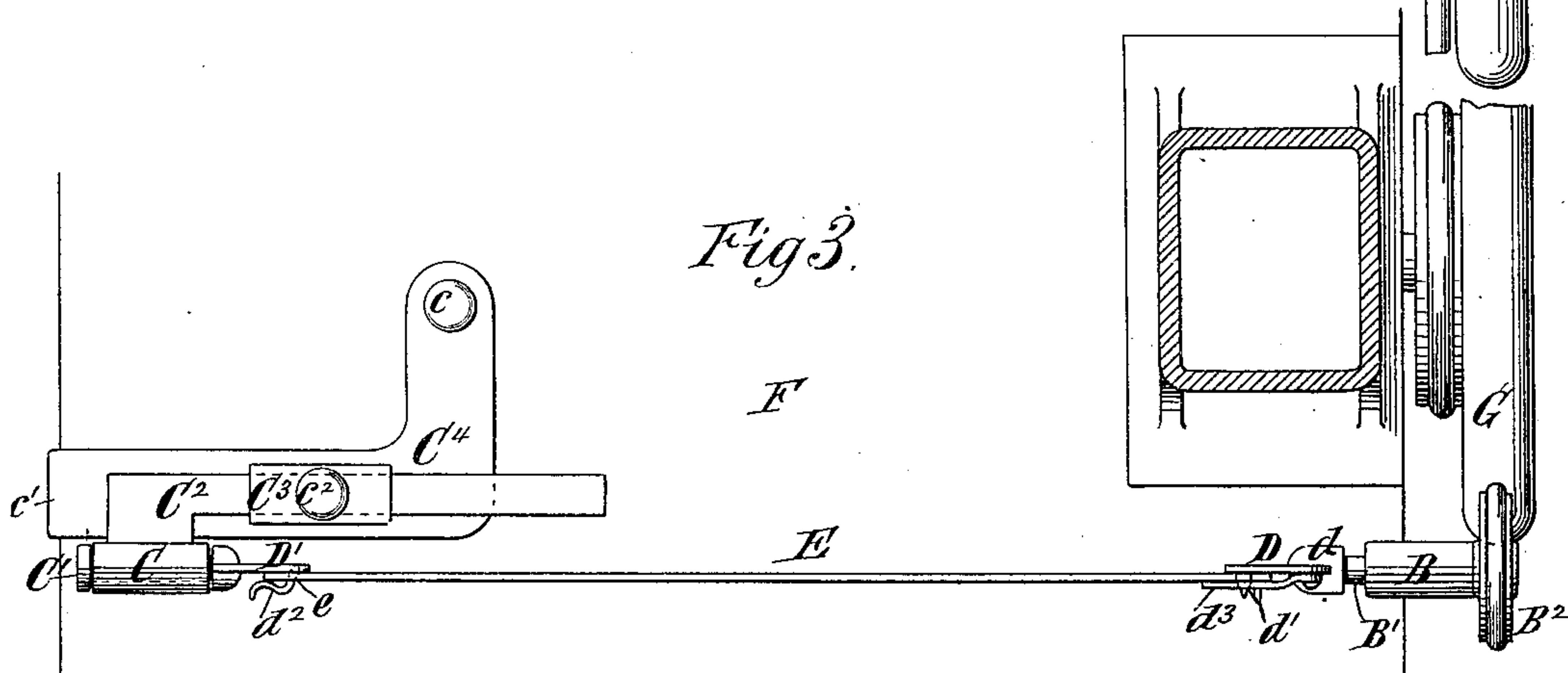
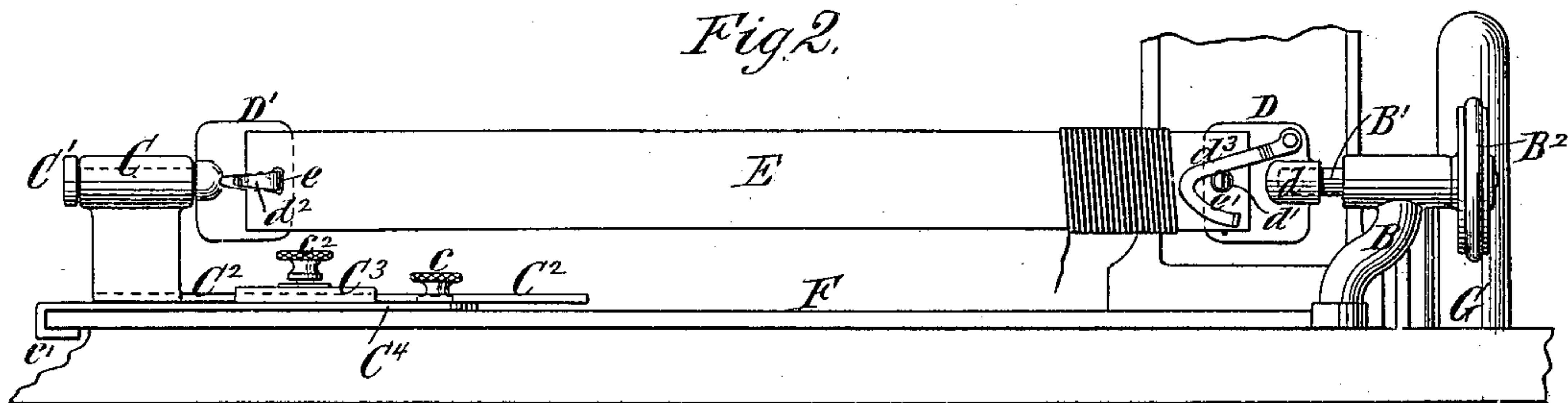
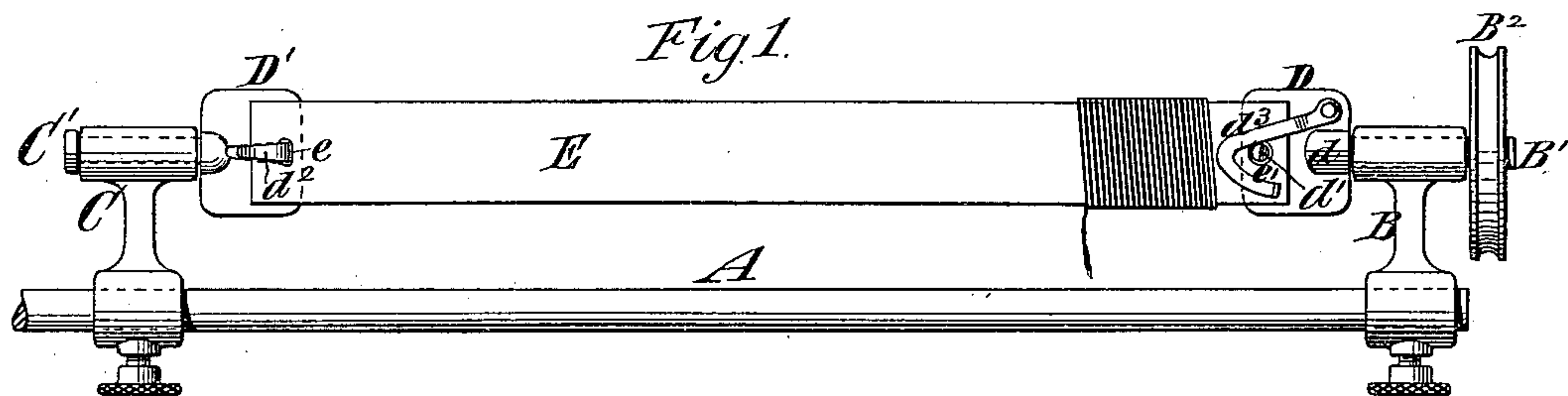
(No Model.)

C. A. LUDLOW.

APPARATUS FOR WINDING STRIPS WITH WORSTED OR OTHER  
COVERING MATERIAL.

No. 329,752.

Patented Nov. 3, 1885.



*Witnesses:*

Olundgren  
Emil Hexter.

*Inventor:*

Inventor  
Charles A Ludlow  
by his Attys  
Brown & Hall

# UNITED STATES PATENT OFFICE.

CHARLES A. LUDLOW, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR OF ONE-HALF TO ALBERT R. LACEY, OF SAME PLACE.

APPARATUS FOR WINDING STRIPS WITH WORSTED OR OTHER COVERING MATERIAL.

SPECIFICATION forming part of Letters Patent No. 329,752, dated November 3, 1885.

Application filed April 9, 1885. Serial No. 161,774. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES A. LUDLOW, of Bridgeport, in the county of Fairfield and State of Connecticut, have invented a new and useful Improvement in Apparatus for Winding Strips with Worsted and other Covering Material, of which the following is a specification.

In my application for Letters Patent, Serial No. 161,773, filed April 9, 1885, I have described and illustrated a method of making rugs and other articles, which consists in winding strips of pasteboard, card-board, or other fragile material, which will be readily pierced by the needle of a sewing-machine, with worsted or other covering material, and then sewing such wound strips by lines of stitching extending lengthwise thereof to a body fabric of bagging, ticking, or other material, and finally severing the covering material at the edges of the pasteboard or other strip and removing the two portions of each strip which are formed by severing the pasteboard or other fragile material in the sewing operation.

The object of my present invention is to provide an apparatus whereby strips of pasteboard or other fragile material may be wound with worsted or other covering material preparatory to being sewed upon a body fabric, as described in my above-referred-to application.

My invention is applicable both to an apparatus which is constructed especially with a view of winding strips in large quantities for sale through the medium of dealers in fancy goods, and is also applicable to attachments for sewing-machines, which may be sold at a small cost, and by which any person desiring to make a rug and having a sewing-machine can in a short time wind all the strips necessary for her use.

The invention consists in novel combinations of parts, which are hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 represents an elevation of a machine or apparatus which is specially constructed for the purpose, and may be employed for winding strips in large quantities. Fig. 2 represents

an elevation of a portion of a sewing-machine with its table and an apparatus embodying my invention and applied to the sewing-machine, to be operated in a manner similar to the ordinary bobbin-winding attachment; and Fig. 3 designates a plan of the sewing-machine table and the parts attached thereto, as shown in Fig. 2.

Similar letters of reference designate corresponding parts in the several figures.

Referring first to Fig. 1, A designates a supporting bar or rod constituting a bed for the machine, and B C designate head and tail stocks, which are adjustable on said rod to bring them at different distances apart. In the head-stock is journaled a head-spindle, B', which may be operated by a belt passing around a pulley, B<sup>2</sup>, and which has affixed to its inner end a chuck, consisting of a sleeve or hub, d, fitting the end of the spindle, and a flat plate, D, of metal, and from the flat face of which projects a pin, d'. In the tail-stock C is journaled a spindle, C', to the inner end of which is affixed a chuck or holder consisting of a flat plate, D', having upon it a catch or hook, d<sup>2</sup>, which may be formed by cutting out a tongue from the flat plate and bending or deflecting it outward.

E designates a strip of pasteboard or other analogous material, which it is designed to wind with worsted or other covering material, and which it is desired to rotate rapidly by power from the pulley B<sup>2</sup>. As here represented, this strip E has in one end a hole or perforation, e, which may be placed on the hook or catch d<sup>2</sup>, and has at the other end a hole or perforation, e', which may be placed over the pin d' and retained thereon by a pivoted latch or keeper, d<sup>3</sup>, carried by the chuck or plate D and capable of being swung so as to overlap the pasteboard, as shown in the drawings. The pasteboard or other strip, E, being held by a slight strain taut, can, it will be readily understood, be rotated rapidly by power, both parts being turned in unison, and while so rotated the strip may be rapidly wound by worsted or other material held in the hands and traversed from end to end as the winding progresses.

The catches for securing the ends of the



strip E to the chucks or flat plates D D' may be of any suitable construction, and need not consist of hooks or pins, as here shown. They may, for example, each consist of a lever having a serrated edge, like the lever of an ordinary suspender-buckle, and pivoted to the plate D or D' so as to clamp the strip against the said plate by its serrated edge.

The apparatus, as described, is designed to wind strips for the purpose above referred to in large quantities, such wound strips to constitute an article of sale.

In Figs. 2 and 3 I have represented an apparatus which may be employed as an attachment on an ordinary sewing-machine, such parts only of a sewing-machine being represented as are necessary to a clear understanding of my invention.

F designates the bed-plate of the sewing-machine, and G the fly-pulley, which is placed on the shaft thereof. In this example of my invention the head-stock for the attachment consists of the bearing or bracket B in which is journaled a spindle, B', and which may be turned so as to bring the pulley B<sup>2</sup> thereon into and out of engagement with the fly-pulley G of the sewing-machine. When the bracket or bearing B is turned so that the pulley B<sup>2</sup> is in frictional engagement with the fly-pulley G, the spindle B' will be rapidly rotated by the operation of the treadle of the sewing-machine. Upon the end of the spindle B', I have shown a chuck or plate, D, provided with a pin, d', and a keeper, d<sup>3</sup>, for holding one end of the pasteboard or other strip, E, as shown in the drawings. In this example of the invention the tail-stock C, wherein is journaled the spindle C', is mounted upon a horizontal bar, C<sup>2</sup>, which is fitted to the slide-way C<sup>3</sup> in the plate C<sup>4</sup>, attached to the bed-plate of the sewing-machine. Most sewing-machines are provided with a screw, c, whereby hemmers and other attachments may be secured thereto, and the plate C<sup>4</sup>, which forms the base of my attachment, is secured to the bed-plate F of the sewing-machine by said screw c and by a tongue, c', which hooks under the end of said bed. The spindle C' is provided at its inner end with a chuck or plate, D', having upon it a hook, d<sup>2</sup>, with which the perforation e in the strip E may be engaged or provided with any other suitable catch or holding device for retaining securely the end of the strip. It will be understood that by adjusting the bar C<sup>2</sup> in the slideway C<sup>3</sup>, in order to bring the chuck or holding-plate D' nearer to or farther from the companion plate D, I provide for enabling the attachment to receive strips of different lengths. After the tail-stock is set in the proper position it may be secured against sliding by the set-screw c<sup>2</sup> in a manner which is well understood.

These attachments for a sewing-machine may be made at a small cost and sold for a very low price, and with them any lady hav-

ing a sewing-machine may in a short time wind as many strips as she may require for use in making rugs.

Instead of the head-spindle B' being adjusted so as to bring its driving-pulley B<sup>2</sup> in contact with the fly-pulley G of the sewing-machine, it may be adjusted to bring its said pulley into contact with the driving-belt of the sewing-machine, thereby providing for using the attachment in connection with sewing-machines, wherein the driving-belt extends upward above the table, and in which the needle-operating shaft extends through or adjacent to the upper arm of the sewing-machine.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with two spindles carrying flat plates or chucks provided on their faces with projections for engaging with perforations in the opposite ends of flat strips, one spindle being provided with a driving-pulley, of a bearing for the driving-spindle, and another bearing for the other spindle movable toward and from the driving-spindle to accommodate strips of different lengths, substantially as herein described.

2. The combination, with the two spindles B' C' and bearings therefor, of flat plates or chucks D D', one provided with a hook, d<sup>2</sup>, for engagement with a perforation in the end of the pasteboard or other strip, and the other provided with holding devices for grasping the opposite end of said strip, substantially as and for the purpose herein described.

3. The combination, with the two spindles B' C' and bearings therefor, of flat plates or chucks D D', one provided with a hook, d<sup>2</sup>, for engagement with a perforation in the end of the pasteboard or other strip, and the other provided with a laterally-projecting pin to enter a hole in the other end of the strip, and a pivoted latch or keeper to be swung over the strip to prevent its detachment from said pin, substantially as herein described.

4. The combination, with two spindles, each carrying a flat plate or chuck provided with devices for grasping and holding the ends of pasteboard or other strips, of a driving-pulley on one spindle, and a bearing for that spindle capable of adjustment to move the pulley into and out of frictional engagement with the belt or pulley of a sewing-machine, a base-plate for attachment to the opposite end of a sewing-machine bed, and a bearing for the other spindle adjustable on the base-plate toward and from the driving-spindle to accommodate strips of different lengths, substantially as herein described.

5. The combination, with a spindle provided with a driving-pulley and a bearing therefor capable of adjustment to move said pulley into and out of frictional contact with the belt or pulley of the sewing-machine, of a chuck or flat plate with holding devices for grasping one end of a strip of pasteboard or



other material and carried by said spindle, a  
base-plate, C<sup>4</sup>, attached to a sewing-machine  
bed near its opposite end, and provided with  
a slideway, C<sup>3</sup>, and a sliding bar, C<sup>2</sup>, adjust-  
5 able in said slideway and carrying a bearing  
or stock piece, and a spindle journaled in said  
bearing or stock piece, and provided with a  
chuck or flat plate, and holding devices for

the other end of the pasteboard or other flat  
strip, substantially as and for the purpose so  
herein described.

CHARLES A. LUDLOW.

Witnesses:

A. R. LACEY,  
C. N. WORTHEN.