

(No Model.)

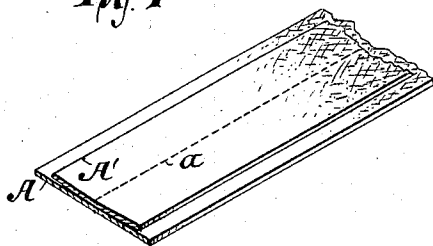
R. HARDIE.

TAPE OR BELT FOR CONTINUOUS CIGARETTE MACHINES.

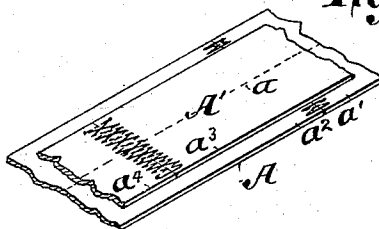
No. 567,644.

Patented Sept. 15, 1896.

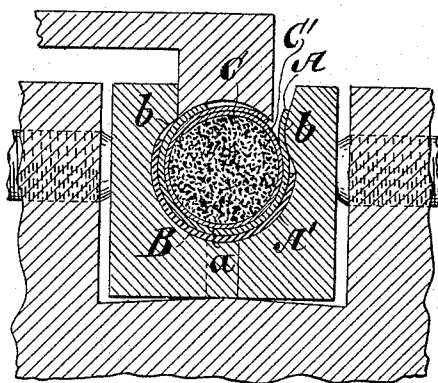
*Fig. 1*



*Fig. 2*



*Fig. 3*



Witnesses  
Geo. Wadman  
Pierson L. Wells

Inventor:  
Robert Hardie  
by his attorney,  
Edwin H. Brown

# UNITED STATES PATENT OFFICE.

ROBERT HARDIE, OF BROOKLYN, NEW YORK, ASSIGNOR TO HENRY C. ELLIOT, OF NEW YORK, N. Y.

## TAPE OR BELT FOR CONTINUOUS-CIGARETTE MACHINES.

SPECIFICATION forming part of Letters Patent No. 567,644, dated September 15, 1896.

Application filed May 31, 1895. Serial No. 551,176. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT HARDIE, of the city of Brooklyn, county of Kings, and State of New York, have invented a certain new and useful Improvement in Tapes or Belts for Continuous-Cigarette Machines, of which the following is a specification.

My invention relates to flexible bands or belts used in continuous-cigarette machines during the wrapping or folding of the inclosing paper ribbon around the filler-rod, or for the purpose of drawing the more or less completed cigarette-rod through the machine.

I will describe a band or belt embodying my improvement and then point out the novel features in the claims.

In the accompanying drawings, Figure 1 is an isometrical view of a portion of a band or belt embodying my improvement. Fig. 2 is a similar view of a portion of an endless band or belt, showing a preferred manner of securing the ends together to complete the continuity of the band or belt. Fig. 3 is a cross-sectional view of the channel or trough of a cigarette-machine through which the band or belt passes and by which the latter is caused to assume more or less of a circular form.

Similar letters of reference designate corresponding parts in all figures.

Generally, my improved band or belt is a compound or double one, since it comprises a strip A and a strip A', superimposed one upon the other. The two strips A and A' may be tapes and attached to one another at one or more points along their length, but preferably I will secure one to the other, so that the attachment is along a longitudinal center line, as shown at *a*. Tapes may be sewed or woven together, or secured to each other in any desirable manner. I prefer this form of attachment, that is, along a single line or one approximating thereto, since, if so secured, there will be an absence of wrinkling or creasing when the band or belt assumes a curved form. The strips A and A' are also shown as being of different widths. This will be advantageous, since the narrower strip A' may be located below the wider strip A at the bottom of the trough B, its upper edges being in contact with more or less sharply-defined shoulders *b b*, extending from

the inner surface of the trough and serving by this construction to more effectually guide and direct the movement of the band or belt. C is the cigarette-rod, and C' the inclosing paper wrapper. Fig. 2 shows the preferred manner in which the ends of the strips are secured together. As there shown, the abutting ends *a' a''* of the strip A are in a different plane than the abutting ends *a<sup>3</sup> a<sup>4</sup>* of the strip A', the two strips therefore lapping upon each other for some distance between the planes of junction of their ends. This lapping portion of the strips will provide ample means for securing the ends of the strips together without lapping the ends of the strip A or the strip A' upon each other, since they will merely abut end to end. By this construction an endless band or belt may be formed which is entirely free from ridges or raised cross-seams, and consequently a cigarette-rod made by its use will be entirely free from depressions or marks due to the use of ordinary bands or belts in which cross-seams exist at the point of junction of the tapes. A band or belt of this compound or double construction will also be of much greater strength than a simple band or belt, being therefore less liable to break.

The method employed for connecting the ends of the strips will permit the weak portion of the inner strip or the line of junction of its two abutting ends to be backed or reinforced by a smooth portion of the outer strip, thus deriving all the advantages of a continuous and endless band in the absence of depressions around the completed cigarette.

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

1. A compound band or belt adapted to pass through the curved forming trough or guides of a continuous-cigarette machine, consisting of two strips, one superimposed upon the other and secured thereto along a longitudinal center line, substantially as specified.

2. A compound band or belt adapted to pass through the curved forming trough, or guides of a continuous-cigarette machine, consisting of two strips, one superimposed

upon the other and secured thereto along a longitudinal center line, one of the strips being narrower than the other, substantially as specified.

- 5 3. A compound band or belt adapted to pass through the curved forming trough or guides of a continuous-cigarette machine, consisting of two strips, one superimposed upon the other and secured thereto, one of  
10 the strips being narrower than the other, substantially as specified.

4. A compound band or belt adapted to pass through the curved forming trough or guides of a continuous-cigarette machine,

consisting of two strips, one superimposed 15 upon the other, and secured thereto, the joint between the ends of one strip being arranged at a different point, lengthwise of the band or belt, than the joint between the ends of the other strip, so that the strips will break 20 joints, substantially as specified.

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

ROBERT HARDIE.

Witnesses:

ANTHONY GREF,  
PIERSON L. WELLS.