

No. 753,995.

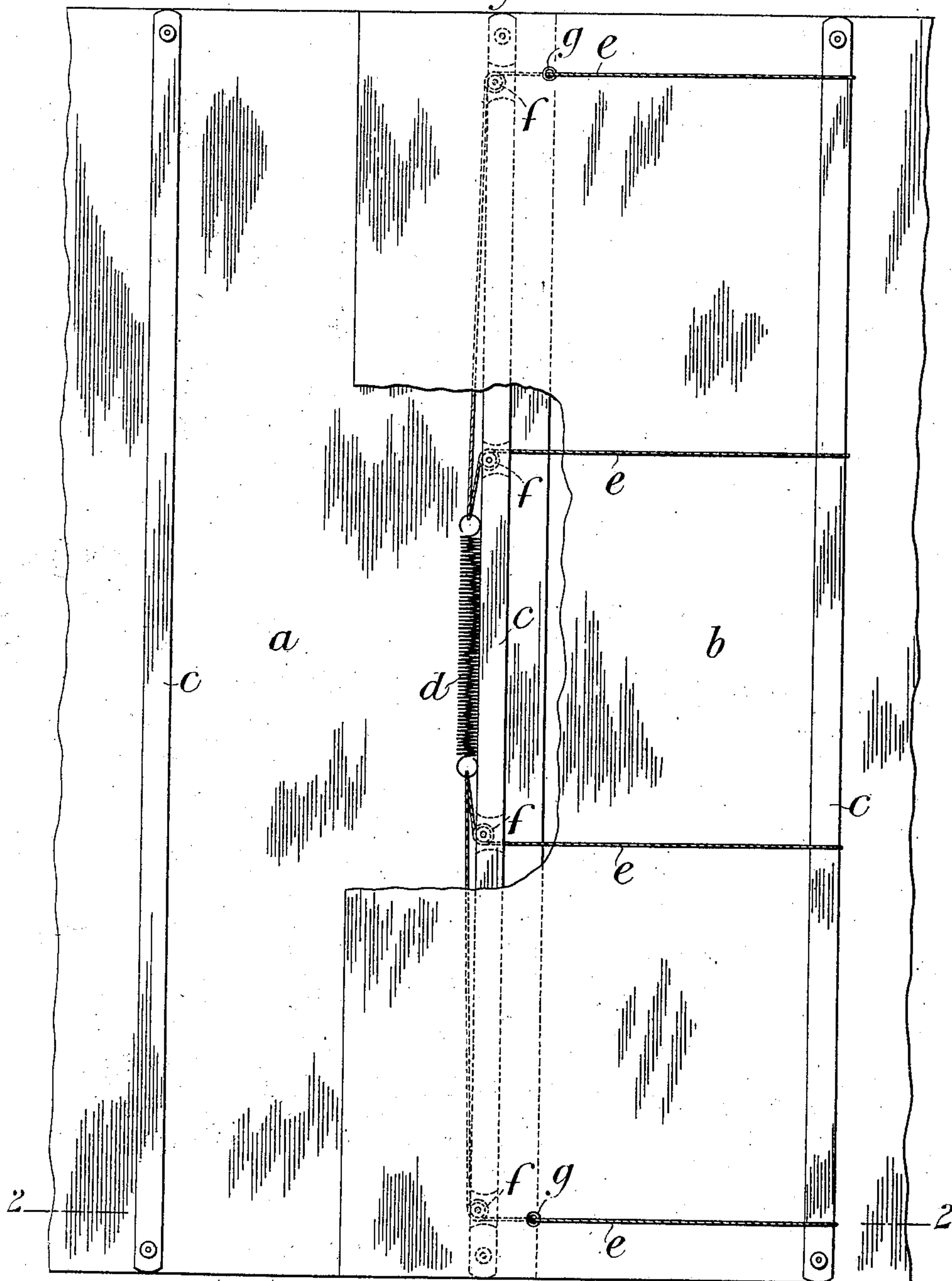
PATENTED MAR. 8, 1904.

F. D. MERCER.  
TRAVELING BELT OR APRON.  
APPLICATION FILED DEC. 7, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

*Fig. 1*



*Fig. 2*

Witnesses:  
J. K. Brown  
J. H. Hubbard

Inventor:  
Frederick Duman Mercer  
By Whitaker & Trenchard Attys.

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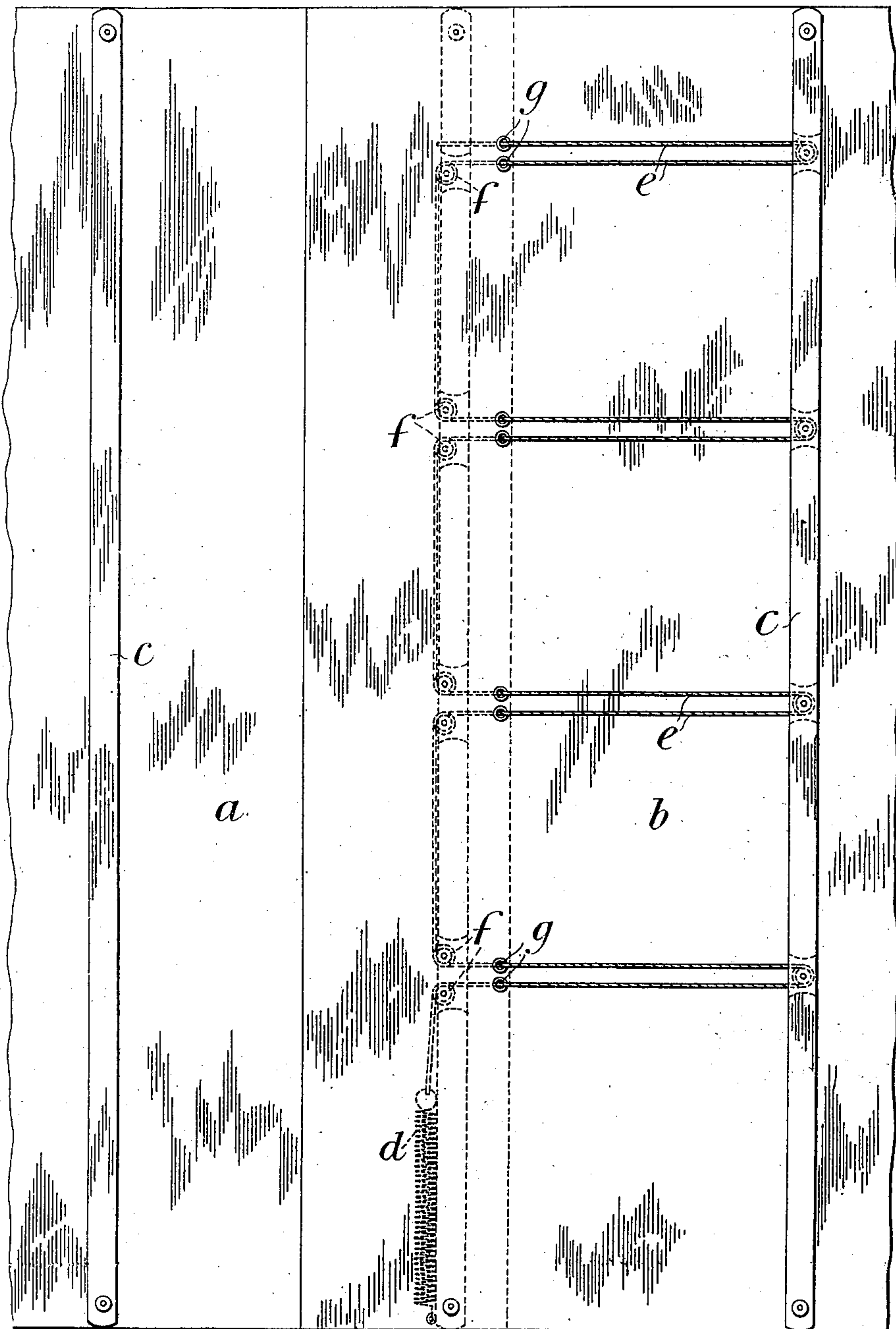
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APPLICATION FILED DEC. 7, 1903.

NO MODEL.

2 SHEETS—SHEET 2.

*Fig. 3*



Witnesses

J. K. Moore  
B. H. Hubbard

Inventor

Frederick Duncan Mercer  
By Whitaker Messer Atty



# UNITED STATES PATENT OFFICE.

FREDERICK DUNCAN MERCER, OF HAMPSTEAD, ENGLAND.

## TRAVELING BELT OR APRON.

SPECIFICATION forming part of Letters Patent No. 753,995, dated March 8, 1904.

Application filed December 7, 1903. Serial No. 184,136. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK DUNCAN MERCER, a subject of the King of Great Britain, residing at 113 Haverstock Hill, Hampstead, in the county of London, England, have invented new and useful Improvements in or Connected with Traveling Belts or Aprons, of which the following is a specification.

My invention relates to traveling belts or aprons, and chiefly to those used in self-binding harvesters. It is well known that such belts or aprons when made of canvas or like textile material are liable when they become wet to shrink, thereby producing great friction upon the bearings of the carrying-rollers.

Heretofore it has been usual to connect the edges of a belt or apron by straps and buckles, which permit of the canvas being tightened or loosened from time to time to the desired extent. This operation, however, occupies considerable time in carrying it out, and the adjustment, furthermore, is not always so accurate as is desirable, especially when one part of a platform is dry and the other wet.

The object of my invention is to provide a tension device which will automatically operate to maintain the platform or apron at a practically uniform tension under all conditions, and to this end I combine with one end of the apron or platform a spiral or other spring which is connected by cords or other flexible connections with the other end of the apron.

In the accompanying drawings, Figure 1 is a plan view of the adjacent ends of an apron provided with a tension device in accordance with my invention, and Fig. 2 is a section on the line 2 2, Fig. 1. Fig. 3 is a view illustrating a modification.

*a b* indicate the two ends of the apron, and *c c* the usual transverse slats which are secured thereto.

*d* is the tension-spring which I employ in accordance with my invention, which spring, as shown, is arranged to lie against one of the slats *c*—for instance, the slat on the end *a*—and is connected at its ends by wire or other cords *e e* with the slat on the other end, *b*, of the apron, the said cords passing over pulleys *f f* in the slat against which the spring *d* is ar-

ranged. If desired, the spring may be fixed in position so that one half serves for one side of the belt or apron and the other end for the opposite side, or separate springs may be used. With this arrangement it will be understood that should the apron become wet, and thereby contract, the distance between the slats on the two ends of the apron will be increased, that the pull exerted upon the cords *e e* will cause the extension of the spring *d* to a corresponding extent, and that as the apron dries the reaction of the spring by its pull upon the cords will compensate for the lengthening of the apron and take up the slack.

As shown in Fig. 1, the spring is arranged at the center of the apron and a cord *e* is passed through an eye at each end of the spring and connected by its two ends to the slat *c* on the end *b* of the apron, each cord *e* being free to move through the eye in case the two ends of the said cord are moved an equal distance. This arrangement also permits of either side of the apron contracting and expanding independently of the other side. If desired, however, the spring may be arranged at one side of the apron and a single cord, connected to one end of the spring, be passed alternately around pulleys on the two end slats of the apron, as indicated in Fig. 3, or a series of independent cords may be connected to the said spring.

The apron is provided on one end with a flap which lies over the spring and pulleys, as clearly shown in the drawings, holes *g g* being formed in this flap through which the cords are passed, although, if desired, the said cords may be attached to the slat beneath the flap.

I wish it understood that the above-described modes of carrying out my invention are only given as examples, as it is obvious that the details of the arrangement could be varied. For instance, instead of passing the cords through holes in the slats provided with pulleys the cords could be passed through holes or eyelets formed or inserted directly in the canvas or around independent guides fixed to the canvas at or near one end and be directly attached to the canvas at the other end.

Having now particularly described and as-



certained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

5 1. In a traveling belt or apron a spring arranged transversely of the said belt or apron at one end thereof in combination with a flexible cord or cords or the like connecting the said spring to the other end of the belt or apron and  
10 eyes or guides through or around which the said cord or cords passes or pass, substantially as, and for the purpose, described.

15 2. In a traveling belt or apron having slats upon its outer surface, a tension device comprising a spring arranged transversely of the apron and lying against a slat at one end of the said apron, apertures in the said slat, and flexible cords connected with the spring and pass-

ing through the said apertures, and connected to the other end of the apron, substantially as described. 20

3. In a traveling belt or apron having slats upon its outer surface, a tension device comprising a spring arranged transversely of the said apron, apertures in a slat near one end of the said apron, pulleys in the said apertures, a  
25 cord or cords connected to the said spring and passed over the said pulleys and attached to the other end of the apron, substantially as described.

FREDERICK DUNCAN MERCER.

Witnesses:

JOHN E. BOUSFIELD,  
C. G. REDFERN.