



(No Model.)

2 Sheets—Sheet 2.

E. B. BEECHER & J. P. WRIGHT.  
MECHANISM FOR ADJUSTING BELT APRONS.

No. 540,941.

Patented June 11, 1895.

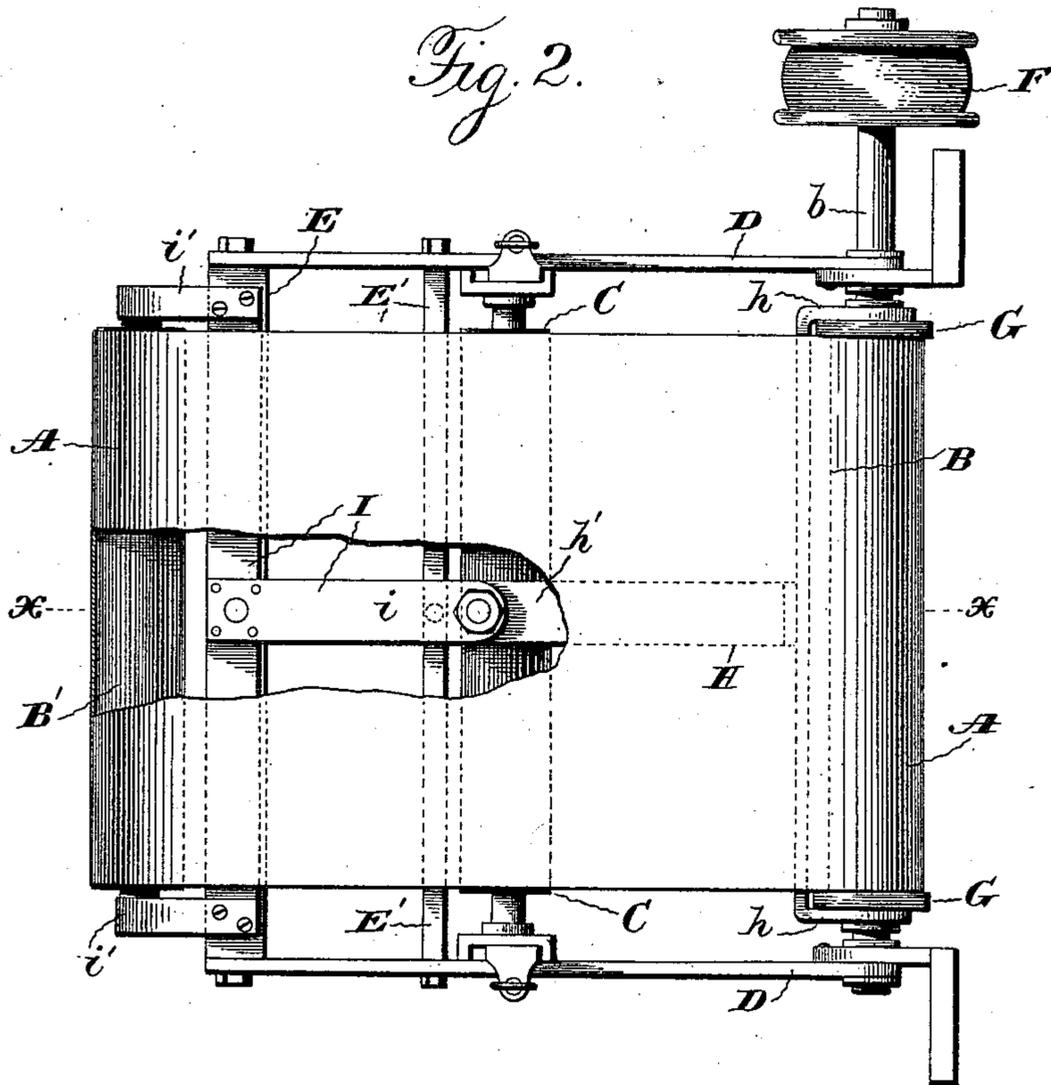


Fig. 3.

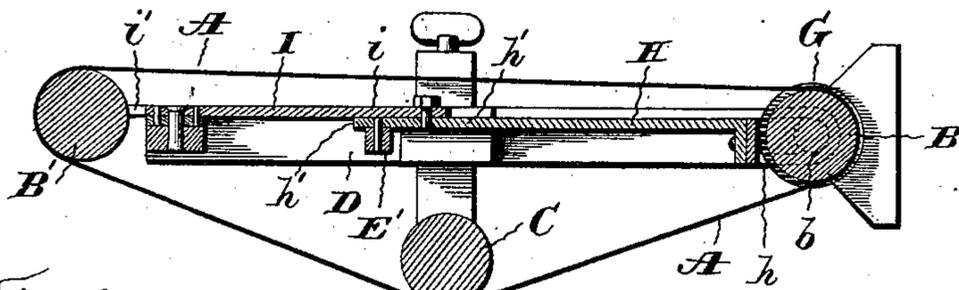
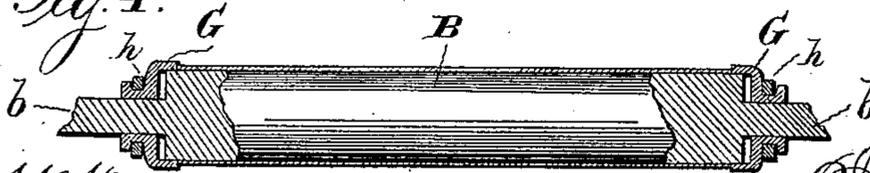


Fig. 4.



Witnesses:

Jas. E. Hutchinson.  
Henry C. Hazard.

Inventors.

Ebenzer B. Beecher and Jacob P. Wright,  
by Prindle and Russell their Attorneys

# UNITED STATES PATENT OFFICE.

EBENEZER B. BEECHER, OF WESTVILLE, AND JACOB P. WRIGHT, OF NEW HAVEN, CONNECTICUT, ASSIGNORS TO THE DIAMOND MATCH COMPANY, OF CHICAGO, ILLINOIS.

## MECHANISM FOR ADJUSTING BELT-APRONS.

SPECIFICATION forming part of Letters Patent No. 540,941, dated June 11, 1895.

Original application filed August 21, 1893, Serial No. 483,671. Divided and this application filed October 11, 1894. Serial No. 525,578. (No model.)

*To all whom it may concern:*

Be it known that we, EBENEZER B. BEECHER, of Westville, and JACOB P. WRIGHT, of New Haven, in the county of New Haven, and in the State of Connecticut, have invented certain new and useful Improvements in Mechanism for Adjusting Belts, Aprons, &c.; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of our invention with no belt or apron upon the rollers. Fig. 2 is a plan view thereof with an endless carrier upon the rollers, and Fig. 3 is a longitudinal section upon line *xx* of Fig. 2. Fig. 4 is a sectional view of the roller B.

Letters of like name and kind refer to like parts in the several figures.

The design of our invention is to prevent endless belts or bands used as conveyers or for the transmission of power, from working laterally or sidewise upon their supporting rollers or wheels, and to this end, said invention consists in the mechanism constructed substantially as and for the purpose hereinafter specified.

The subject matter of the present application is a division of our application, Serial No. 483,671, filed August 21, 1893, for an improvement in machines for making matches, and while especially designed for use in this connection for retaining in its proper place the carrier or apron upon which the completed matches are discharged for removal from the machine, we do not limit ourselves only to this employment of our invention, because the latter is applicable in other relations wherever it is desirable to correct any sidewise tendency in endless aprons or belts.

To illustrate our invention we have shown, and will describe the same in the form in which it appears in our above-noted application, where it is employed in connection with a match conveying apron or belt A that passes over two parallel rollers B and B' whose axes are in substantially the same horizontal plane, and over a third roller C that is located mid-

way between the others, but in a lower, horizontal plane, and is vertically adjustable to regulate the tension of the apron or belt A. Said rollers are supported, in the manner to be hereinafter explained, by means of an open frame that consists of two, parallel side bars, D and D, and two cross bars E and E'. The former connects said bars D and D at one of their ends, while the bar E' connects them at a point somewhat to one side of the longitudinal center of the bars D and D.

Supported and journaled on the ends of the bars D and D opposite to those connected by the bar E, is a shaft *b* upon which the roller B is mounted, and also upon said shaft is a pulley F by means of which the roller may be rotated to impart motion to the apron A.

At each end of the roller B is a collar G whose inner face is engaged by an edge of the belt or apron A, while the outer face of each of said collars, is engaged by one of the arms or extensions *h* and *h* of a T-shaped lever H that is pivoted at the extremity of its shank *h'* to the cross-bar E' at the transverse center thereof. A second T-shaped lever I forming a swinging frame to support the roller B' in the manner to be described is pivotally connected at the end of the shank *i* thereof, to the shank *h'* of the lever H, and is itself pivoted to the cross-bar E. In arms or extensions *i'* and *i'* of said lever I the roller B' is journaled, and, accordingly, is adapted to be moved to change its position relative to the roller B.

The collars G and G are mounted so as to slide axially, and it will therefore be apparent, that should the apron A move sidewise, its pressure upon the collar G toward which it moves, will slide said collar axially, and in consequence of the engagement therewith of the arm *h* of the lever H, the latter will be turned on its pivot, and, through its connection with the lever I, will move the same and thereby place the roller B' at an angle to the roller B. As a result of this operation, the sidewise movement of the apron will be checked and reversed, and said apron restored to its proper, normal position. With the end of the

movable roller on the side of the frame toward which the belt has traveled moved away from the other roller, the belt will be caused to work back toward its proper normal central position.

5 As the slightest travel of the apron laterally will move one of the collars G and G correspondingly, and actuate the levers H and I in the manner just described, the apron will  
10 be automatically prevented from moving very far toward either side and returned to its designed position.

As the length of the roller is greater than the width of the apron, so as to insure an en-  
15 gagement of the latter with the roller during the lateral travel of the apron, the inner faces of the collars G and G are recessed, as shown, to permit their rims or edges to extend over the ends of the roller B and engage the sides  
20 of the apron.

While we prefer the embodiment of our invention as we herein show and describe it, we wish it understood that we do not limit ourselves thereto, as changes can be made in the  
25 details of construction which will involve no departure in principle.

Having thus described our invention, what we claim is—

1. In combination with the belt and a roller  
30 over which the belt passes, a second roller around which the belt travels so that the tension of the belt at or near opposite ends of the roller will be changed as the roller is moved to change the angle of its axis with relation to  
35 the axis of the other roller, a swinging frame having bearings in which this second roller is journaled, and means engaged and actuated by the edge of the belt as the latter moves to the side of its proper position, to swing the  
40 frame to change the position of the axis of the

roller carried thereby, substantially as and for the purpose specified.

2. In combination with the belt and a roller over which the belt passes, a second roller around which the belt travels, bearings for  
45 such roller mounted on a swinging frame, a lever connected with such frame, and means connected with the lever, and engaged and actuated by the belt, as it moves to one side or the other of its proper position, so as to  
50 move the lever and swing the frame so as to carry the end of the movable roller toward which the belt has moved farther from the other roller, substantially as and for the purpose shown.

3. In combination with the belt, a roller over which the belt passes, the second roller around which the belt travels, bearings for such roller mounted on a swinging frame, a  
60 forked lever connected with the frame, and devices engaged by the fork arms, adapted to be engaged and moved by opposite edges of the belt as the latter moves to one side or the other of its proper position, substantially as  
65 and for the purpose set forth.

4. In combination with the belt, the roller, the movable collars on opposite sides of the belt where the latter passes over the roller, the second roller, the swinging frame upon  
70 which the latter is journaled, and the lever connected with the frame and the collars, substantially as and for the purpose described.

In testimony that we claim the foregoing we have hereunto set our hands this 6th day of October, 1894.

EBENEZER B. BEECHER.  
JACOB P. WRIGHT.

Witnesses:

L. W. BEECHER,  
WILLIS B. ISBELL.