No. 669,232. Patented Mar. 5, 1901.

H. J. CASE.

STRETCHING DEVICE FOR HARVESTER APRONS.

(Application filed June 20, 1900.)

(No Model.)

Fig. 1.

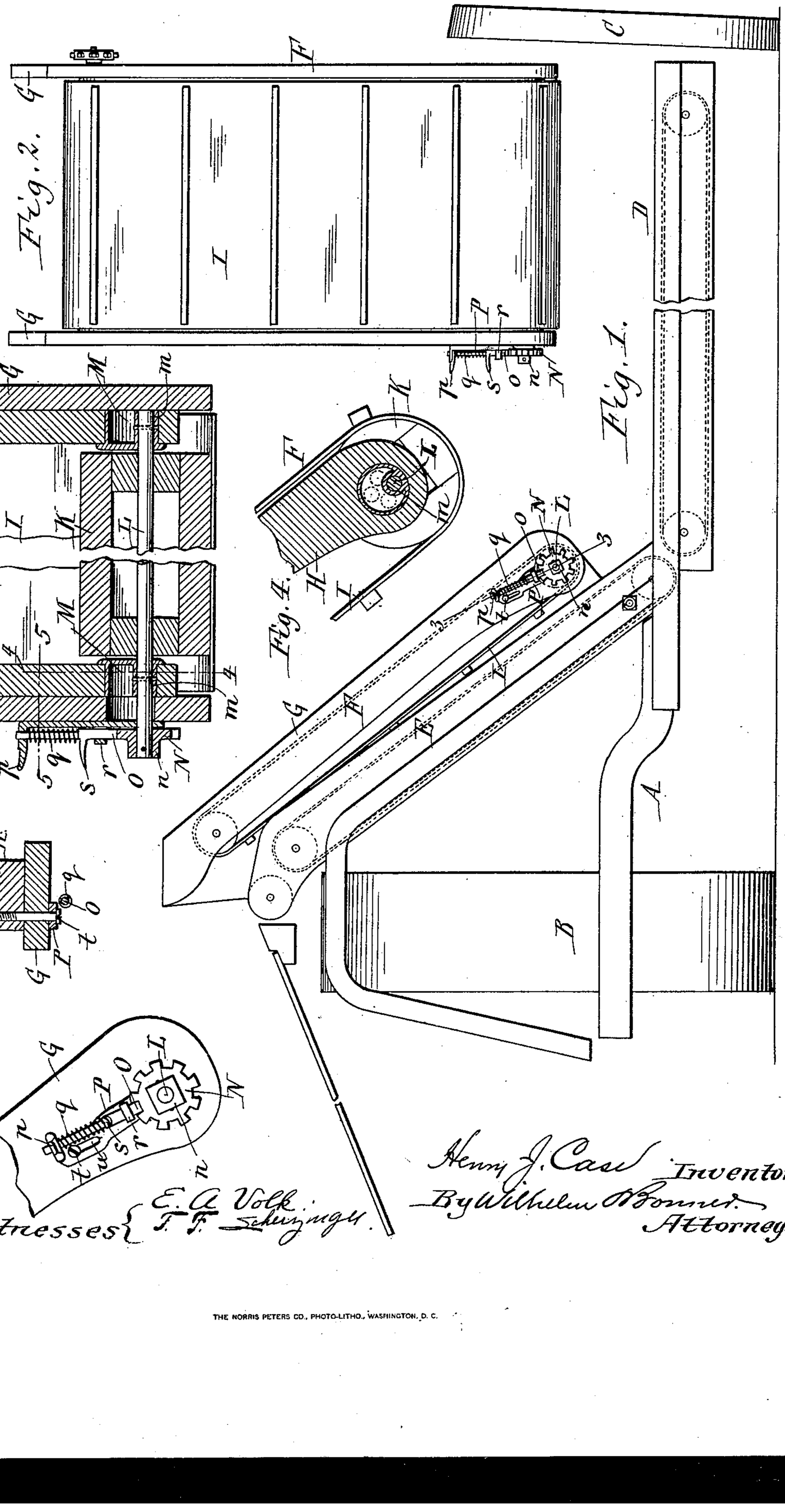

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Fig. 6.

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UNITED STATES PATENT OFFICE.

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STRETCHING DEVICE FOR HARVESTER-APRONS.

SPECIFICATION forming part of Letters Patent No. 669,232, dated March 5, 1901.

Application filed June 20, 1900. Serial No. 21,003. (No model.)

To all whom it may concern:

Be it known that I, HENRY J. CASE, a citizen of the United States, residing at Owasco, in the county of Cayuga, in the State of New York, have invented new and useful Improvements in Stretching Devices for Grain-Harvester Aprons, of which the following is a specification.

This invention relates to a stretching or tightening device for the traveling endless aprons which are used in the elevating and conveying mechanisms of grain-harvesters. In order to keep such aprons in good working order, it is necessary to slacken the apron when the machine is not in use—for instance, over night—and in order to induce the persons who attend to this class of machines to slacken the aprons when the day's work is done and to tighten the same again in the morning, rather than leave the aprons under tension over night, the stretching devices should be of such construction that they require no particular effort for their manipulation and that the desired adjustment is produced quickly. My invention is designed to meet these requirements and has reference more particularly to a stretching device for the upper elevator-apron.

In the accompanying drawings, Figure 1 is a rear elevation of the elevators of a grain-harvester, showing my improved stretching device applied to the lower roller of the upper elevator. Fig. 2 is an elevation of the upper elevator-apron viewed from the grainward side. Fig. 3 is a transverse section, on an enlarged scale, through the lower portion of the upper elevator in line 3 3, Fig. 1. Fig. 4 is a section through one of the eccentric supports at right angles to Fig. 3 in line 4 4, Fig. 3. Fig. 5 is a horizontal section through the locking-bolt and supporting parts in line 5 5, Fig. 3. Fig. 6 is a side elevation of the locking-bolt and connecting parts.

Like letters of reference refer to like parts in the several figures.

A represents the frame of the harvester; B, the master or driving wheel; C, the wheel on the grainward side of the machine; D, the conveyer-platform; E, the lower elevator, and F the upper elevator.

My improved stretching device is shown as applied to the lower roller of the upper elevator F and is constructed as follows:

G represents the side pieces of the frame of the upper elevator, and H the cleats secured to the inner sides of these side pieces.

I represents the elevator-apron, which is supported along its edges by these cleats.

K represents the lower roller of the elevator, arranged between the lower ends of the cleats and mounted loosely on an arbor L.

M represents cylindrical supports, which are arranged in cylindrical openings in the cleats and which are provided with eccentrically-arranged sockets or seats *m*, in which the arbor L is secured. By turning the eccentric supports M in the openings of the cleats the arbor and the lower roller supported thereon are adjusted in a circular path concentric with the axes of the supports and are caused to move toward the upper end of the elevator or to recede therefrom, thereby loosening or tightening the apron. This adjustment of the lower roller in a circular path also causes the lower roller to approach the lower elevator or recede therefrom, thereby reducing the width of the space or throat between the elevator-aprons at the lower ends of the elevators or enlarging the same, thus furnishing convenient means for adjusting the width of this throat. In Fig. 4 four positions of the arbor of the lower roller are indicated, one being shown in full lines and three in dotted lines. The position shown in full lines is the lowermost position of the arbor, in which position the apron is taut. The position shown in dotted lines diametrically opposite this lowermost position is the uppermost position, in which the apron is slack. In the two intermediate positions (shown in dotted lines) the slack is partly taken up and the apron is in one position nearest the lower elevator-apron and in the other position farthest from the same.

For the purpose of locking the arbor in its adjusted position any convenient device may be employed, preferably the device which is represented in the drawings and which is constructed as follows:

N represents a notched locking-disk, which is secured to the arbor L, at one end thereof, preferably the rear end, so that this disk is

located on the rear side of the machine. O represents a locking-bolt which engages with this disk for holding it against turning. This bolt is mounted on a plate P, which rests against the adjacent side piece G of the elevator and is provided at one end with an opening, through which the arbor passes, so that this plate is connected at one end with the arbor and follows the circular adjustment of the same. The plate P is provided at its opposite end with a projecting thumb-piece *p*, which has an opening in which the upper end of the locking-bolt is guided. *q* is a spring applied to this bolt below this thumb-piece. *r* is a guide for the locking-bolt, formed on the plate P near the locking-disk.

s is a thumb-piece formed on the locking-bolt.

The plate P is attached to the adjacent side piece G of the elevator-frame by a headed bolt *t*, which engages in a slot *u* in the plate. This slot-and-bolt connection enables the plate and locking-bolt to follow the arbor and locking-disk, as these parts are adjusted, the plate sliding on the headed bolt as the plate moves up or down and swinging on the headed bolt as the arbor moves toward and from the lower elevator.

The hub *n* of the locking-disk N is made square, as shown, or otherwise shaped so that a wrench can be applied to the same for turning the disk and the arbor secured to the same. Upon releasing the locking-bolt and turning the disk and arbor in this manner both eccentric supports of the arbor are turned in their seats, whereby the position of the arbor is changed, as described. When the desired adjustment has been reached, the locking-bolt is again engaged and holds the arbor firmly in position.

I claim as my invention—

1. The combination with an endless apron, of a supporting-frame provided in its side pieces with circular openings, circular supports capable of rotary adjustment in said openings, an arbor secured eccentrically in said supports, a roller mounted on said arbor between the side pieces of the frame and supporting said apron, a notched locking-disk secured to one end of said arbor, and a locking-bolt mounted on said frame and engaging with said disk, substantially as set forth.

2. The combination with an endless apron and its supporting-frame, of circular supports capable of rotary adjustment in said frame, an arbor secured eccentrically in said supports, a roller mounted on said arbor, a locking-disk secured to said arbor, a locking-bolt engaging with said disk, and a supporting-plate for said bolt connected at one end with said arbor and at the other end to said frame by a sliding pivotal connection, substantially as set forth.

Witness my hand this 18th day of June, 1900.

HENRY J. CASE.

Witnesses:
H. A. SOMERS,
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