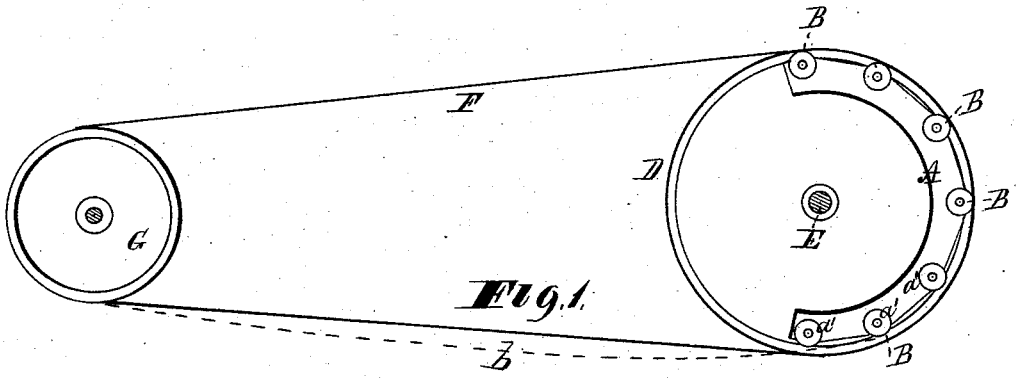
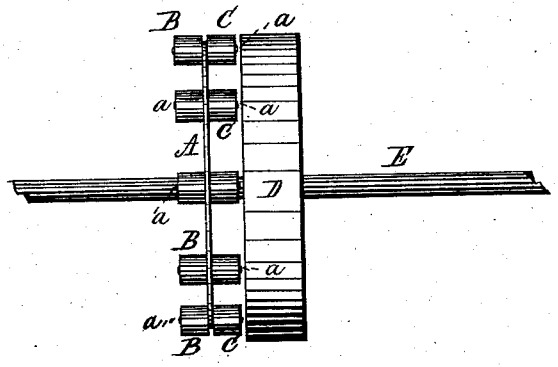
(No Model.)

# W. R. SANTLEY.

## MACHINE BELT HOLDER.

No. 302,037. Patented July 15, 1884.




Witnesses.
J. H. Burridge
L. H. Turney

Inventor.
W. R. Santley
Wm. H. Burridge
Atty.

# UNITED STATES PATENT OFFICE.

WILLIAM R. SANTLEY, OF WELLINGTON, OHIO.

## MACHINE-BELT HOLDER.

SPECIFICATION forming part of Letters Patent No. 302,037, dated July 15, 1884.

Application filed December 5, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM R. SANTLEY, of Wellington, in the county of Lorain and State of Ohio, have invented a certain new and Improved Machine-Belt Holder; and I do hereby declare that the following is a full, clear, and complete description thereof.

The object of this invention is a device for holding a belt, onto which it is shifted, from a driving-pulley with which the belt-holder is associated, so that the belt may be at rest, ably supported and free from tension when not required for active service. The construction of the said belt-holder and the practical operation of the same are fully described in the following specification, and illustrated in the annexed drawings, making a part of the same, in which—

Figure 1 represents a side view of the belt-holder and the driving-pulley associated therewith. Fig. 2 is a rear view of the belt-holder and pulley.

Like letters of reference denote like parts in the drawings.

On each side of the curvilineal web or arc A is arranged a series of rollers, B and C, attached to said arc by pintles *a*, respectively, and on which the rollers revolve, and are retained in a curvilineal relation to the driving-pulley D, secured on the shaft E, substantially as shown in the drawings.

It will be noticed in the drawings that the rollers on the one side of the web or arc A have an axial alignment with the rollers on the opposite side, thereby forming pairs of rollers coinciding with the rim of the pulley or drum and flush with the face thereof, excepting two or three of the lower pairs of rollers, *a'*. The faces of said rollers *a'* are not flush with the face of the pulley, but are arranged within its circumference in a differential curve, as seen in Fig. 1. The pintles of the rollers have no support at their outer ends; hence the series of rollers C can be adjusted close to the side of the pulley, as shown in Fig. 2, so that the belt may run easily and directly from off the pulley onto the rollers, as there is but little intervening space between the rollers and the edge of the drum, which there would necessarily be were the ends of the pintles supported in journal-bearings.

The practical application of the rollers to the pulley for receiving the belt therefrom, and for holding the same when not in active use, is as follows: By any suitable appliance—as hangers, brackets, braces, or arms—that may be attached to the web or arc, as the nature or circumstance of the place and position of the pulley and shaft may require, the system of rollers are adjusted and secured close to the side of the pulley unconnected therewith, or with the shaft E; hence, adapting the system of rollers to the side of the pulley is a matter simply conditional, according to circumstance, and is no essential feature in this invention, which consists of a double row or series of rollers—one series on each side of the supporting web or arc—substantially as shown in the drawings.

In providing a belt-holder with a duplex series of rollers—one series on each side of the web or supporting-arc, as herein described—I am enabled to hold and support an idle belt of greater width and weight than can be supported on a belt-holder having a series of rollers only on one side of a supporting web or arc, as in that case it would be necessary to have the rollers of a length corresponding to the width of the belt, which, if of considerable width, it would be of great weight, and consequently exert undue strain upon the pintles supporting the rollers, and cause them to either break down or to lose their proper relation to the pulley or drum, unless the outer ends of the pintles were supported, which would require the rollers to be set farther away from the side of the pulley to make room for the end support. A series of rollers on each side of the supporting-arc will require each one to be in length only about half the width of the belt or half the length of long rollers, if arranged on one side of the supporting-arc for holding the said belt; hence the shorter rollers will have more sustaining-power in view of their short pintles, on which the weight of the belt will exert less leverage or strain than upon the pintles of longer rollers, and which short rollers can be adjusted in closer proximity to the pulley, as the ends of the short pintles are unsupported, as above said. Furthermore, by the duplex series of rollers the weight of the belt is borne vertically and

centrally upon the supporting web or arc, the weight being equally balanced thereon, instead of on one side, as is the case when one series of rollers are used. The lower pairs of rollers, being in an arc or curve within the circumference of the driving-pulley D, will cause the belt, when shifted onto the belt-holder from the pulley, to hang loosely, as indicated by the dotted line *b*, Fig. 1, in which F represents the belt passing around the pulley or drum D and pulley G. The same result—viz., a slackening of the idle belt—may be obtained by placing the lower pairs of rollers a little outside of the circumference of the driving-pulley. In that case the lower pairs of rollers should be farther from each other.

It is preferred to have the differential curve in which the slackening-rollers are placed within the circumference of the pulley, and if no tension is desired to be taken from the idle belt when shifted onto the belt-holder, all the rollers can be arranged coincident with the circumference of the pulley without changing the essential feature of my invention, as herein set forth. As herein described, and shown in the drawings, each pair of rollers have their pintles in alignment one with the other, but which, however, may be arranged alternately—that is to say, a roller on one side of the supporting-arc may be relatively between the two approximate rollers on the opposite side of the arc. The arrangement as shown in the drawings is preferred.

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

A belt-holder consisting of a duplex series of rollers, each series being arranged respectively on the sides of a supporting web or arc, a portion of which rollers being in serial order in the arc of a circle coincident with the circumference of the pulley or drum D, and a portion thereof arranged in a differential arc described within the circumferential line of the pulley, substantially as herein set forth, for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

W. R. SANTLEY.

Witnesses:
D. A. WILLARD,
W. H. SCHNEIDER.