(No Model.) 2 Sheets—Sheet 1.

J. J. HARNSBERGER.

BELT REPLACER.

No. 315,615. Patented Apr. 14, 1885.

FIG. 1.

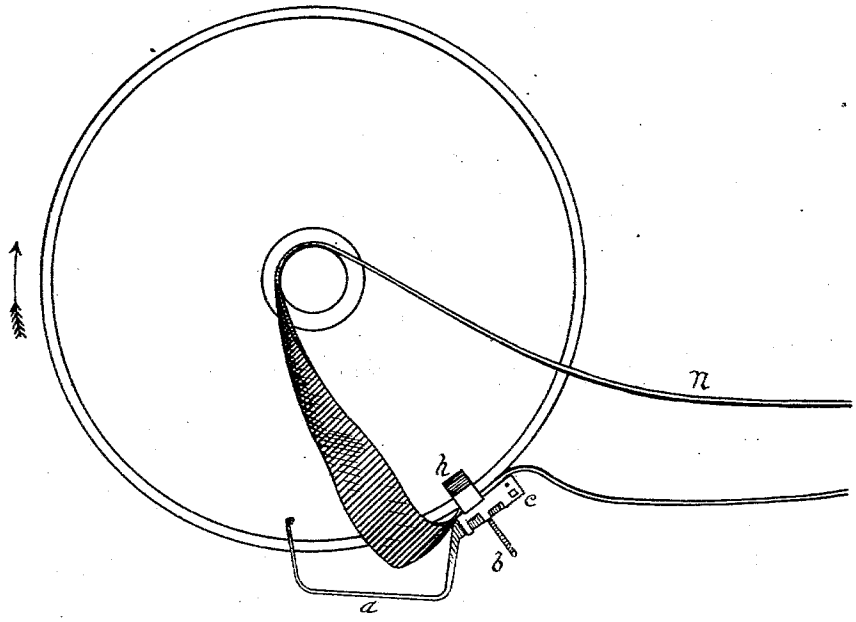
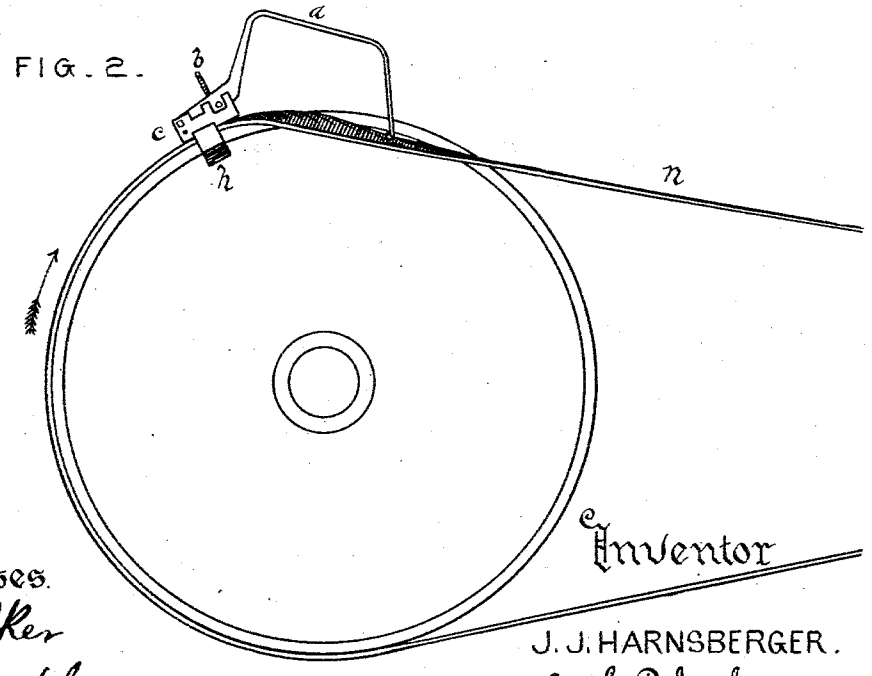


FIG. 2.



Witnesses.
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(No Model.) 2 Sheets—Sheet 2.

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BELT REPLACER.

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FIG. 3.

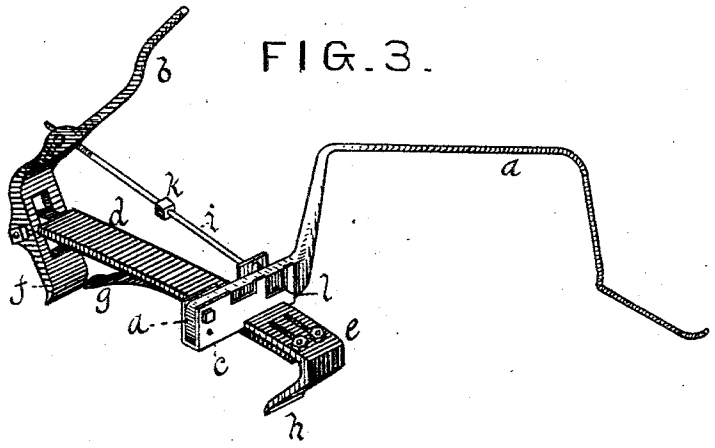
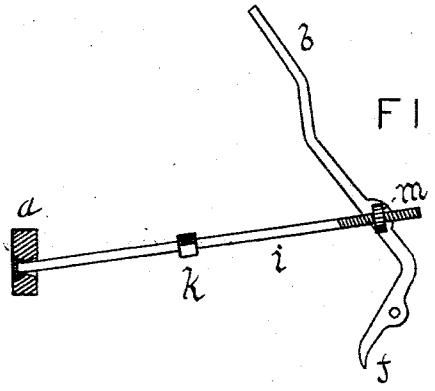


FIG. 4.



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UNITED STATES PATENT OFFICE.

JAMES J. HARNSBERGER, OF DECATUR, ILLINOIS.

BELT-REPLACER.

SPECIFICATION forming part of Letters Patent No. 315,615, dated April 14, 1885.

Application filed February 24, 1885. (No model.)

To all whom it may concern:

Be it known that I, JAMES J. HARNSBERGER, a resident of Decatur, in the county of Macon and State of Illinois, have invented certain new and useful Improvements in Belt-Replacers, of which the following is a specification.

My invention consists in certain peculiarities of construction and combinations of parts, as will be hereinafter set forth and claimed.

In the drawings accompanying and forming a part of this specification, Figure 1 represents the beginning, and Fig. 2 the completion, of the operation of placing a belt on its pulley by means of my device. Fig. 3 is a perspective representation of my device, and Fig. 4 an elevation of certain details of construction of the same.

a is a trip-lever that is operated by the belt for the purpose of disconnecting the replacer from the wheel. *b* is a lever used to attach the replacer to a wheel or pulley. *c* is a bearing for the trip-lever *a*. *d* is a clamp-bar that reaches across the face of the pulley. *e* is an adjustable continuation of *d*. *f* is a pivoting clamp-jaw formed of the termination of lever *b*. *g* is a plate-spring secured to the under surface of bar *d*. *h* is a clamp-jaw rigid on plate *e*. *i* is a rod that passes through trip-lever *d*, and is adjustably connected with clamp-lever *b*.

k represents a parallel-surfaced formation of rod *i*, that enables the same to be rotated with a wrench or with the fingers. *l* is a portion of bearing *c* that acts as a rest for the end of rod *i*. *m* in Fig. 4 is a nut for rod *i*, pivoting loosely in lever *b*. *n* is the pulley-belt.

To place a belt on a pulley by means of my device, the belt is drawn up against the face of the pulley, substantially as shown in Fig. 1, and secured in position by the clamps. The pulley is then rotated sufficiently to carry the belt and replacer into the position indicated in Fig. 2, when the said belt will operate the trip-lever of the replacer and slip into position simultaneously. The rod *i* slides loosely in lever *a* when unrestrained, and acts as a brace to hold clamp-jaw *f* against the rim of the pulley when said rod rests against stop *l*, as shown in Fig. 3.

In securing the belt to the face of a pulley the end of rod *i* is raised clear of stop *l*, and said rod permitted to slide through lever *a* until clamp-jaw *f* is opened sufficiently to pass over the rim of the pulley. Lever *b* is then used to force said clamp into position under the rim of the pulley, and should rod *i* prove to be too short or too long to fit closely against stop *l* when the clamp is properly adjusted its length may be modified by turning *k* and screwing the threaded end through nut *m*.

When the device is attached to the pulley, spring *g* is forced against the belt until it comes in contact with bar *d*, and the function of said spring is to assist the belt in throwing the replacer from the pulley when clamp *f* is released. The replacer may be adjusted to accurately fit the rim of the pulley by means of the slots and bolts in plate *e*.

As indicated in Fig. 4, lever *a* is recessed to receive the head of rod *i*, and this arrangement enables said rod to be readily adjusted against stop *l*.

To enable the same trip-lever to be operated on pulleys having different diameters, a series of pivot-holes are provided both in the lever and in its bearing-frame *c*.

As represented in Fig. 2, the trip-lever is sufficiently elevated by the belt to permit rod *i* to slide clear of stop *l*, thereby disengaging clamp *f* and permitting the belt, with the assistance of spring *g*, to throw the device from the pulley.

It is obvious that the belt will trip the lever in passing onto the pulley, as indicated in Fig. 2, and at no other time, and this peculiarity renders the operation of the replacer at all times effective and safe.

I claim as new and desire to secure by Letters Patent—

1. The combination, in a belt-replacer, of bar *d*, rigid jaw *h*, pivoting jaw *f*, lever *b*, brace-rod *i*, stop *l*, and a suitable trip-lever adapted to be thrown by the belt as it passes into position on the pulley for the purpose of disconnecting the replacer from the pulley, as set forth.

2. The combination, in a belt-replacer, of a clamp-bar provided with a rigid jaw at one end and a pivoted jaw at the other, a clamp-lever connected with the pivoted jaw, a brace to secure the pivoted jaw in contact with the

rim of the pulley, and a trip-lever for the brace adapted to be operated by the belt as it passes entirely on the pulley for the purpose of disconnecting the replacer from the pulley, as set forth.

3. The combination, in a belt-replacer, of clamp-bar *d*, spring *g*, rigid jaw *h*, pivoting jaw *f*, lever *b*, brace-rod *i*, stop *l*, and trip-lever *a*, all constructed and arranged to operate substantially as and for the purpose set forth.

In testimony whereof I sign my name in the presence of two subscribing witnesses.

JAS. J. HARNSBERGER.

Attest:
W. H. HARNSBERGER,
WM. E. NELSON.