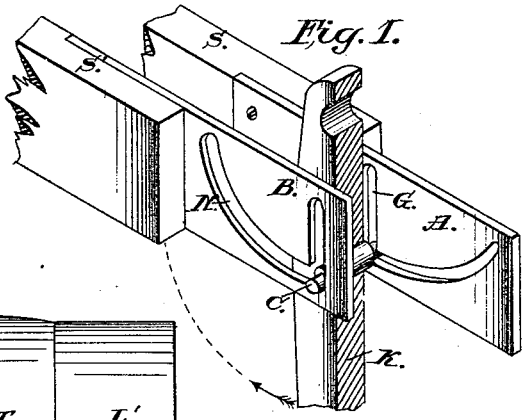
J. D. ISAACS.

Belt-Shifter.

No. 166,464. Patented Aug. 10, 1875.

Fig. 1.



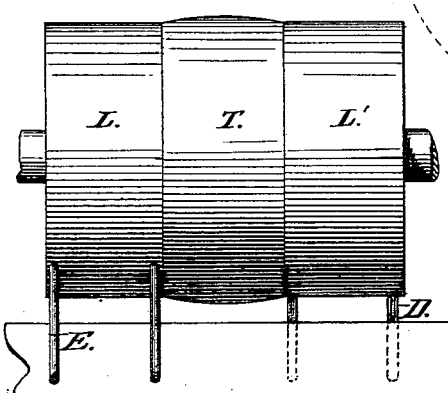


Fig. 2.

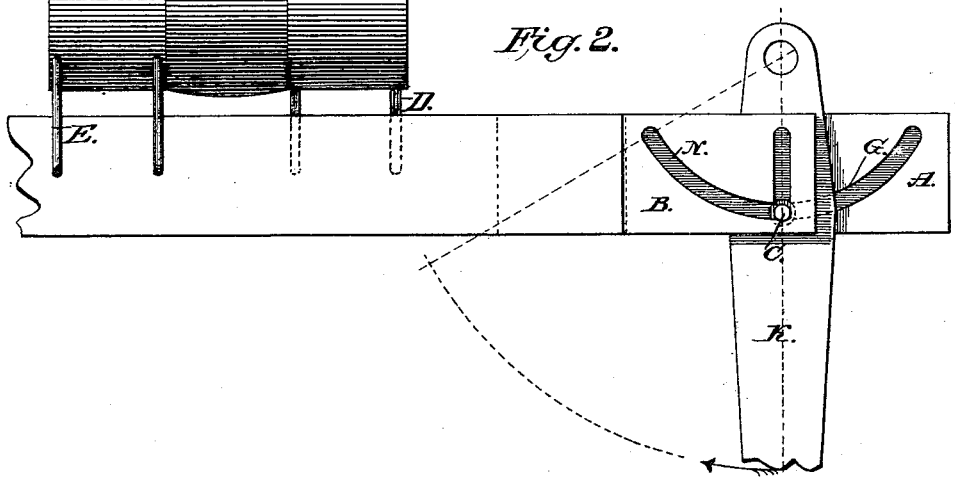


Fig. 3.

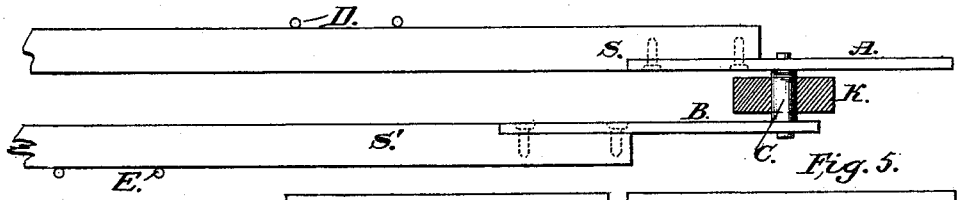


Fig. 5.

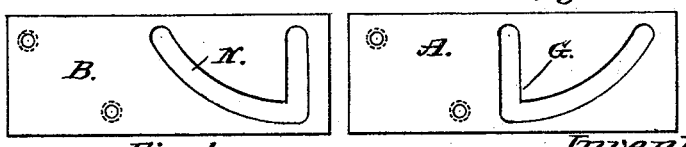


Fig. 4.

Witnesses:

F. W. Johnston

J. M. Brett

Inventor:

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UNITED STATES PATENT OFFICE.

JOHN D. ISAACS, OF WILMINGTON, DELAWARE.

IMPROVEMENT IN BELT-SHIFTERS.

Specification forming part of Letters Patent No. **166,464**, dated August 10, 1875; application filed January 25, 1875.

To all whom it may concern:

Be it known that I, JOHN D. ISAACS, of the city of Wilmington, county of New Castle and State of Delaware, have invented an Improved Belt-Shifter, of which the following is a specification:

The object of my invention is to diminish the width of the loose pulleys and drum where it is desirable to obtain motion of the tight pulley in either direction by the use of open and cross belts, using only one lever, or its equivalent.

Figure 1 of the accompanying drawing is a perspective view.

The plates A and B are attached to or form part of the shifter-rods S and S′, and are shown more in detail in Figs. 4 and 5, each of the plates A and B having a curved slot, substantially of the forms shown in the Figs. 4 and 5, in which slots a pin, C, attached to the lever K, moves. When the lever is moved in the direction indicated by the arrow the plate B and the guide E, (see Figs. 2 and 3,) through which one of the belts to be shifted passes, will not be moved, the pin moving in the curved portion N of the slot in the plate B; but the plate A will be moved forward by the pin C, and with it the guide D, (see Figs. 2 and 3,) through which the other belt to be moved passes, shifting the belt from the loose pulley L′ to the tight pulley T, the pin C rising in the portion G of the slot in the plate A. On the return motion of the lever K the plate A will be returned to its former position, the pin C sliding back in the portion G of the slot in plate A until it resumes the position shown in Figs. 1 and 2, both belts being then on the loose pulleys L and L′, the belt passing through the guide D, (see Figs. 2 and 3,) being shifted from the tight pulley T to the loose pulley L′. Further motion of the lever K, in the direction opposite to that indicated by the arrow, will cause the plate B, and with it the guide E, (see Figs. 2 and 3,) to move, shifting the belt from the loose pulley L to the tight pulley T, no motion being communicated to the plate A, the pin C moving in the curved portion of the slot in said plate A. Thus it is evident that with one lever, or its equivalent, either belt may be shifted from the loose to the tight pulley without moving or interfering with the other belt. Either of the plates A and B may be attached to the lever K instead of the shifter-rods S and S′, and a pin attached to the said shifter-rods instead of the lever with the same results.

I claim as my invention—

The combination, in a belt-shifter, of two plates, each having a curved slot, substantially as shown in the accompanying drawings, with a pin or its equivalent, either the plate or the pin moving in a curved path, substantially as described, and for the purpose above specified.

JOHN D. ISAACS.

Witnesses:

F. W. JOHNSTONE,

J. W. SWETT.