No. 697,454. Patented Apr. 15, 1902.

J. W. DAVISON.

DEVICE FOR ADJUSTING BELTS TO PULLEYS.

(Application filed May 28, 1901.)

(No Model.)

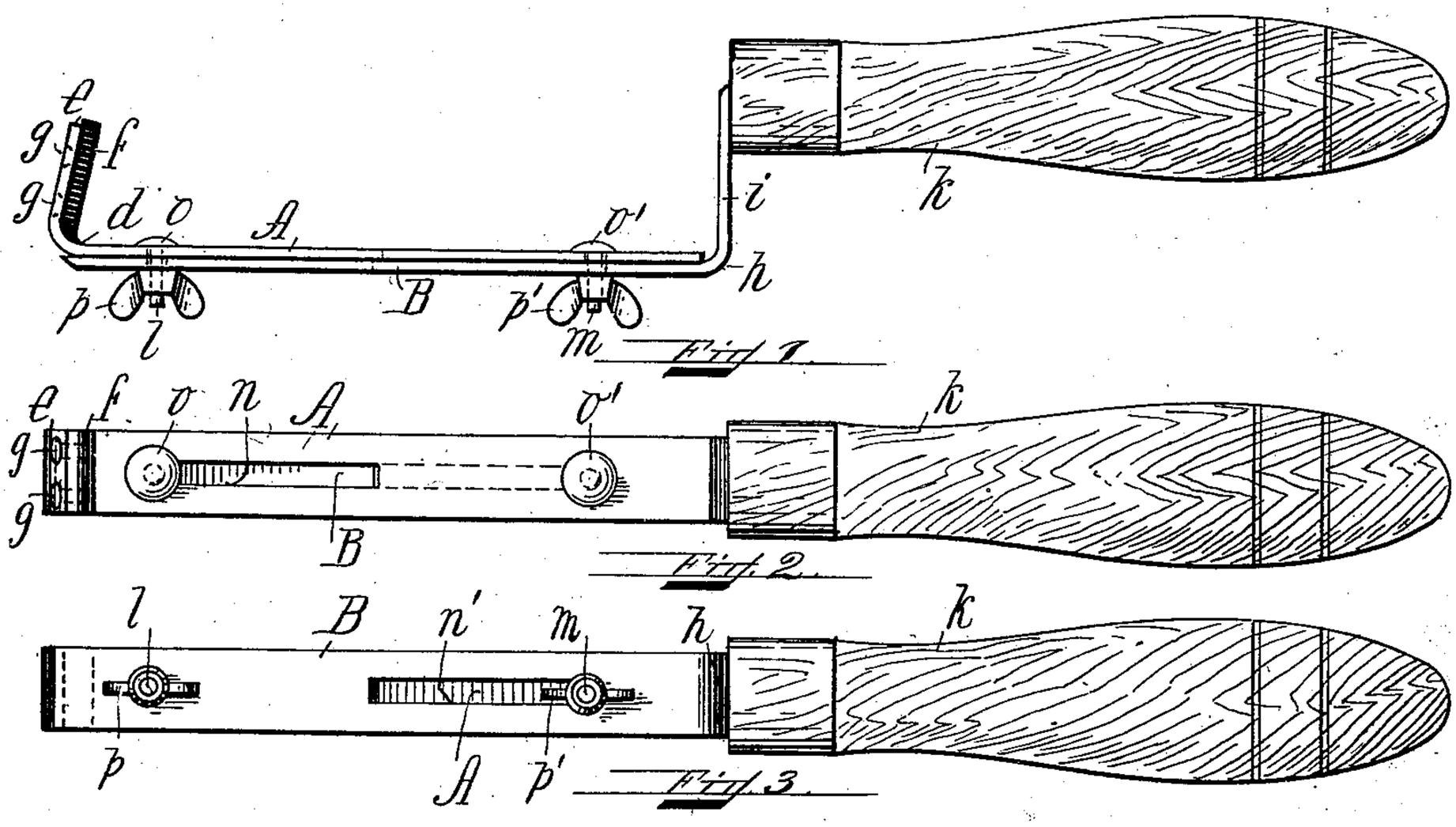

Fig. 1.

Fig. 2.

Fig. 3.

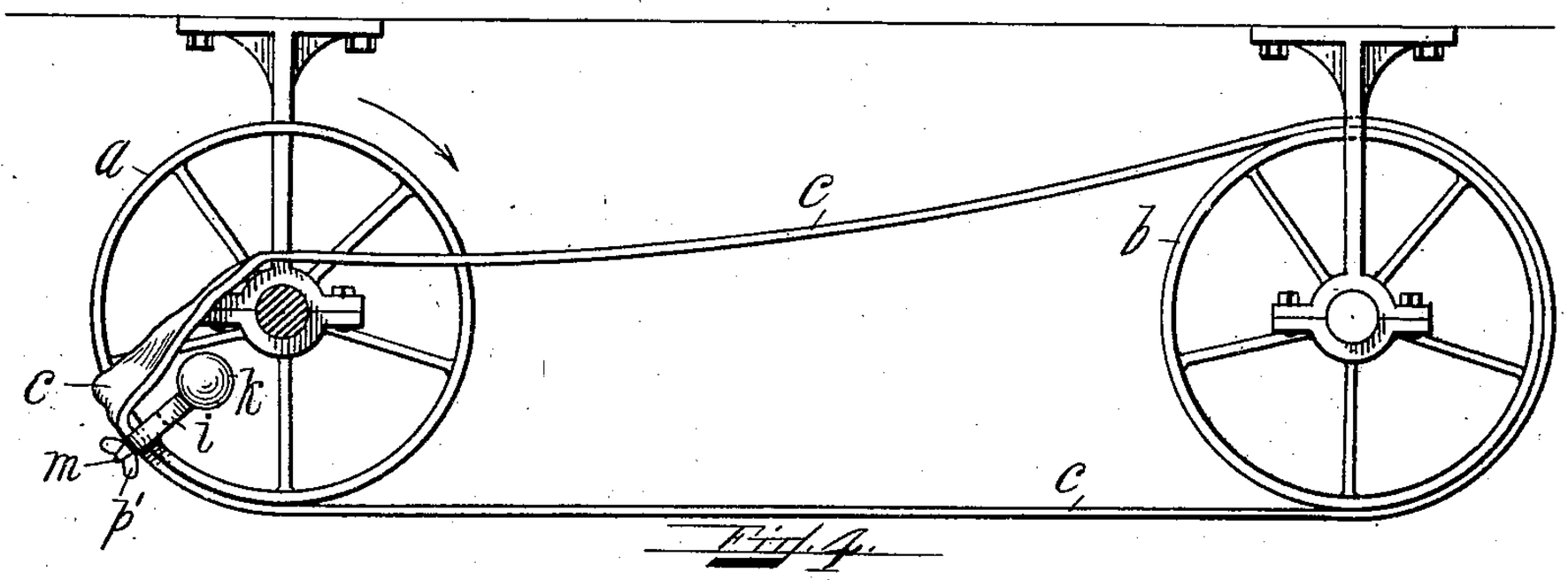

Fig. 4.

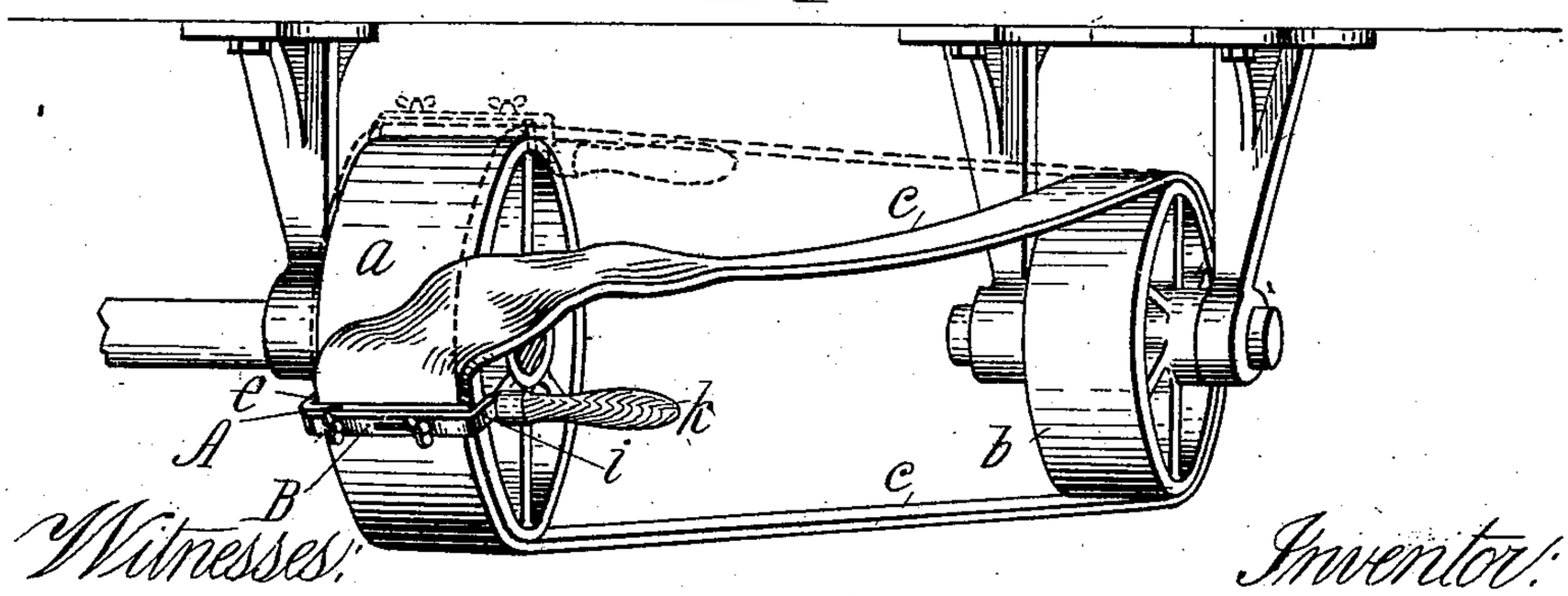

Fig. 5.

Witnesses:
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UNITED STATES PATENT OFFICE.

JAMES W. DAVISON, OF CARYVILLE, MASSACHUSETTS.

DEVICE FOR ADJUSTING BELTS TO PULLEYS.

SPECIFICATION forming part of Letters Patent No. 697,454, dated April 15, 1902.

Application filed May 23, 1901. Serial No. 61,544. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. DAVISON, a citizen of the Dominion of Canada, residing at Caryville, in the town of Bellingham, county of Norfolk, and State of Massachusetts, have invented a certain new and useful Device for Adjusting Belts to Pulleys, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to a belt-adjuster or a device adapted for adjusting belts to pulleys, and more especially for adjusting tight belts to revolving pulleys. Oftentimes driving-belts fit over the pulleys so tightly that it is impossible to put them on by hand without stopping the machinery of an entire plant, and even if it were possible to put them on by hand without stopping the machinery the danger attending such a proceeding is so great that the person attempting it runs the risk not only of being seriously injured but of losing his life by being caught by the belt and drawn around the pulleys.

The object of my invention is to provide a simple and efficient means for adjusting belts to revolving pulleys, so that the danger of being seriously injured while so doing is reduced to a minimum.

The invention consists of the novel features of construction hereinafter set forth and described, and more particularly pointed out in the claims hereto appended.

Referring to the drawings, Figure 1 is a side view of the belt-adjuster. Fig. 2 is a top plan view of the same. Fig. 3 is a bottom plan view of the same. Fig. 4 is a side view of the pulleys with the belt off and the adjuster in position. Fig. 5 is a perspective view of the pulleys with the belt off and on and the adjuster in different positions.

Like letters of reference refer to like parts throughout the several views.

a and *b* denote pulleys, of which the former is revolving in the direction of the arrow, Fig. 4, and *c* the loose belt to be adjusted.

A and B denote two pieces of metal of substantially equal lengths made preferably of wrought-iron, the piece A being bent, as at *d*, to form an arm *e*, adapted to cling to or grip the outer side of the pulley *a*. *f* denotes a piece of leather suitably attached, for example, by rivets *g g* to the inner face of the said arm *e*. The part B is bent, as at *h*, to form an arm *i*, adapted to cling to or grip the near side of the belt. The arm *i* is in turn bent at substantially right angles to itself and extended to form a shank for the handle *k*, by which the adjuster is held in proper position when adjusting the belt to the pulley. The pieces A and B are placed one upon the other, as shown in the drawings, and the piece A is provided with an elongated slot *n*, extending from about the bend *d* to preferably about the center of the piece, and likewise the piece B is provided with an elongated slot *n'*, extending from about the bend *h* to preferably about the center of the piece, and these slots *n* and *n'* are adapted to receive fastening devices to be referred to. The parts A and B as thus constructed and arranged form substantially a U-shaped structure, one side or arm of which is shorter than the other and slightly inclined inwardly, as shown in Fig. 1, the distance between said arms varying with the width of the pulley to which the belt is to be adjusted. In practice I find that such distance should be a little greater than the width of the pulley.

l and *m* denote bolts, the former of which passes through a hole or perforation in the part B and through the slot *n* in the part A and is provided with a head *o* and a thumb-screw nut *p*, the said bolt *l* being adapted to slide in the slot *n*. The bolt *m* passes through a hole or perforation in the part A, passes through the slot *n'* in the part B, and is provided with a head *o*, and a thumb-screw nut *p'*, and is adapted to slide in the slot *n'*. By this construction the device is made adjustable, so that it may be used for different-sized belts.

In practice I find that wrought-iron is the most suitable material out of which the device should be made, and the dimensions thereof should be approximately seven-eighths of an inch in width and one-eighth of an inch in thickness when it is to be used with a belt, say, from six to nine inches in width. Of course the device would be made of heavier material if the belt were wider than nine inches and would be made of lighter material if the belt were less than six inches in width. It is not, however, hereby intended to limit the invention to the dimen-

sions above mentioned or to the material above named, for both dimensions and the material may be varied without departing from the spirit of my invention.

The operation of the device in so far as it has not been already disclosed is as follows: The belt being held loosely on the pulleys, the short arm *e* is made to clamp the pulley *a* on the outside and the long arm *i* to grip the near side of the belt, as shown in Figs. 4 and 5. The adjuster is then moved in the direction of the revolving pulley by means of the handle *k* until it reaches a point where the belt on the inside and the pulley on the outside become tightly jammed or crowded into and between the arms *e* and *i*, so to speak, and when this point is reached the force of the revolving pulley carries the belt over the pulley and the adjuster with it, as shown in the dotted lines, Fig. 5.

It is desirable and preferable to have the inner side of the arm *e* faced with leather to lessen or deaden the noise which would necessarily be made by the face of said arm scraping against the side of the pulley if the leather were not used.

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

1. A belt-adjuster comprising two pieces of metal of substantially equal lengths placed one upon the other, there being an elongated slot in each of said pieces, a bolt carried by each of said pieces and engaging the slot in the opposing piece, fastening-nuts applied to said bolts, and gripping-arms carried by said pieces, substantially as described.

2. A belt-adjuster comprising two pieces of metal of substantially equal lengths placed one upon the other, there being an elongated slot in each of said pieces, a bolt carried by each of said pieces and engaging the slot in the opposing piece, fastening-nuts applied to said bolts, a pulley-gripping arm carried by one of said pieces, a belt-engaging arm carried by the other of said pieces, and facing for said pulley-gripping arm, substantially as described.

3. A belt-adjuster comprising two pieces of metal of substantially equal lengths placed one upon the other, there being an elongated slot in each of said pieces, a bolt carried by each of said pieces and engaging the slot in the opposing piece, fastening-nuts applied to said bolts, a pulley-gripping arm carried by one of said pieces, a belt-engaging arm carried by the other of said pieces, a facing for said pulley-gripping arm, and a handle applied to the belt-engaging arm, substantially as described.

In witness whereof I have hereunto affixed my signature, this 18th day of May, 1901, in the presence of two witnesses.

JAMES W. DAVISON. [L. S.]

Witnesses:

JAMES A. SNOW,

A. E. BULLARD.