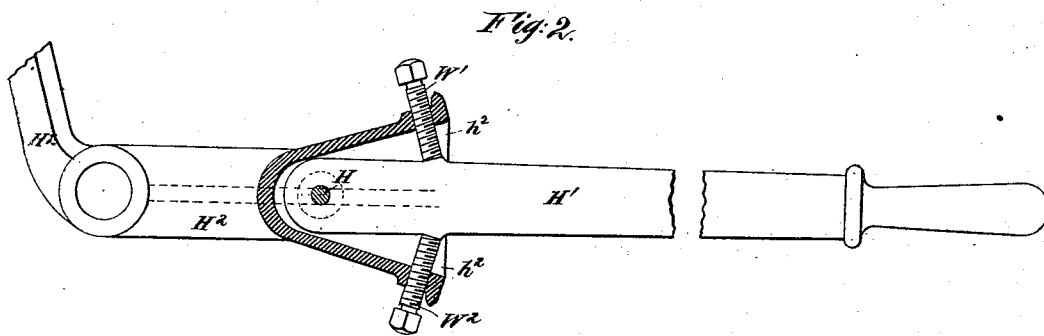
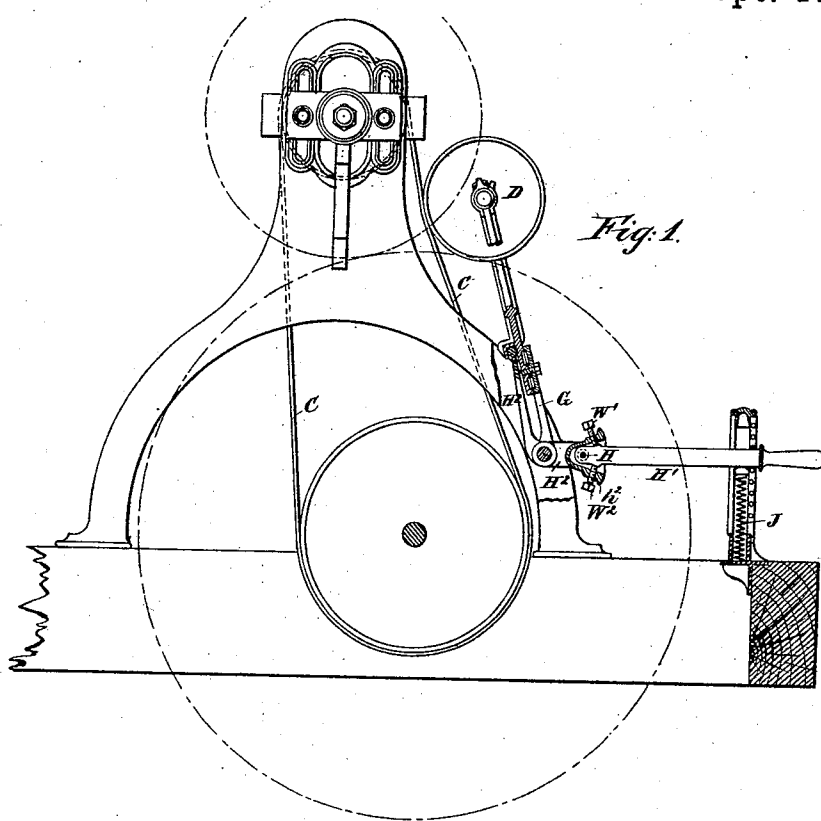


(No Model.)

G. H. ZSCHECH.
BELT TIGHTENER.

No. 284,703.

Patented Sept. 11, 1883.



WITNESSES—
B. E. Stafford.
A. J. Gentry.

INVENTOR—
Gustav H. Zschech
By his attorney
Thomas D. Stetson

UNITED STATES PATENT OFFICE.

GUSTAVUS H. ZSCHECH, OF INDIANAPOLIS, INDIANA.

BELT-TIGHTENER.

SPECIFICATION forming part of Letters Patent No. 284,702, dated September 11, 1883.

Application filed March 2, 1883. (No model.)

To all whom it may concern:

Be it known that I, GUSTAVUS H. ZSCHECH, of Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Belt-Tighteners, of which the following is a specification.

The invention is based on that set forth in the United States Patent to me, dated December 19, 1882, No. 269,369.

The object of the present improvement is to provide for the efficient action of the device after the belt is stretched. The angular motion of the arm E, and consequently of the tightening-pulley D, in my previous device was the same as the angular motion of the arm H'. My present improvement provides the same range of motion for the temporary changes of position of the parts due to vibration in working, but provides an additional adjustment not contained in the previous machine. By this additional adjustment the angular position of the arms E and H' may be changed at will within considerable limits without interfering with the temporary changes of position of the whole as the machinery is worked.

The accompanying drawings form a part of this specification, and represent what I consider the best means of carrying out the invention.

Figure 1 is a general side elevation, showing the entire mechanism. Fig. 2 represents a portion on a larger scale.

Similar letters of reference indicate like parts in both the figures.

G is the bifurcated frame, rocking freely on the shaft *g* as a center, and carrying the tightening-pulley D, in the manner and with the advantages set forth in my said previous patent. All the parts not otherwise described may be exactly as described in the said previous patent of December 19, 1882.

H' H² is a bell-crank lever, made in two distinct parts. The part H' is firmly and rigidly attached to the part H², but with provision for adjustment, so as to conveniently vary the angle of these parts relatively to each other. The part H² is formed with an open jaw or socket, *h*², containing a transverse pin, H. The arm H' stands in the socket *h*², and turns on the pivot P therein.

W' is a screw tapped through the upper por-

tion of the jaw *h*². W² is a corresponding screw tapped through the lower portion of the jaw. In operation each is set firmly against a suitable surface provided on the arm H', and holds the latter rigidly in position in the jaw. When, from the slacking of the belt or other cause, it becomes necessary to change the angle of the parts H² and H', so that a given elevation of the arm H' will press the tightening-pulley D so as to deflect the belt C to a greater extent than before, it is required simply to slacken the lower screw, W², and to tighten the screw W'. This will change the position of the parts and set them fast in the new position. The range of motion due to the action of the spring J may be the same as before, and the machinery will work in all respects with the same effect as before; but instead of being adapted only to a very moderate range of variation of tightness of the belt C, I can by this improvement adapt the device to a very wide range.

When the belt is new the screw W' will be inserted but a little ways, and the screw W² will be set inward nearly or quite to its full extent. As a consequence, the arm H' will lie in the upper portion of the jaw *h*². When the belt is very loose the screw W² must be let back and the screw W' inserted nearly or quite to its full extent. Thus the arm H' may be shifted from the extreme upper to the extreme lower portion of the jaw *h*², turning on its pivot H, and being firmly held in any position by the screws W' W².

Modifications may be made in the forms and proportions of the details. An open jaw may, as intimated, be substituted for the socket *h*².

I claim as my invention—

The belt-tightener described, having the arm H' and adjustment W' W², in combination with the spring J, and with the frame G and suitable connections to the tightening-pulley D, as herein specified.

In testimony whereof I have hereunto set my hand, at Indianapolis, this 18th day of January, 1883, in the presence of two subscribing witnesses.

GUSTAVUS H. ZSCHECH.

Witnesses:

PETER SPITZFADEN,
THEODORE REYER.