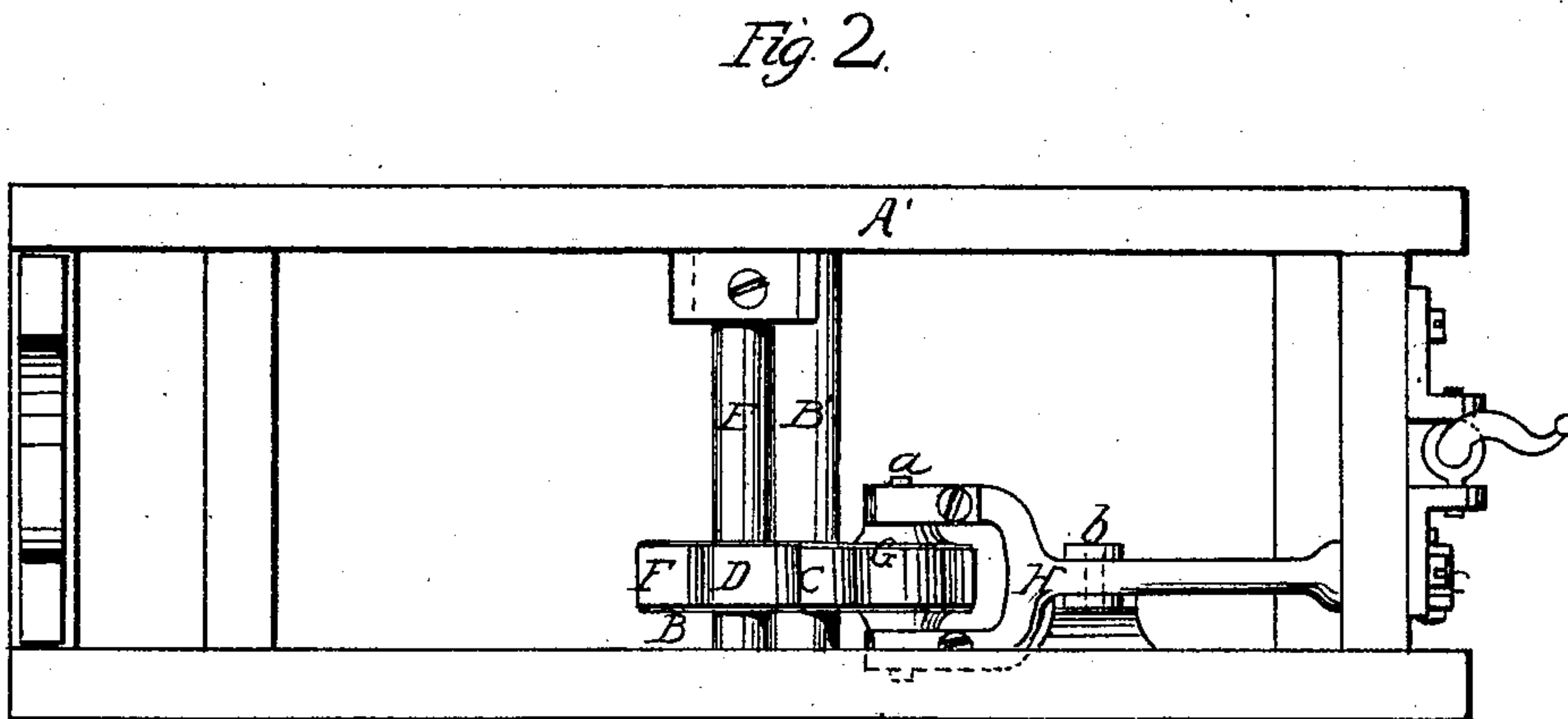
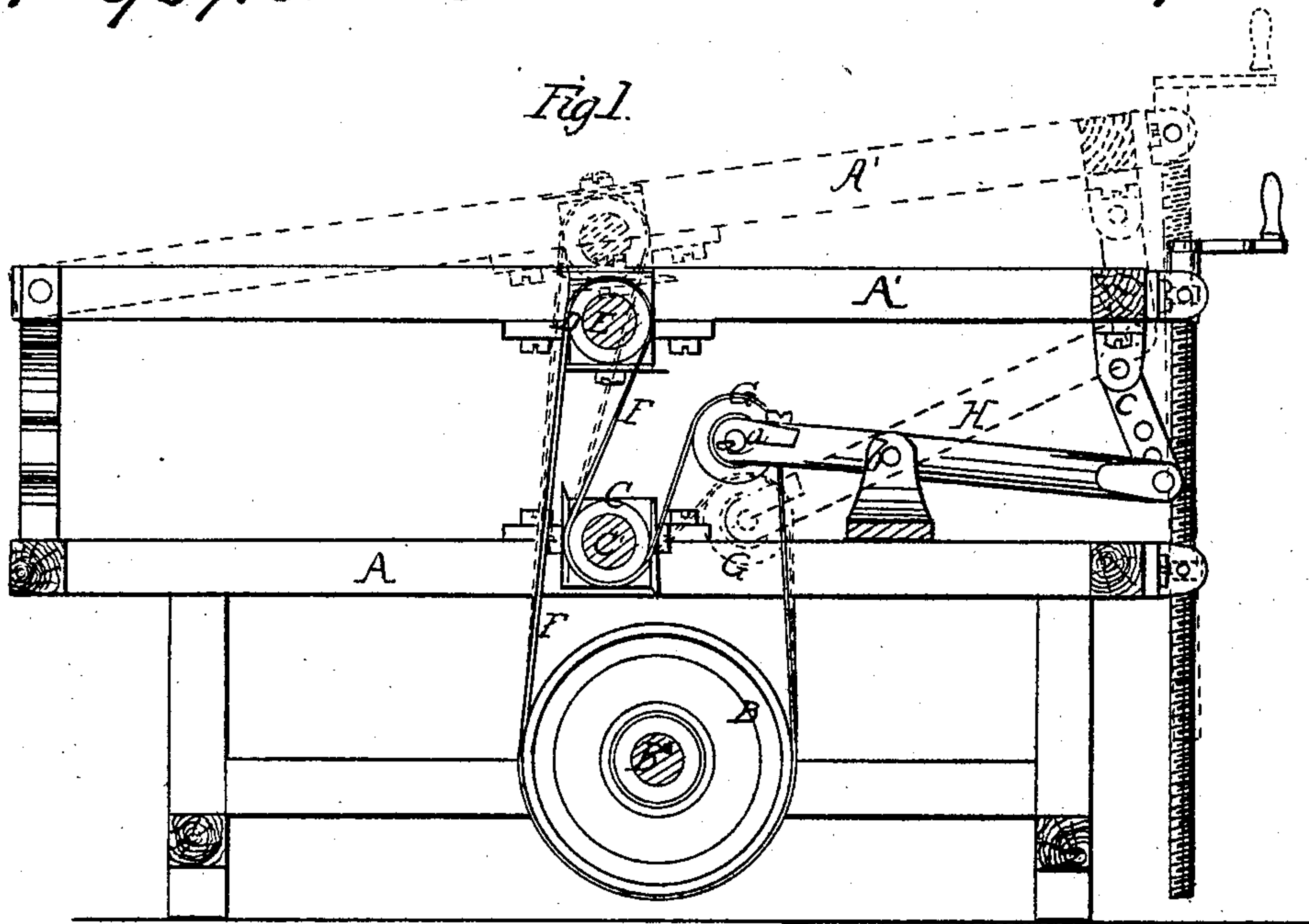


R. N. Meriam.
Belt Tightener.
Nº 96718. Patented Nov. 9. 1869.



Witnesses:

J. Coombs
J. H. Haines

Inventor:

Rufus N. Meriam
per J. Coombs & C.
A. H. Haines

United States Patent Office.

RUFUS N. MERIAM, OF WORCESTER, MASSACHUSETTS.

Letters Patent No. 96,718, dated November 9, 1869.

IMPROVED BELT-TIGHTENER.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, RUFUS N. MERIAM, of the city and county of Worcester, and State of Massachusetts, have invented a new and useful Improvement in Belt-Tighteners; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming part of this specification, and in which—

Figure 1 represents a side view of my invention as applied to a tenoning-machine.

Figure 2 is a plan of the same corresponding to fig. 1.

Similar letters of reference indicate corresponding parts.

This invention consists in connecting the tightening-pulley with the frame or movable part of a machine, to which the driven pulley is attached, by means of a lever and suitable connection, whereby the operation of the tightening-pulley is made automatic, and a uniform tension of the belt is preserved.

This improvement is applicable to all machines where the driven pulley does not maintain a fixed position, but changes the distance from the driving-pulley more or less, and may be adapted to two or more arbors.

To enable others skilled in the art of constructing belt-tighteners to make and use the same in accordance with my invention, I will proceed to describe the same applied to a tenoning-machine, as shown in the drawing.

A is the fixed frame of a tenoning-machine, which is provided with suitable fixed bearings, to receive the driving-shaft B', on which the driving-pulley B is mounted.

The cutter-arbor C, which carries the pulley C', has its bearings also secured to frame A.

A' is a frame, hinged at one end to the fixed frame A, and made adjustable by means of a screw at the

other end, for the purpose of allowing the cutter-arbor E, which is arranged in bearings upon said frame, and carries the pulley D, to be moved to a greater or less distance from the cutter-arbor C.

G is the tightening-pulley, which is attached to a pin, *a*, and allowed to turn freely in suitable bearings secured to one end of the lever H.

The fulcrum of said lever is at *b*, on the fixed frame A, while the other end of the lever is connected with the adjustable frame A', by means of a suitable jointed bar, *c*.

The length of the arms of the lever H being made of a certain proportion, which is a matter of ordinary calculation or experiment, insures a correct operation of the tightening-pulley G, on the belt F, which passes from the driving-pulley B, around the driven pulleys C D, and the tightening-pulley G. Thus, when the frame A', to which the cutter-arbor E and pulley D are attached, is raised, and thereby the distance between the driving and driven pulleys increased, it tilts at the same time the lever H, and makes the pulley G assume a position corresponding to the changed position of the pulley D, whereby the belt F is enabled to accommodate itself to that change, and preserve a proper tension, as shown in dotted lines in fig. 1.

What is here claimed, and desired to be secured by Letters Patent, is—

The connection of the lever H, carrying the tightening-pulley G, with the frame A', carrying the movable arbor, substantially as herein described, whereby the adjustment of the movable arbor is made to effect a corresponding adjustment of the tightening-pulley.

RUFUS N. MERIAM.

Witnesses:

H. A. RICHARDSON,
S. F. BOND.