(No Model.)

J. J. WOOD.

BELT TIGHTENING BASE FOR MACHINERY.

No. 468,010. Patented Feb. 2, 1892.

Fig. 1.

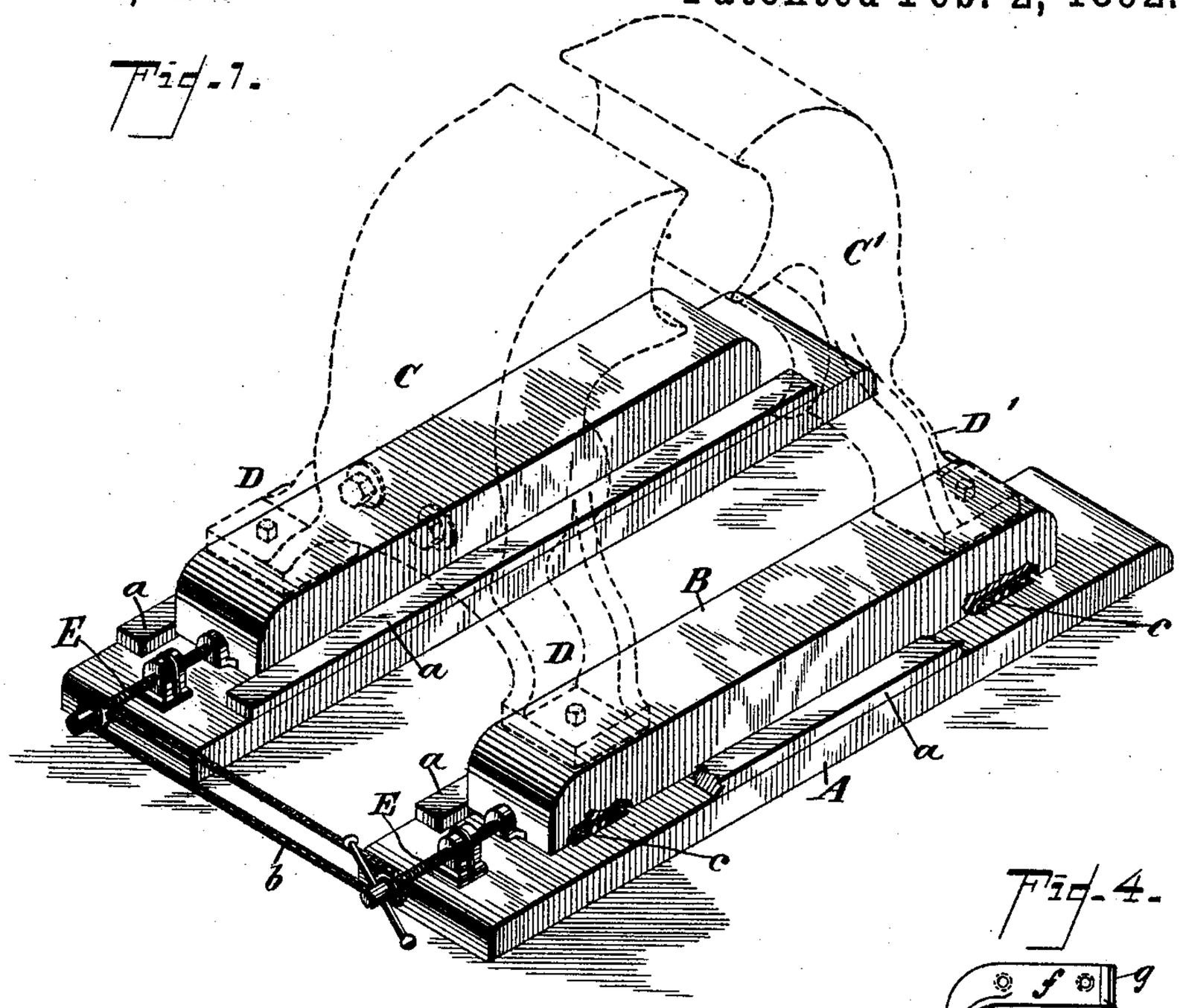

Fig. 4.

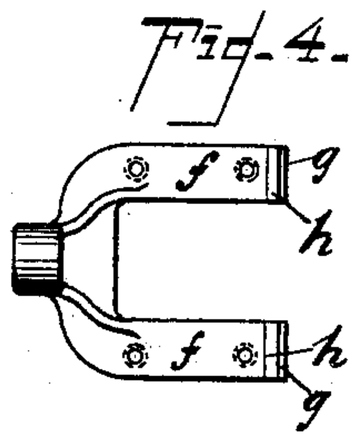

Fig. 2.

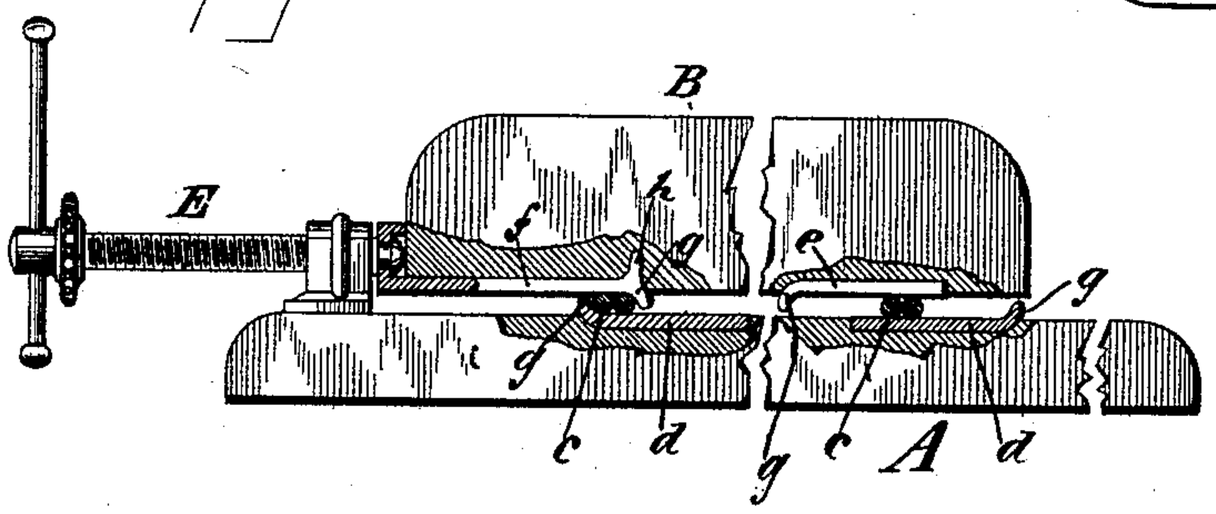

Fig. 5.

Fig. 3.

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BELT-TIGHTENING BASE FOR MACHINERY.

SPECIFICATION forming part of Letters Patent No. 468,010, dated February 2, 1892.

Application filed October 26, 1891. Serial No. 409,792. (No model.)

To all whom it may concern:

Be it known that I, JAMES J. WOOD, a citizen of the United States, residing in Fort Wayne, in the county of Allen and State of Indiana, have invented certain new and useful Improvements in Belt-Tightening Bases for Machinery, of which the following is a specification.

In the mounting of dynamos and some other machines which are driven by belt it is customary to place the machine on a sliding base and provide a screw or other means for sliding the base in one direction or the other in order to tighten or slacken the belt. My invention provides an improved sliding base for this purpose.

Figure 1 of the accompanying drawings is a perspective view of my improved machine-base, showing in dotted lines the frame or field-magnet of a dynamo-electric machine mounted thereon. Fig. 2 is a side elevation of the base, partly broken away, in vertical section in planes indicated by the lines 2 2 in Fig. 3. Fig. 3 is a transverse section of the base. Figs. 4 and 5 are plans of the respective face-plates.

Referring to the drawings it will be seen that the base of the machine is made of two sections or members, a stationary lower member A and a movable or sliding upper member B. For the particular construction of machine indicated in dotted lines this base is duplicated for the opposite side of the machine. The lower member A is formed with a longitudinal slideway in which the upper member B may slide. This slideway might be constructed in many different ways, as by forming a channel in the lower member in which the upper member enters, or by inverting this arrangement, or in other ways. In the construction shown longitudinal strips or pieces *a a* are applied to the top of the lower member A and receive between them the width of the upper member B, as shown in Fig. 3. In the case of a dynamo-electric machine of the construction shown in dotted lines, wherein the two frames C and C′ have their terminal feet D and D′ of opposite magnetic polarity, the base member B is made of wood or other non-magnetic material, as is also by preference the lower member A, in order not to afford a path for leakage of magnetic lines of force between these feet. In order to slide the upper member in longitudinal direction over the lower, a screw E is provided in the usual manner. In order to move the screws of the two pairs of base members simultaneously, I connect them together through the medium of a chain *b*, working over sprocket-wheels fixed on the screws. By turning either screw the base members B B are consequently slid endwise in either direction to tighten or loosen the belt by which the machine is driven. To render the motion as easy and frictionless as possible under the heavy weight of the superincumbent machine, amounting sometimes to several tons, I provide anti-friction roll *c c*, interposed between the upper and lower members. These rollers may be conveniently constructed of pieces of round-steel rod cut to a length somewhat less than the width of the guideway, as shown in Fig. 3. They are placed beneath the opposite end portions of the upper member B in the positions approximately shown in Fig. 1, and in case of a heavy machine two or more rollers should be provided at each end, as shown in Fig. 2. In order that the rollers shall not indent the wood, the latter is faced with metal plate against which the rollers roll, these plates being suitably let into the wood. The facing-plates of the lower member are lettered *d d* and those of the upper member are lettered *e* and *f*, respectively. The plates *d d e* are all alike, consisting simply of flat plates slightly turned up at one end to form shoulders or stops *g g* for engaging the rollers at the opposite ends of the movement of the upper member. The facing-plate *f* is of similar construction, except that it is prolonged to the end of the member B and turned up to form a swivel engagement with the end of the screw E. At its opposite end, in addition to a downwardly-projecting rounded shoulder or stop *g*, it is formed with an upwardly-projecting spur *h*, which enters the wood and serves to transmit the thrusts of the screw to the member B to slide the latter in either direction.

The plates with their stop-shoulders *g g* are so arranged that the shoulders of one pair of plates engaging a given pair of rollers will

come together and embrace the rollers between them and thereby stop the rollers and block the further movement of the upper section in that direction, as clearly shown with reference to the left-hand rollers in Fig. 2. The pair of plates engaging the rollers at one end of the base are arranged to stop the movement of the upper member in one direction, while the plates at the other end of the base are reversed, so that their shoulders serve to stop the movement in the opposite direction. In Fig. 2 the upper member is shown moved to the extreme left in the figure, so that the abutment of the rounded stop-shoulders against the rollers prevents the further leftward movement of the movable member of the base, while the plates engaging the right-hand pair of rollers have their stop-shoulders widely separated, so as to permit of the movement of the member B toward the right a distance equal to the separation of the shoulders less the width of the rollers. When this movement is completed, the rollers will have traveled to the right against the shoulder *g* of the lower plate *d*, while the shoulder of the upper plate *e* will have come into contact with the rollers, so that the latter will be confined between the two shoulders and will stop the further movement of the upper member in this direction.

The weight of the machine keeps the plates and rollers in firm engagement and renders the rounded stop-shoulders effective to limit the movement. The correct alignment of the rollers is insured by means of the stop-shoulders, since when the rollers are put in place the mere sliding of the base from one end to the other will bring both pairs of rollers against their respective stop-shoulders, and thereby move them into parallel position transverse to the direction of motion of the sliding member.

Base-plates *d d e* are firmly fastened to the respective sections of the base by screws or otherwise; but the section *f* is not fastened to the base, except through the engagement therewith of the spur *h*. This construction permits the machine to be lifted off in case of necessity, the base members B B lifting off with it without the necessity of disconnecting the screws E E, since the members B B simply lift off from the plates *f f*, leaving the latter in place. This construction renders the improved base very convenient of management and will prove equally desirable in sliding bases which have no anti-friction rollers, because in any case it enables the machine to be lifted off without unshipping the screws.

The plates *d d* and *e* are preferably constructed as separate plates, as shown in pairs in Fig. 5, while the plates *f* are preferably made with the two opposite sides connected in U shape, as shown in plan view, Fig. 4, the middle portion being turned up for engagement with the screw.

My invention may be considerably varied or modified in constructive details without altering its essential character. One obvious modification is the substitution of anti-friction balls for rollers as equivalents thereof.

I claim as my invention the following-defined novel features or improvements, substantially as hereinbefore set forth, namely:

1. A machine-base consisting of a lower stationary member and an upper movable member on which the machine is mounted, sliding over said stationary member, anti-friction rollers between the two members having rolling contact with both members, and stops on the respective members adapted to simultaneously engage the rollers between them and by abutment therewith to limit the longitudinal travel of the movable member.

2. A machine-base consisting of a lower stationary member and an upper movable member on which the machine is mounted, sliding over said stationary member, anti-friction rollers between the two members having rolling contact with both members, and face-plates applied to the two members against which the rollers roll, said plates formed with stop-shoulders adapted to simultaneously engage the rollers between them and by abutment therewith to limit the longitudinal travel of the movable member.

3. A machine-base consisting of a lower stationary member and an upper movable member on which the machine is mounted, sliding over said stationary member, anti-friction rollers between the two members, face-plates applied to the members against which the rollers roll, one of said plates applied to the upper member and extended beyond the end thereof, and a propelling-screw for moving the upper member engaging said plate.

4. A machine-base consisting of a lower stationary member formed with slideways and having face-plates *d d*, with projecting stop-shoulders *g g*, an upper movable member on which the machine is mounted, sliding in said slideways and provided with face-plates *e f*, having projecting shoulders *g g*, arranged oppositely to those on the lower plates, and interposed anti-friction rollers *c c* between the respective face-plates and engaged by the respective shoulders at the ends of the travel of the upper member.

5. A machine-base consisting of a lower stationary member and an upper movable member on which the machine is mounted, sliding over said stationary member, a plate *f*, applied beneath the upper member, formed with a spur projecting upwardly into a recess in the upper member, and a propelling-screw for moving the upper member engaging said plate, whereby in removing the machine the upper member may be lifted from said plate without disengaging said screw.

6. A machine-base consisting of a lower stationary member and an upper movable member on which the machine is mounted, sliding

over said stationary member, anti-friction rollers between the two members, a face-plate *d*, applied to the lower member and having a stop-shoulder *g*, and a face-plate *f*, applied to the upper member, having a stop-shoulder *g*, and a spur *h*, entering the material of the member to prevent its displacement.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JAMES J. WOOD.

Witnesses:
ARTHUR C. FRASER,
GEORGE H. FRASER.