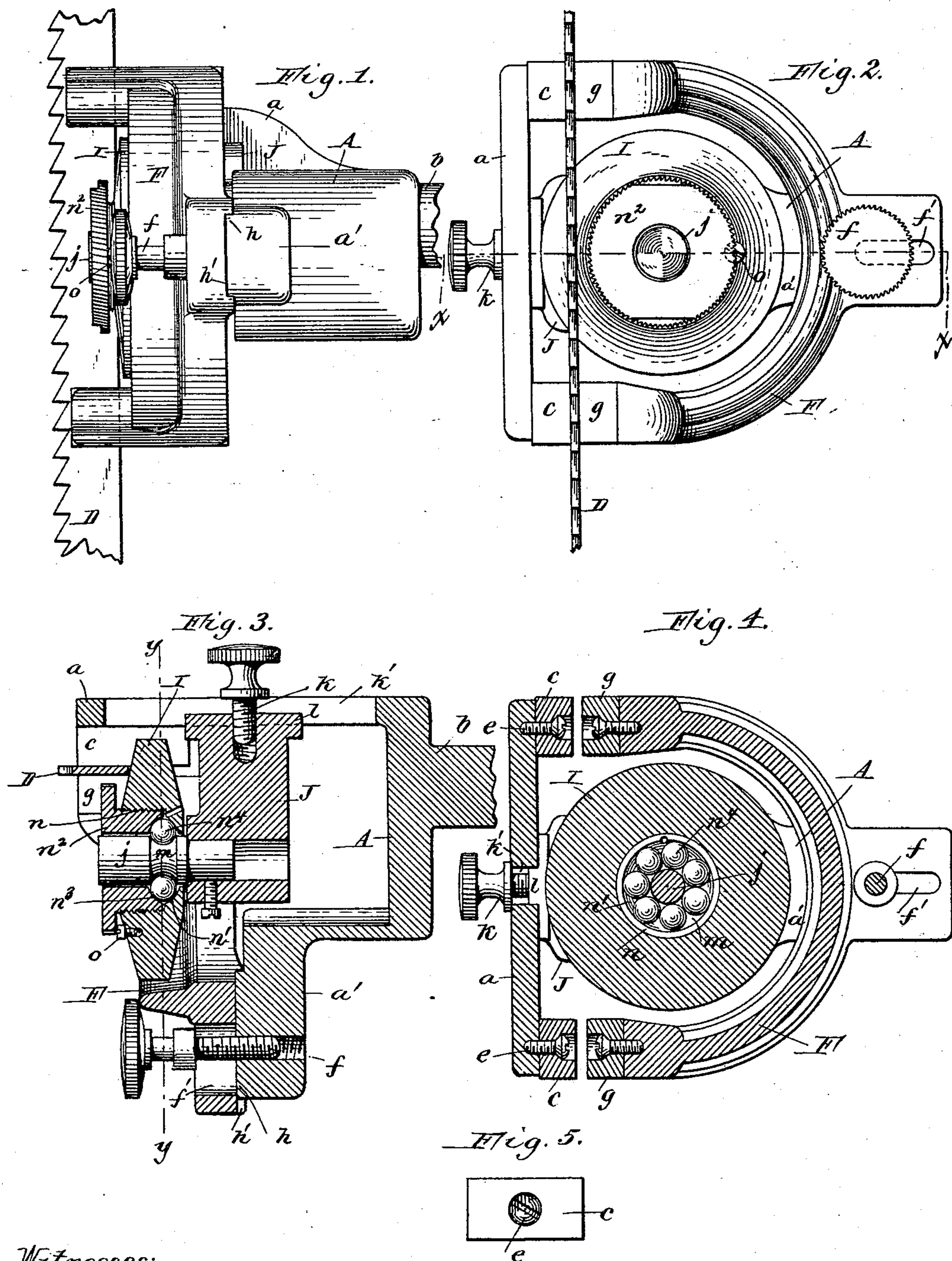


(No Model.)

G. F. STRIEGEL.
BAND SAW GUIDE.

No. 459,600.

Patented Sept. 15, 1891.



Witnesses:
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UNITED STATES PATENT OFFICE.

GEORGE F. STRIEGEL, OF BUFFALO, NEW YORK.

BAND-SAW GUIDE.

SPECIFICATION forming part of Letters Patent No. 459,600, dated September 15, 1891.

Application filed July 3, 1890. Serial No. 357,665. (No model.)

To all whom it may concern:

Be it known that I, GEORGE F. STRIEGEL, a citizen of the United States, residing at the city of Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Band-Saw Guides, of which the following is a specification.

My invention relates to band-saw guides, which are provided with adjustable guide-jaws, so that the guide may be adjusted to saws of different widths and thicknesses.

The objects of my invention are to construct a simple guide of this character, which can be cheaply produced, and to reduce the friction of the saw against the guide-faces to a minimum.

In the accompanying drawings, Figure 1 is a side elevation of my improved saw-guide. Fig. 2 is a front elevation thereof. Fig. 3 is a horizontal section of the same in line *x x*, Fig. 2. Fig. 4 is a vertical section in line *y y*, Fig. 3. Fig. 5 is a face view of one of the reversible guide-jaws.

Like letters of reference refer to like parts in the several figures.

A represents the stationary frame or head of the saw-guide, which is formed with a forwardly-projecting vertical plate or wing *a* and a laterally-projecting lug *a'*, arranged at right angles to the plate *a*. The frame A may be supported by means of a rod *b*, formed with the rear portion of the frame, and attached to a suitable bracket or depending rod in the usual manner.

c c represent guide blocks or jaws arranged on the inner side of the plate *a*, at the upper and lower portions thereof, and against which one side of the band-saw D runs. These blocks are each secured to the plate *a* by a screw or bolt *e*, passing through a central opening in the block, the head of the screw being countersunk, as shown in Fig. 4. The saw runs in contact with the portion of the guide-blocks in front of their clamping-screws. Upon loosening these screws the guide-blocks may be given a half-turn on the screws, so as to bring the rear portion of their faces opposite the saw. By making the guide-blocks reversible in this manner, the front and rear faces of the same may be interchanged from time to time, thereby wearing the entire face of the block evenly and

uniformly and lengthening the life of the same. After reversing the blocks their clamping-screws are again tightened to retain the blocks in position.

F represents a transverse U-shaped frame or yoke, which is adjustably secured to the lug *a'* of the stationary frame by a clamping-screw *f*, arranged in a threaded opening in the lug and passing through a horizontally-slotted ear *f'*, formed at the outer portion of the yoke.

g g represent guide blocks or jaws secured to the ends of the yoke and arranged opposite the blocks *c* of the stationary frame. The guide-blocks *g g* are movably secured to the yoke by screws passing centrally through the blocks so as to be reversible in a manner similar to the blocks *c*.

The lug *a'* of the stationary frame is provided on its inner side with a horizontal tenon *h*, which fits in a horizontal groove *h'*, formed in the adjacent face of the ear of the yoke. By this construction the yoke is properly guided in adjusting the same and prevented from turning on the clamping-screw. Upon loosening the clamping-screw *f* the yoke F may be adjusted toward or from the plate *a* of the stationary frame, so as to increase or diminish the space between the guide-blocks *c c* and *g g* in accordance with the thickness of the saw, the clamping-screw being again tightened after the yoke is adjusted.

I represents a guide wheel or roller arranged between the two sets of guide-blocks *c c g g* and against which the smooth back of the saw bears. The front face of this guide-roller, against which the saw runs, is beveled, as clearly shown in the drawings, so that only one of the inner edges or corners of the saw runs in contact with the face of the roller, as represented in Fig. 3, thereby greatly reducing the friction. The guide-wheel turns upon a horizontal arbor *j*, which is secured in an opening formed in an adjustable frame J. This frame is arranged between the parts *a a'* of the stationary frame A and is adjustably secured to the plate *a* by a clamping-screw *k*, arranged in a threaded opening in the inner end of the frame and passing through a horizontal slot *k'*, formed in the plate *a*. The adjustable frame J is provided at its inner end with a tenon *l*, which fits in the slot of the

plate *a* and prevents the adjustable frame from turning on the clamping-screw *k*. Upon loosening the latter the frame *J*, with the guide-wheel, may be adjusted toward or from the back of the saw, as may be necessary to accommodate the width of the saw. The frame is again clamped in place by the screw *k* after making the adjustment.

A ball-bearing is preferably interposed between the guide-wheel and its arbor to reduce the friction to a minimum. This bearing is constructed as follows: The arbor is formed with an annular groove *m*, which constitutes the inner part of the bearing. The wheel is provided with an internally-threaded bore or opening *n*, which is formed at its inner end with a cone *n'*. *n*² is an externally-threaded sleeve arranged in the threaded bore of the guide-wheel and provided at its inner end with a cone *n*³, which forms, with the cone *n'*, the outer part of the bearing. *n*⁴ are the balls arranged in the groove of the arbor between the cones *n'* *n*³. The sleeve *n*² is provided at its outer end with a milled rim for turning it. By this construction the wear of the parts may be readily taken up when required by screwing the sleeve inwardly.

o represents a screw or adjustable stop arranged on the front face of the guide-wheel behind the rim of the adjustable sleeve, and which limits the inward movement of the sleeve, so as to prevent binding of the parts of the bearing. The frictional contact between the head of the screw and the inner side of the rim forms a lock which prevents turning of the movable cone after the same is adjusted. As the cones become worn the stop is screwed farther into the wheel to permit the adjustable sleeve to be screwed farther into the bore of the wheel.

My improved saw-guide is readily adjusted to saws of different widths and thicknesses, and the simplicity of its construction enables it to be manufactured at small cost. The saw is guided at two points by the two sets of guides *c c g g*, and is prevented from being deflected inwardly by the guide-roller arranged between the guides, thereby effectually avoiding any deflection or vibration of the saw.

I claim as my invention—

1. The combination, with the stationary frame having a vertical plate provided with guide-jaws and a lug arranged at right angles to said plate, of an adjustable yoke having guide-jaws arranged opposite the jaws of the vertical plate, and a clamping-screw whereby the yoke is adjustably secured to the lug of the stationary frame, substantially as set forth.

2. The combination, with the stationary frame or head having a vertical plate provided with a horizontal slot and with guide-jaws and a lug arranged at right angles to said plate, of an adjustable yoke having a horizontal slot and guide-jaws arranged opposite the jaws of the vertical plate, a clamping-screw attached to said lug and passing through the slot of the yoke, a horizontally-adjustable support, a clamping-screw attached to said support and passing through the slot of the vertical plate, and a guide-roller journaled upon said support, substantially as set forth.

3. The combination, with the frame of the saw-guide and an arbor or shaft having a groove, of a guide-roller having an internally-threaded bore provided at its inner end with a cone, an externally-threaded sleeve arranged in the bore of the roller and provided at its inner end with a cone, and balls interposed between said cones, substantially as set forth.

4. The combination, with the frame of the saw-guide and an arbor or shaft having a groove, of a guide-roller having an internally-threaded bore provided at its inner end with a cone, an externally-threaded sleeve arranged in the bore of the roller and provided at its inner end with a cone and at its outer end with a rim or flange, balls arranged in the groove of the arbor between said cones, and a screw or adjustable stop arranged on the guide-roller, against which the rim of said sleeve bears, substantially as set forth.

Witness my hand this 26th day of June, 1890.

GEORGE F. STRIEGEL.

Witnesses:

JNO. J. BONNER,
FRED. C. GEYER.