

(No Model.)

D. E. DUTROW.
MOTOR FOR DRIVING SAWS.

No. 304,996.

Patented Sept. 9, 1884.

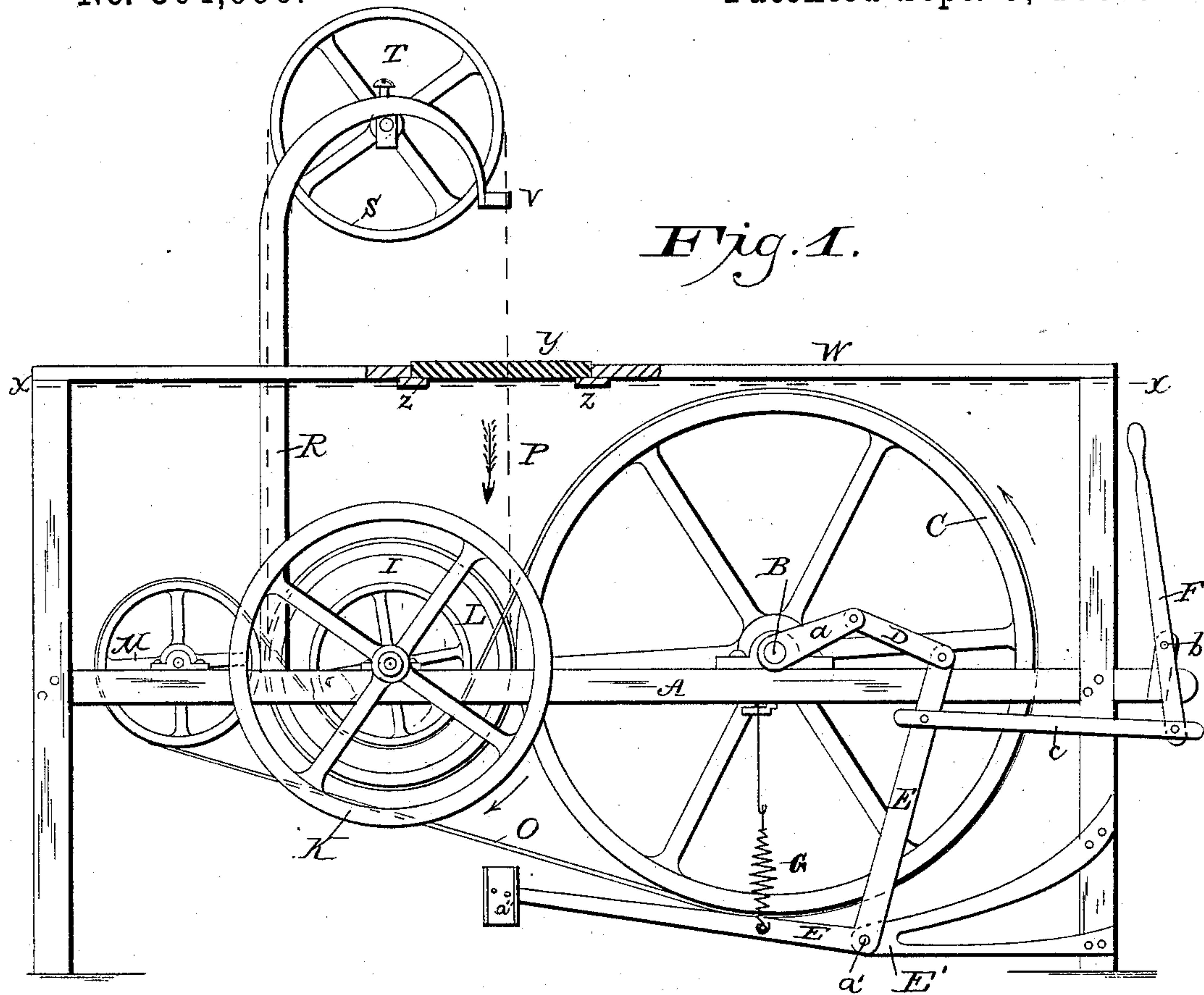


Fig. 1.

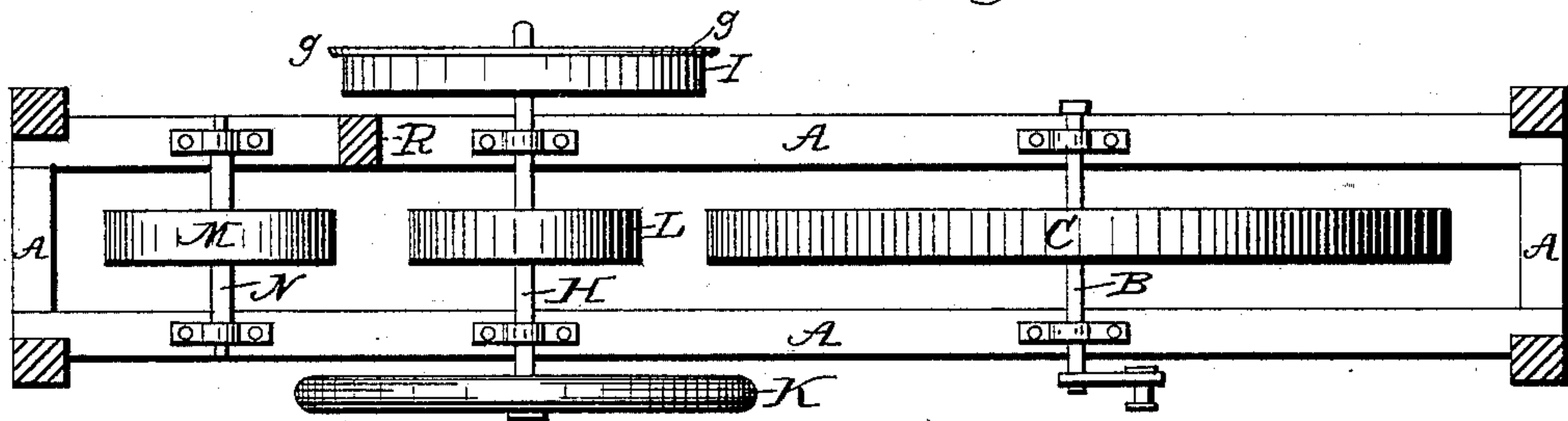
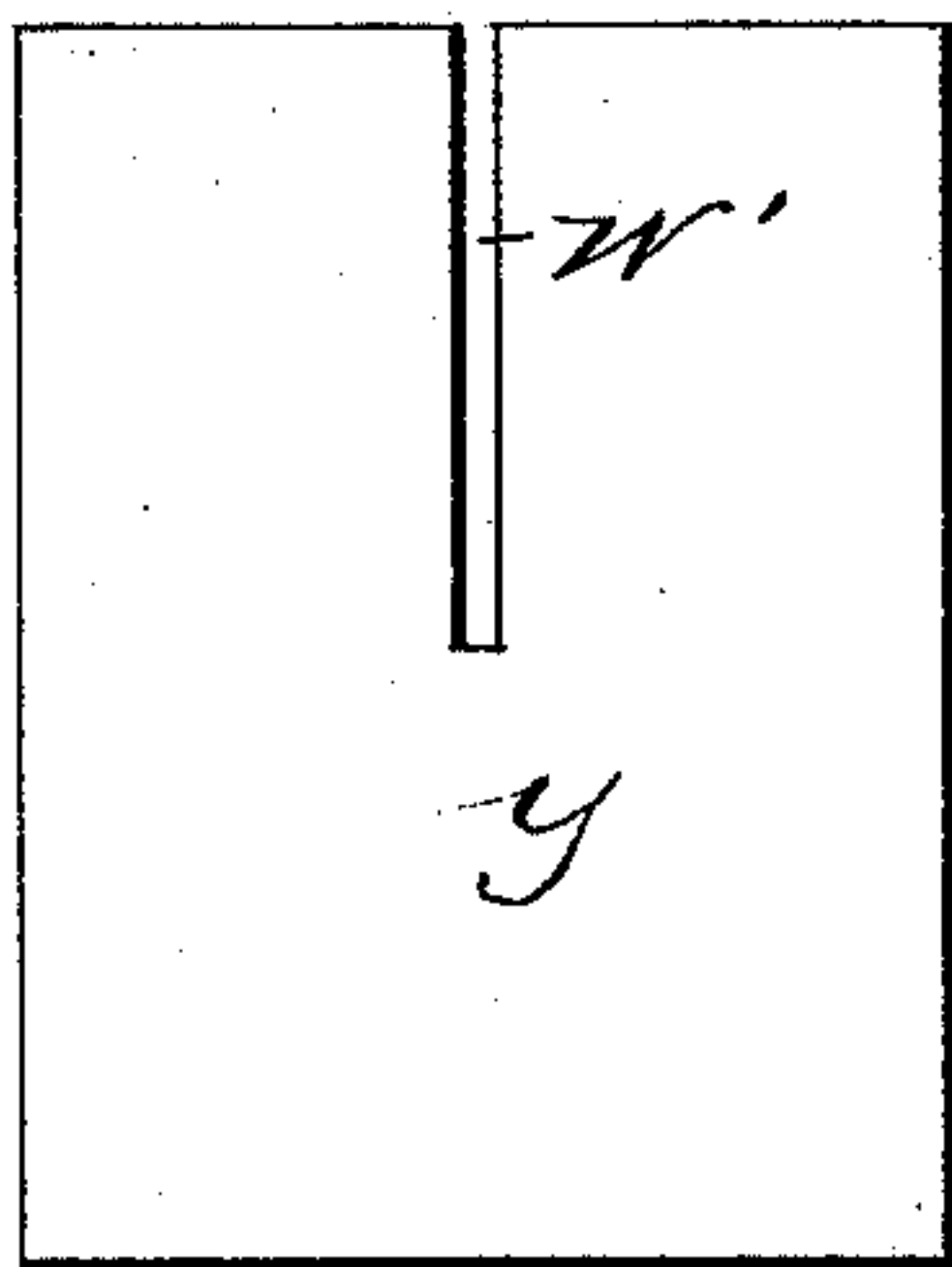


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

DAVID E. DUTROW, OF WASHINGTON, DISTRICT OF COLUMBIA.

MOTOR FOR DRIVING SAWS.

SPECIFICATION forming part of Letters Patent No. 304,996, dated September 9, 1884

Application filed February 25, 1884. (No model.)

To all whom it may concern:

Be it known that I, DAVID E. DUTROW, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Motors for Driving Saws, &c., of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to improvements in motors for operating saws, the object of which is to produce a simple, cheap, and reliable motor for the driving of saws and other analogous uses.

My invention consists in the combination of the axle of the main driving-shaft with one end of a bell-crank lever by means of a pitman, said bell-crank lever being pivoted to the frame of the machine, or to a bracket attached thereto, while the other or free end of the bell-crank lever is adapted to be used as a foot-treadle, and is provided with a spring for returning the treadle to an elevated position.

My invention consists, further, in connecting a hand-lever to the vertical arm of the bell-crank-lever, so that two or more persons can be employed to operate the device when necessary.

Figure 1 is a side elevation, partly in section. Fig. 2 is a top view on the line xx , Fig. 1, the treadle mechanism, hand-lever, and belt being omitted. Fig. 3 is a top view of the work-holding slide.

A is a frame in which is mounted the main driving-shaft B, to which is secured the band-wheel C. The main driving-shaft B is provided with a crank-arm, a , to which is secured one end of the link or pitman D, the other end of said link or pitman being secured to the upper end of the bell-crank lever E. The bell-crank lever E is pivoted to the bracket E', or other suitable support, at a' , and the outer end is so shaped as to form a foot-hold, a'' , and by which means the treadle or bell-crank lever is operated.

F is a hand-lever pivoted to a bracket on the side of the machine at b and connected to the upper end of the bell-crank lever E by means of the rod or link c , so that when heavy material is to be sawed another person or persons may assist in the work.

G is a coiled spring, one end of which is secured to the frame of the machine, while the other end is attached to the treadle-arm of the bell-crank lever. The spring G assists in raising the treadle-arm of the bell-crank lever, so that the pitman D is at all times exerting a pressure on the crank-arm, and by which means a uniform motion is imparted to the machine.

H is a shaft mounted in suitable bearings in the frame A, to the inner end of which is secured the band-saw wheel or pulley I, and to the outer end of the shaft H is secured the fly-wheel K. The shaft H is also provided with a friction or band wheel, L, against the lower side of which the driving-band impinges to impart motion to the shaft H. The band-saw wheel I is provided with a flange, g , which prevents the saw from being pushed off of said wheel when it is brought in contact with the object to be cut. Both of the saw-supporting wheels I and S may be provided with the flange g .

M is a band-pulley secured to the shaft N, said shaft being also mounted in suitable bearings in the frame A.

O is the driving-belt, which passes around the wheel C on the main driving-shaft B and over the pulley M on the shaft N. The driving-belt passes under and in contact with the pulley-wheel L, and imparts motion to the shaft H and band-saw P. The band-pulley may pass around the pulley L, thus dispensing with the extra pulley M; but I prefer the construction shown, for the reason that if passed around the pulley L the band would have to be crossed in order to drive the saw in the direction of the arrow.

R is a standard or bracket secured to the frame A, in the upper or bent end of which is secured the band-saw pulley S. The pulley S is mounted in a bearing adapted to be adjusted in a vertical direction by the set-screw T, or in any other suitable manner. The standard or bracket R is bent at its upper end, as shown and described, and is provided with a horizontal projection, V, having a slit or recess formed therein, which serves to guide and steady the saw.

W is the top of the work bench or counter,

supported by the corner-posts of the frame A, in which is located the work-holder Y. The work-holder is provided with a slot, W', and is mounted in slide-guides Z Z, so as to be readily moved to and from the saw.

I lay no claim in this application to the sliding work-holder, but reserve the right to make it the subject-matter of a future application.

My device is specially adapted for the use of butchers and meat-cutters, the driving mechanism being located under the counter or cutting-table, out of sight. All that is visible to the public is the upper portion of the bracket or standard, the band-saw wheel S, and band-saw. These portions can be ornamented, so as to present a pleasing effect to the eye. I do not wish, however, to limit the use of my device to the particular work just referred to, as it is obvious that it can be used to advantage in all kinds of work where a saw is necessary; neither do I wish to limit myself to the driving of band-saws by the power or

motor herein described, as it is obvious that a circular saw can be attached to the shaft H, in lieu of the band-saw wheel I, and the device utilized in driving a circular saw.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a motor for driving saws, the combination of the bell-crank lever E and spring G with the pitman D, crank a, and main driving-shaft B, as set forth.

2. In a motor for driving saws, the bell-crank lever E and its connections with the main driving-shaft and with the saw, as described, in combination with the lever F and rod c, as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

DAVID E. DUTROW.

Witnesses:

H. B. ZEVELY,
C. F. DUTROW.