(No Model.)

A. MIDDLETON.

SPRING SAW HELPER.

No. 457,000. Patented Aug. 4, 1891.

Fig. 1

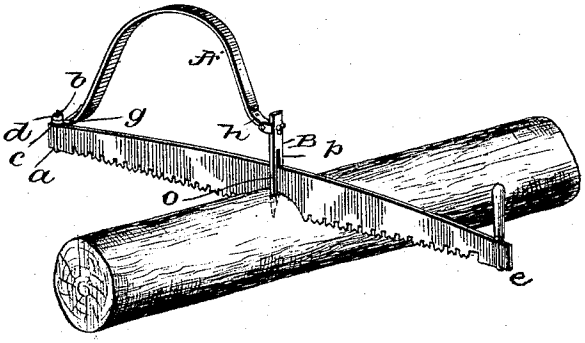


Fig. 2.

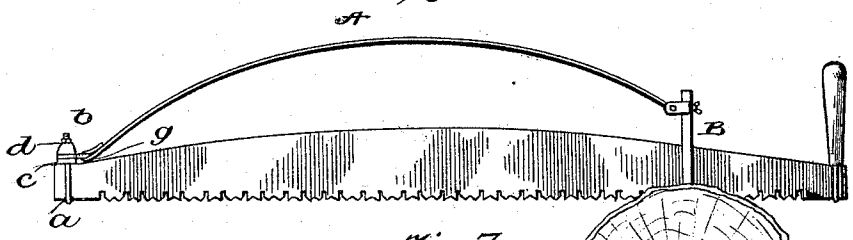


Fig. 6.

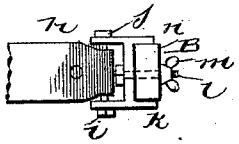
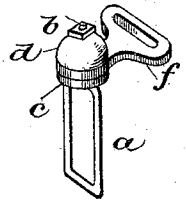


Fig. 7.



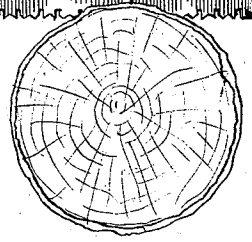


Fig. 3.

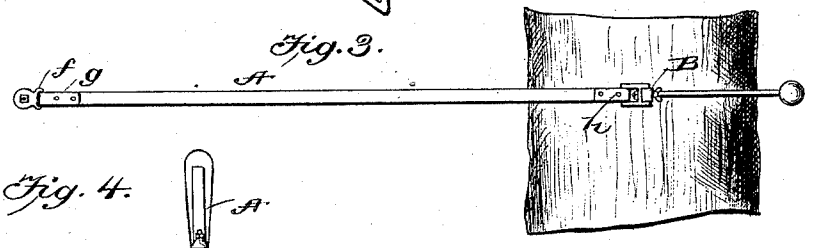


Fig. 4.

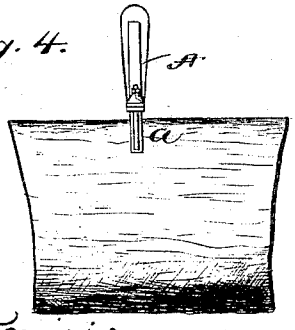
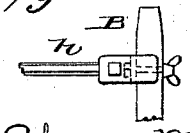


Fig. 5.



Witnesses

John Dmirie

Alex. Scott

Inventor

Abram Middleton.

By his Attorneys

Harris and Paxton

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ABRAM MIDDLETON, OF RUSSIAVILLE, INDIANA, ASSIGNOR OF TWO-THIRDS TO LISBON J. HAWORTH AND WILLIAM H. BISHOP, BOTH OF SAME PLACE.

SPRING-SAW HELPER.

SPECIFICATION forming part of Letters Patent No. 457,000, dated August 4, 1891.

Application filed December 30, 1890. Serial No. 376,313. (No model.)

To all whom it may concern:

Be it known that I, ABRAM MIDDLETON, a citizen of the United States, residing at Russiaville, in the county of Howard and State of Indiana, have invented a certain new and useful Improvement in Attachments for Saws, of which the following is a specification.

My invention relates to attachments for saws; and it consists in the improvements hereinafter described and set forth, whereby the labor required to operate a saw, particularly drag-saws, is reduced, the saw and its attachments quickly and firmly adjusted in position for work, and the cut of the saw guided and made with precision.

In the accompanying drawings, forming part of the specification, Figure 1 is a perspective view representing my improvements in operation. Fig. 2 is a side elevation, Fig. 3 a plan, and Fig. 4 a front view, of the same. Figs. 5 and 6 are detail views showing, respectively, a side view and a plan view of the connection of the spring and the combined guide and dog; and Fig. 7 is a detail view of the device for connecting the forward end of the spring to the saw.

Primarily my improvement consists of a spring A, which may be of leaf form and adapted to be attached to the forward end of the saw, while the rear end of said spring is connected to a spike or dog B, designed to engage the log or lumber and form a fixed connection for the adjacent end of the spring A. The means illustrated in the drawings for connecting said spring A with the forward end of the saw comprises a narrow vertical loop *a*, the upper extended end *b* of which is threaded and passes through a clamp-block *c*, and nut *d*, by means of which a washer is secured to the forward portion of the saw, said washer having a loop *f*, with which the front eye portion *g* of the spring is pivotally connected. This eye portion *g* may be arranged by simply folding and riveting the end portion of the spring upon itself. The rear end of the spring has a similarly-formed eye portion *h*, which pivotally engages with a horizontal bolt *i*, extending transversely between and having its ends bearing in the two forwardly-extending parallel ears *j* of a bracket *k*. This bracket *k* is secured to the upper portion of a vertical metallic spike or dog B, a bolt *l* passing through the back of the bracket, then through the spike, and retained by a clamp-screw nut *m*, as most clearly shown in Figs. 5 and 6. If desired, the bracket *k* may also have rearwardly-extending parallel ears *n* to afford an additional bearing for the spike or dog.

By reference to Fig. 1 it will be seen that the spike or dog B is made in a single piece, and is split or slotted to present lower parallel members *o p*, the latter being the longer and terminating in a point, as shown in Fig. 1.

In practice the member *p* is driven into a log at one side of the plane in which the saw is to cut, and the dog thus forms a fixed support for one end of the spring. The member *p* enters the log to an extent that brings the lower end of the member *o* in contact with or close to the surface of the log, and thereby practically closing the slot, which serves as a guide-opening, through which the saw can play. By reciprocating the saw the spring A will be contracted, while a cut is made during the movement of the saw in one direction; but upon the reverse movement of the same a comparatively small amount of power will be required upon the part of the operator, since the expanding force of the spring will greatly assist in effecting the return cut.

It will be quite obvious that by causing the saw to play through the spike or dog B the lumber will be sawed straight. An additional function of the spring A is that it normally tends to sustain or support the outer end of the saw, so that the latter is always maintained in a proper cutting position and binding or jamming consequently prevented.

It will be readily understood that my improvements may be applied to existing constructions of drag and other saws. Obviously an extended coiled spring may be substituted for the leaf-spring A.

The pivotal connections of the spring A with the saw and dog, respectively, while providing permanent attaching means for said spring, at the same time admit of the free movement of said spring at its ends, and thereby avoid

any strain to which it might otherwise be subjected.

I claim—

1. The combination, in an attachment for saws, of a horizontal spring A, provided at its forward end with means for connecting it directly with the forward portion of a saw, together with a dog adapted to engage a log or other lumber and having the other end of the spring adjacently located and pivotally connected therewith, whereby the spring A when attached will be substantially parallel with the back of the saw, as and for the purpose specified.

2. The combination, in an attachment for saws, of a horizontal spring A, provided at its forward end with means for connecting it directly to the forward end portion of a saw, together with a dog having a guiding portion in which the saw plays, the other end of said spring being adjacently located to said dog and pivotally connected therewith, whereby the spring A when attached will be substantially parallel with the back of the saw, as and for the purpose specified.

3. In an attachment for saws, the combination, with the log dog or spike, of a vertical loop for receiving the forward end of the saw and having an upper bolt, a block having a horizontal loop, a clamp-nut, and a horizontal saw A, pivotally engaging the said horizontal loop and pivotally connected at its rear end to the dog, substantially as set forth.

4. In an attachment for saws, the combination, with the log dog or spike, of a bracket *k*, bolted thereto and provided with a bolt *i*, together with a spring hung on said bolt at one end and provided at the other end with means for connecting it with a saw, substantially as set forth.

5. The combination, with the log dog or spike, of a horizontal spring connected directly thereto at one end, a depending loop, a disk having loop-extension with which the forward end of the spring engages, and a clamp block and nut, substantially as set forth.

6. The combination, in an attachment for saws, of a horizontal spring A, provided at its forward end with means for connecting it directly with the forward end portion of a saw, together with a dog split to present member *o* and pointed member *p*, the other end of said spring being adjacently located to said dog and pivotally connected therewith, whereby the spring A when attached will be substantially parallel with the back of the saw, as and for the purpose specified.

ABRAM MIDDLETON.

Witnesses:
CASSIUS C. SHIRLEY,
CHARLES F. SUTER.