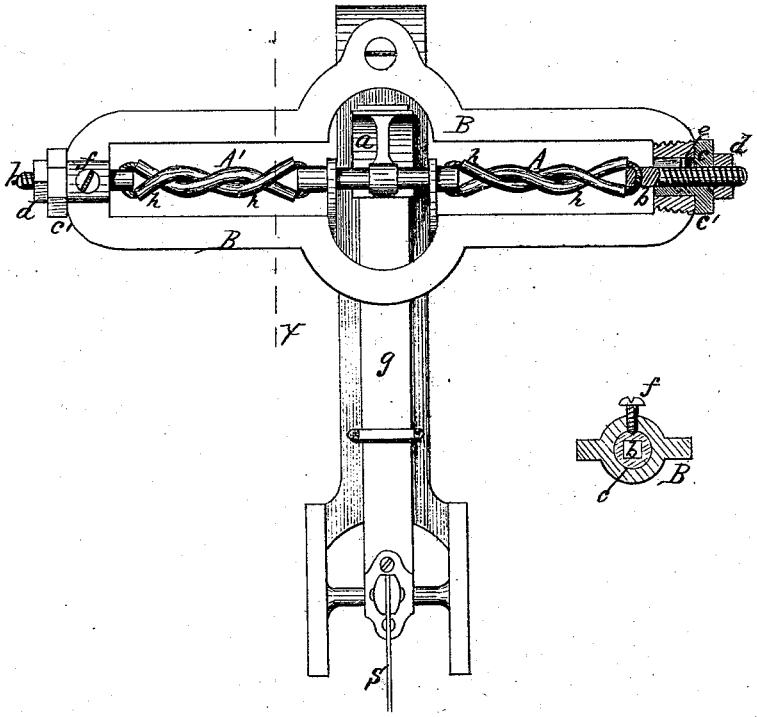
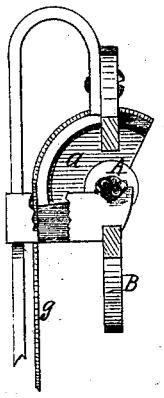
W. H. Dobson,

Scroll Saw.

No. 111,328. Patented Jan. 31. 1871.





Witnesses:

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WILLIAM H. DOBSON, OF ROCHESTER, NEW YORK, ASSIGNOR TO HENRY LAMPERT, OF SAME PLACE.

Letters Patent No. 111,328, dated January 31, 1871.

IMPROVEMENT IN SCROLL-SAWS.

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

I, WILLIAM H. DOBSON, of Rochester, in the county of Monroe and State of New York, have invented certain Improvements in "Scroll-Saws," of which the following is a specification.

My invention relates chiefly to the employment of a straining-spring of a peculiar character, and in certain devices for attaching and adjusting the same.

In the drawing—

Figure 1 is a front view of my invention.

Figure 2 is a transverse section showing those parts to the right of the dotted line *x*, fig. 1.

A serious difficulty with the various straining devices for scroll-saws now in use is the wide difference in the tension at the extremities of the stroke, imposing a heavy pressure and consequent wear upon the drive-shaft and connections at the point of greatest tension.

Most of such contrivances are, moreover, expensive and difficult to adjust, and are not readily replaced when worn out.

I have in a great measure overcome these objections, by forming the straining-spring A A′ of several cords of a strong fibrous substance, such as cat-gut, raw-hide, or rubber, or similar tough and slightly elastic material, which are twisted together and fixed at one end to a suspending-frame, B, and at the other to an oscillating segment or arm, *a*.

A strap, *g*, or other flexible connection, attached to the periphery of the latter, conveys the force of straining-spring to the saw S below.

It will be seen that, when the segment *a* is located at the center of the strainer, the section A of the latter must be twisted in an opposite direction to the section A′; in other words, in placing the spring in position, one section is twisted right-handed and the other left-handed to a proper degree of tension before using the saw.

The action of this straining device is obviously very uniform, since the tendency of the twisting motion is to slightly stretch the several cords of which it is composed, their elastic reaction taking place only within very small limits.

For the purpose of adjusting the straining-spring, either spirally or longitudinally, the several cords are secured in a suitable manner to a short spindle, *b*, fitting into a socket, *c*, and prevented from revolving therein either by making it square in section, as shown in Figure 3, or by providing it with a pin, *e*, projecting from its periphery into a longitudinal slot in such socket, as shown in fig. 1.

The socket *c* rests in an opening in the end of the frame B, and may be revolved by the application of a wrench to the nut-shaped projection *c′*.

A nut, *d*, is screwed upon the outer end of the spindle *b*, bearing against the socket, by means of which the tension of the spring is adjusted longitudinally.

The set-screw *f* retains the socket *c* in any desired axial position, affording means of adjusting the torsional strain of the spring A A′. Thus the degree of strain necessary upon the saw may be regulated at any time, while the strainer itself can be readily and cheaply replaced when required.

I find it desirable, also, to inclose the several cords of the strainer in tubes of rubber or some tough fibrous material, which prevents the abrasion and wear consequent upon the constant action of the saw.

It will be observed that, by means of the segment *a* and flexible connection *g*, the draft upon the saw is exerted in the same vertical line, while the leverage of the segment is uniform during the whole stroke.

In the drawing I have shown the cords of the strainer as passing through openings in the spindles *b* and gudgeons of the segment *a*.

I do not intend to confine myself to this form of attachment, as other means may be adopted by which the wear upon the cords at this point may be reduced.

Bearings, *h*, are attached to the frame B to support the segment *a*, retaining it nearly or quite in the axial line of the spindles *b*.

What I claim as my invention is—

1. The elastic straining-spring A, provided with a rubber guard-cushion, *h*, for the purposes set forth.

2. The stretching and twisting device *b c*, constructed and operating substantially as set forth.

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Witnesses:

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