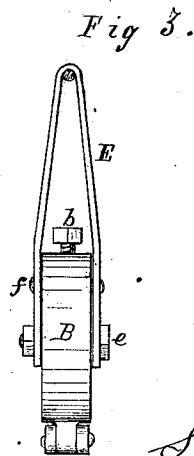
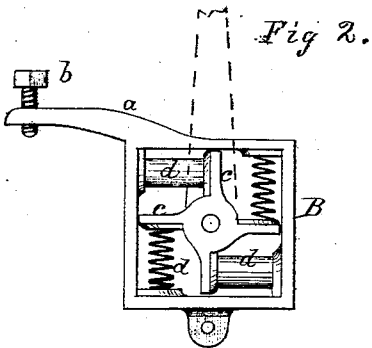
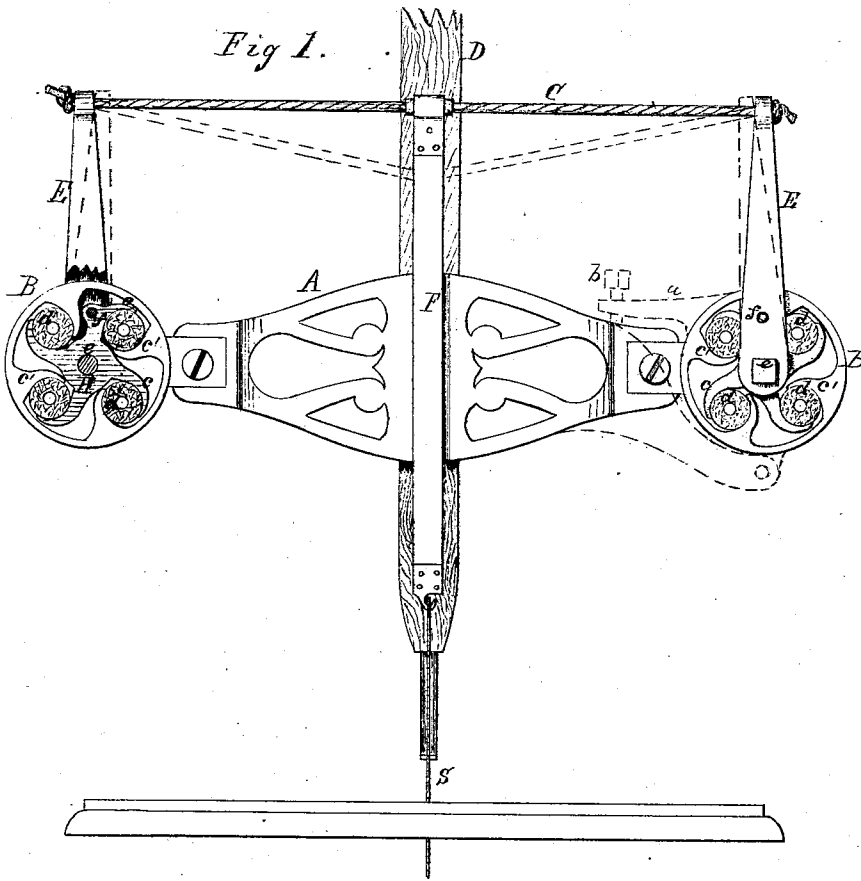


S. G. MASON.

Improvement in Scroll-Sawing-Machines.

No. 114,835.

Patented May 16, 1871.



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SYLVESTER G. MASON, OF ROCHESTER, NEW YORK.

Letters Patent No. 114,835, dated May 16, 1871.

IMPROVEMENT IN SCROLL-SAWING MACHINES.

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

I, SYLVESTER G. MASON, of Rochester, in the county of Monroe and State of New York, have invented certain Improvements in Strainers for Scroll-Saws, of which the following is a specification.

The object of my invention is to provide an effective strainer for gig-saws, by which the draft upon the saw is rendered equable throughout the stroke, the parts being made simple in construction, and comparatively inexpensive to replace when worn or broken.

In the drawing—

Figure 1 is a front elevation of my invention.

Figure 2 is an elevation of a modification of the spring sockets.

Figure 3 is an end view of the straining device.

A represents a bracket, which supports the spring sockets B, and is suspended over the saw-table upon a hanger, D, in the usual manner.

O is a deflecting cord of raw hide, catgut, or other strong flexible material, which is attached at its extremities to levers E; and

F is a strap, which embraces said cord at or near its center longitudinally, and is connected to the upper end of the saw S, as is usual in this class of machines.

The spring sockets B may be bolted to the bracket A, as shown in full lines in fig. 1; but I prefer to pivot them at the lower side to the bracket and provide a projecting arm, *a*, upon the upper side, through the end of which an adjusting-screw passes, bearing upon the bracket, as indicated by the dotted lines at the right hand of fig. 1.

By this means a rolling adjustment of the socket is obtained for the purpose of regulating the tension of the springs and cord O.

The spring-holders B are rims of metal, provided upon their internal periphery with arms *c*, against one side of which springs *d*, of rubber, or other similar yielding material, bear, and the length of these arms is such as to freely admit the hub of the star-wheels H between their inner ends, as shown in fig. 1.

The star-wheels H are also provided with arms *c*, between which and the arms *c* the springs *d* are introduced; and when the form of the latter is cylindrical these arms are curved in opposite directions, as indicated in fig. 1, whereby the springs are more securely held in place and the compressing surfaces increased.

The levers E are bifurcated to embrace the star-wheels and sockets B, as shown in fig. 3, and they are attached at one extremity to the star-wheels by bolts *e* and pins *f*, figs. 1 and 3, the latter passing through

the arms *c*, as indicated at the left of fig. 1. Thus, when the arms *c* and *c'* are arranged in each of the sockets B and star-wheels H, as shown, an inward movement of the levers E produces an oscillation of the star-wheels and consequent compression of the springs *d*.

It will therefore be seen that, when a reciprocating motion is given to the saw, the cord O is deflected at each downward stroke, the levers E oscillated as shown in dotted lines in fig. 1, and the tension of the compressed springs *d* thus conveyed to the saw through the cord and connecting-strap.

Since the length of the levers E considerably exceeds the radius of the star-wheels, and also since a certain amount of motion of the saw is permitted by the deflecting-cord O independently of the springs, it follows that the compression of the springs *d* is slight, and the result is a very equable strain upon the saw throughout the stroke.

The springs, when worn, may be replaced at a trifling expense, as, when made of rubber, they may be readily obtained in the requisite shape from dealers.

The star-wheels H need no bearings except the extremities of the arms *c'*, and they are kept in position by the forks of the lever E, while the castings for the sockets, star-wheels, and bracket may be put together without mechanical fitting further than drilling the bolt and pin-holes.

In fig. 2 I have shown a modification of the spring sockets, in which the arms of the star-wheels are straight, and the springs are blocks of rubber compressed lengthwise, or composed of metal in a spiral form, the former being preferable.

The number of arms *c c'* may be increased according to the aggregate strength required in the springs.

In case it should not be desirable to use the cord O, the lever E may be arranged nearly or quite horizontally and the strap F attached directly to the extremities.

What I claim as my invention is—

1. The lever E and star-wheel or head H, in combination with the fixed socket B and springs *d*, arranged to operate substantially as set forth.

2. In combination with the deflecting cord O, the levers E and spring heads B H, constructed and arranged substantially as and for the purposes set forth.

SYLVESTER G. MASON.

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