G. R. Kimball,

Hand Saw.

No. 105,949. Patented Aug. 2. 1870.

Fig. I.

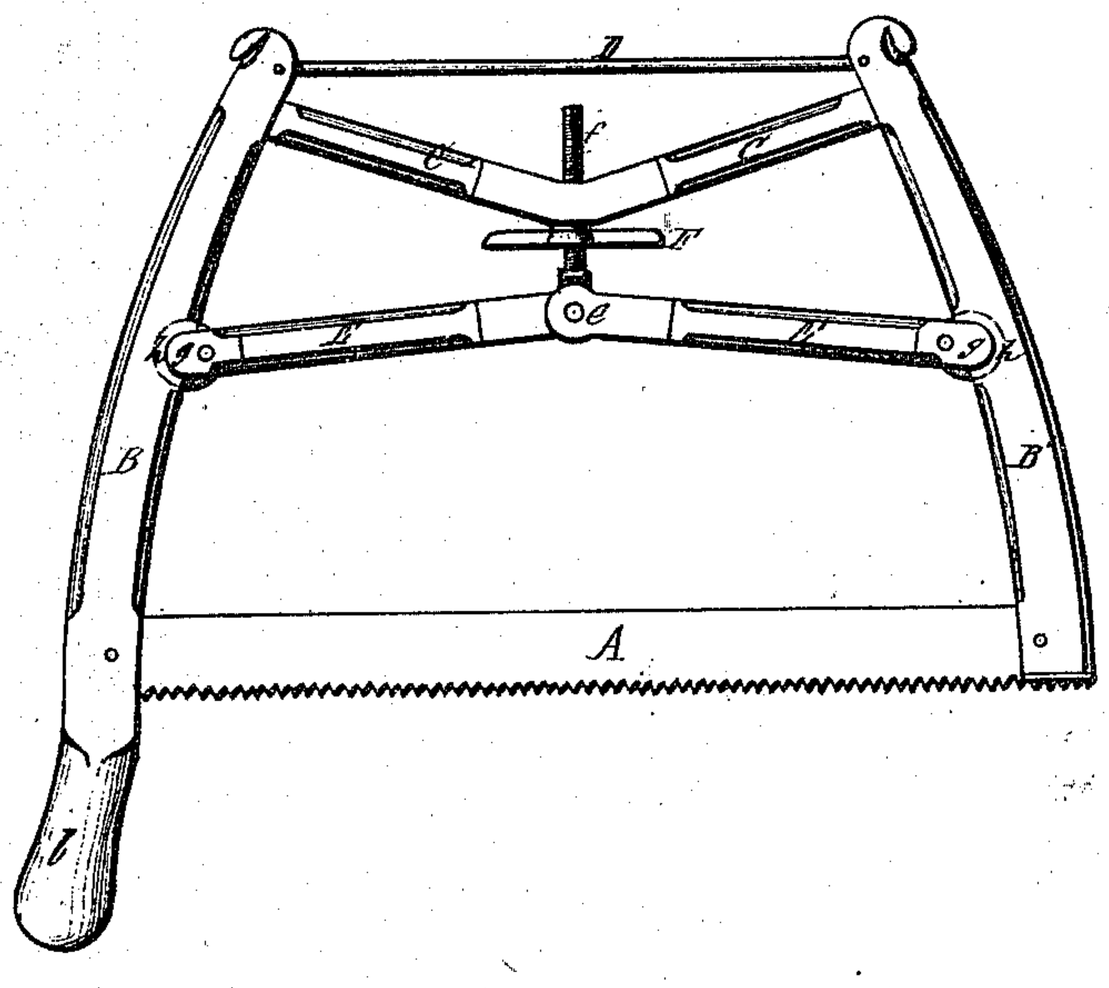
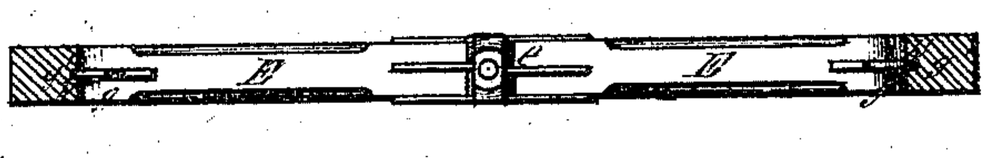


Fig. II.



Witnesses.

Edward Wilhelm

Jno. J. Bonner.

Geo. K. Kimball Inventor

by Forbush & Hyatt.

attys.

United States Patent Office.

GEORGE R. KIMBALL, OF MIDDLETOWN, NEW YORK.

Letters Patent No. 105,949, *dated August* 2, 1870.

IMPROVEMENT IN BUCK-SAW FRAMES.

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

I, GEORGE R. KIMBALL, of Middletown, in the county of Orange and State of New York, have invented an Improvement in Buck-saw Frames, of which the following is a specification.

My invention consists of an inverted arch and tie-rod, which rigidly connect the upper ends of the saw-frame, when arranged with toggle-bars that also connect the two pieces of the frame intermediate the saw-blade and top connection, and a screw and nut arranged between the inverted crown of the arch of the joint of the toggle-bars, by which the latter is operated in stretching or regulating the tension of the saw-blade.

In the accompanying drawing—

Figure I is an elevation of my improved saw.

Figure II is a plan view of the toggle-joint.

Like letters of reference designate like parts in each of the figures.

A is the saw-blade.

B B′ are the end pieces of the saw-frame, one of which, B, is constructed, as usual, with an extension or handle, *b*.

The upper ends of these pieces are rigidly connected by two bars, C C, joined together in the shape of an inverted arch, with a tie-rod, D, running through the base of the same.

Any other suitable rigid construction may be employed.

E E are the two toggle-bars, arranged between the saw-blade A and the beams C C.

The joint *e*, connecting their inner ends, is provided with a screw-bolt, *f*, which is fastened to the former, and plays freely in a hole in the crown of the inverted arch C C.

F is a thumb-nut, movable on the bolt *f*, between the toggle-joint and the bars C C.

The outer ends of the toggle-bars, which engage with the end pieces B B′ of the saw-frame, are rounded at *g g*, and provided with a tenon, *g′*, which fit in corresponding sockets *h* and mortise *h′* made in the latter.

The rounded ends *g* and sockets form the bearing-surfaces, while the tension and mortise prevents the lateral displacement of the bars.

Upon turning the nut F so as to cause it to press against the crown of the inverted arch C, the bolt *f*, and with it the toggle-bars which incline thereto, are forced therefrom, and in a direction to bring the bars in line, which causes the outer ends of the toggle-bars to force apart the ends of the frame-pieces B B′ in which the saw-blade is secured, thereby bringing in requisition the combined power of the screw and toggle-joint, which enables the tension of the saw-blade to be regulated with the greatest ease and with a slight exertion of power in turning the nut.

My improved construction of the bearings at the outer ends of the toggle-bars insures a firm joint thereof with the frame, while they permit of a free movement of the bars in tightening the saw.

I do not claim, broadly, the combination, with the frame of a buck-saw, of toggle-bars and a screw for operating the same; but

What I claim as my invention is—

The arrangement, with the frame-pieces B B′, of the inverted arch C C, tie-rod D, toggle-bars E E, and screw and nut *f* F, as hereinbefore set forth.

GEO. R. KIMBALL.

Witnesses:

LEMUEL WHEELER,

CHAS. C. MADDEN.