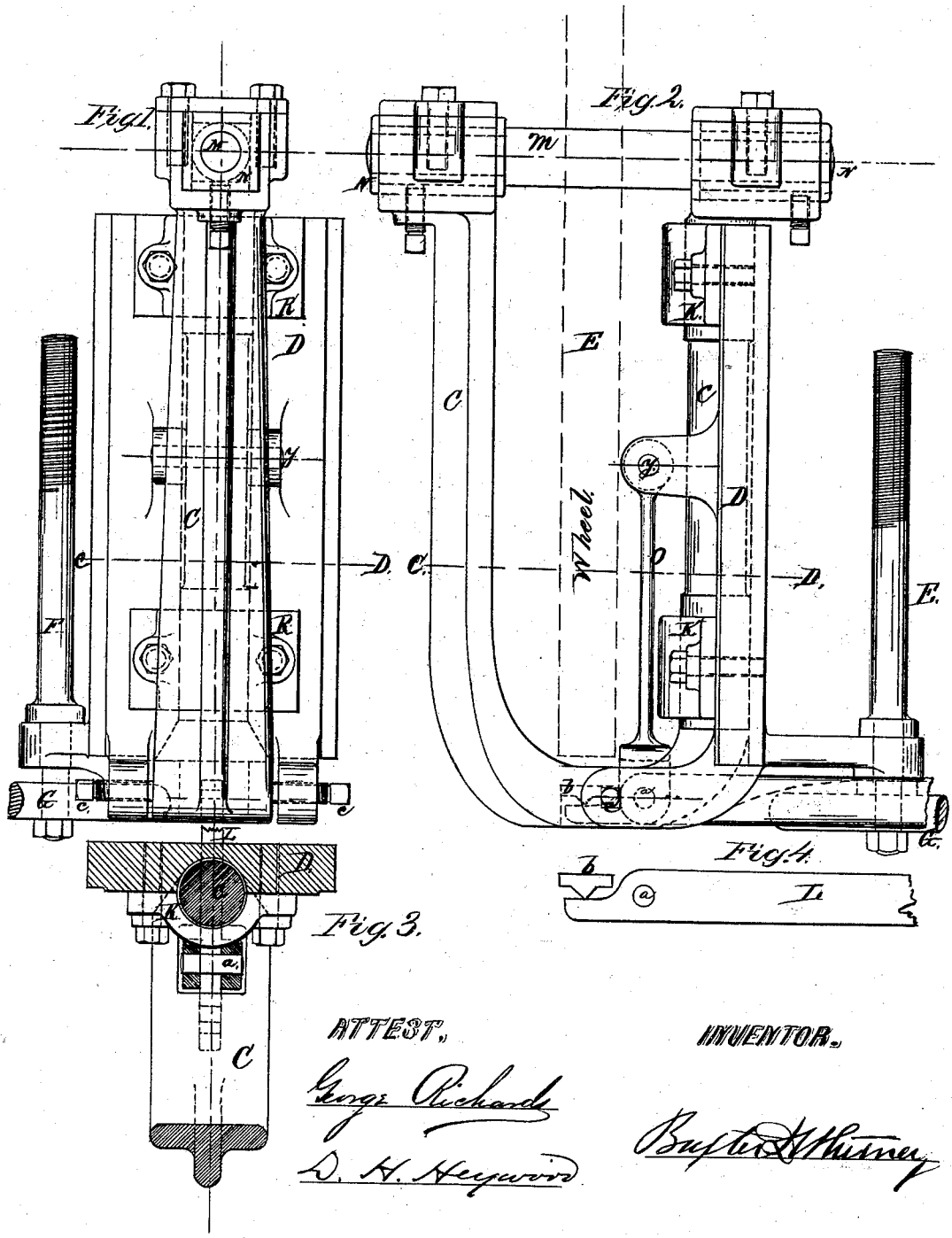
2 Sheets--Sheet 1.

B. D. WHITNEY.

Band Sawing Machine.

No. 165,463. Patented July 13, 1875.



ATTEST,

George Richards

D. H. Heywood

INVENTOR.

Baxter D. Whitney

2 Sheets--Sheet 2.

B. D. WHITNEY.

Band Sawing Machine.

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Fig. 5.

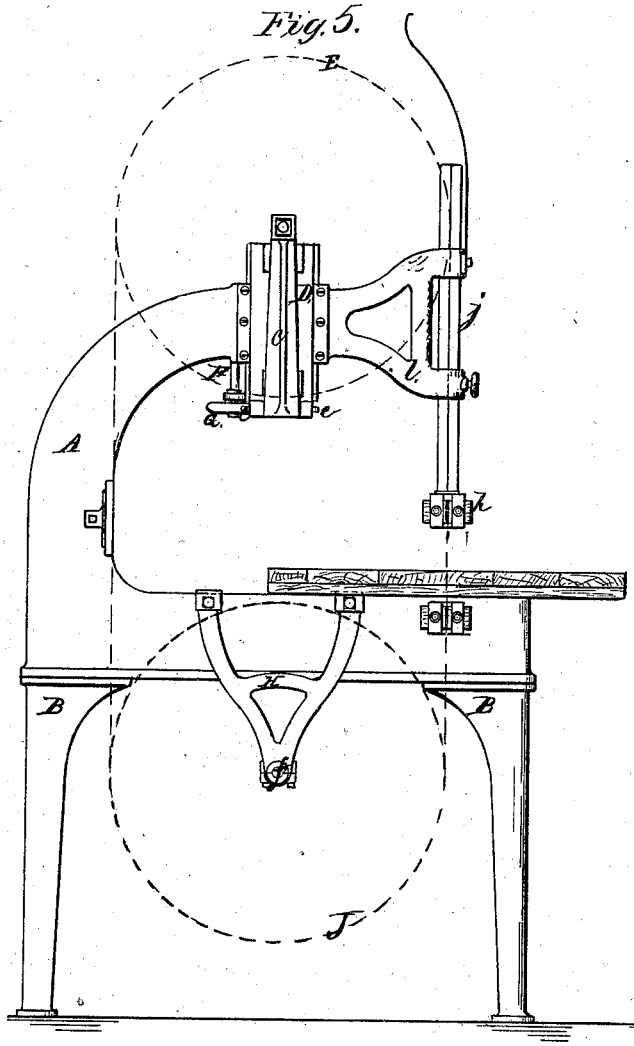
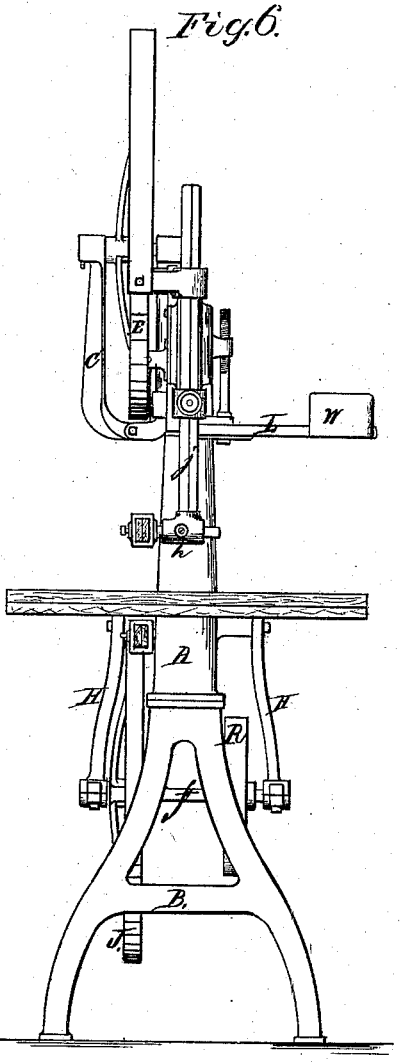


Fig. 6.



ATTEST.

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UNITED STATES PATENT OFFICE.

BAXTER D. WHITNEY, OF WINCHENDON, MASSACHUSETTS.

IMPROVEMENT IN BAND SAWING-MACHINES.

Specification forming part of Letters Patent No. **165,463**, dated July 13, 1875; application filed September 21, 1874.

To all whom it may concern:

Be it known that I, BAXTER D. WHITNEY, of Winchendon, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Band Sawing-Machines for compensating for the contraction and expansion of the saw; and the following is the specification of the same, reference being made to the accompanying drawings, in which—

Figure 1, Sheet No. 1, represents a front view of the top or upper portion of the machine for supporting the upper saw-driving wheel and its adjusting and compensating mechanism. Fig. 2 shows a side view of the same. Fig. 3 is a section on the line C D in Figs. 1 and 2. Fig. 4 shows a detached view of the counterbalancing lever and fulcrum. Fig. 5, Sheet No. 2, represents a side elevation, showing all the working parts and the machine in condition to be operated. Fig. 6 is a side view of the same.

The object of my invention is to provide an apparatus by which a band-saw may be operated in such a manner as to maintain an equal tension under all conditions of changes in temperature which cause expansions and contractions in its length; and consists in the construction of mechanism as hereinafter described.

A is the frame or stand, to which the operating parts are attached. B B are legs, upon which the frame A rests. J is the lower or driving wheel, to which motion is communicated by means of the belt driving-wheel R, and which carries the band-saw blade, in connection with the upper saw-wheel E. D is an adjustable slide, to which the compensating devices are attached, as hereinafter described. The slide D is adjusted vertically by means of the screw F and hand-wheel G, to suit the various lengths of the saw-blade. C is a yoke, which, by its construction, admits of a vertical and rotative adjustment, at the same time supporting the upper saw-wheel E, shaft M, and bearings N N. The yoke C is counterbalanced by means of the lever L and weight W. The end of the lever L rests on a knife-edge, *b*, placed exactly under the saw-wheel E, and in the plane of the strain of the saw-blade, which insures the strain falling evenly upon the bearings N N, thus allowing of a free vertical movement of the yoke C on the bearings K K when actuated by the lever L. The yoke C is also attached to the sliding plate D by means of the lever L, pin *a*, and link O. The screws *c c* are to give a slight rotative adjustment of the yoke C in the bearings K K, changing the plane of the upper saw-wheel E, for the purpose of causing the saw to run in the proper path on the saw-wheels E and J. The brackets H H support the lower saw-wheel shaft, and are arranged on the outside of the saw-wheel J and driving-wheel R, that the strains may fall more evenly on the bearings, at the same time forming no obstruction to the placing on and removal of the saw-blades.

The operation of the machine is as follows: When the band-saw is to be placed on the wheels for operation, the upper wheel is lowered by means of the screw F and hand-wheel G. When in place the band-saw is tightened by the reverse action of the hand-wheel G, thus elevating the slide D, and with it the upper shaft M and wheel E, supported by the yoke C, and raising the lever L, sustaining the weight W. In this position the strain of the saw and upper wheel is counterbalanced by the weight W and lever L, independent of the slide D and screw F, they merely acting as a support of the fulcrum *g*.

The guide *h*, guide-stem *j*, and guide-stem bracket *l* are as generally constructed in this class of machines.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The yoke C, having bearings on both sides of the wheel E, in combination with the adjusting and compensating device, consisting of the slide D and the lever L, with its sliding weight W, the fulcrum of said lever being directly in the plane of the strain of the saw, substantially as herein shown and described.

2. The arrangement of the journal-boxes H H on both sides of the lower saw-wheel J, in the manner and for the purpose substantially as herein shown and described.

BAXTER D. WHITNEY.

Attest:

GEORGE RICHARDS,

D. H. HEYWOOD.