

(No Model.)

2 Sheets—Sheet 1.

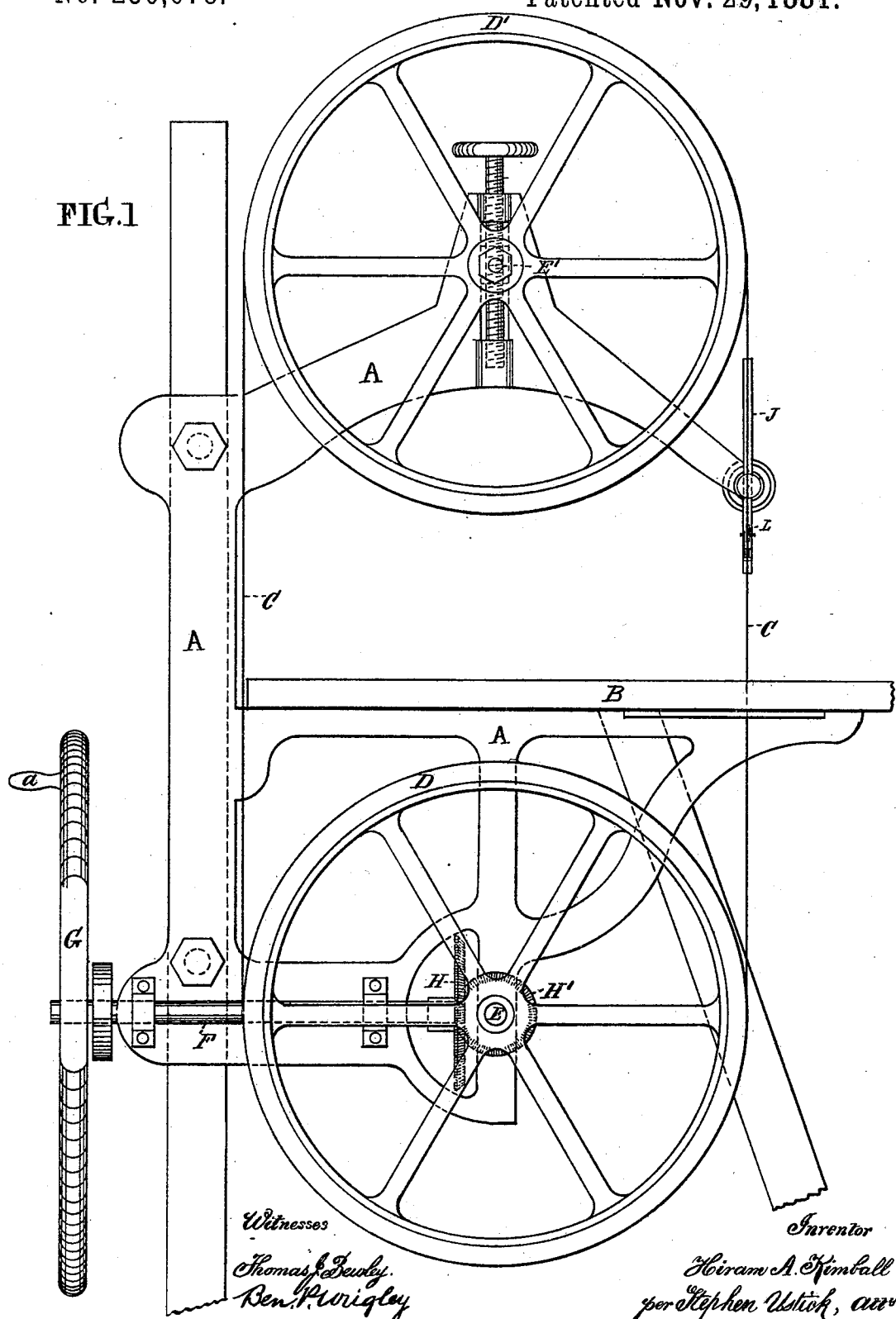
H. A. KIMBALL.

BAND SAW GUIDE.

No. 250,078.

Patented Nov. 29, 1881.

FIG. 1



(No Model.)

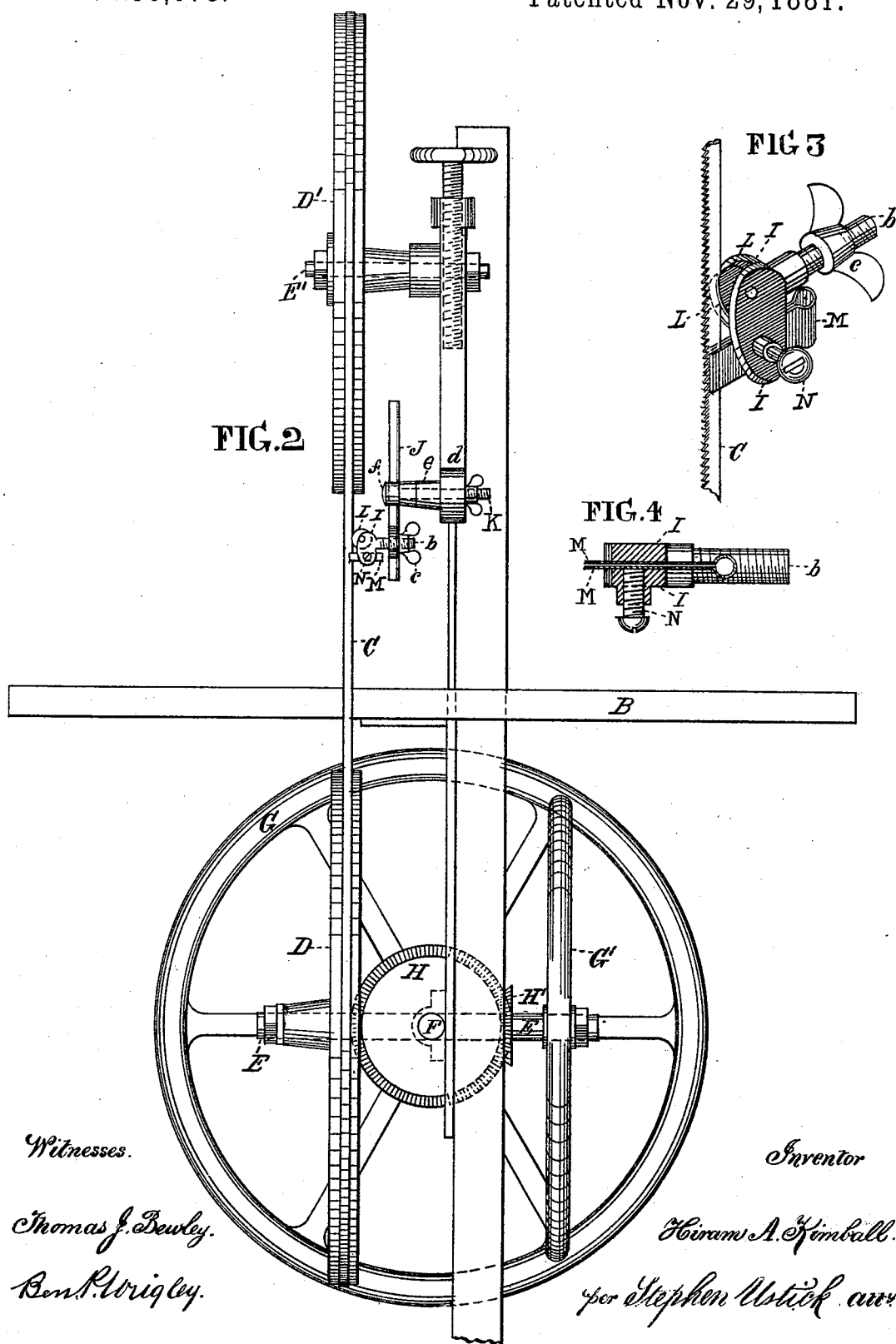
2 Sheets—Sheet 2.

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Witnesses.

Thomas J. Dewley.

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Inventor

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UNITED STATES PATENT OFFICE.

HIRAM A. KIMBALL, OF PHILADELPHIA, PENNSYLVANIA.

BAND-SAW GUIDE.

SPECIFICATION forming part of Letters Patent No. 250,078, dated November 29, 1881.

Application filed February 17, 1881. (No model.)

To all whom it may concern:

Be it known that I, HIRAM A. KIMBALL, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Band-Saw Guides, of which the following is a specification.

The nature of my invention consists in a device for giving a lateral guide to the saw, the said device being adjustable to suit saws of various widths, as hereinafter described.

In the accompanying drawings, which make a part of this specification, Figure 1 is a front elevation of my improved band sawing machine. Fig. 2, Sheet No. 2, is a side elevation of the same. Fig. 3 is a perspective view, on an enlarged scale, of the combined back and the adjustable side guides of the saw and a portion of the saw in connection therewith. Fig. 4 is a horizontal section taken through the sheave I, screw N, and guide M.

Like letters of reference in all the figures indicate the same parts.

A represents the frame of my improved band-saw machine, provided with a table-top, B, for the support of the stuff to be sawed.

C is the band-saw, and D and D' are the pulleys which carry it. E and E' are respectively the shafts of said pulleys.

F is the driving-shaft, arranged at right angles to the shaft E, and in the present case is provided with a crank-handle, *a*, for turning it, the handle projecting from the fly-wheel G on the outer end of the shaft. The inner end of the shaft has a geared connection with the shaft E of the lower pulley, D, by means of the bevel-wheel H on the shaft F and the pinion H' on the shaft E, whereby a high speed is given to the band-saw C. The fly-wheel G' on the shaft E runs at a different speed from the crank-wheel G.

I is a sheath, connected by means of its stem *b* and nut *c* with the upright shaft J, which is connected with the arm *d* of the frame A by means of the horizontal screw-rod K and barrel *e*, the screw-rod having a boss-head, *f*. (Seen in Fig. 2.) The sheath is provided with a grooved

wheel, L, and double guides M, the wheel being a guide for the back edge of the saw C, as shown clearly in the large detail view, Fig. 3. The guides M are formed of a strip of spring-steel, bent double, so as to bring its resilient ends to the opposite sides of the saw and press gently thereon, avoiding much friction, while the saw is thus kept straight in its reciprocating movements. The doubled part of the guide-strip is supported in a horizontal slot of the said sheath I, and is adjustable and held securely in place by means of the screw N, which passes through one of the cheeks of the sheath, the screw being slackened to relieve the spring of the pressure of its tail end, so as to admit of the accurate setting of the guide to bear over the whole of the flat surfaces of the saw-blade clear to the roots of the teeth, and thus diminish the friction and prevent the crooking of the blade, which is consequent upon the rubbing of the saw at its back edge when a portion of its surface at its front edge is altogether relieved therefrom. This is a very important point to be observed, especially in narrow saws, which are very liable to be made crooked by the stretching of the rear edge in the rubbing of the sides of the blades at that edge when a portion of the surface along the toothed edge is not subjected to the rubbing. This difficulty, it will be seen, is avoided by the use of the guides above described, as they may be accurately set to saws of various widths.

I claim as my invention—

The adjustable side guides, M, in a single strip of steel, bent double, so as to have resilient ends to bear on the opposite sides of the saw-blade, in combination with the sheath I, having a horizontal slot to receive the middle and doubled part of the strip, and a confining-screw, N, the sheath being held in its position by means of the upright shaft J or other suitable device, substantially as described.

HIRAM A. KIMBALL.

Witnesses:

THOMAS J. BEWLEY,
STEPHEN USTICK.