J. RICHARDS.

Improvement in Saw-Mills.

No. 114,043. Patented April 25, 1871.

Fig 3.

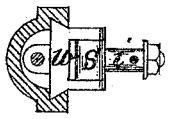


Fig 4.

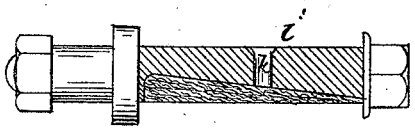


Fig 5.

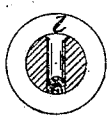


Fig 2.

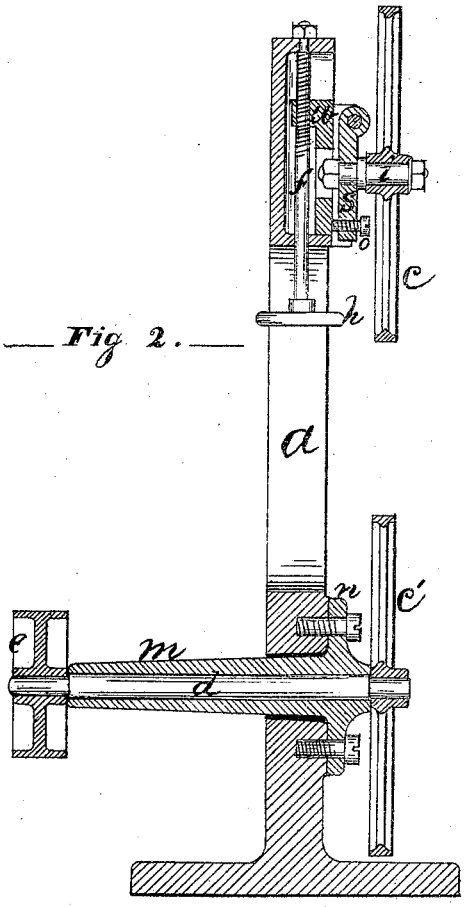
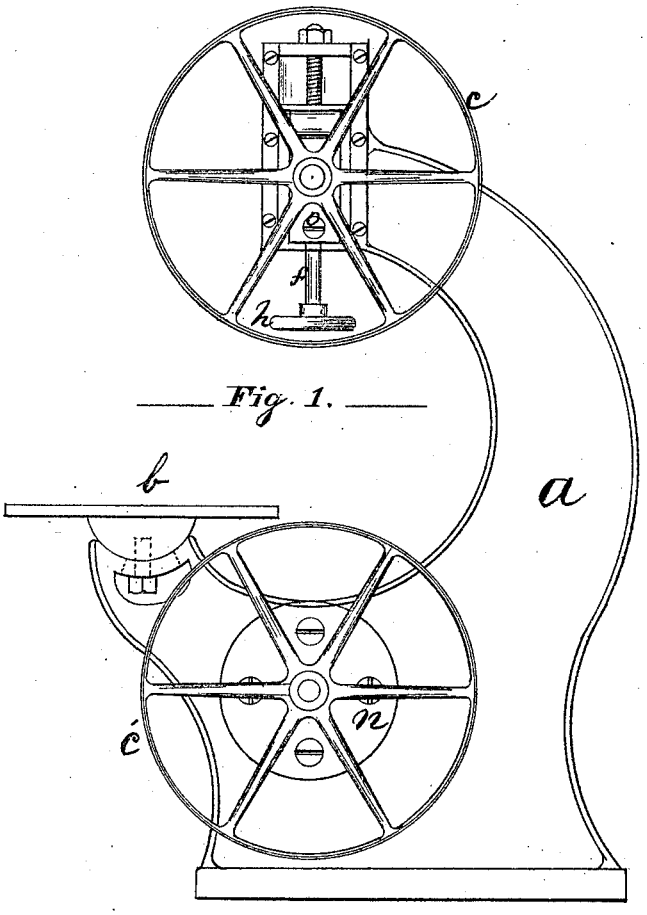


Fig. 1.



Attest.

Wm. L. Kelley

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UNITED STATES PATENT OFFICE.

JOHN RICHARDS, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN SAW-MILLS.

Specification forming part of Letters Patent No. **114,043**, dated April 25, 1871.

I, JOHN RICHARDS, of the city and county of Philadelphia, in the State of Pennsylvania, have invented certain Improvements in Band-Saw Machines, of which the following is a specification:

Nature and Objects of the Invention.

The first part of this invention relates to a new and improved manner of mounting the lower shaft of band-saw machines by means of a cylindrical sleeve bolted to the frame, as will be hereafter more fully described.

The second part of this invention relates to a hinged plate on which the top wheel of such machines is mounted, with means for changing the plane of their rotation by an adjusting-screw.

A third part relates to means for lubricating the bearing of the top wheel of band-saw machines by means of a grooved stud with fibrous packing, arranged as hereinafter specified.

Description of the Accompanying Drawing.

Figure 1 is a side elevation of a band-sawing machine embodying my improvements. Fig. 2 is a vertical section through Fig. 1. Fig. 3 is a top view and partial section, showing the arrangement of the bearing for the top wheel. Fig. 4 is an enlarged view of the stud on which the top wheel runs, and Fig. 5 is a cross-section on Fig. 4.

Similar letters of reference in the different figures indicate corresponding parts.

General Description.

a is the main frame of a band-saw machine. *b* is the table, and *c' c* the wheels on which the saw runs. *d* is the lower or driving shaft, and *e*, the pulley to which the power is applied. *m* is a cylindrical sleeve that forms the bearings and supports for the shaft *d* and the lower wheel, *c*, as shown. This sleeve has formed around it a strong flange, *n*, which is bolted to the frame *a* in the manner shown, the frame being perforated to receive it, as seen in Fig. 2.

i is a stud that forms the bearing for the top wheel. This stud is firmly fixed in the hinged piece S, as seen in Figs. 2 and 3.

The pivoted or hinged piece S is adjusted, by means of the screw *o*, so as to change the plane of rotation in the top wheel, and govern the path of the saw on its periphery, and regulate the strain of the blades against the guides, as will be readily understood by those familiar with their operation. This piece S is hinged to the piece *w*, which is moved up and down by the screw *f* and hand-wheel *h*, to regulate the tension of the saw-blade, in the usual manner.

The stud *i* is grooved on the under side, as shown in Figs. 4 and 5, and filled with fibrous material to retain oil, the oilway *k* corresponding with one in the hub of the wheel *c*.

In mounting the machinery or parts on the frame *a*, the guides of the piece *w* are planed out, and, without moving the frame, the boss to receive the flange *n* is planed at the same time, bringing all parts of the machine in a true line. This arrangement also admits of a ready removal of the shaft *d*, with its bearings, for transportation or for repairs. The perforation through the frame *a*, as seen in Fig. 2, is sufficiently large to admit of lateral adjustment of the shaft *d* and wheel *c* to bring it in true line with the top wheel.

Claims.

I claim—

1. The cylindrical flanged sleeve *m*, in combination with the frame *a* and lower wheel, *c*, of a band sawing machine, arranged substantially as hereinbefore specified.

2. The pendulous pivoted piece S, in combination with the adjusting-screw *o* and the upper wheel of a band sawing machine, when arranged and operating as herein described.

3. The stud *i*, provided with a groove upon its under side for the reception of a fibrous material, and oil-hole *k*, the whole being constructed as herein shown and described.

JOHN RICHARDS.

Witnesses:
WM. S. KELLEY,
SAMUEL C. OGLE.