J. Briggs,

Drag Saw.

No. 80,903. Patented Aug. 11, 1868.

Fig. 1

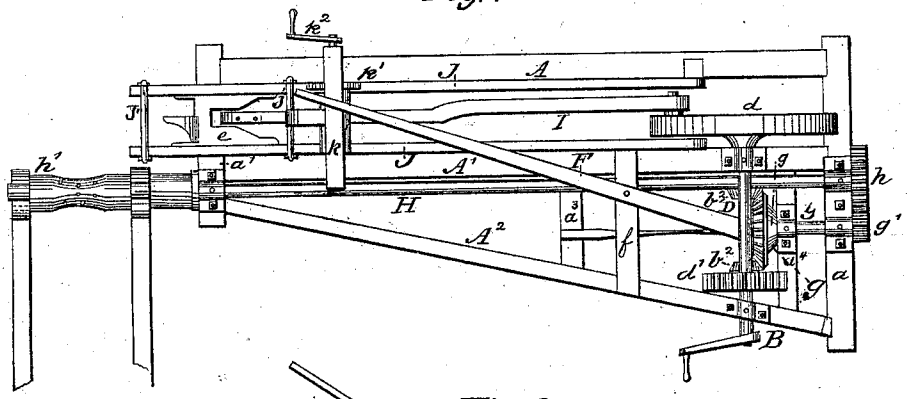


Fig. 2

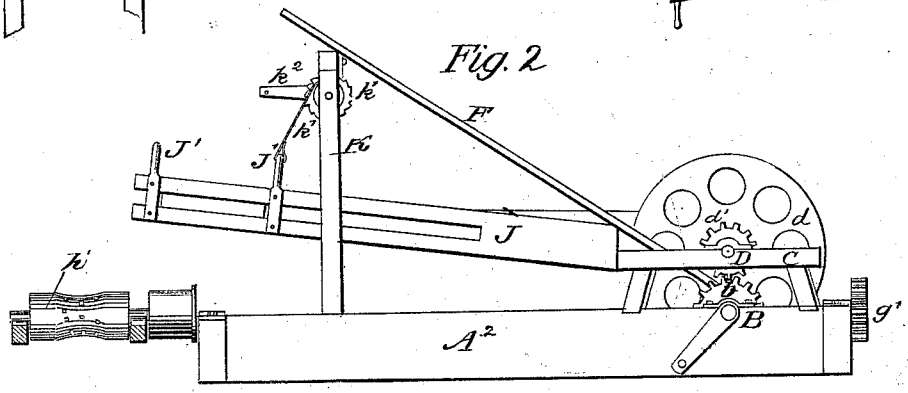


Fig. 3

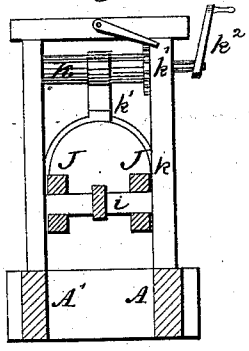
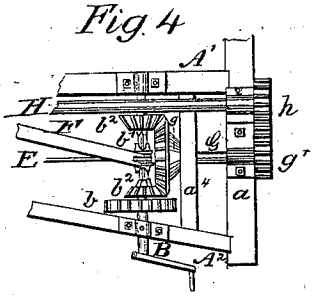


Fig. 4



Witnesses
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UNITED STATES PATENT OFFICE.

JAMES BRIGGS, OF LYONS, OHIO.

IMPROVEMENT IN SAWING-MACHINES.

Specification forming part of Letters Patent No. **80,903**, dated August 11, 1868.

To all whom it may concern:

Be it known that I, JAMES BRIGGS, of Lyons, in the county of Fulton and State of Ohio, have invented new and useful Improvements in Sawing-Machines; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

This invention relates to certain improvements in sawing-machines; and it consists in a novel arrangement for adjusting the log forward or backward at will, as will be fully described hereinafter.

Figure 1 represents a plan view of my sawing-machine; Fig. 2, a side elevation, and Figs. 3 and 4 views of parts detached.

In the drawings, A A′ A² represent the bed-pieces, which may be constructed in any proper manner. In this case they consist of two parallel beams, A A′, and the beam A², which latter forms an acute angle with the former, the whole being joined by the cross-pieces *a a′*.

B represents the main shaft, by means of which power is communicated to the machine, which shaft rests in suitable bearings in the beams A′ A².

C C represent standards which rise from beams A′ A² and form bearings for shaft D, upon which latter is placed the pitman-wheel *d*, as shown.

d′ represents a pinion which is operated by gear-wheel *b* of shaft B.

b′ represents a sleeve-clutch upon shaft B, which revolves with the shaft, being secured thereto by means of a spline or other similar arrangement, but which has consequently free movement to either side. This sliding sleeve is constructed with a groove in its center, in which rests the free end of the spring E, the fixed end of which latter is secured in the cross-piece *a*³.

F represents a lever pivoted to the cross-bar *f*, the short arm of which extends downward and rests upon spring E, the end being notched, as shown, for the purpose of grasping it. The long arm extends upward to a convenient point to be reached by the operator.

*b*² *b*² represent bevel gear-wheels, which are loose upon shaft B, and which are provided with projections upon the inner sides corresponding with the depression in the clutch-sleeve *b′*.

G represents a shaft resting in bearings in cross-pieces *a a*⁴, to one end of which is attached the bevel gear-wheel *g*, and to the other the pinion *g′*.

H represents a shaft resting in bearings in cross-pieces *a a′*, to one end of which is attached the gear-wheel *h*, operated by pinion *g′*, and to the other the roller *h′*, as shown. This roller may be constructed of any desired form and arranged in any suitable manner.

I represents the pitman, which is attached in the usual manner to the pitman-wheel *d*.

J J represent ways which are pivoted upon each side just forward of the center of the pitman-wheel, which ways are slotted, as shown, to form bearings for the slide *i* of the pitman.

J′ J′ represent curved stays, which rigidly connect the ways together without interfering in any way with the free movement of the pitman.

K represents a standard rising from beams A A′, in which is hung the shaft *k* with ratchet-wheel *k′* and crank *k*², as shown.

K′ represents a strap, rope, or chain, one end of which is attached to one of the stays J′ and the other to the shaft *k*.

From this description the nature and operation of my invention will be readily understood.

The machine having been put in motion, the log is adjusted forward or backward, as may be desired, by moving the lever F in the proper direction, for by moving the lever to either side the sleeve-clutch *b′* is forced into contact with one of the gear-wheels *b*², which is by this means rigidly connected for the time being to the main B, and is forced to revolve with it. As the wheels *b*² engage with the gear-wheel *g*, motion is thus communicated to the latter in one direction or the other, the direction depending upon the wheel communicating the motion. The shaft G, by its pinion *g′*, engages with gear-wheel *h* of shaft H, which latter operates the roller upon which the log rests. The saw is adjusted up or down, so as to rest properly upon the log, by turning the crank *k*² of shaft *k*, by which means the rope or chain is wound up or unwound, and the ways consequently elevated or de-

pressed. The ratchet-wheel and pawl k^2 sustain the ways in any desired position.

By the construction and arrangement herein described a valuable and efficient sawing-machine is produced. The log is easily handled and the saw readily adjusted in such manner as to be always at right angles to the log, whereas when arranged in the usual manner the saw is often placed upon the log at an incline, in which case the power is very disadvantageously applied. The elevated bearings of the pitman-wheel also place it and the pitman up out of the way clear from obstructions.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is---

The sleeve-clutch b', grooved as shown, arranged with spring E, lever F, and loose gear-wheels b^2, the whole being combined and operated as and for the purpose set forth.

This specification signed and witnessed this 12th day of May, 1868.

JAMES BRIGGS.

Witnesses:

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ALBERT N. DREW.