

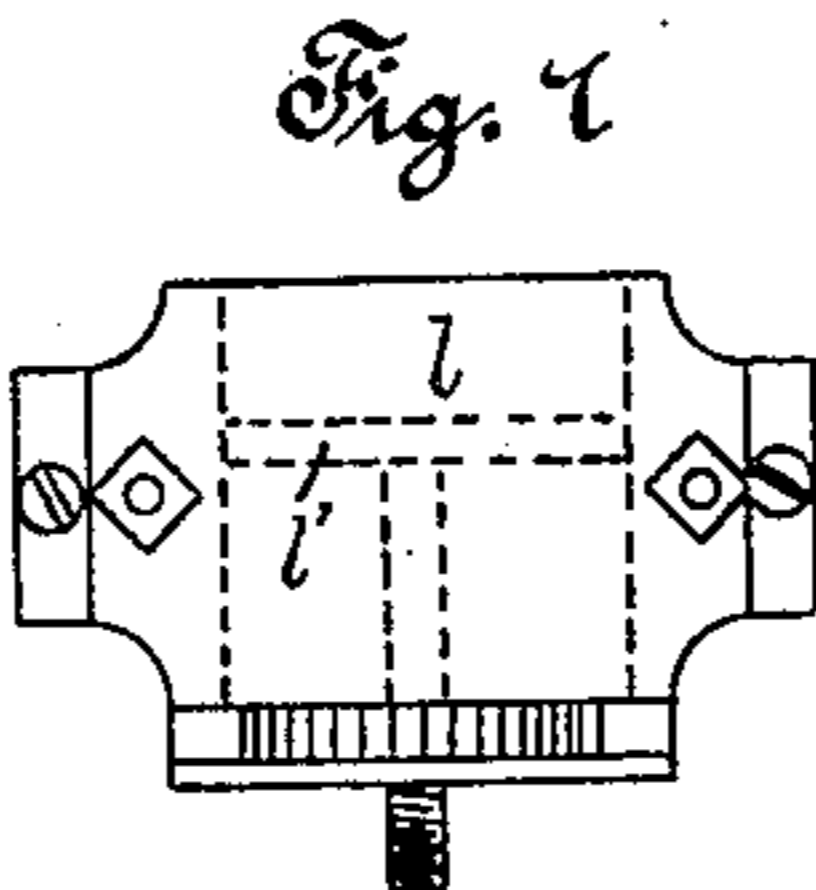
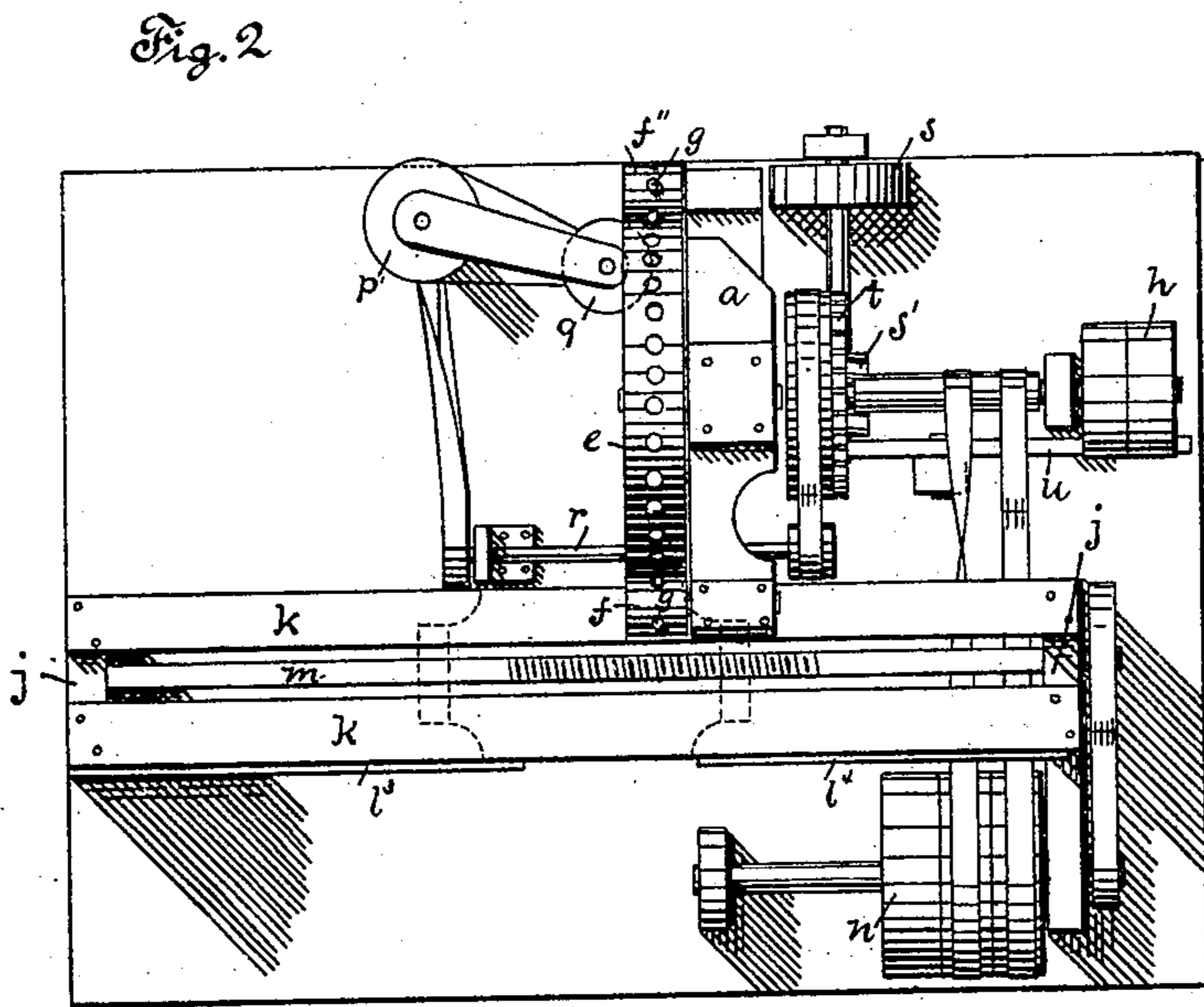
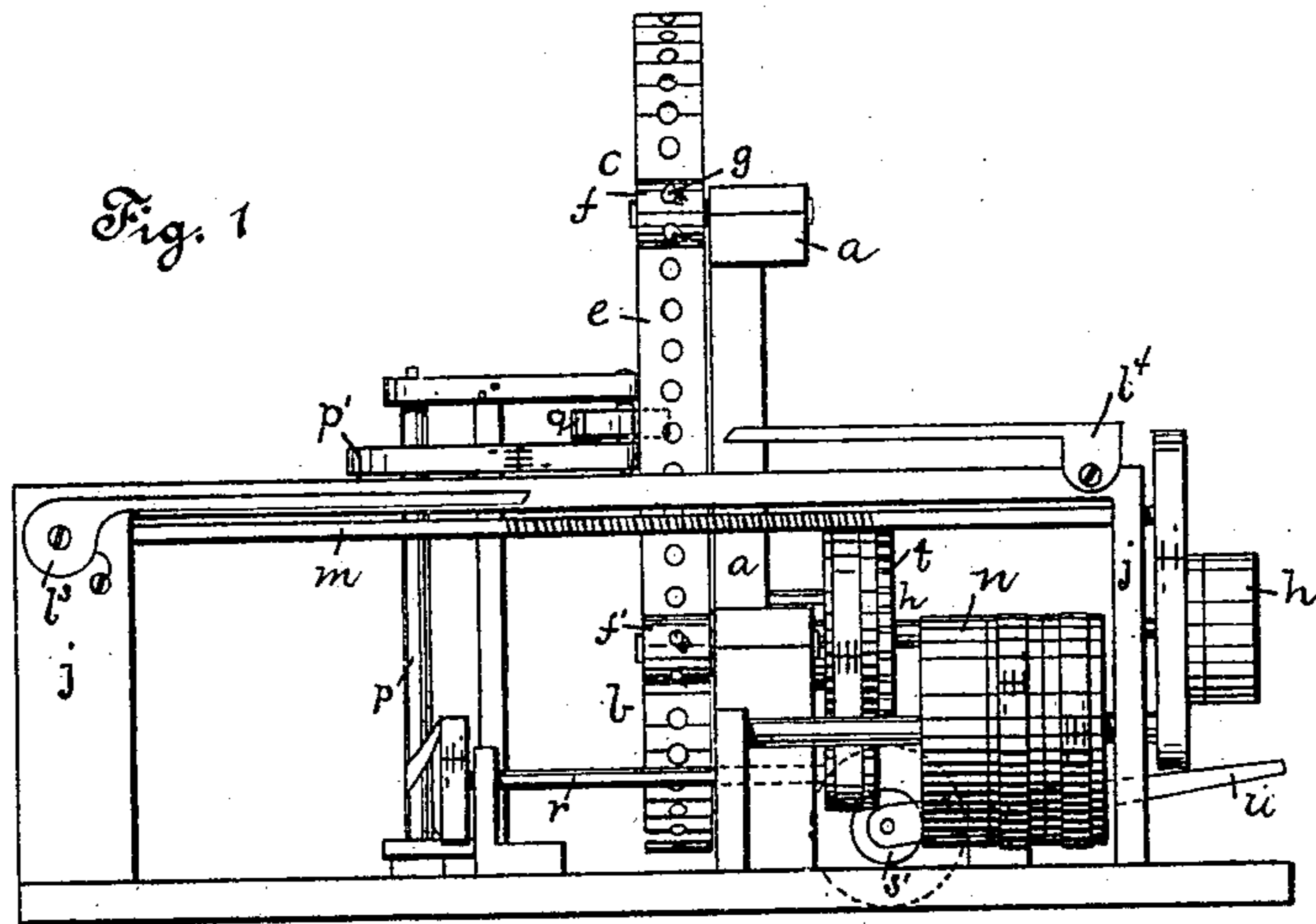
(No Model.)

2 Sheets—Sheet 1.

J. W. SMITH.
BAND SAWING MACHINE.

No. 276,197.

Patented Apr. 24, 1883.



Witnesses.

Walter H. Bunker.
Albert C. Tanner

Inventor.

Jared W. Smith
By W. E. Simonds,
Atty

(No Model.)

2 Sheets—Sheet 2.

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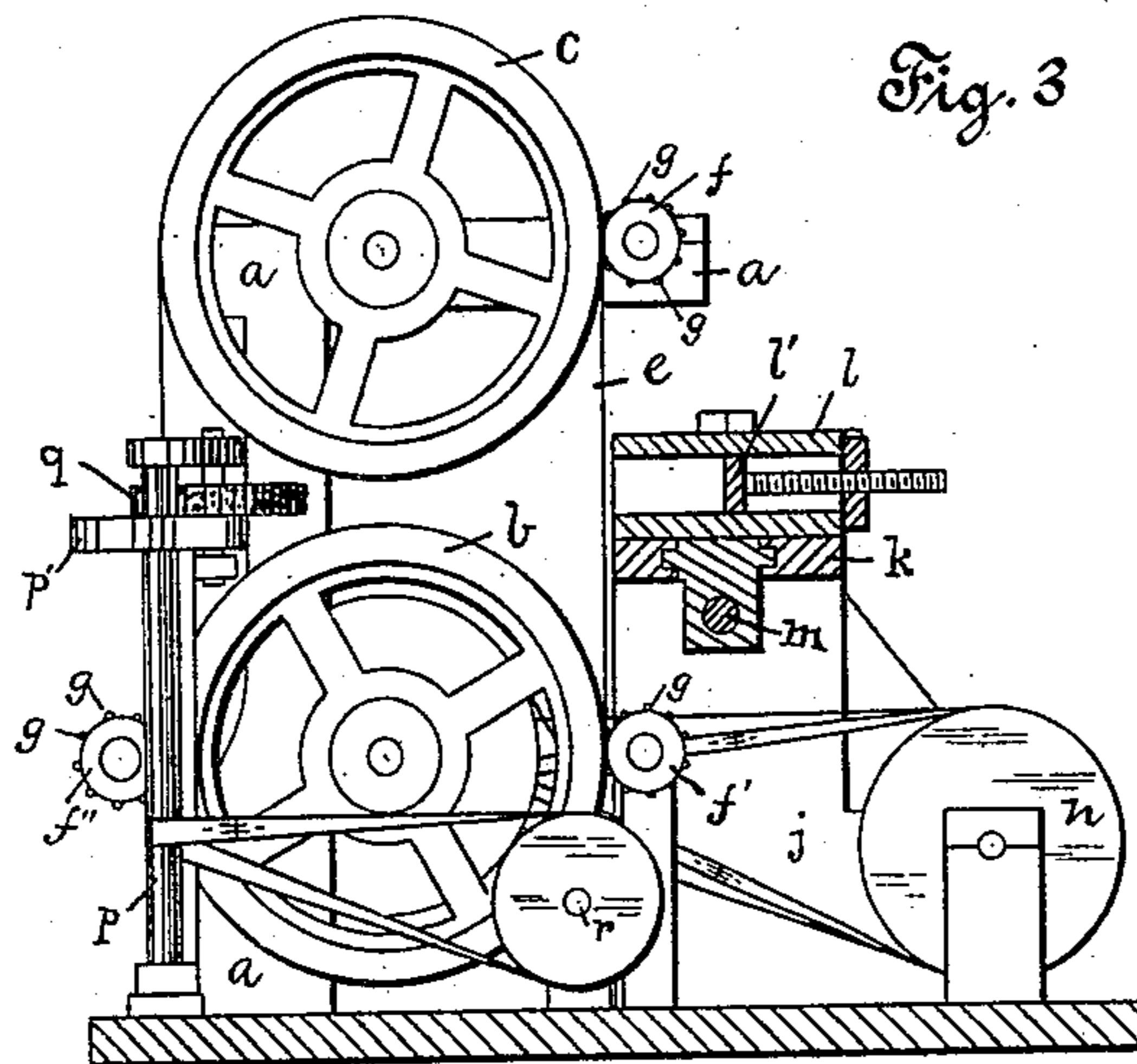


Fig. 3

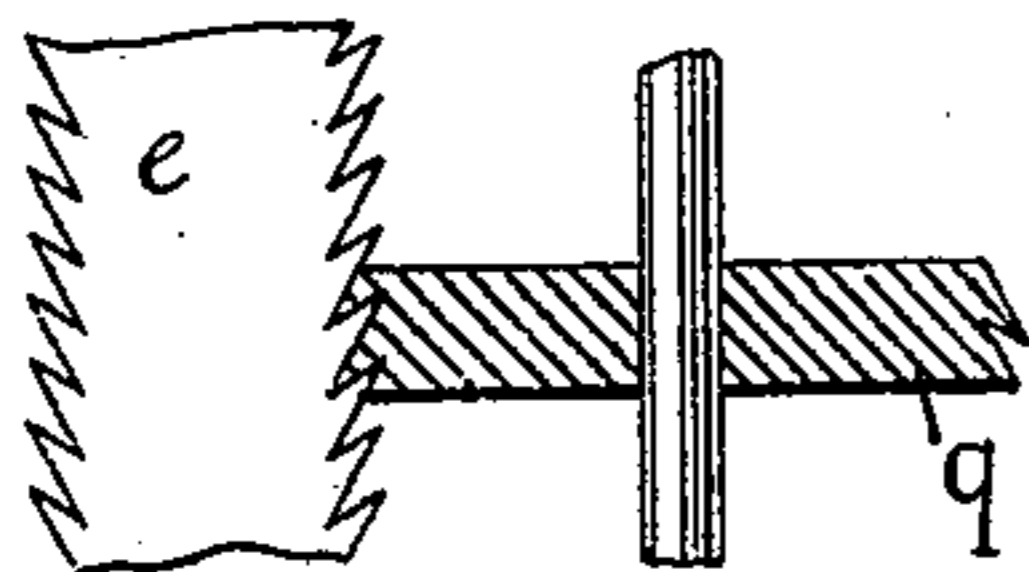


Fig. 4

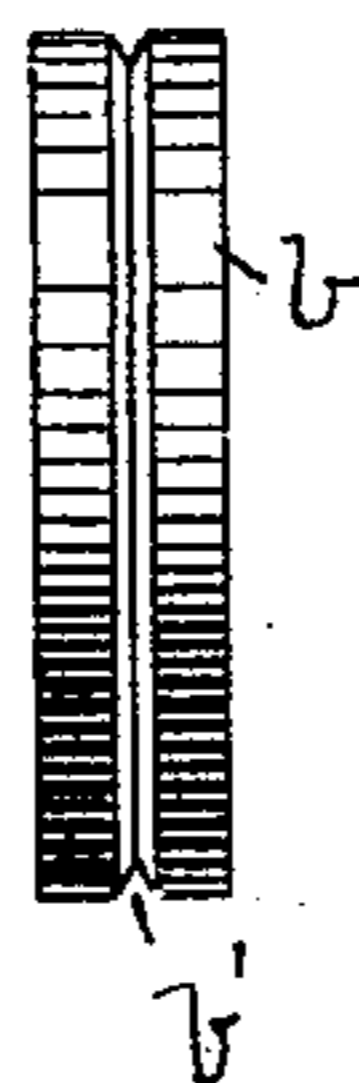


Fig. 6

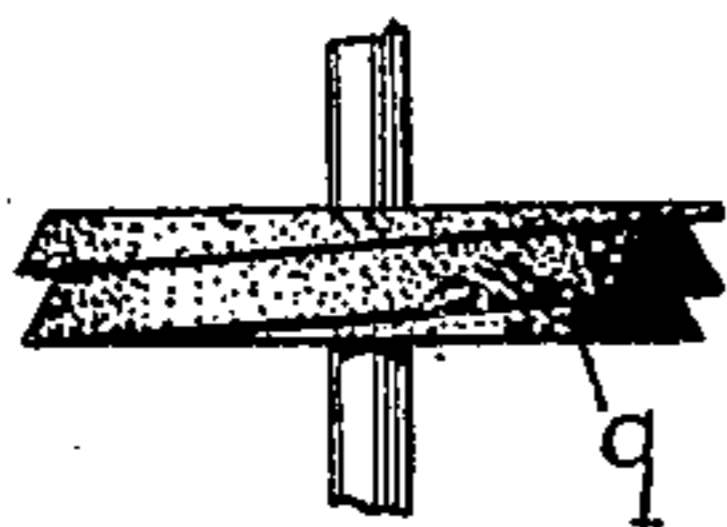


Fig. 5

Witnesses.

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UNITED STATES PATENT OFFICE.

JARED W. SMITH, OF HARTFORD, CONNECTICUT.

BAND SAWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 276,197, dated April 24, 1883.

Application filed August 26, 1882. (No model.)

To all whom it may concern:

Be it known that I, JARED W. SMITH, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Band Sawing Machines, of which the following is a description, reference being had to the accompanying drawings, where—

Figure 1 is a front view of my improved machine. Fig. 2 is a top view of same, showing by dotted lines the location of a carrier-box on the ways. Fig. 3 is a view in section. Fig. 4 is a detail view of saw and grinder, the latter in central cross-section. Fig. 5 is an edge view of the grinder. Fig. 6 is a detail edge view of a main saw-pulley, showing groove in perimeter. Fig. 7 is a detail view of carrier-box.

My invention relates to the class of devices for cutting or sawing various articles by the aid of machinery in which the cutter is formed of an endless band of metal, and it is especially adapted to the cutting of tobacco into the grade known as "fine-cut."

My invention consists in the novel combination of parts, as will be hereinafter more fully set forth.

In the accompanying drawings, the letter *a* denotes a standard bearing the pulleys *b c*, each provided with a peripheral groove, as shown and designated by *b'* in Fig. 6 of the drawings, and upon which pulleys a perforated metallic band, *e*, is arranged. Pivoted to the standard are pulleys or guide-rolls *f f'*, having on their faces pins *g*, arranged to mesh into the holes in band *e*, and projecting into the grooves in pulleys *b c*, thus serving to keep the band in line and to prevent its slipping. The pulley *b* is fast to the driving-shaft *h*, which is connected by gears or belts to a main shaft or suitable source of power.

Secured to standards *j j* are the ways *k*, bearing the case *l*, which is moved along the ways, so as to carry the material in it (as tobacco) across the path of the cutter. This motion is given to the case by a threaded shaft, *m*, to which it is suitably connected, the shaft being belted to the ordinary reversing device, *n*, (consisting of one fast and two loose pulleys,)

driven by belts from the main shaft. A suitable belt-shifter is attached to the standards.

A post, *p*, bearing the upright shaft and pulley *p'* and the rotary grinder *q*, is secured in such a position that the grinder may be swung against the side of the band, as shown in Fig. 2, and grind it to any desired degree. The shaft and pulley *p'* are driven by a belt from the shaft *r*, which is driven from the main shaft by a belt.

For some kinds of work a band having saw-teeth on one or both edges is used, and in that event I sharpen the teeth by means of a rapidly-rotating wheel having a spiral cutting-edge so formed that its section fits the teeth of the saw. The device is a species of worm-gear fitted to the saw-teeth and made of any suitable cutting or grinding material, as emery. When this grinder is used for sharpening, the shaft is connected with a new driving-shaft, *s*, by means of the worm-gear *s'*, which is thrown into mesh with gear *t* (fast to the shaft) by means of the lever *u*.

The case *l*, Fig. 7, has a piston, *v*, with a threaded rod, *v'*, which screws into a large nut having a ratchet-periphery arranged to engage the pawls *w w'* at suitable points in the path of the case, feeding the piston forward at each limit of its play.

The operation of my device is as follows: A case, *l*, is filled with material to be cut—as tobacco—which projects under pressure of the piston any desired distance beyond the cutting-line of the band. The machine being in motion, the case is fed across the saw, the piece of material cut off and dropped into any suitable receptacle. By means of the belt-shifter the motion of the screw-shaft is reversed and the case (its contents having been fed a certain distance forward by means of the ratchet and pawl) returned across the saw, cutting another portion off the contents of the case. This operation is continued at will, the case being refilled as often as necessary.

This device is obviously applicable to the cutting of logs or to material of any kind now cut by band-saws, the double cutting-edge of the saw cutting on both runs and saving "jigging back." The guide-rolls, arranged about the saw-driving pulleys, enable me to run the

band with less tension between the main pulleys, and so with less chance of breaking the saw or band when in use.

I claim as my invention—

5 1. In a cutting device, the combination of grooved bearing-pulleys, a perforated endless cutting-band passing over the grooved pulleys, and pulleys with peripheral projections engaging with the perforation of the endless
10 cutting-band, with operating mechanism, substantially as and for the purposes set forth.

2. In combination with a band-saw, a rotary grinder provided with a spiral groove on its cutting-periphery adapted to mesh with and sharpen a moving band-saw, all substantially 15 as described.

JARED W. SMITH.

Witnesses:

CHAS. L. BURDETT,
ALBERT C. TANNER.