

JOHN LOUGH.

Improvement in Machine for Dressing the Teeth of Circular-Saws.
No. 127,078.

Patented May 21, 1872.

FIG. 1.

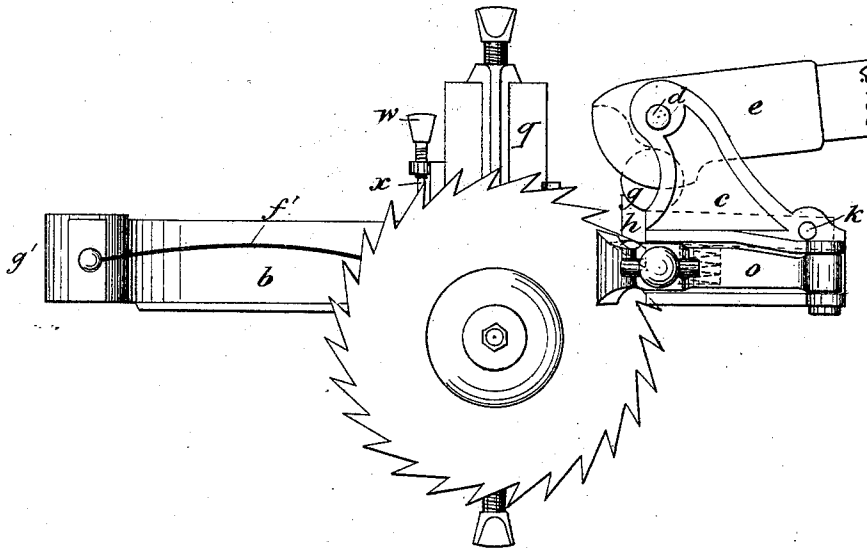


FIG. 3.

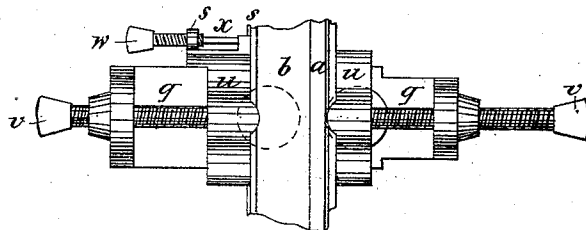
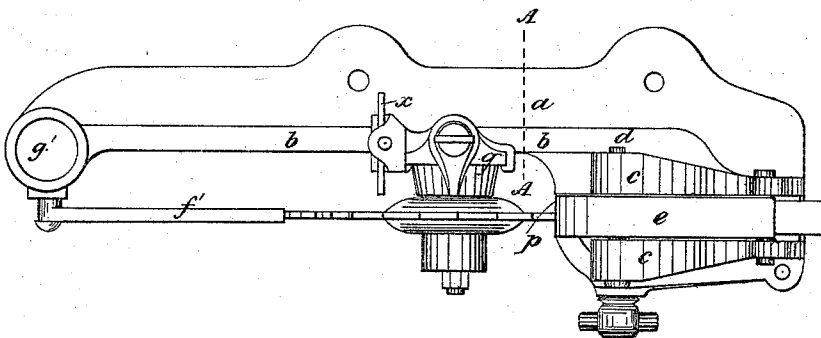


FIG. 2.



Witnesses
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H. C. Carlini del. ant.

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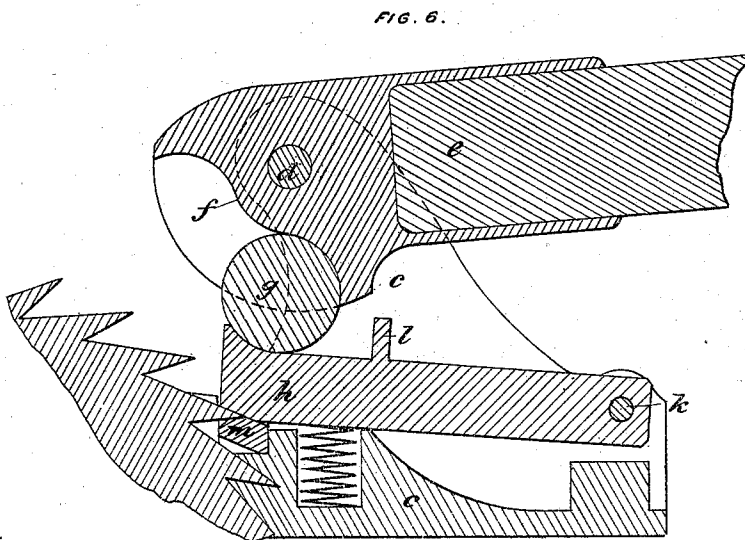
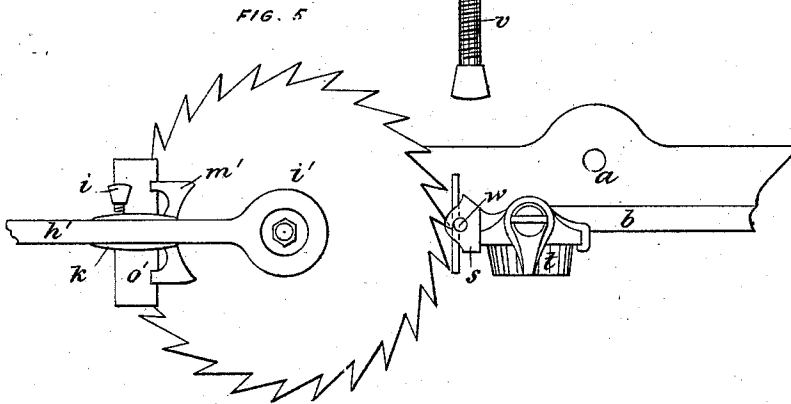
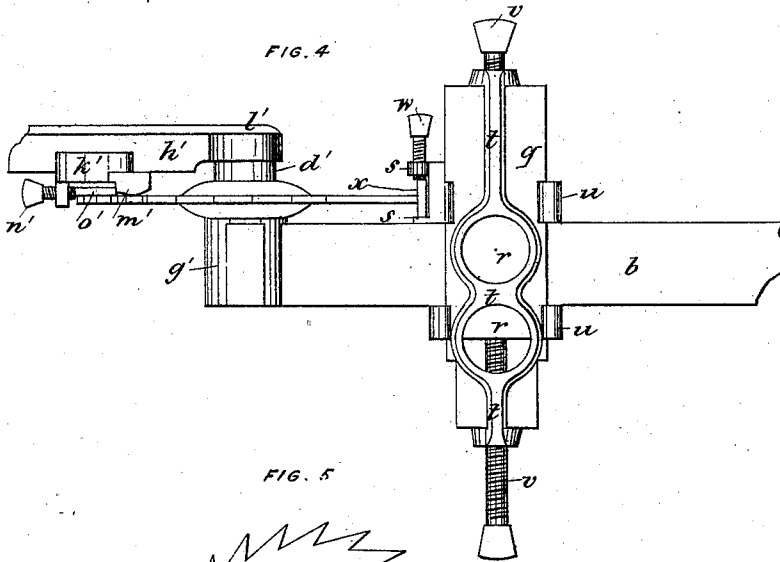
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FIG. 7

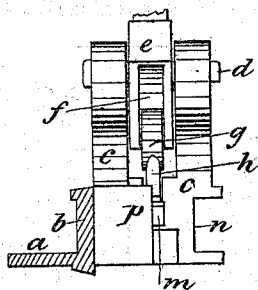


FIG. 9

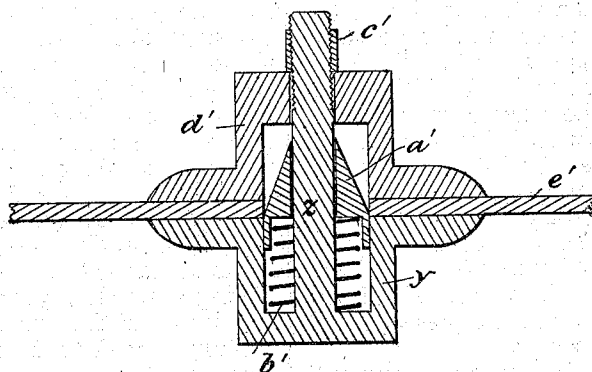
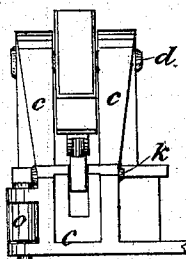


FIG. 8



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UNITED STATES PATENT OFFICE.

JOHN LOUGH, OF BUCKINGHAM, CANADA.

IMPROVEMENT IN MACHINES FOR DRESSING THE TEETH OF CIRCULAR SAWS.

Specification forming part of Letters Patent No. 127,078, dated May 21, 1872.

SPECIFICATION.

To all whom it may concern:

Be it known that I, JOHN LOUGH, of the village of Buckingham, in the county of Ottawa, in the Province of Quebec, Canada, have invented new and useful "Improvements on Machines used for Dressing the Teeth of Circular Saws;" and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, where—

Figure 1 represents a side elevation of machine as arranged for pressing the teeth of saws; Fig. 2 represents a plan of Fig. 1. Fig. 3 represents a back elevation of slide. Fig. 4 represents a detail of the machine arranged to dress the teeth of a saw on their circumference. Fig. 5 represents a detail of the machine arranged to dress the teeth of saws on their sides. Fig. 6 represents a detail vertical section of the part of the machine forming the press. Fig. 7 represents a section on line A A, Fig. 2, and front elevation of the press. Fig. 8 represents a back elevation of the press. Fig. 9 represents details of center.

This invention has reference to improvements on machines for forming the points of the teeth of circular saws, and dressing them to the required truth of equal radius, thickness, and straightness with the plate of the saw.

It may be here well to remark that Letters Patent of the United States were granted to me on the 24th day of November, 1868, and numbered 84,365, for my original invention for dressing the teeth of saws by pressure, and also for a machine by which it was effected. Other Letters Patent of the United States were also granted to me for improvements on the machine. The present application is therefore made for an improved arrangement of the machine to dress circular saws.

The scale of the drawing is one-quarter full size, with the exception of Figs. 6 and 9, which are made one-half of full size, of a machine suitable for dressing circular saws of from about eight to fifteen inches in diameter; but when the machine is made for larger or smaller saws this scale will be varied accordingly.

In the drawing hereunto annexed, similar letters of reference indicate like parts.

Letter *a* is a flange of cast-iron or wrought-

iron, of any suitable form for attaching to a work-bench, &c. This is made in one with an angle piece, *b*, the edges of which are trued up to form a guide, as will be hereinafter more particularly described. At one end of the flange and angle piece, and by preference made in one with it, is formed a head, *c*, as shown in the drawing, being the frame-work of the press, constructed as follows: In the plate *q* are formed circular openings *r*, surrounded by a flange, *t*, to give the required depth, and extending vertically and centrally to strengthen it. The plate *q* is attached to *b* by means of two dogs, *u*, provided with lugs to slide upon the edges of the plate, and configured for that purpose, being pressed down upon it by suitable set-screws *b*. On the upper dog *u* projections *s* are formed in one with it, in the upper one of which a set-screw, *w*, fits, for the purpose of holding a file, *x*. Fig. 9 represents a center for holding the saw. This is constructed as follows: The cap *y* is of the same external diameter as the openings *r* in the plate *q*, having a spindle, *z*, forming its center. On this is placed the frustum of a cone, *a'*, cylindrically pierced to fit the spindle *z*, and recessed at the bottom to receive the spiral spring *b'*. The end of the spindle *z* is screwed, and provided with a nut, *c'*. A cap, *d'*, is also provided, as shown in the drawing. *e'* is the saw, held between the two caps, and secured by tightening up the nut *c'*. It will thus be seen that the cone *a* brings the eye of the saw perfectly central to that of the cap *y*. The cap *y* is then placed in the one of the openings *r* found most suitable for the pitch of the teeth required, and is further adjusted to the exact position by means of the set-screws *v* being regulated to cause the slide *q* to be raised or depressed. This slide is placed on the angle-piece *b*, at a suitable distance to enter the required amount of the saw's tooth between *h* and *m*. When this is done the vice-jaw *o* is caused to grasp it between itself and the projection sidewise, while *f'* is any suitable pawl pivoted to the extremity of *b*, of suitable length to support the back thrust of the saw caused by the action of *h* and *m*. Although shown as a simple pawl, one of adjustable length may be used, or a set of various lengths. When this tooth has been pressed the vice-jaw *o* is loosened, and the cap *y* is slid outward, ena-

bling the saw to revolve past the end of *m*, to bring the next tooth on *m*. This is done by revolving the saw, placing the next tooth on *m*, and then tightening up the vice-jaw *o* and readjusting the pawl *f*. When each of the teeth has been thus treated the saw is ready for the next operation. At the opposite end of the angle-piece *b* an eye, *g'*, is formed, the inner diameter of which fits the cap *y*, which, with saw attached, is removed from the opening *r*, and placed in this eye *g'*. The file *x* is put in place, as shown in Figs. 4 and 5, and the slide *q* moved up to cause it to act on the points of the teeth, the saw being rotated against the file for that purpose. They are thus trued off to an equal radius from the center. For the purpose of trimming the teeth on their sides an arm, *h'*, is provided, having an eye, *l'*, to fit on the cap *d'*. On this is placed a slide-block, *k'*, to slide on the arm *h'*, and to be placed at the required position, and secured there by means of a set-screw, *i*. This slide-block *k'* is provided with a projection, *m'*, to rest on the plate of the saw, and otherwise configured to hold, by means of a set-screw, *n'*, a file, *o'*. It will easily be seen that in

grasping the file *o'* with the set-screw *n'*, the teeth of the saw may be filed down to the size of the plate, or it may be set back to give them the desired amount of clearance.

Having thus described my invention, what I claim is as follows:

1. The press, constructed as described, in combination with flange *a*, and angle-piece *b*, pawl *f*, slide *q*, and center composed of *y* and other parts, as shown in Fig. 9, substantially as set forth.
2. The flange *a*, angle-piece *b*, eye *g'*, and center *y*, constructed as described, or its equivalent, in combination with the slide *q*, projections *s s*, set-screw *w*, and file *x*, substantially as set forth.
3. The eye *g'* and center-piece *y*, or its equivalent, in combination with arm *h'*, slide *k'*, projection *m'*, and file *o'*, all constructed, arranged, and operating substantially as and for the purposes set forth.

Buckingham, 20th day of March, A. D. 1872.
JOHN LOUGH.

Witnesses:

JOHN HIGGINSON,
R. J. LUSK.