2 Sheets--Sheet 1.

J. McADAMS.

Machines for Dressing Railway-Ties.

No. 150,594. Patented May 5, 1874.

Fig. 1

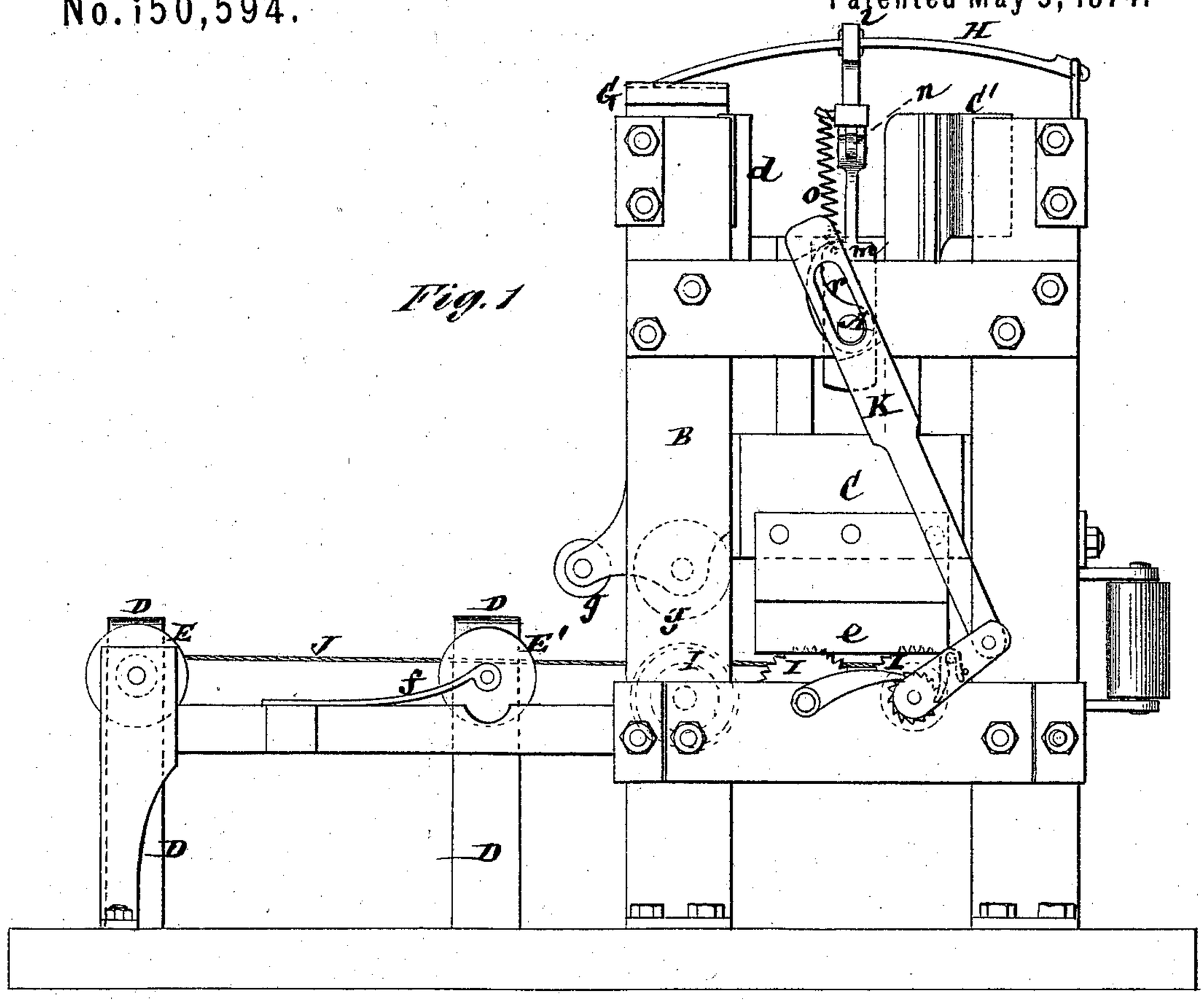
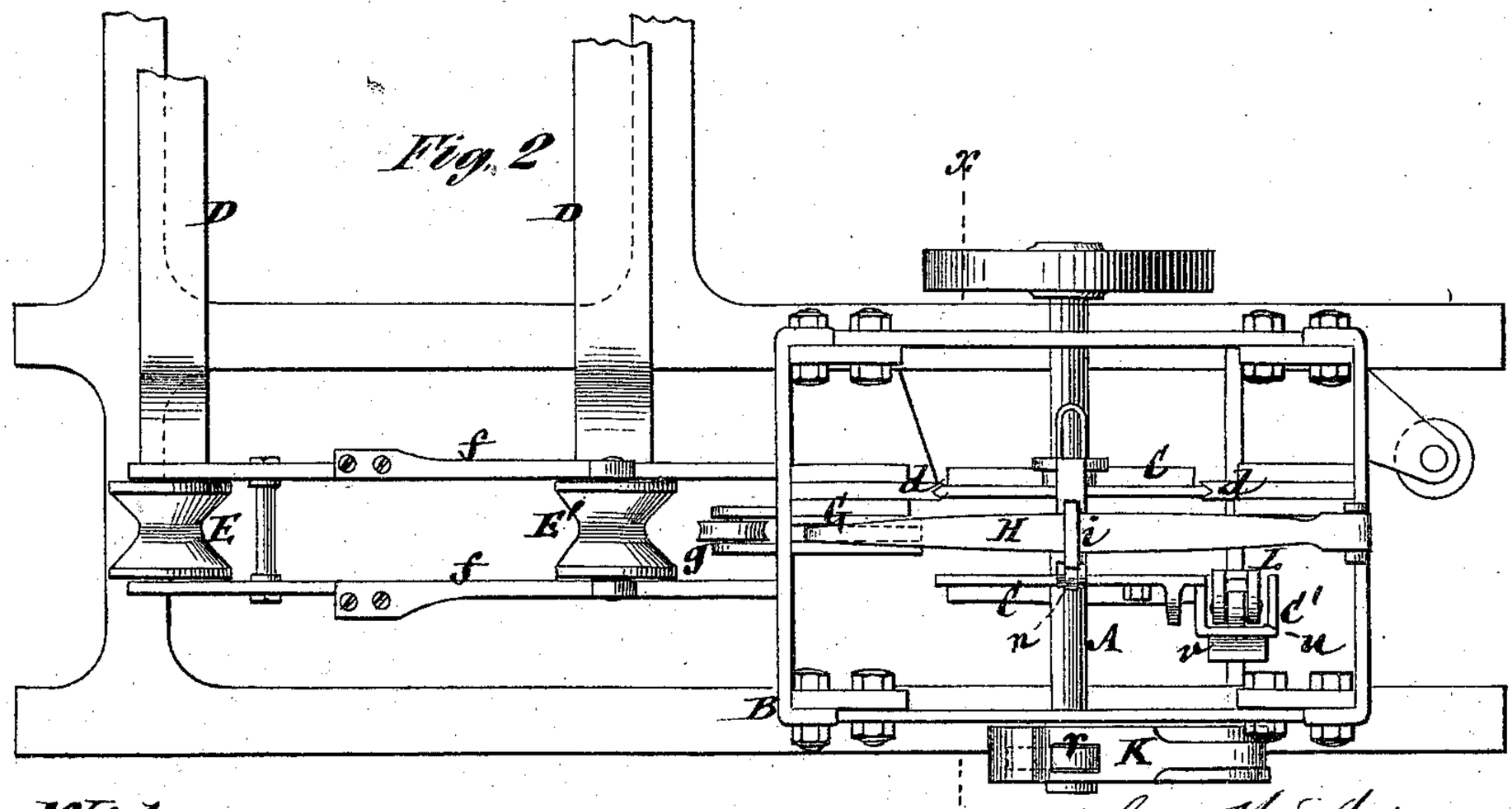


Fig. 2



Witnesses.
Fr C Haynes
Michael Ryan

John McAdams
by his attorneys
Brown & Allen

2 Sheets--Sheet 2.

J. McADAMS.

Machines for Dressing Railway-Ties.

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Fig. 3

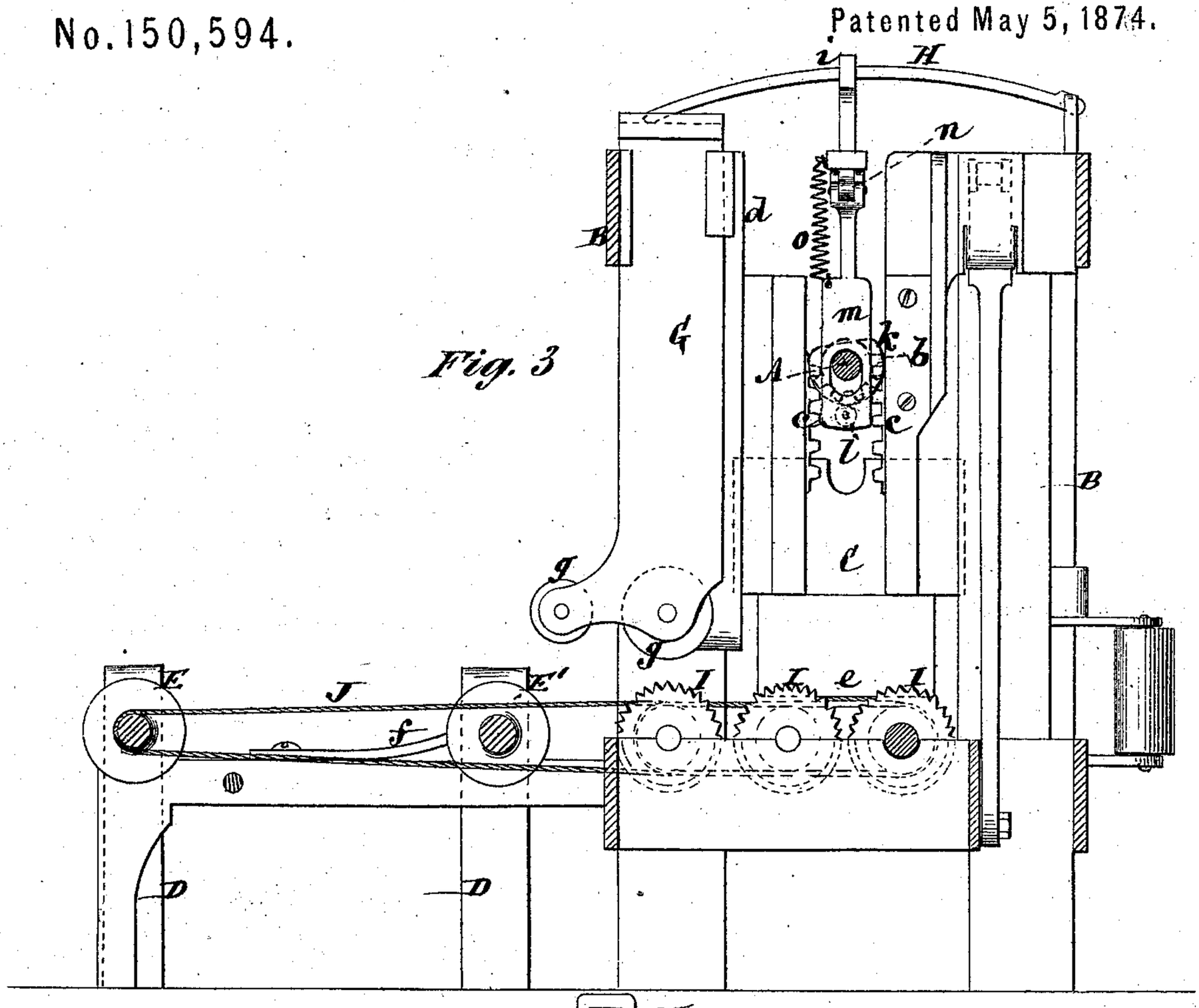


Fig. 4

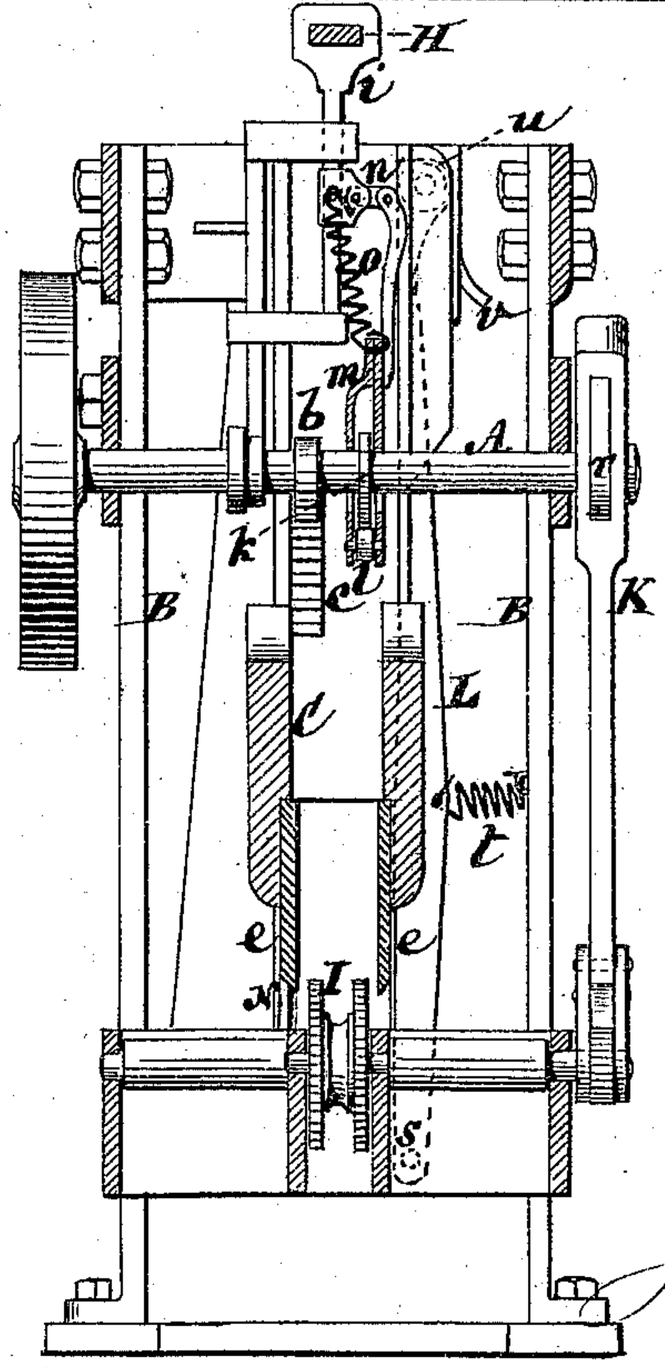
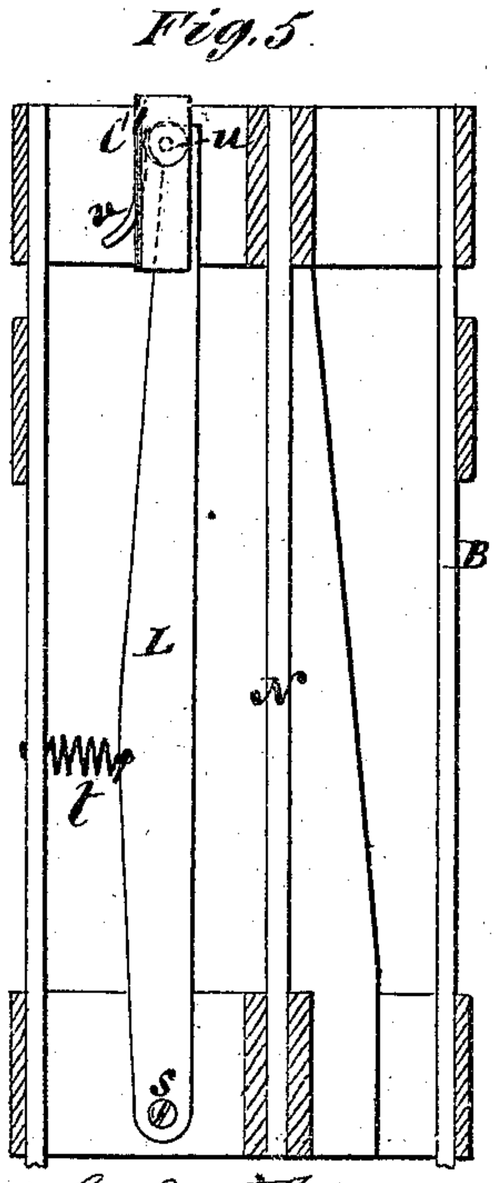


Fig. 5



Witnesses.
Fred Haynes
Michael Ryan

John McAdams
by his attorneys
Brown & Allen

UNITED STATES PATENT OFFICE.

JOHN McADAMS, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN MACHINES FOR DRESSING RAILWAY-TIES.

Specification forming part of Letters Patent No. **150,594**, dated May 5, 1874; application filed November 12, 1873.

To all whom it may concern:

Be it known that I, JOHN MCADAMS, of Brooklyn, in the county of Kings and State of New York, have invented certain Improvements in Machines for Dressing Railway-Ties and other purposes, of which the following is a specification:

This invention relates to a machine composed mainly of a system of oblique and parallel reciprocating cutters and a feeding apparatus, whereby rough logs are dressed with two flat faces, for use as railroad-ties or other purposes, substantially as described in Letters Patent No. 119,829, issued to John P. Dirner, and dated October 10, 1871. The invention consists in a combination of a clamping lever or bar with the cutter-head of the machine, and means for closing said lever against the log by the action of the cutter-head, to firmly hold the log while the cutters are moving up or down its opposite sides, but so that the log is relieved from such clamping action or hold, when the log is being fed forward. The invention also consists in a combination of a spring-borne guiding and supporting roller for the log, with a back inelastic similar roller and certain upper pressure-rollers, whereby irregularities in the log are provided for and its feed to the cutters facilitated. And the invention furthermore consists in a novel combination of devices for controlling the action of the upper pressure-rollers on the log.

Figure 1 represents a side view of the machine; Fig. 2, a plan view thereof; Fig. 3, a mainly central vertical longitudinal section; and Fig. 4, a vertical transverse section mainly on the line *x x*, Fig. 2. Fig. 5 is a delivery-end view in part, in illustration of the application of a lever for clamping the log.

Similar letters of reference indicate corresponding parts in all figures.

A is the driving-shaft, which is supported in the upper portion of the frame B, and which is fitted with a partial pinion, *b*, that, as the shaft is rotated, gears alternately with racks *c c*, attached to or forming part of the cutter-head C, to give to the latter its necessary sliding vertical motion within girders *d d*. The cutter-head C is of open box-like construction of a width not less than the intended thickness of the tie to be dressed, and its cutters *e e* are shaped so that the forward portions of their lower edges cut obliquely into and chip the sides of the log, while the rear portions of the same edges make parallel cuts to trim off the previously-chipped portions of the log, and so produce flat and parallel faces, substantially as described, for the cutter-head in the patented machine of John P. Dirner, hereinbefore referred to. D D are inclined planes or ways, disposed on one side of the front portion of the main frame or longitudinal bed-piece thereof, over and along which the log is fed. These inclined planes or ways facilitate the passage of the log from the ground to its place on the machine, or rather onto supporting and guiding rollers E E′ of a hollow or V shape on their peripheries. These rollers are situated opposite the upper ends of the inclined ways D D, to receive the log from the latter. The outer one, E, of these rollers works in fixed bearings, but the inner one, E′, is carried by springs *f f*, which, by the yielding of said roller, provide for any irregularities in the log and facilitate its entry below the upper pressure-rollers *g g*. The rollers *g g* are carried by an upright stem, G, which slides vertically within a fixed guide, and has resting on it the one end of a bow-spring, H, which is controlled by a strap, *i*, fitted so as to be capable of a slight up-and-down movement, to give and take off pressure of the spring H, so that the rollers *g g* may only bear with force on the log when there is no feed, and be relieved from pressure when the log is being fed. This action of the strap *i* may be effected in various ways, as, for instance, by a cam, *k*, on the shaft A, operating against a stop, *l*, to work down a slotted bar, *m*, that carries a dog, *n*, which bites against the stem of the strap *i*, to draw it and the spring H down, but which is released from hold on the strap, and the bar *m* raised to its normal position by a spring, *o*, when the cam *k* ceases to bear on the stop *l*. I I are toothed feed-rollers for passing the log along and between the cutters. These rollers may be connected to work in unison by an endless chain, J, passed around and between them, and over the end guide-roller E, the necessary intermittent motion to feed the log after each

successive cut being effected by a toe, *r*, on the shaft A, acting within and against a slotted rod, K, connected with the shaft of the foremost feed-roller, or the intermittent feed of the log may be produced in any other suitable way. L is a clamping lever or bar, pivoted below at *s*, and controlled in part by a spring, *t*. The upper end of this clamping-lever is fitted with a roller, *u*, which, by the action of the spring *t*, bears against the inside face of an upward extension, C′, of the cutter-head C, so that, until, in the upward movement of the cutter-head, the roller *u* is free from contact with the inside face of the piece C′ by a cut-away portion, formed by a curved lower guiding-lip, *v*, allowing clearance for the roller; the clamping-lever L is held by the extension C′ hard up against the log, and made to firmly press it against a fixed bearing surface or plate, N, thus contributing greatly to the steadiness of the log. As the the cutter-head C completes its ascent, the bent or cut away portion V of the piece C′ allows of the spring *t* freeing the lever L from its clamping hold of the log, which is during the feed of the latter. In this way the clamping-lever L is made automatic in timely relation with the cutter-head and feeding devices.

I claim as my invention—

1. The combination, with the box-like cutter head C and its cutters *e e*, of the clamping lever or bar L, closed by the action of the cutter-head, the spring *t*, and the plate or surface N, substantially as specified.

2. The combination of the spring-borne guiding and supporting roller E′ with the guiding and supporting roller E and the upper pressure-rollers *g g*, essentially as and for the purpose herein set forth.

3. The combination of the cam *k*, the slotted bar *m*, the dog *n*, the spring *o*, the strap *i*, the spring H, and the stem G, with its upper pressure-rollers *g g*, substantially as and for the purpose herein set forth.

JOHN McADAMS.

Witnesses:

MICHAEL RYAN,

FRED. HAYNES.