(No Model.)

E. I. LEIGHTON.

MACHINE FOR SHEARING WOODEN RAILWAY TIES.

No. 526,576. Patented Sept. 25, 1894.

Fig. 1.

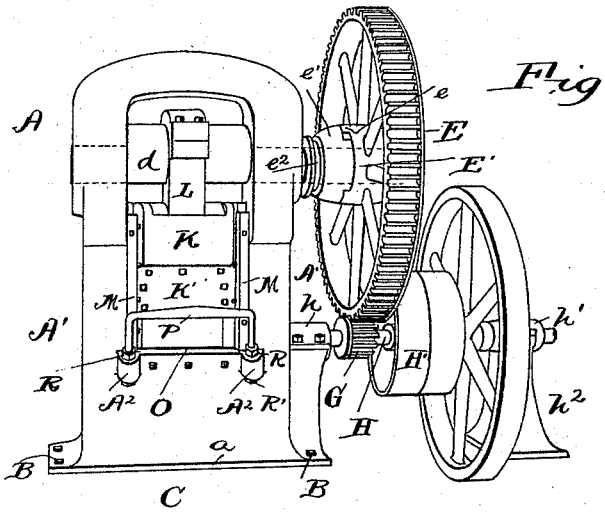


Fig. 3.

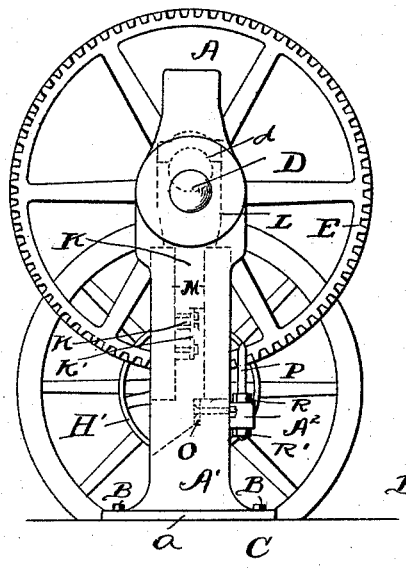
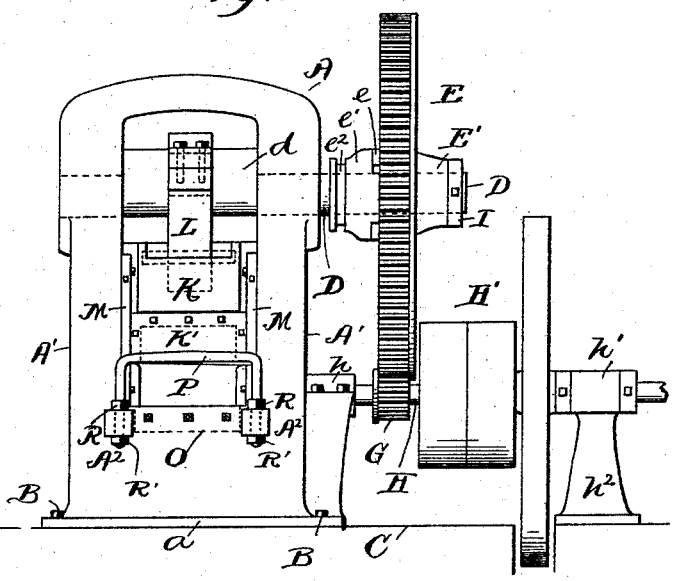


Fig. 2.



Witnesses,
E. B. Gilchrist.
C. Wooster

Inventor.
Edward I. Leighton
By. M. D. Leggett
his Attorney.

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UNITED STATES PATENT OFFICE.

EDWARD I. LEIGHTON, OF CLEVELAND, OHIO.

MACHINE FOR SHEARING WOODEN RAILWAY-TIES.

SPECIFICATION forming part of Letters Patent No. 526,576, dated September 25, 1894.

Application filed April 24, 1894. Serial No. 508,821. (No model.)

To all whom it may concern:

Be it known that I, EDWARD I. LEIGHTON, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Machines for Shearing Wooden Railway-Ties; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in machines for shearing or making kindling of worn-out wooden railway-ties, and it consists in certain features of construction, and in combinations of parts hereinafter described and pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective and Fig. 2 is a side elevation of a machine embodying my invention, and Fig. 3 is a left hand side elevation relative to Fig. 1.

The supporting-structure of my improved machine comprises an upright O-shaped frame A, that is flanged laterally, at its lower end, as at *a*, for the reception of bolts B that secure the supporting-structure to the floor C of the shop. A horizontally-arranged crank-shaft D has suitable bearing in the upper portion of frame A, the crank *d* of said shaft being located between the side-members A′ of frame A. Shaft D extends through and a suitable distance outside of one of members A′, and a gear-wheel E is loosely mounted upon said outwardly-extending portion of the shaft, said gear meshing with a pinion G operatively mounted upon the driving-shaft H that is provided with a driving-pulley H′, and has bearing in boxes *h h′*, box *h* being rigid with frame A, and box *h′* being rigid with a standard h^2 suitably secured to the floor below.

Gear E is held from moving endwise off shaft D by means of a collar I rigidly mounted upon said shaft and engaging the outer end of the hub E′ of said gear. A clutch, for establishing operative connection between gear E and the supporting crank-shaft, is provided. The one member *e* of said clutch is rigid with the gear, whereas the other member *e′* of the clutch is slidably mounted upon the crank-shaft and provided with an annular groove e^2 to be engaged by the fork of a forked-lever (not shown) for throwing said slidable clutch-member into operative engagement with the companion clutch-member, and thereby establish operative connection between gear E and the crank-shaft. A plunger K is suitably connected, by means of a pitman L, with the crank of shaft D, said plunger being adapted to reciprocate vertically between guides M suitably secured to members A′ of the supporting-structure. Plunger K, at its lower end, is provided with a shear K′ that, in the operation of the machine, is adapted to co-operate with a stationary shear O suitably secured to the supporting-structure below the movable shear.

The tie to be sheared into kindling is fed in between members A′ A′ of the supporting-structure between the two shears, the tie, during the kindling operation, being held upon the lower or stationary shear against upward displacement, by means of a bail-shaped guide P, the end-members whereof are screw-threaded and extend through holes in ears or lugs A^2 of the supporting-structure, said guides being adjustable vertically and secured in the desired adjustment by nuts R R′ mounted upon the screw-threaded end-members of the guide, at opposite ends of lugs A^2, respectively.

The construction of my improved machine, it will be observed, is exceedingly simple and durable, and all the operator has to do, in order to work the machine, is to establish operative connection between gear-wheel E and the crank-shaft by means of clutch *e e′*.

What I claim is—

1. In a machine of the variety indicated, the combination of the supporting-frame, driving-shaft H provided with a pinion G, crank-shaft D, gear E loose upon said crank-shaft and meshing with the aforesaid pinion, a clutch for establishing operative connection between said gear and the supporting crank-shaft, a stationary shear O and a vertically-reciprocating shear K′ operatively connected with the crank of the crank-shaft, and guide P, the arrangement of parts being substantially as shown, for the purpose specified.

2. In a machine of the variety indicated, the combination with an O-shaped supporting-frame A, shear O rigid with the lower por-

tion of said frame, driving-shaft H provided with a pinion G, of a crank-shaft D having bearing in the upper portion of the supporting-frame, a gear loose upon said shaft and meshing with the aforesaid pinion, a clutch for establishing operative connection between said gear and the crank-shaft, a vertically-reciprocating shear K′ operatively connected with the crank-shaft and adapted to co-operate with the aforesaid stationary shear, and the bail-shaped guide P, the supporting-frame being provided with perforated lugs or ears A^2, and the end-members of the aforesaid bail-shaped guide extending through said lugs or ears and being screw-threaded and provided with nuts for securing the guide in the desired adjustment, substantially as set forth.

In testimony whereof I sign this specification, in the presence of two witnesses, this 17th day of March, 1894.

EDWARD I. LEIGHTON.

Witnesses:
C. H. DORER,
ELLA E. TILDEN.