

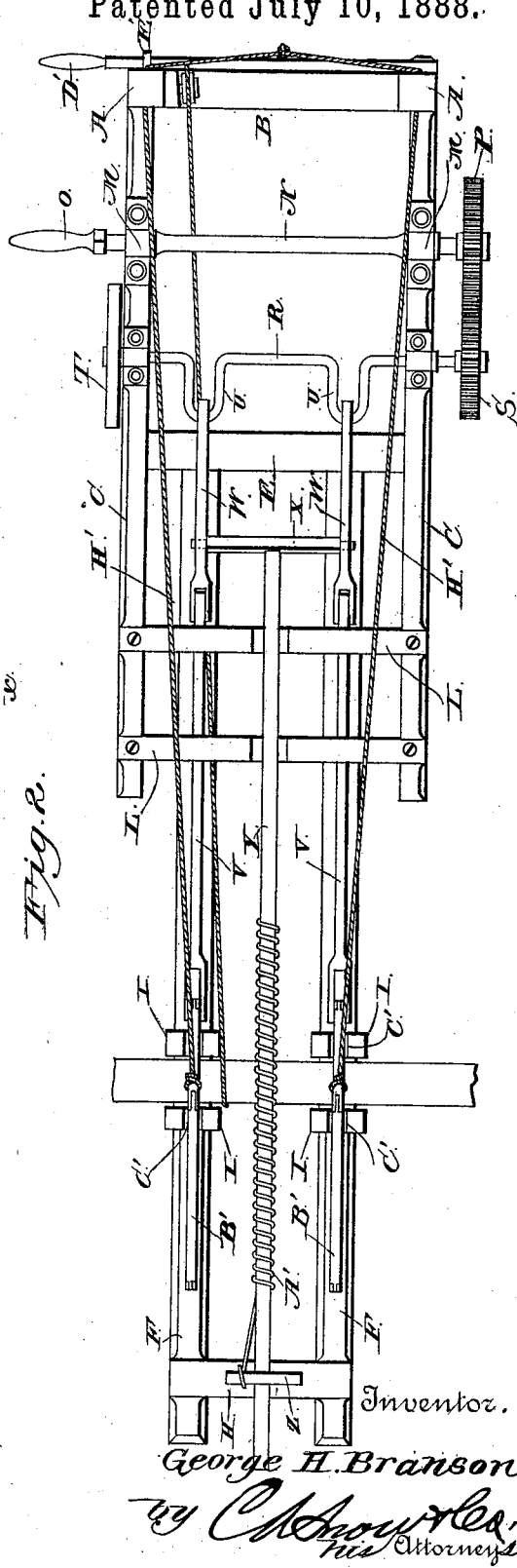
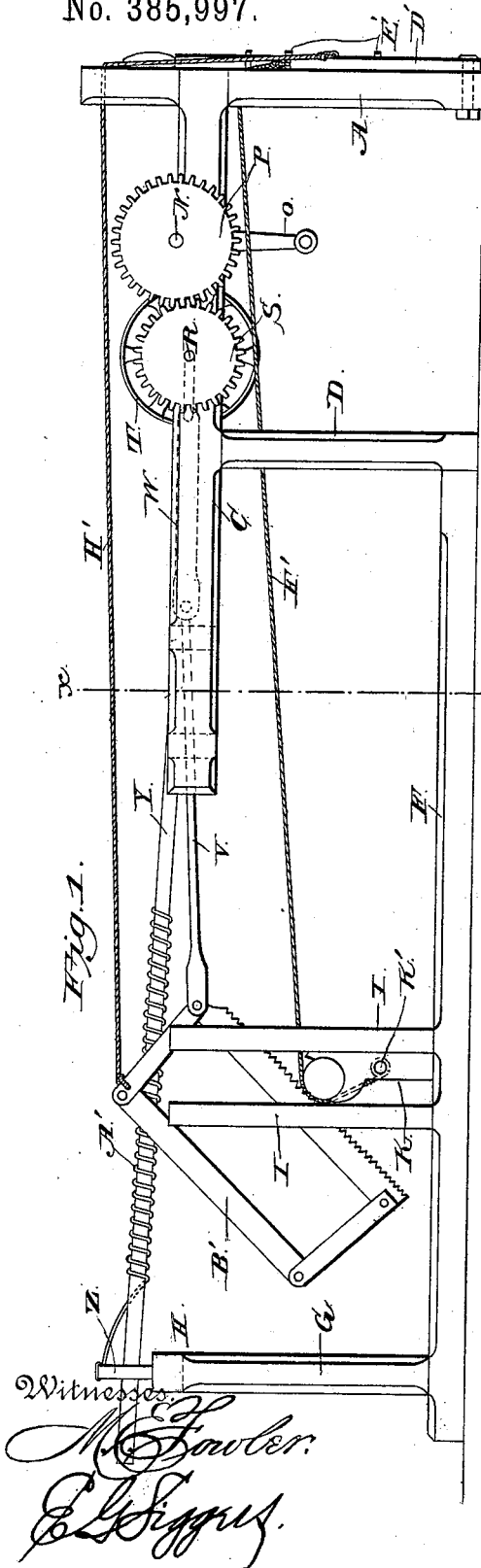
(No Model.)

2 Sheets—Sheet 1.

G. H. BRANSON.
FIRE WOOD DRAG SAW.

No. 385,997.

Patented July 10, 1888.



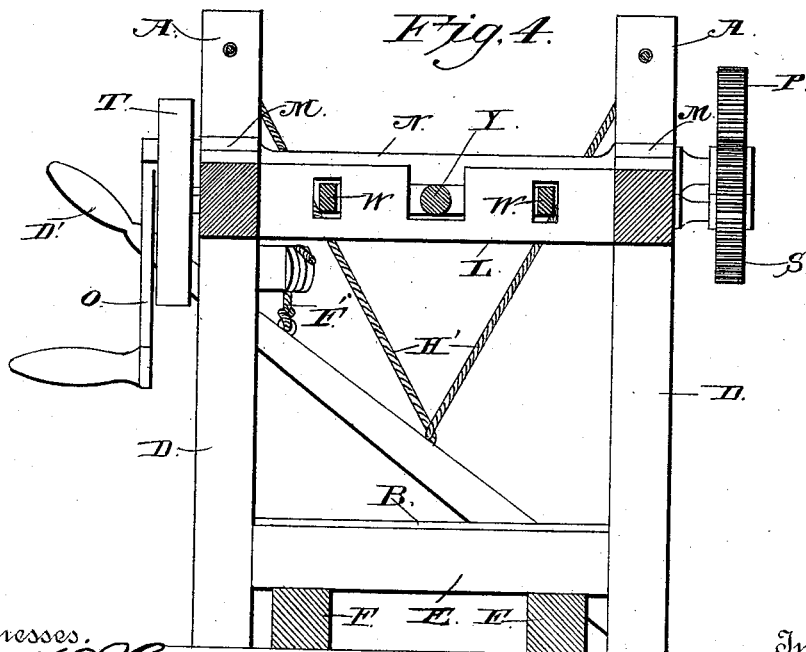
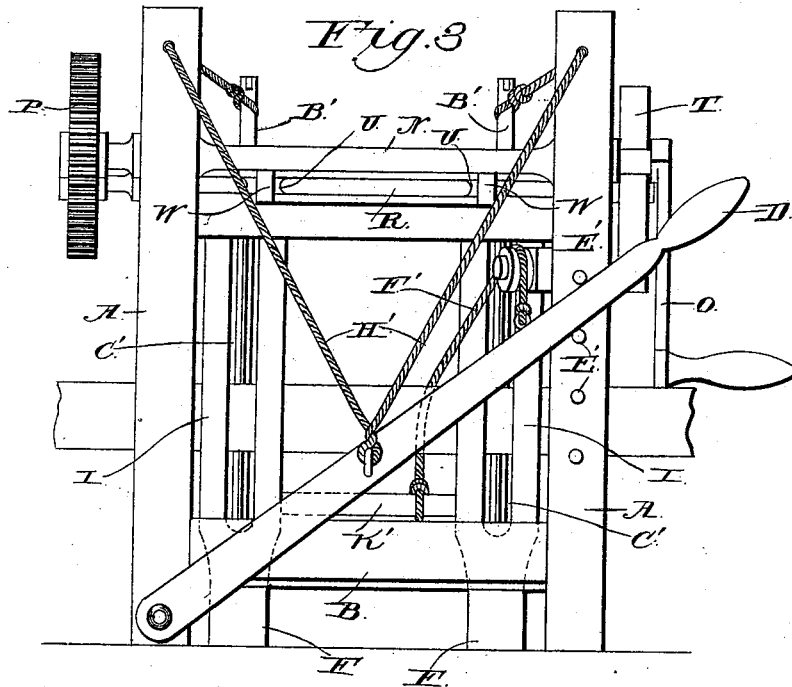
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Witnesses.

M. S. Fowler.
E. J. Sigfus.

Inventor.

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UNITED STATES PATENT OFFICE.

GEORGE HENRY BRANSON, OF MICHIGAN CITY, INDIANA.

FIRE-WOOD DRAG-SAW.

SPECIFICATION forming part of Letters Patent No. 385,997, dated July 10, 1888.

Application filed March 5, 1888. Serial No. 266,165. (No model.)

To all whom it may concern:

Be it known that I, GEORGE HENRY BRANSON, a citizen of the United States, residing at Michigan City, in the county of La Porte and State of Indiana, have invented a new and useful Improvement in Fire-Wood Draw Saws, of which the following is a specification.

My invention relates to an improvement in fire-wood draw-saws; and it consists in the peculiar construction and combination of devices, that will be more fully set forth hereinafter, and particularly pointed out in the claim.

In the drawings, Figure 1 is a side elevation of a draw-saw embodying my improvement. Fig. 2 is a top plan view of the same. Fig. 3 is a front elevation. Fig. 4 is a vertical sectional view taken on the line *xx* of Fig. 1.

A represents a pair of vertical corner-posts of suitable height, which are connected near their lower ends by a cross-bar, B.

C represents a pair of longitudinal horizontal beams, which are secured to the posts A, near the upper end thereof, and extend from the said posts, as shown.

D represents a pair of vertical standards, which are secured to the beams C at a suitable distance from the inner ends thereof. Said standards D are connected near their lower ends by a cross-bar, E.

F represents a pair of sills, which are secured to the cross-bar E, are arranged parallel, and project for a suitable distance from said cross-bar. On the outer ends of said sills F are secured the lower ends of a pair of vertical standards, G, which standards have their upper ends connected by a cross-bar, H.

I represents two pairs of vertical guides, which are secured to the sills F, and are arranged opposite to each other; also, secured to said sills and arranged between the said guides is a horse, K, comprising a pair of standards having their upper ends bifurcated, and a cross-bar, K', which connects said standards near their upper ends.

L represents a pair of guides, which connect the beams C near their outer ends. On the upper sides of said beams, and arranged in proximity to the posts A, are secured bearing-blocks M, in which is journaled a shaft,

N, having a crank, O, at one end and a spur-wheel, P, at the opposite extremity.

R represents a shaft, which is journaled in suitable bearings in the beam C, and is parallel with shaft N. To one end of said shaft R is secured a spur-pinion, S, which meshes with wheel P, and to the opposite end of said shaft is secured a fly-wheel, T.

U represents a pair of cranks, which are formed in the shaft R, near the ends thereof, the said cranks projecting from the same side of said shaft and being arranged in the same plane.

V represents a pair of reciprocating parallel rods, which extend through openings in the guides L, and have their inner ends pivoted to pitmen W, which pitmen are connected to the cranks, as shown.

X represents the cross-head, which connects the pitmen, and is provided at its extremities with trunnions, which are journaled therein. Secured to the center of the cross-head is an endwise-moving rod, Y, which passes through a guide, Z, on the center of the cross-bar H.

A' represents a coiled retractile spring, which is arranged on the rod Y, has one end rigidly secured to the said rod, and has its opposite end secured to the guide Z.

B' represents a pair of fire-wood saws of the ordinary construction, which have their inner lower corners pivotally connected to the outer ends of the rods V. The said saws are guided longitudinally in vertical open slots C', with which the guides I are provided.

D' represents a lever, which has one end pivoted to one of the standards or posts A, and the opposite standard or post is provided with a series of pins or pegs, E', adapted to engage the free end of the latter and thereby secure the same at any desired vertical adjustment. A cord, F', is secured to the bar K', passes through the guide G' on the inner side of one of the standards A, and is firmly attached to the lever.

H' represents a pair of cords or ropes, which are attached to the inner upper corners of the saw-frames, are passed through guides in the upper ends of standards or posts A, and are attached to the lever B'. By raising the said lever the cords are slackened, so as to permit

the outer ends of the saws to drop downward, and by lowering said lever the cords are tightened, so as to raise the said saws.

The operation of my invention is as follows:

5 A stick of fire-wood is placed on the horse and extended through the guides, care being taken that the cord F' passes over the top of said stick. The lever D' will then be pressed and engaged with one of the pins or studs, so as to
10 tighten the cord F' and secure the log firmly on the horse. The operator then grasps the crank O and rotates the shaft N, which, being geared to the shaft R, as hereinbefore described, causes the latter to rotate at an in-
15 creased rate of speed, and a crank arm, U, imparts reciprocating motion to the saws through the connecting-rods V and pitmen W. Each inward movement of the rod Y is accomplished against the tension of the spring A', the latter
20 being extended by the rod. This inward movement of the rod corresponds to the rearward movement of the saws in their kerfs in the saw log or stick, and each forward movement of the rod Y and of the saws is accelerated and as-
25 sisted by the tension of the spring as the same reassumes its normal contracted position. This adds to the force necessary to draw the saws rearward and correspondingly decreases the force necessary to impel the saws forward,
30 and thus equalizes the strain on the machine and enables the same to be operated steadily and with but slight exertion on the part of the operator. The fly-wheel secured to the shaft R also assists in obtaining a uniform rotation
35 of said shaft R.

Inasmuch as two saws are moved simultaneously in the machine, the log is cut in two places at once and the sawing is done very expeditiously. One man using a sawing-machine embodying my improvement can saw from five 40 to eight cords of fire-wood per day without excessive fatigue.

A sawing-machine thus constructed is cheap and simple, is very strong and durable, is light, and can be readily placed on a wheelbarrow 45 or in a cart or wagon and carried from one place to another.

Having thus described my invention, I claim—

The combination of the frame having the saw- 50 guides, with the shaft N, journaled in the frame and having the crank O and gear-wheel P, the shaft R, journaled in the frame and having the pinion S meshing with wheel P, the fly-wheel, and cranks U, the reciprocating rods V, the 55 guides therefor, the saws pivotally connected to the outer ends of said rods and arranged in the saw-guides, the pitmen connecting rods V to cranks U, the cross head X, connecting the pitmen, the rod Y, attached to the said cross- 60 head, the guides for the said rod, and the springs bearing on the rod, for the purpose set forth, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in pres- 65 ence of two witnesses.

GEORGE HENRY BRANSON.

Witnesses:

J. A. THORNTON,
F. C. GRINHOW.