No. 747,766. PATENTED DEC. 22, 1903.

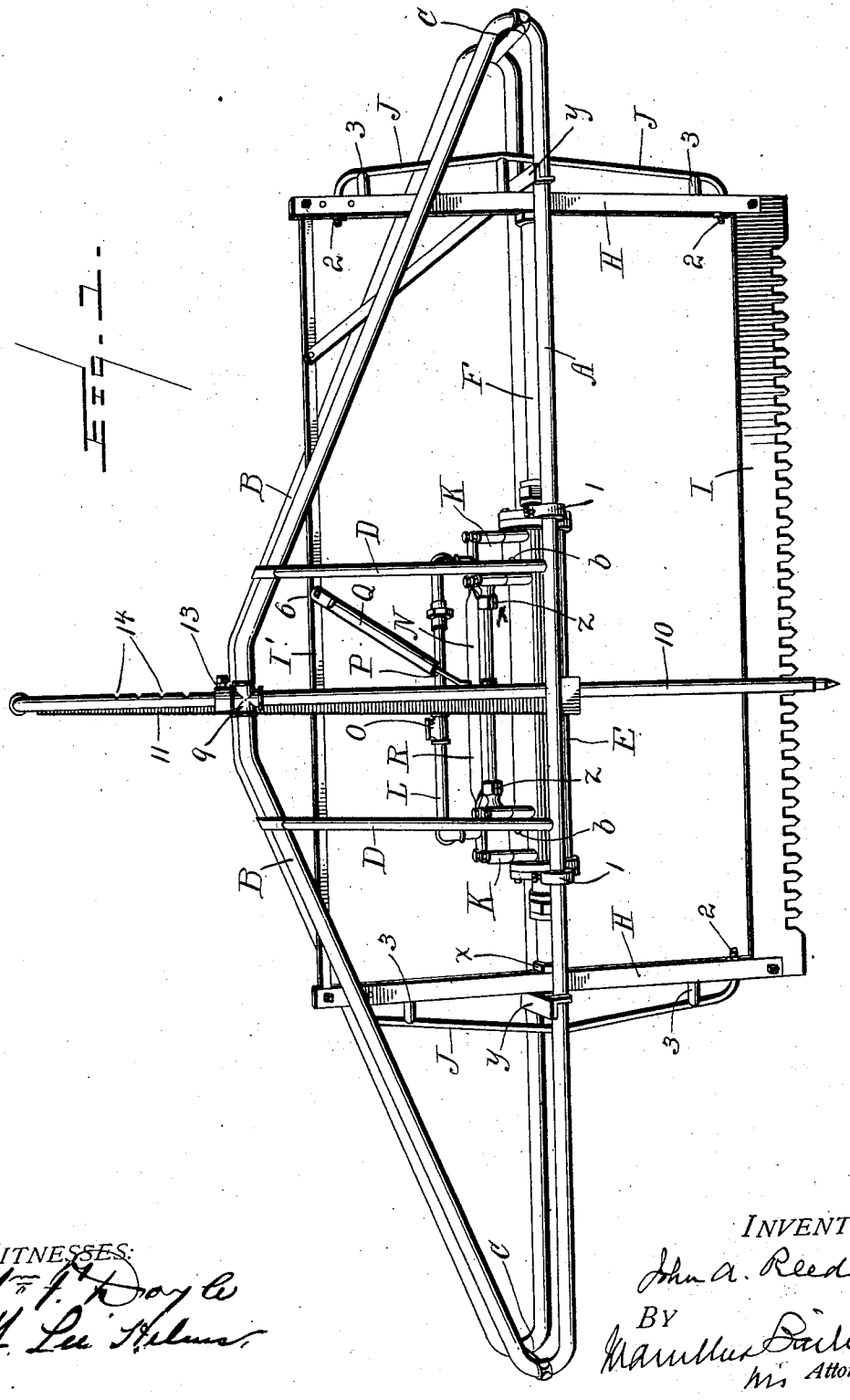
J. A. REED.

STEAM POWER CROSSCUT SAW.

APPLICATION FILED OCT. 19, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

FIG. 1.



WITNESSES:

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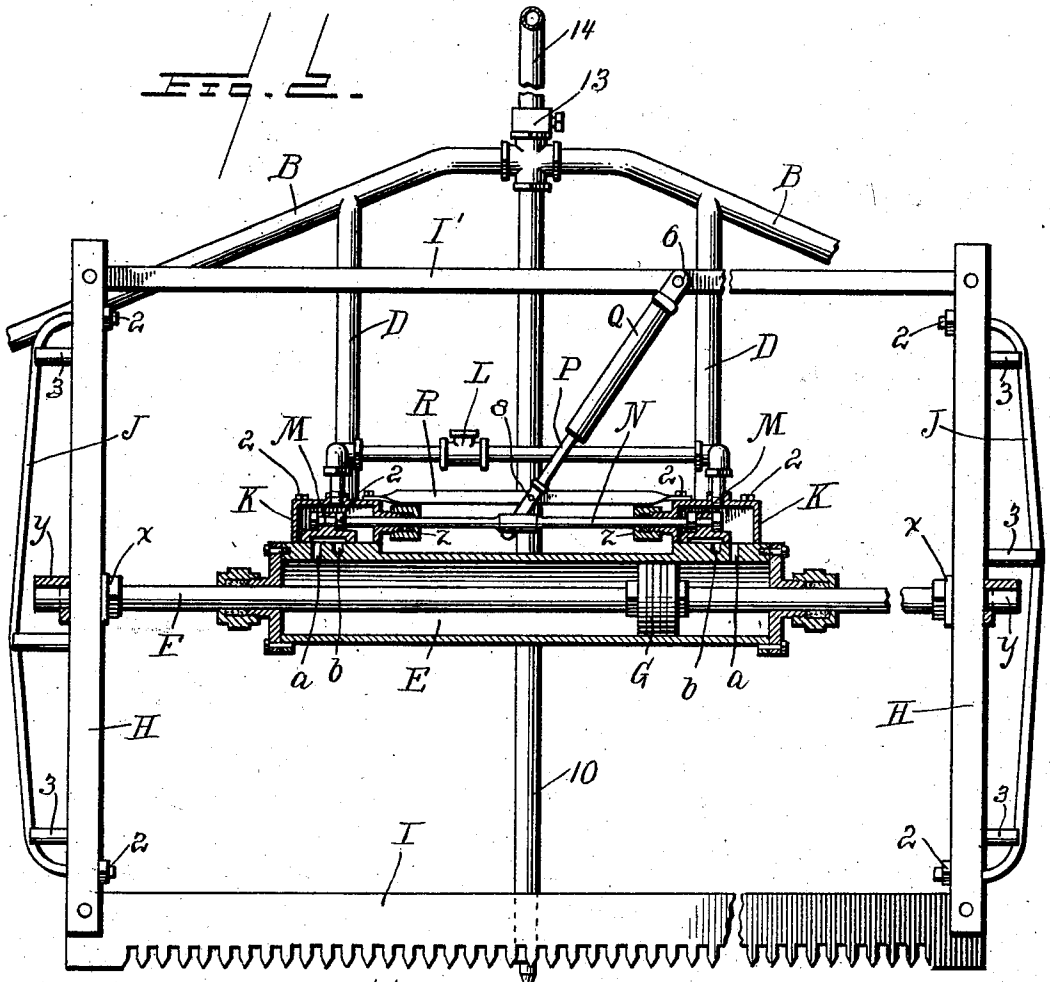
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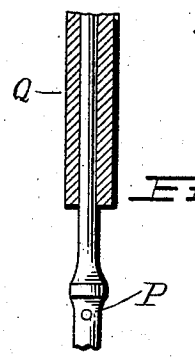
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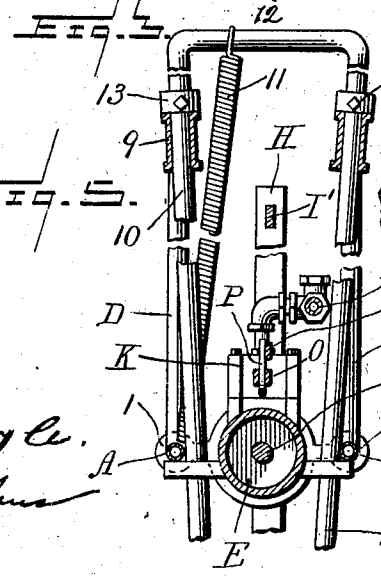
STEAM POWER CROSSCUT SAW.

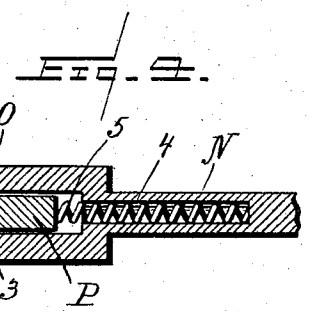
APPLICATION FILED OCT. 19, 1903.

NO MODEL. 2 SHEETS—SHEET 2.









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No. 747,766. Patented December 22, 1903.

UNITED STATES PATENT OFFICE.

JOHN A. REED, OF GULFPORT, MISSISSIPPI.

STEAM-POWER CROSSCUT-SAW.

SPECIFICATION forming part of Letters Patent No. 747,766, dated December 22, 1903.

Application filed October 19, 1903. Serial No. 177,635. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. REED, a citizen of the United States, residing at the city of Gulfport, in the county of Harrison, State of Mississippi, have invented certain new and useful Improvements in Steam-Power Crosscut-Saws, of which the following is a specification.

My invention relates to improvements in crosscut-saws in which steam-power is employed for the operation of the same.

The objects and advantages of my invention will appear hereinafter in the description and the novel features thereof will be particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side view of a steam-power crosscut-saw made in accordance with my invention. Fig. 2 is a longitudinal central sectional elevation of the same. Fig. 3 is a transverse vertical central sectional elevation of the upper portion of the device. Figs. 4 and 5 are views of details hereinafter referred to.

As shown in the drawings, the main frame is made angular and of two tubular sections (preferably of metal) each formed with a horizontal base A and two inclined sides B B, which are connected at both ends with the base, and each when thus connected forms an arch, which extends above the base of the frame. The two sections are placed side by side and securely held a slight distance apart by means of a cross-brace C, which is secured to each of the sections at the intersection of the base and the inclined sides. At a suitable distance from the apex or center of the arches are placed vertical supports D D, which have their respective upper and lower ends secured to the arches and base of the frame, thereby firmly bracing the frame at those points. It will be seen that the frame as thus constructed is very strong and durable and will easily stand any strain to which it may be subjected when in use, and the two sections will always be maintained at an equal distance apart, so as to readily accommodate the saw-frame and the cylinder, &c. The frame as organized and arranged is admirably adapted to support and carry the saw and its frame and the steam-cylinder and its adjuncts necessary to operate the saw. I will now proceed to describe those features of my invention.

E is the steam-cylinder, having a suitable cylindrical flange formed around both of its ends, to which are secured by bolts the cylinder-heads, which are provided with ears or lugs 1. The lugs or ears have an orifice formed therein, and the tubular rods forming the base of the frame are passed through the same, and thereby support and hold the cylinder in place in the frame. The heads of the cylinder are provided with the usual stuffing-boxes, through which works the piston-rod F, carrying the piston G.

The saw I is attached to the vertical arms H, and the opposite ends of the piston-rod F pass through said vertical arms and are secured thereto by means of jam-nuts x and cross-heads y, which extend across and bear on the upper face of the base of the frame and act as a guide to steady the saw in its movements.

I′ is the upper longitudinal bar of the saw-frame.

The parts H, I, and I′ form, in effect, a quadrangle frame, which, it will be understood, is carried by and reciprocates with the piston-rod F.

In order to strengthen and properly brace the saw-frame, I propose to connect with the vertical arms H and on the outside thereof a truss or curved brace J, which extends from quite near the top to the bottom of the arms and has its ends passed through openings in the same and is held in place by adjusting-nuts 2, as seen in the drawings. Cross-pieces 3 are provided at suitable intervals between the arms H and brace J and serve to keep the truss under tension and in proper position.

At each end of the cylinder E is a steam-chest K, having two ports, a steam-admission port a, communicating with the interior of the steam-cylinder, and an exhaust-port b. The steam-chests are supplied with steam from any suitable source through pipe L, secured to the chests, as shown in the drawings. Within each steam-chest is a slide-valve M, the two valves being connected by a rod N, which passes through stuffing-boxes z z, and the valves are secured to the rod by jam-nuts 2 2 and control the steam-inlet ports a

a and exhaust-ports *b b*. The valve-rod N has formed at its center an enlarged portion O, which is provided at its center with a central longitudinal slot 3, which registers with a central bore or slot 4, formed in the rod N on each side of the said enlarged portion. Helical springs 5 are placed in bore or slot 4 and when extended enter the slot 3 of part O and press against either side of the vertical rod P, which passes down through the slot 3 in the center of valve-rod N. The upper portion of the rod P projects well up into the hollow trip-rod Q, which is secured to the upper bar I′ of the quadrangular saw-frame by a wrist-pin 6 at a point (or midway thereof) to bring the rod P directly in the slot of the enlargement O of the valve-rod. The rod P is fulcrumed at 8 on a cross-bar R, which is secured at each end to the top of the steam-chests K by bolts, and will as the saw-frame reciprocates operate the valve-rod N.

In order to support the apparatus and permit the depression of the saw and its operating mechanism as the work proceeds, I have formed through the center of the upper part of one of the duplicate frames an opening 9, through which freely passes a spring-yielding standard 10, which is connected at its upper end with one end of a helical spring 11, while the other end of the said spring is connected with the frame at 12. This arrangement permits the free movement of the device. To maintain the standard in any desired position, a collar 13 surrounds the standard and is provided with a set-screw which registers with the rack or depression 14, formed in the adjoining face of the standard 10.

I have not shown the handles by which the device is steadied and upheld while at work. The ends of the frame can be used for the purpose or handles may be provided at any suitable points.

The nature and operation of the improvements will be readily understood by those skilled in the art from the foregoing description, and hence need no further explanation.

The apparatus is simple, cheap, and effective and can be readily transported and used.

Having described my improvement and the best way now known to me of carrying the same into effect, what I claim herein as new and of my own invention is—

1. In a steam-power crosscut-saw, the combination of a suitable frame for supporting and carrying the same, the steam-cylinder, the steam-chests thereon, the slide-valves, the valve-rod connecting the valves, the piston, the piston-rod projecting from each end of the cylinder, and the saw-frame attached to the opposite ends of, and moving with, the piston-rod, substantially as and for the purposes set forth.

2. In a steam-power crosscut-saw, the combination of a suitable frame for supporting and carrying the same, the steam-cylinder, the steam-chests thereon, the slide-valves, the valve-rod connecting the valves, the piston, the piston-rod projecting from each end of the cylinder, the saw-frame attached to the opposite ends of, and moving with, the piston-rod, and the spring-yielding standard for permitting the depression of the saw and its operating mechanism, substantially as and for the purposes hereinbefore set forth.

3. The combination of the supporting and carrying frame, the steam-cylinder, the steam-chests thereon, the slide-valves, the valve-rod, the piston, the piston-rod projecting from each end of the cylinder, the saw-frame attached to the opposite ends of, and moving with, the piston-rod, and a trip-rod connected at one end with the reciprocating saw-frame and the other end adapted to operate the valve-rod and the valves, substantially as and for the purposes hereinbefore set forth.

4. The combination of the frame, the steam-cylinder, the steam-chests thereon, the slide-valves, the valve-rod provided with an enlarged central part having a longitudinal slot formed therein, and a bore formed therein on opposite sides of and opening into the slot in the enlarged central part, the piston, the piston-rod projecting from each end of the cylinder, the saw-frame attached to the opposite ends of the piston-rod, helical springs located in the central bores in the valve-rod, a trip-rod connected at its upper end to the reciprocating saw-frame, and being fulcrumed about midway to a cross-rod secured to the top of the steam-chests, and having its lower end entering into the longitudinal slot in the central part of the valve-rod and between the ends of the helical springs, substantially as and for the purposes set forth.

In testimony whereof I have hereunto set my hand this 5th day of October, 1903.

JOHN A. REED.

Witnesses:
EDWIN B. LANG,
JOHN H. LANG.