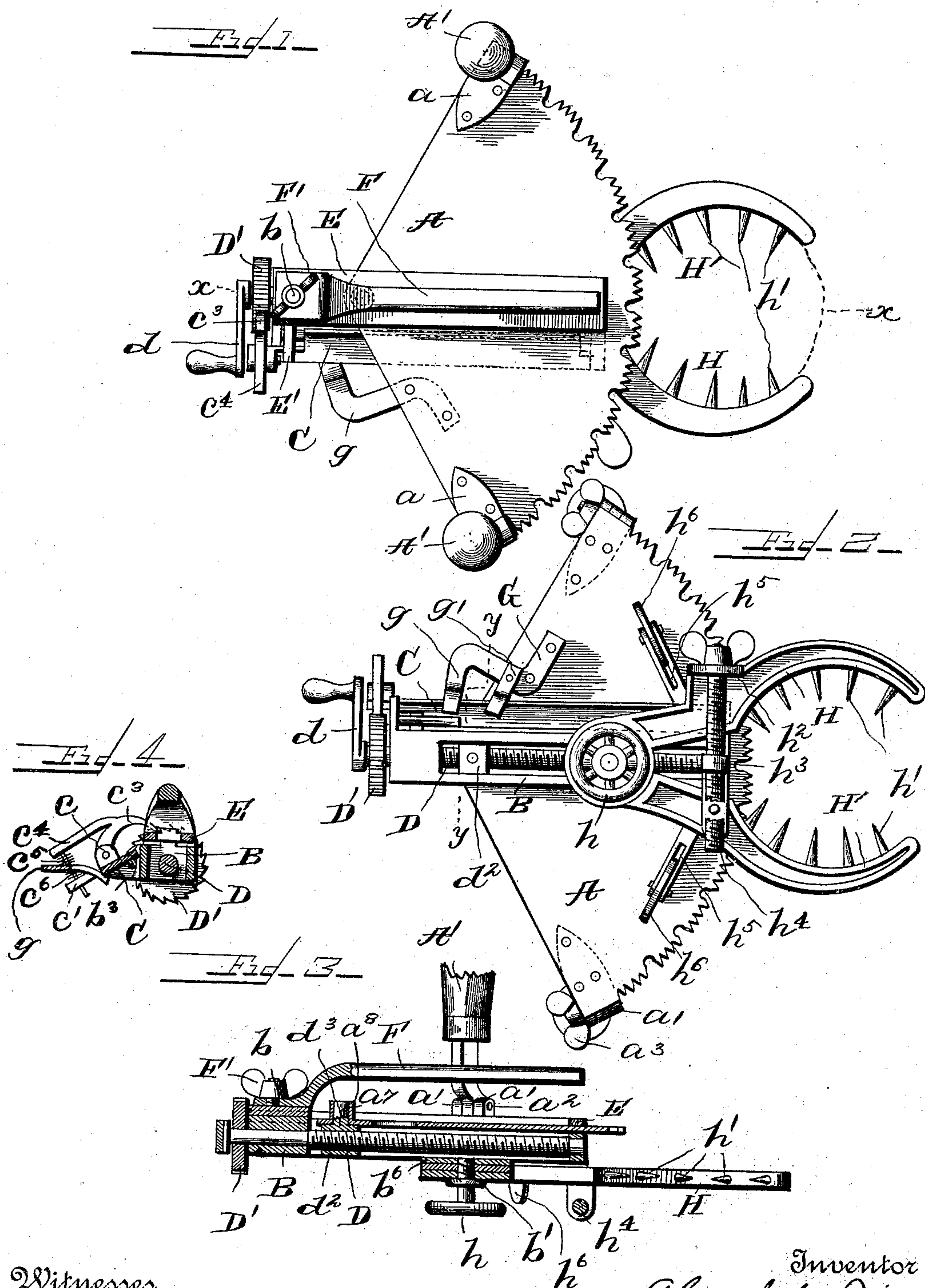


(No Model.)

A. W. RICH.
MACHINE FOR SAWING LOGS, TREES, OR SPILES.
No. 505,482. Patented Sept. 26, 1893.



Witnesses

J. A. Tauberschmidt,
H. Jos. Doyle

Inventor

Adelmal W. Rich

By Edwin S. Clarkson

Asso Attorney

UNITED STATES PATENT OFFICE.

ADEMAH W. RICH, OF JERSEY CITY, NEW JERSEY.

MACHINE FOR SAWING LOGS, TREES, OR SPILES.

SPECIFICATION forming part of Letters Patent No. 505,482, dated September 26, 1893.

Application filed December 12, 1891. Serial No. 414,897. (No model.)

To all whom it may concern:

Be it known that I, ADEMAH W. RICH, a citizen of the United States, and a resident of Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Machines for Sawing Logs, Trees, or Spiles, of which the following is a specification.

My invention relates to machines for sawing logs, trees or spiles and it consists in the novel arrangement of parts as will be hereinafter more fully set out and claimed.

In the drawings Figure 1 is a top plan view. Fig. 2 is a bottom plan view. Fig. 3 is a central longitudinal section on line $x-x$ Fig. 1. Fig. 4 is a section on the line $y-y$, Fig. 2.

A represents the saw of the general shape shown, provided with operating handles A' which are secured to the saw by means of clips a , provided with upwardly extending ears a' between which the shanks of the handles A' are secured by means of the bolt a^2 and the thumb nut a^3 .

B is the slotted frame on which the saw works.

b is a lug extending upward from the frame and screw threaded for a purpose which will be hereinafter referred to. On the bottom of this frame is a round integral casting b^6 having a threaded lug or post b' extending downward, to be hereinafter referred to. Lugs extend from one side of the frame, at each end and provided with an aperture. The lug b^3 is of peculiar shape.

C is a pawl actuating pivoted lever having its ends journaled in lugs, one of which is indicated at b^3 in the drawings. The rear end of this lever C has a cut away portion to clear the lug b^3 while the remaining portion is provided with upwardly extending ears c having openings and extending horizontally from these ears is a portion c' at right angles to the balance of the lever C, which is provided with a slot near its outer end.

Pivoted between the ears c is a pawl c^3 provided with a rearwardly extending arm c^4 to which is secured a post c^5 extending through the slot in the portion c' of the lever C.

c^6 is a coiled spring secured around the post c^5 .

D is a screw threaded shaft secured in the frame B, the end of which projects beyond

the frame at the rear. Rigidly secured to this projecting end of the shaft D is a ratchet wheel D' and a crank arm d .

d^2 is a traveling nut on the shaft D which is provided with a lug d^3 which engages an opening a^7 in the saw blade.

E is a slotted plate provided with an opening in which fits the lug b . This slotted plate lies on top of the saw. The tubular projection a^8 on the saw works in the slot of this plate.

E' is a flat spring secured to the plate E, the free end of which bears on the pawl actuating lever C.

F is a combined spirit level and lifting handle, secured to the lug b by means of the thumb nut F' . This nut F' secures the slotted plate and the handle F to the frame B.

Secured to the under side of the saw blade is a double trip G having actuating arms g and g' of different length, and lying in different horizontal planes, the arm g' being in a lower plane than the arm g . It will be noticed that the arm g' is shorter than the arm g and that both tripping arms have inclined cam like faces.

Seated on the round integral casting b^6 are two clamping jaws H and H' which are secured on that casting by means of the hand wheel h working on the threaded lug b' . The jaws are each provided with sharp teeth h' . The jaw H' has an upwardly projecting lug h^2 provided with an opening while the jaw H is provided with an upwardly projecting lug h^3 pivoted so as to be movable in a horizontal plane for a purpose hereinafter described. The opening in this lug is screw threaded.

h^4 is a threaded clamping bolt engaging the lugs h^2 and h^3 . Immediately in the rear of these lugs are parallel horizontal projecting arms h^5 between which are journaled wheels or rollers h^6 .

The operation is as follows:—The jaws H and H' having been clamped to the body to be sawed and leveled we will suppose that the center of the blade is in the line of the center of the frame B. In this position the trip arm g' is in engagement with the pawl actuating pivoted lever C. Now the operator on the right pushes the handle A' , on the right of the machine, from him. This movement trips the pivoted pawl actuating lever

by means of the arm *g* the lever *C* riding up the incline of the trip arm *g'*. This brings the lever *C* to a level against the action of the flat spring *E'* and forces the pawl *c*³ against the ratchet wheel thereby turning it and the screw threaded shaft *D* thereby causing the traveling nut to move forward carrying with it the saw toward the work. The operator on the left hand side now pushes this handle from him with the following result: The instant he pushes this handle the actuating arm *g'* is moved outward and the flat spring *E'* forces the pawl actuating lever *C* down the incline of the actuating arm *g'* carrying with it the pawl *c*³. Thus the pawl slides over to the next tooth in the ratchet wheel. Continuing this movement the trip arm *g* comes into contact with the pawl actuating lever and raises it against the pressure of the flat spring *E'*, thus forcing the pawl against the ratchet and moving it one tooth, whereby the saw is fed toward the work. The operator on the right side now operates that handle with the result first noted. The saw blade in its movement travels on the anti friction wheels or rollers *h*⁶. When the saw has traveled the length of the frame *B* the rearwardly extending arm *C*⁴ of the pawl is pressed down thereby disengaging the pawl and ratchet. The operator then turns the crank arm *d* to the right thus revolving the shaft *D* and drawing the traveling nut and saw to the starting point. Thus it will be seen that I have produced a very simple, effective and self supporting saw and automatic feed for the same. The feed is always regular and positive thereby reducing, considerably, the labor attending such work.

The object of pivoting the lug *h*³ on the jaw *H* is to enable it to be in line with the opening in the lug *h*² no matter how far the clamping jaws are opened or closed, thereby preventing the bolt from binding.

What I claim, and desire to secure by Letters Patent, is—

1. In a sawing machine, the combination with the pawl and ratchet (and the saw, screw shaft and connecting mechanism driven by the ratchet) of the pawl actuating lever, and

the actuating arms, having one end secured directly to the saw, and the other end engaged by the said lever so as to feed the saw in the same plane with said lever.

2. In a sawing machine, the frame a screw shaft, journaled through and provided on one end with a ratchet wheel, a traveling nut working on said shaft, to which is secured a saw, actuating arms, secured directly to said saw, and an actuating lever pivoted to said frame and provided with a pawl, adapted to engage said ratchet wheel, said actuating arms adapted to engage the actuating lever.

3. In a sawing machine the combination with the frame, saw, and operating mechanism, of the clamping jaws pivoted to said frame, the clamping bolt for the jaws and anti-friction wheels secured in brackets integral with the clamping jaws substantially as described.

4. In a sawing machine mechanism, for feeding the saw to the work consisting of a screw shaft and a traveling nut, a ratchet wheel, secured to said shaft, a lever pivoted to said machine, and a pawl pivoted to the rear end of said lever and adapted to engage said ratchet wheel; and actuating arms secured directly to the saw and adapted, when the saw is operated to operate the pawl actuating lever.

5. In a sawing machine, the combination with the frame of the screw shaft journaled therein, a traveling nut working on said shaft, and a saw secured to said nut; actuating arms secured to the saw and extending at an angle from the same, and a ratchet wheel secured to one end of said shaft; of a lever pivoted to said frame and provided at one end with a pawl adapted to engage said ratchet wheel, a spring *E* secured to the frame and adapted to normally hold the pawl actuating lever in its lowest position substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 4th day of December, 1891.

ADEMAH W. RICH.

Witnesses:

THEODORE CLARKSON,
RUDOLPH SCHNETZLER.