

JOEL WHITNEY.

Improvement in Rolling Leather.

No. 124,709.

Patented March 19, 1872.

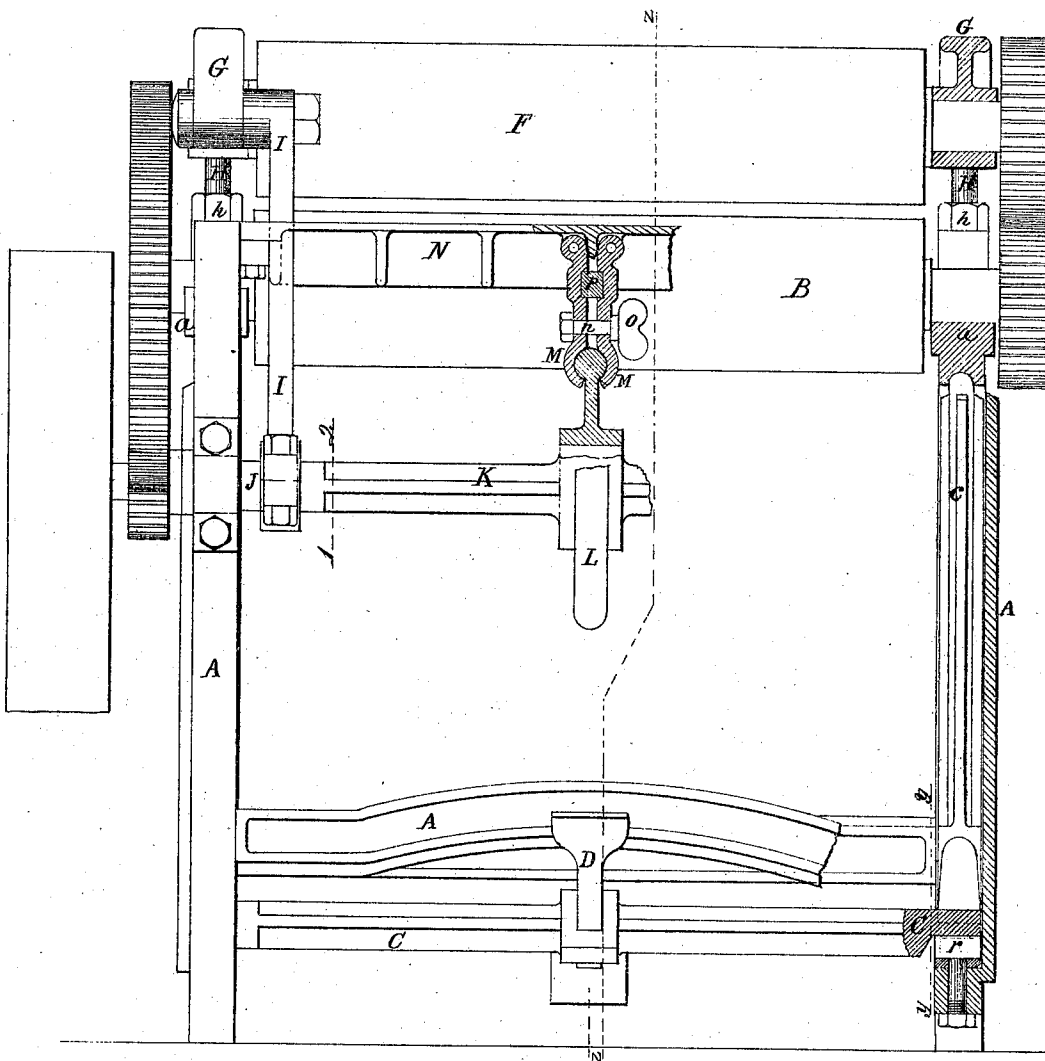


FIG. 1.

WITNESSES.

G. B. Whitney
N. C. Lombard

INVENTOR.

Joel Whitney

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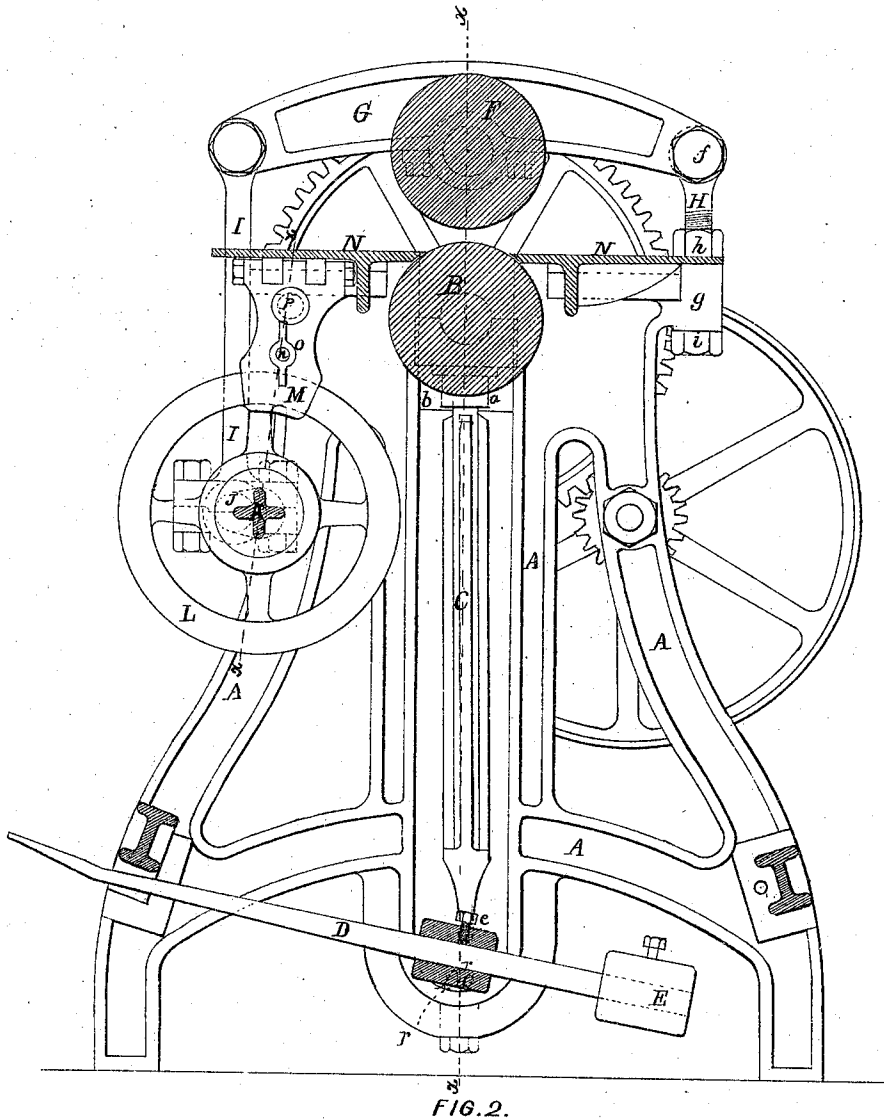


FIG. 2.

WITNESSES.

S. B. Whitney
N. C. Lombard

INVENTOR.

Joel Whitney.

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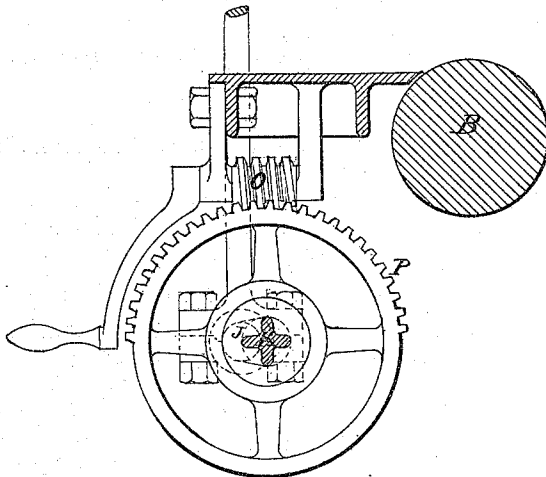


FIG. 5.

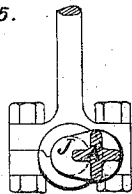


FIG. 4.

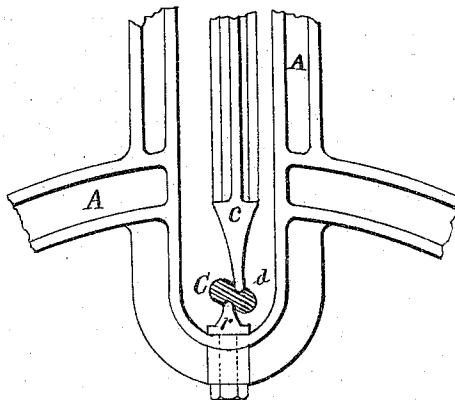


FIG. 3.

WITNESSES.

B. E. Whitney.
N. C. Lombard

INVENTOR.

Joel Whitney

UNITED STATES PATENT OFFICE.

JOEL WHITNEY, OF WINCHESTER, ASSIGNOR TO HIMSELF AND NATHAN J. SIMONDS, OF WOBURN, MASSACHUSETTS.

IMPROVEMENT IN MACHINES FOR ROLLING LEATHER.

Specification forming part of Letters Patent No. 124,709, dated March 19, 1872; antedated February 29, 1872.

To all whom it may concern:

Be it known that I, JOEL WHITNEY, of Winchester, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Machines for Rolling Leather, of which the following, taken in connection with the accompanying drawing, is a specification.

Nature and Objects of the Invention.

My invention relates to the means employed to adjust the pressure-rolls and to the application of pressure to said rolls; and it consists, first, in the employment of a rocker-shaft extending across the machine parallel to the pressure-rolls, and supported at its two ends on a rounded V-shaped piece of metal, the point of which enters a correspondingly-shaped groove formed in the end of said rocker-shaft parallel to its axis, in combination with a strut at either end thereof, the lower ends of which rest in a similar groove formed in the upper side of said rocker-shaft, and the upper ends are secured to the under sides of the boxes, in which the lower or pressure-roll has its bearings, said struts being so arranged, in combination with the rocker-shaft, as to form a toggle or knuckle-joint, which, by the partial rotation of the rocker-shaft by means of a treadle connected therewith, shall move the lower roll up or down. It also consists in the application to said rocker-shaft of an adjustable treadle, extending through said shaft, and provided with a counterpoise weight on the rear end thereof for the purpose of insuring the dropping of the roll when the foot of the operator is removed from the treadle. It further consists in mounting the upper roll in bearings formed for the purpose near the middle of a lever or radius-arm, (one at either end of said roll,) having an adjustable fulcrum, by means of which the upper roll may be adjusted parallel with the lower roll, the other end of said levers being connected by suitable links or connecting-rods to cranks formed on a shaft mounted in suitable bearings below the table, in combination with a hand-wheel or other suitable device for rotating said crank-shaft to adjust the height of the upper roll, and a locking or holding device arranged to operate in connec-

tion with said crank-shaft to hold it in any desired position.

Description of the Drawing.

Figure 1 is a front elevation of a machine embodying my improvements with a portion shown in vertical longitudinal section on line *xx* in Fig. 2. Fig. 2 is a transverse vertical section on line *zz* in Fig. 1. Fig. 3 is a section through the treadle rocker-shaft on line *yy*, showing the manner of hanging the rocker-shaft and the position of the strut that supports the lower roll. Fig. 4 is a section through the crank-shaft on line 1 2. Fig. 5 is a detail illustrating a modification of the device for adjusting the upper roll and holding it in place. All the figures are drawn to a scale of three-sixteenths of an inch to one inch.

General Description.

A is a frame of the machine, and B the lower or pressure-roll mounted in the half-boxes *a a*, fitted to slide in the slot *b* in the frame and resting on or secured to the upper end of the strut *c*, the lower end of which rests in a groove, *d*, formed in the upper side of the treadle rocker-shaft C, said groove being located back of the center of rotation of said shaft and parallel to its axis. The rocker-shaft C is mounted at its ends on a V-shaped bearing, *r*, secured to the frame, the point of which fits into a short semicircular groove formed on the under side of said shaft, and around which it rotates when the operator places his foot on the treadle D. The treadle D is made to slide in a slot or mortise in the rocker-shaft C and extends in the rear of said shaft, and is provided with a counterpoise weight, E, the purpose of which is to insure the dropping of the roll B when the foot is removed from the front end of the treadle. The treadle is secured in place in the mortise in the rocker-shaft by the set-screw *e*. F is the upper roll, mounted in boxes formed in the levers G G, near the middle of their length. The rear ends of the levers G are connected by the fulcrum-pins *f* to the eye-bolts H H, the shanks of which pass through bosses *g* on the frame A, and are secured therein by the nuts *h* and *i*, one above and one below said boss, by means of which the roll F

may be leveled or adjusted parallel with the roll B in an obvious manner. To the front ends of the levers G are attached the links or connecting-rods I, the lower ends of which are connected to the cranks J on the crank-shaft K in any suitable manner. The crank-shaft K is mounted in suitable bearings on the frame A, and carries the hand-wheel L secured thereto near its middle, by means of which the crank-shaft may be partially rotated to adjust the position of the upper roll F. M M are two clamp-jaws, hinged by their upper ends to the under side of the table N, and having their lower ends so formed as to clasp the rim of the hand-wheel L, and made to grip said rim by means of the bolt *n* and thumb-nut *o*, a block of rubber, *p*, or other spring being placed between said jaws to force them away from the rim of the wheel L when the thumb-nut *o* is unscrewed.

Various devices for actuating the crank-shaft K and securing the same in any desired position have suggested themselves to me, one of which is shown in Fig. 5, in which the crank-shaft K is rotated and held in any desired position by the worm O and tangent, wheel P, arranged in a well-known manner. In place of the worm O a double-shouldered pawl may be used in combination with a toothed wheel, which may be rotated by hand for the same purpose.

I am aware that these devices in themselves for actuating a shaft and holding it in position are not new, and therefore I do not claim them, broadly; neither do I wish to be understood as confining myself to the combination of any

one of said actuating and holding devices with mechanism for hanging and controlling the position of the upper roll of a leather-rolling machine; but

What I claim as new, and desire to secure by Letters Patent of the United States, is as follows:

Claims.

1. The combination of the rocker-shaft C, the rounded V-shaped bearings *r* and the struts *c*, arranged and operating substantially as described, for the purpose specified.

2. In combination with the rocker-shaft C, constructed and arranged as set forth, I claim the treadle D, made adjustable in the direction of its length, and provided with a counterpoise weight, E, substantially as described.

3. In combination with the upper roll F, having its bearings in vibrating levers G, I claim the cranks J and crank-shaft K for adjusting said roll, so arranged that said cranks may be readily adjusted to any desired angle and firmly secured in such position, substantially as described.

4. In combination with the levers G and the upper roll F, I claim the adjustable eye-bolt H, to which the rear end of said levers are attached, as a means of adjusting the roll F parallel with the roll B, substantially as described.

Executed at Boston this 9th day of August, 1871.

Witnesses: JOEL WHITNEY.
G. E. WHITNEY,
N. C. LAMBARD.