

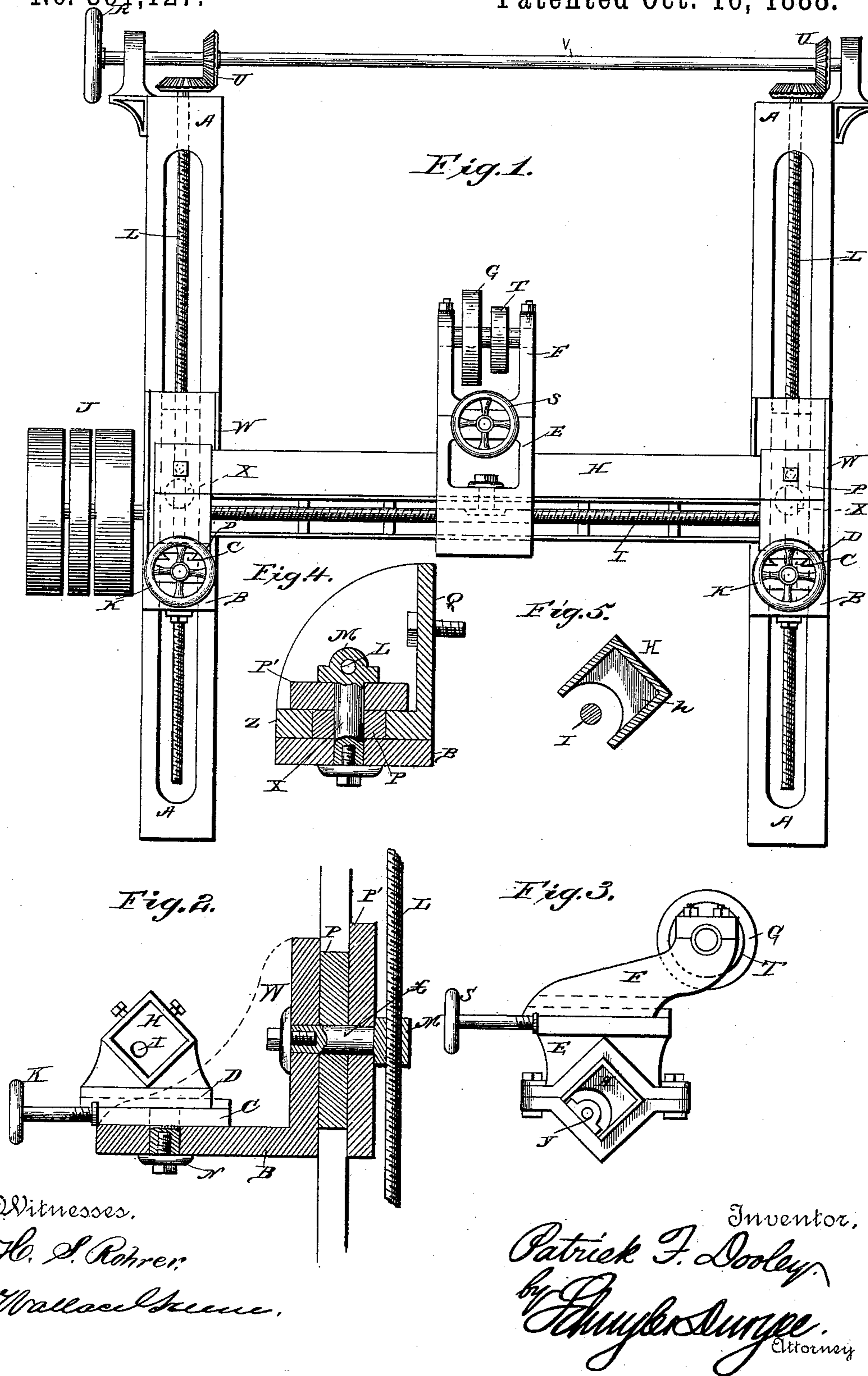
(No Model.)

P. F. DOOLEY.

ROLL GRINDER.

No. 391,127.

Patented Oct. 16, 1888.



Witnesses.

H. S. Rohrer.

Wallace S. S. S.

Inventor.

Patrick F. Dooley.

by *Thayer & Surge* Attorney.

UNITED STATES PATENT OFFICE.

PATRICK F. DOOLEY, OF MALONE, NEW YORK.

ROLL-GRINDER.

SPECIFICATION forming part of Letters Patent No. 391,127, dated October 16, 1838.

Application filed September 22, 1887. Serial No. 250,399. (No model.)

To all whom it may concern:

Be it known that I, PATRICK F. DOOLEY, a citizen of the United States, residing at Malone, in the county of Franklin and State of New York, have invented a new and useful Roll-Grinding Machine, of which the following is a specification.

My invention relates to machines for grinding rolls; and it consists in certain improvements in the construction of such machines, as hereinafter described and claimed.

By my improved construction certain parts are so rendered adjustable that a rapid operation upon several rolls in a frame in succession may be effected without removing any of them, thus dispensing with the laborious and expensive operation of taking the rolls from and returning them to their places in the frame of a machine.

In the accompanying drawings, Figure 1 is a front view of my improved roll-grinding machine. Fig. 2 is a vertical section of one of the brackets and connecting parts. Fig. 3 is a side view of the carriage which carries the grinding-wheel. Fig. 4 is a horizontal transverse section of one of the slotted standards and a portion of the bracket secured thereto. Fig. 5 is a cross-section of the bar which is traversed by the carriage.

Like letters indicate similar parts in the several figures.

A designates the standards which support the mechanism, said standards being provided with vertical longitudinal slots in their front portions, as shown. Each of the standards carries a bracket, B, which is secured by a bolt, X, to the front of the standard. The head M of the bolt is provided with a threaded aperture, through which passes a vertical elevating-screw, L, and the bolt, extending forward through a plate, P, placed in the vertical slot and through the bracket, is secured by a screw and washer, so that the bracket has a swivel connection with the standard.

On each bracket B is placed a base-plate, C, of a stand, D, the base-plate having a swivel connection with the bracket by means of a stud or neck, N, fitting in a hole in the bracket and held in place by a screw and washer, as shown. The stand D has a sliding movement forward and backward on the base C, which

is provided with guides for such purpose, this movement being effected by means of the adjusting-screw having a hand-wheel, K, and a nut connected with the stand.

Each of the stands D is provided in its upper part with an opening to receive and hold one end of a hollow planed bar, H, which is thus supported in a horizontal position in front, the said bar extending through the stands and being adjustably secured by set-screws. The bar H being made of any desired length, the machine may be adjusted laterally for grinding rolls of any length desired.

The vertical elevating-screws L are suitably mounted in the standards A and extending downward. Each screw passes through a threaded aperture in the head M of a bolt, X, and by means of said screws the brackets may be adjusted in elevation to grind any roll in a frame, as desired. The screws L are operated by means of beveled gear-wheels U on a shaft, V, which is provided with a hand-wheel, R, said beveled gears engaging with similar wheels on the upper extremities of the screws.

On the bar H is placed a sliding carriage, E, the lower part of which is constructed with an opening, through which the said bar extends, such opening forming a bearing and the carriage being held steadily in position on the bar. The upper part, F, of the carriage is provided with bearings for a shaft, on which is placed an emery or grinding wheel, G, and also a pulley, T. The said part F has a sliding movement on the main part E, and is adjustable forward or rearward, the movement being effected by means of a screw provided with a hand-wheel, S, and a nut (not shown) within the carriage. During operation the carriage moves along on the bar H, being actuated by means of a screw-shaft, I, having bearings in the stands D, and passing through a nut, Y, which is secured to the lower part of the carriage. (See Figs. 1 and 3.)

The screw-shaft may be driven by power imparted from a rotary drum above through straight and cross belts to the pulleys J on the extended end of the shaft, the central pulley being fast on the shaft and the others loose. The belts may be shipped by means of a rod, (not shown,) which is provided with adjustable

collars, the said collars being set to fix the distance to be traversed by the carriage. When the carriage, being driven by the screw I, comes in contact with a collar at either end of the shipper-rod, the latter slides with the carriage until the belts are shifted, and the movement of the carriage is thereby reversed.

The shaft of the grinding-wheel may be driven by means of belting connecting pulley T with a rotary drum mounted in any convenient position above.

The hollow bar H is provided with a number of webs, *h*, crossing its interior to strengthen and render it firm and prevent any jarring or trembling motion of the bar during operation.

In preparing for operation, the standards A are bolted to the frame of the machine carrying the rolls to be dressed by means of the inner part having the face Q, (see Fig. 4,) and which is at right angles with front part, Z, the plate P being shown in the slot of the standard and supplementary plate P' against the back of the front part, Z. The grinding-wheel is adjusted to the roll by raising or lowering brackets B, carrying bar H, the said bar being brought into alignment with the axis of the roll by means of the screws with hand-wheels K, and the shipper-rod is adjusted according to the length of surface on the roll to be ground. The shipper-rod, or the collars thereon, may be moved during operation, if desired, and if it is desired to adjust the bar H at either end in its elevation either of the gear-wheels U may be thrown out of engagement for such purpose. The depth of dressing by the grinding-wheel is regulated by means of the screw with hand-wheel S, by which the wheel is moved to or from the roll.

I claim as my invention and desire to secure by Letters Patent—

1. In machines for grinding rolls, the combination of the vertical standards A, adapted to be secured to roll-frame, the brackets B, vertically movable on said standards, the non-revoluble longitudinal bar H, connecting the said brackets, the traversing carriage mounted on said bar, and the shaft journaled in said carriage and having the emery-wheel and connections to rotate the same, substantially as described.

2. The combination of the vertical standards A, the brackets movable thereon, the vertical screws journaled in said standards and engaging said brackets, the non-revoluble bar connecting the brackets, the traversing carriage having the grinding apparatus and mounted on said bar, and the screw I, engaging said carriage and adapted to move the same on the bar, substantially as described.

3. The combination of the standards having the vertical slots, the plates P, arranged in said slots, the brackets B, the bolts X, connecting said brackets to said plates and having the heads M, the vertical screws L, journaled in the standards and engaging the heads M, the non-revoluble bar H, connecting the brackets, and the traversing carriage mounted on said bar and having the grinding apparatus, substantially as described.

4. The combination of the standards A, the vertically-movable bar H, connected thereto, the carriage E, mounted on said bar and having the part F, the screw S, to move said part at right angles to the bar, the shaft journaled in part F and having the emery-wheel and pulley T, and the screw I, journaled in bar H and engaging the carriage to traverse the same on said bar, substantially as described.

5. The combination of the standards A, the vertical movable brackets B, secured thereto, the stands C, swiveled to said brackets, the screw-actuated stands D, movable on said stands C, the bar H, connecting stands D, and the traversing carriage mounted on said bar and having the grinding apparatus, substantially as described.

6. The combination of the vertical standards A, the vertical screws L, journaled in said standards, the horizontal shaft V, the miter-gears connecting said shaft to screws L, the brackets B, guided on standards A and engaged by screws L, the non-revoluble bar H, supported on said brackets, and the traversing carriage on said bar and having the grinding apparatus, substantially as described.

PATRICK F. DOOLEY.

Witnesses:

JAS. H. PUTNAM,
F. D. KILBURN.