

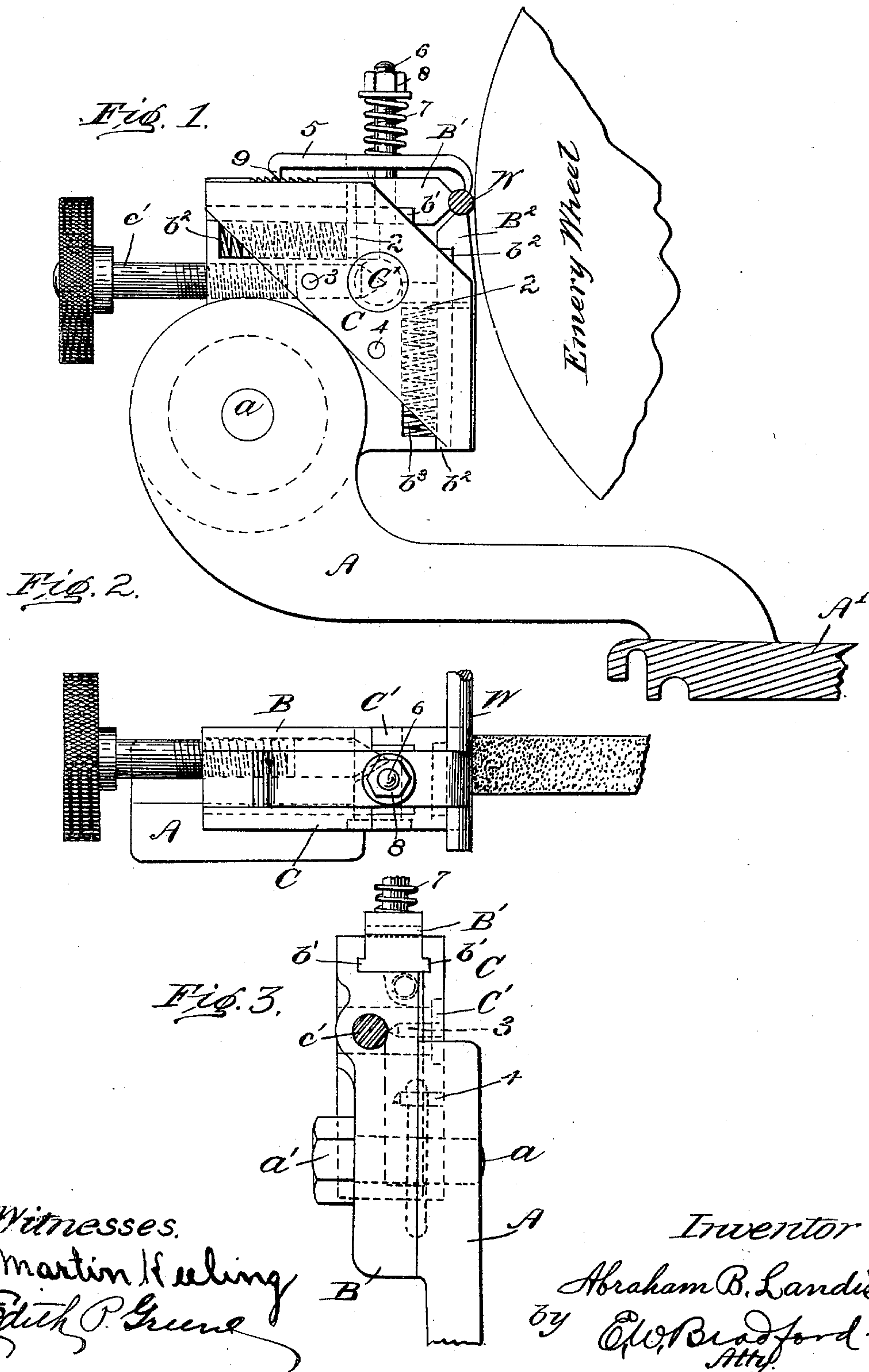
No. 697,853.

Patented Apr. 15, 1902.

A. B. LANDIS.
WORK REST FOR GRINDING MACHINES.

(Application filed Sept. 10, 1901.)

(No Model.)



UNITED STATES PATENT OFFICE.

ABRAHAM B. LANDIS, OF WAYNESBORO, PENNSYLVANIA.

WORK-REST FOR GRINDING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 697,853, dated April 15, 1902.

Application filed September 10, 1901. Serial No. 74,892. (No model.)

To all whom it may concern:

Be it known that I, ABRAHAM B. LANDIS, a citizen of the United States, residing at Waynesboro, in the county of Franklin and State of Pennsylvania, have invented certain new and useful Improvements in Work-Rests for Grinding-Machines, of which the following is a specification.

My said invention consists in an improved construction of work-rests for grinding-machines of that general character shown in various patents heretofore granted to me whereby the work is supported against the grinding-wheel of such machine in position to insure the best results, as will be hereinafter more fully described and claimed.

Referring to the accompanying drawings, which are made a part hereof, and on which similar reference characters indicate similar parts, Figure 1 is a side elevation of one of my improved work-rests; Fig. 2, a top plan view of the same, and Fig. 3 an elevation of the rear edge.

In said drawings the portions marked A represent the supporting bracket or arm, B the main portion of the frame, and C the clamping-plate.

The bracket or arm A is of any appropriate form to support the rest from the traveling carriage A', on which the emery-wheel is mounted, the rest being thus mounted to travel with said emery-wheel.

The frame B consists of a plate substantially rectangular in form, having an ear on its lower rear corner, which is formed with a face adapted to fit against a correspondingly-formed face on the upper end of arm A and is rigidly secured thereto by a bolt *a*, projecting through from the arm and provided with a nut *a'*, by which the two parts are rigidly clamped together. Near its top edge is formed a horizontal groove parallel with said edge, and in the edge adjacent to the work is formed a similar vertical groove. Alongside said grooves are formed sockets containing springs *b*² *b*³, respectively. Bars B' and B², formed with longitudinal ribs *b* and *b'*, respectively, are mounted to slide in said grooves and have pins 1 and 2 extending at right angles therefrom across the sockets and in front of the springs *b*² and *b*³, which bear between said pins and the bottoms of said sockets, tending

to force the bars B² and B³, the points of which are provided with the work-engaging faces, toward each other and against the work. 55

The clamping-plate C is preferably of the form shown, extending across the front side of plate or frame B to cover most of its surface, and has grooves formed near its edges to register with the grooves *b* and *b'* and receive the ribs on the adjacent side of the bars B' and B². Dowel-pins 3 and 4 project from said plate into perforations in the frame B to support it in proper position, and a sliding pin C' with countersunk head extends through said plate and frame. Said pin is formed with a cone-shaped depression in its rear side, and a hand-screw *c'*, formed with a cone-shaped end, is mounted in a horizontally-extending screw-threaded perforation in the frame B, with said end engaging said depression in said pin C', the center of the point being somewhat to the side toward the frame B out of line with the center of the depression in said pin. Thus as said screw is driven in its point, which is made of hard and stiff material, will bear against the inner side of said depression and force said pin in to clamp the plate C rigidly against the sides of the bars B' and B² and hold them firmly in any desired position. 60 65 70 75 80

On the top of bar B' is mounted a clip or finger 5 by means of a pin 6, with a screw-threaded top projecting from said bar and through a slot in said finger, the point of which is adapted to engage with the top of the work and is held in place by a spring 7, interposed between said finger and a nut 8 on the outer end of said pin. The top of bar B' is also preferably serrated and the outer end of said finger formed with a pawl 9, adapted to engage with said serrations, whereby it may be adjusted to different sizes of work. 85 90

As before described, the rest is mounted to travel with the grinding-wheel and is arranged in relation thereto, as shown in Fig. 2, the advance edge of said wheel being somewhat in front of the point of rest. In use the grinding-wheel is brought to the end of the work adjacent to the foot-stock and started into operation. The work being held rigidly by said foot-stock at this point, the advance edge of the wheel grinds a true surface at the extreme end of the work before the rest comes against 95 100

it, thus affording a true surface for the travel of the rest the entire length of the work and maintaining uniformity throughout, as will be readily understood. When the wheel has
 5 been set up to grind a cylindrical surface on the end of the work, the screw c' , with hand-knob, is released, allowing bars B' and B^2 to be pressed against the work by the springs b^2 and b^3 , when the screw C' is again tightened,
 10 clamping said bar and making a rigid rest, like a die. When the grinding-wheel has traversed the work to the head-stock, it is run back to the foot-stock, grinding only lightly, and again started into operation. After the
 15 wheel has been fed up for a new cut the screw c' is again loosened, permitting the springs b^2 b^3 to force the bars B' and B^2 forward against the work to bear against the newly-ground surface formed by the advance edge of the
 20 wheel, as before described. The screw c' is then turned up again to force the clamping-pin C' in and clamp the bars B' and B^2 rigidly between plate C and frame B . This operation occurs before the wheel has passed far-
 25 ther on to the work in order to have said rest bearing on a perfectly-true surface before clamping in order to insure the perfect truth of the work. The arrangement of the bars provides a support for the work in both a
 30 downward and rearward direction, and the clip 5 serves to prevent vibration or "chattering" by preventing the work from being drawn into the wheel, which is frequently done in the case of light work.

35 Having thus fully described my said invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a work-rest for grinding-machines, the combination, of the supporting-frame, sliding
 40 bars therein and provided with the work-engaging bearings arranged to bear against the work from different directions, and means operated by a single device for locking said bars simultaneously, substantially as set forth.

45 2. In a work-rest for grinding-machines, the combination of the supporting-frame mounted at one side of the work, sliding bars mounted therein to be operated and locked simultaneously by a single device, and provided
 50 with the work-engaging faces arranged to bear against the work from different directions.

3. In a work-rest for grinding-machines, the combination, of the supporting-frame, sliding bars mounted therein and provided with the
 55 work-engaging faces, means for normally forcing said bars toward the work, and clamping means operated by a single device for locking them simultaneously in desired position, substantially as set forth.

60 4. In a work-rest for grinding-machines, the combination, of the supporting-frame, and bars with the rest-faces mounted to slide in ways extending in radial lines from the work, and means for simultaneously clamping said
 65 bars.

5. In a work-rest for grinding-machines, the combination, of the supporting-frame, and parts provided with the rest-faces arranged in said frame to bear against the work in different directions, and means for simultane- 70
 ously clamping said parts.

6. In a work-rest for grinding-machines, the combination, of the supporting-frame containing ways, bars with rest-faces mounted there-
 in, springs for forcing said bars toward the 75
 work, a clamping-plate for simultaneously securing them, and means for operating said clamping-plate.

7. A work-rest for grinding-machines comprising a plurality of parts with rest-faces ar- 80
 ranged to bear against the work from different directions, and means for operating and locking them simultaneously.

8. In a grinding-machine, the combination of the table carrying the grinding-wheel, and 85
 a work-rest supported thereon with the point of rest bearing against the work directly opposite the operating-face of said grinding-wheel but with its advance edge somewhat
 behind the advance edge of the said wheel, 90
 substantially as set forth.

9. In a grinding-machine, the combination, of the table carrying the grinding-wheel, the work-rest supported on said table, the point
 of rest bearing against the work being ar- 95
 ranged directly opposite the operating-face of said wheel but with its advance edge slightly behind the advance edge of said wheel, and means for adjusting said point of rest to the
 work. 100

10. In a grinding-machine, the combination, of the table carrying the grinding-wheel, the work-rest supported on said table, the rest
 being arranged with its face opposite the face of the grinding-wheel but slightly behind its 105
 advance edge, means for adjusting said rest to the work, and means for clamping it rigidly in adjusted position, substantially as set forth.

11. In a work-rest for grinding-machines, 110
 the combination, of the supporting-frame, the sliding bars therein provided with the rest-faces, means for feeding said bars to the work, and a clamping-plate bearing against said bars and adjustably secured to the frame by 115
 a transverse pin having a depression with a tapered side, and a screw with a tapered point mounted in said frame with said point adapted to engage said depression and bear against
 the tapered side, whereby said plate may be 120
 forced in to clamp said bars against the frame, substantially as set forth.

In witness whereof I have hereunto set my hand and seal, at Waynesboro, Pennsylvania, this 26th day of August, A. D. 1901.

ABRAHAM B. LANDIS. [L. S.]

Witnesses:

RUSSELL MOWEN,
 ALF. N. RUSSELL.