

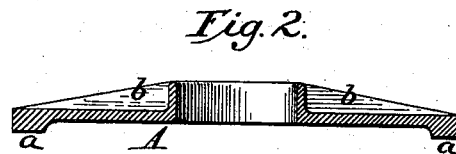
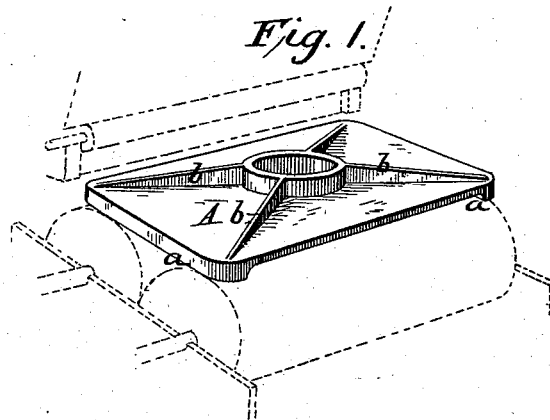
(No Model.)

W. D. GRAY.

TEST PLATE FOR ROLLER GRINDING MILLS.

No. 264,454.

Patented Sept. 19, 1882.



Attest.

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UNITED STATES PATENT OFFICE.

WILLIAM D. GRAY, OF MILWAUKEE, WISCONSIN.

TEST-PLATE FOR ROLLER GRINDING-MILLS.

SPECIFICATION forming part of Letters Patent No. 264,454, dated September 19, 1882.

Application filed May 23, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM D. GRAY, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain Improvements in Methods of and Means for Lev-
5 eling Grinding-Rolls, of which the following is a specification.

Roller-mills for reducing grain, as generally made at the present day, consist of rolls ar-
10 ranged side by side in pairs. To secure a proper action it is necessary that the space between the rolls shall be uniform from end to end, as otherwise the material will be ground finer at one point than at another. To secure
15 this uniform space it is necessary that the axes of the two rolls shall stand exactly parallel. Owing to the unequal wear of the journals, changes in the adjustment, and other causes, the rolls frequently lose their proper
20 positions, so that readjustment is required. All mills of the better class are provided with means for adjusting or moving the journals of the rolls, both vertically and horizontally, to secure and maintain the desired parallelism.
25 In practice, however, much trouble is experienced in determining when the rolls are parallel, and in determining in the course of adjustment the movement necessary for each journal, for when a divergence exists it is dif-
30 ficult to decide whether it is due to a divergence of the rolls in a horizontal or in a vertical direction. In practice I have found that by first binding the rolls so that their axes lie in the same horizontal plane the final adjust-
35 ment to bring the axes in vertical planes which are parallel is greatly facilitated.

To this end my method consists in resting upon the two rolls a plate or frame having a true plane surface of such size as to bear upon
40 both rolls at or near both ends at the same time. This plate will bear firmly and without rocking upon the two rolls only when their axes lie in one and the same plane. The slightest divergence of the rolls in this respect
45 will cause the plate to bear only at two corners, so that it can rock or tip upon the rolls. This action of the plate not only indicates the divergence of the rolls, but enables the attendant to perceive the exact amount of ad-
50 justment required and the point at which it is needed. By this simple plan, therefore, I am enabled quickly and without removing the rolls to effect an adjustment of extreme accu-
racy, and this, too, without employing expen-

sive or delicate instruments or exercising special skill. The only essential requirement is that the plate shall have its four corners adapted to bear upon the rolls and be located in one and the same plane. It is preferred to make the plate, as shown in the drawings, in
60 which—

Figure 1 represents a perspective view of the plate as it appears in use; Fig. 2, a cross-section of the plate.

A represents the plate, made rectangular in
65 form, with two parallel edges, *a*, extended across the body and planed or ground accurately to one and the same plane. At the center the plate is provided with an opening en-
70 circled by a thick flange or collar from, which ribs *b* radiate upon the top or back, as shown. The central opening affords a convenient hold for the hand in lifting the plate, lessens the weight, and reduces the tendency of the plate to twist and warp. The collar and ribs stiffen
75 and strengthen the plate and admit of its being made lighter than would otherwise be admissible. The plate may be made with a plain flat surface throughout its entire area; but the form shown with planed edges is more
80 cheaply produced and answers every requirement.

The right is reserved to make any and all matters and things which are described and shown, but which are not specifically claimed,
85 the subject matter of a separate patent.

Having thus described my invention, what I claim is—

1. The herein-described method of adjusting the rolls of grinding-mills to bring their axes
90 to a common plane, consisting in placing the rolls in an operative position side by side, placing upon the two rolls a plane surface of sufficient extent to bear upon both ends of both rolls at one time, and finally adjusting
95 the rolls until each is in contact with said surface at both ends.

2. The test-plate for roller-mills, constructed with the depending planed edges in one and the same plane, said plate adapted for appli-
100 cation to two rolls, as described.

3. The test-plate for roller-mills, having the plane surface, the opening, and the ribs upon the back.

WILLIAM DICKSON GRAY.

Witnesses:

EDWARD PHELPS ALLIS, Jr.,
JOHAN HOVIND.