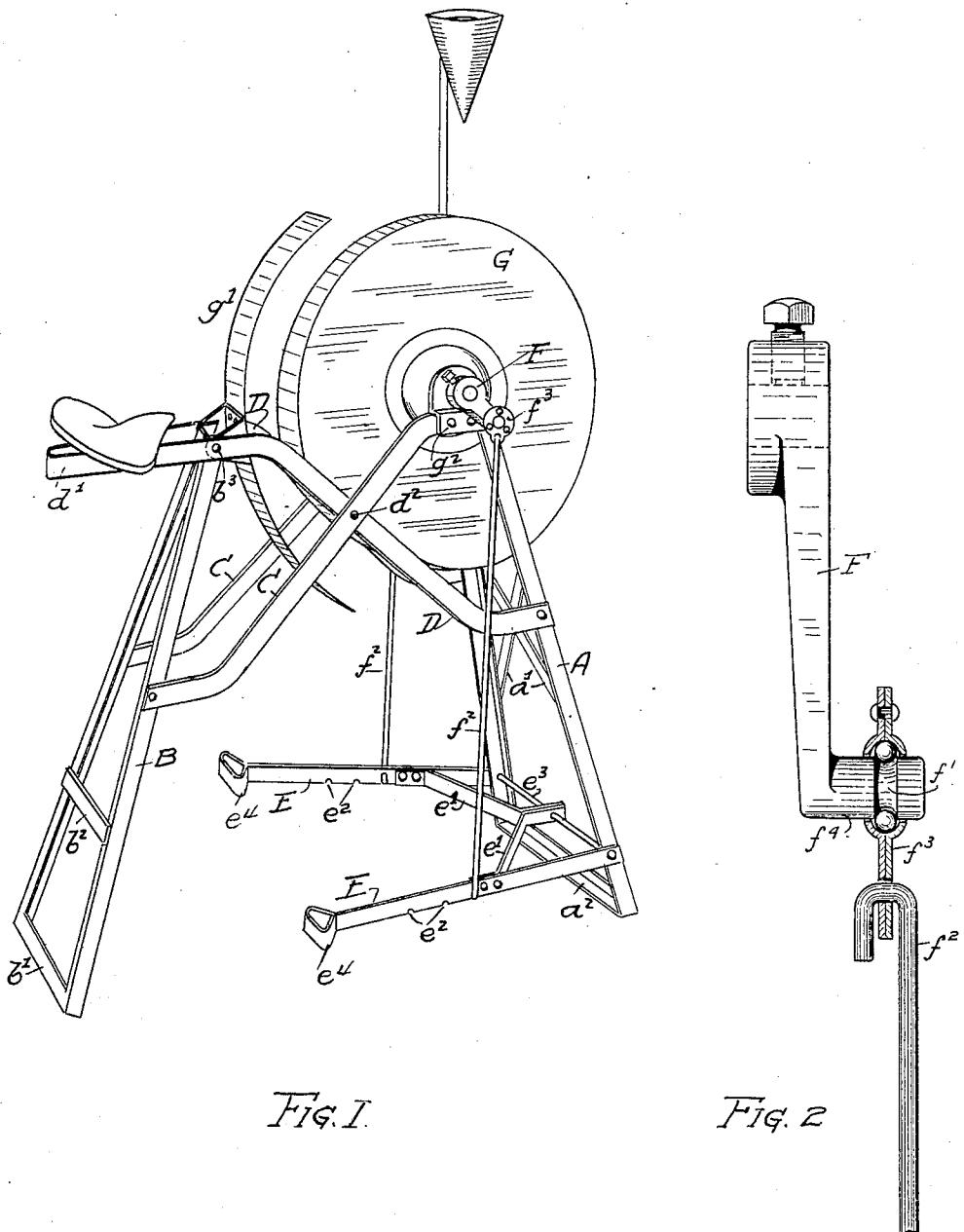


No. 809,349.

PATENTED JAN. 9, 1906.

G. WIDEMAN.  
GRINDSTONE FRAME.  
APPLICATION FILED JAN. 30, 1905.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## GRINDSTONE-FRAME.

No. 809,349.

Specification of Letters Patent.

Patented Jan. 9, 1906.

Application filed January 30, 1905. Serial No. 243,207.

*To all whom it may concern:*

Be it known that I, GUSTAVUS WIDEMAN, a citizen of the United States, residing at Aurora, in the county of Kane and State of Illinois, have invented certain new and useful Improvements in Grindstone-Frames, of which the following is a specification.

This invention relates to improvements in the construction of frames for grindstones, and the especial object is to provide a metal frame of the bicycle type that will furnish a strong and rigid support for the grindstone and the operator and one that can be readily knocked down and folded into compact form for shipment.

Having other objects of general utility in view, I have produced the grindstone-frame illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of my improved grindstone-frame complete with the stone in position; and Fig. 2 is a detail, on an enlarged scale, of the crank and pitman-rod connection.

Referring to the drawings in detail, A represents the rear frame-standard made from a bar of angle-iron, which is bent to form the two uprights and the cross-bar  $a'$ , the latter adapted to lie on the ground, and the upper ends of the uprights converging on opposite sides of the stone G. The uprights are connected and stiffened by flat metal straps  $a'$ , which are preferably crossed, as shown.

B represents the front standard, which in all essentials is constructed and shaped like the standard A and provided with integral bottom cross-bar  $b'$  and with a bracing-strap  $b^2$ . The upper ends of the standard are brought near together and are connected by a bolt  $b^3$ .

The standards A B are connected by the flat metal bars C D. The two bars C are bent to the form shown and have their lower ends bolted to the uprights of the standard B at a point about midway the height of the latter, and their upper ends are bolted to the upper ends of the uprights of the standard A, the stone G being arranged between the upper portions of said bars. The bar D is bent upon itself, as at  $d'$ , to form a support for the saddle-seat, which may be secured thereto in any convenient manner. The bar D is arranged between the two bars C, is riveted or bolted to the latter at  $d^2$ , and its lower ends are

bolted to the uprights of the standard A at a point about midway the height of the latter. The bolt  $b^3$  also passes through the bar D. As arranged, the bars C and D form two X-frames on opposite sides of the grindstone, which serve to effectively brace the standards, which are set so that they incline toward each other at their upper ends, as shown. By removing the various bolts which connect the bars C D with the standards the bars may be readily folded together on their connecting-pivots  $d^2$ , thus enabling them to be packed between the two standards in a manner that will be readily apparent.

A guard  $g'$  is arranged between the two legs of the bar D and is connected with the bolt  $b^3$ . The spindle of the grindstone is journaled in the plates  $g^2$ , which are bolted to the upper portion of the bars C, and on one end of the spindle is fixed a crank F, which is formed with an angular extension  $f^4$  at its free end, in which an annular groove  $f^5$  is cut to provide a raceway for the bearing-balls, as shown in Fig. 2. Plates  $f^3$  are mounted on the extension  $f^4$ , riveted together and furnish a housing for the balls. These plates also furnish a connection for the upper end of the pitman-rod  $f^2$ .

Extending across the lower portion of the standard A is a rod  $e^3$ , on the outer ends of which are pivotally mounted the treadles E. These treadles are each formed from a flat metal bar, the free end of which is bent to form a loop  $e^4$  of suitable size and shape to afford a convenient foot-rest. The under edge of the treadles is notched, as at  $e^2$ , to receive the lower hooked end of the pitman  $f^2$ , which loosely engages said treadle, thus providing an adjustable and detachable connection between the treadles and the pitman-rods. The treadles are braced by two angularly-arranged bars  $e'$ , one end of which is mounted on the rod  $e^3$ , and the other end is rigidly riveted to the treadle-bar. It will be apparent that the treadles may be disconnected from the standard A by merely removing the rod  $e^3$ . It will be noted that the standards are triangular in form with the base resting on the ground, thus securing the maximum strength and bearing for these most important elements in the frame and resisting any tendency to twist or lose their shape. The ball-bearing connection between the crank F and the pitman-rods ef-

fects an antifrictional engagement which promotes light and easy running.

Having thus described my invention, what I claim as new, and desire to secure by Letters 5 Patent, is—

1. In a grindstone-frame, two standards, each consisting of a single bar of iron bent to form a triangle the base of which is adapted to rest on the ground, said standards arranged with their upper portions inwardly inclined, and means connecting and bracing said standards consisting of bars having their ends bolted to the standards, said bars arranged in X form and pivoted together at 15 their intersecting points.

2. In a grindstone-frame, two standards each consisting of a single bar of iron bent to form a triangle the base of which is adapted to rest on the ground, and means connecting 20 and bracing said standards consisting of bars having their ends bolted to the standards, said bars arranged in X form and pivoted together at their intersecting points, and one of said bars bent to form a seat-support substantially as described.

3. In a grindstone-frame, two standards, each consisting of a single bar of iron bent to form a triangle the base of which is adapted to rest on the ground, and means connecting 30 and bracing said standards consisting of the bent bar D, and bars C, arranged and connected in X form, treadles pivotally connect-

ed with one of said standards, pitman-rods detachably connected with said treadles and means connecting said pitman-rods with a 35 grindstone.

4. In a grindstone-frame, two standards, each consisting of a single bar of iron bent to form a triangle the base of which is adapted to rest on the ground, means connecting said 40 standards consisting of bars having their ends bolted to the standards, said bars arranged in X form and pivoted together at their intersecting points, one of said bars bent to form a seat-support and extending on 45 both sides of the frame, and the other bars bent horizontally at their upper ends to form a support on each side of the grindstone.

5. In a grindstone-frame, two triangular-shaped standards, means connecting said 50 standards, said means consisting of metal bars bent edgewise near their ends to form horizontal portions, said portions bolted to the standards, and said bars arranged in X form and pivoted together at their points of intersection, a grindstone mounted on said frame, and means for operating said grindstone.

In testimony whereof I affix my signature in presence of two witnesses.

GUSTAVUS WIDEMAN.

Witnesses:

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