(No Model.)

G. W. GANDEE & J. PETERS.

GRINDSTONE.

No. 489,298. Patented Jan. 3, 1893.

Fig. 1.

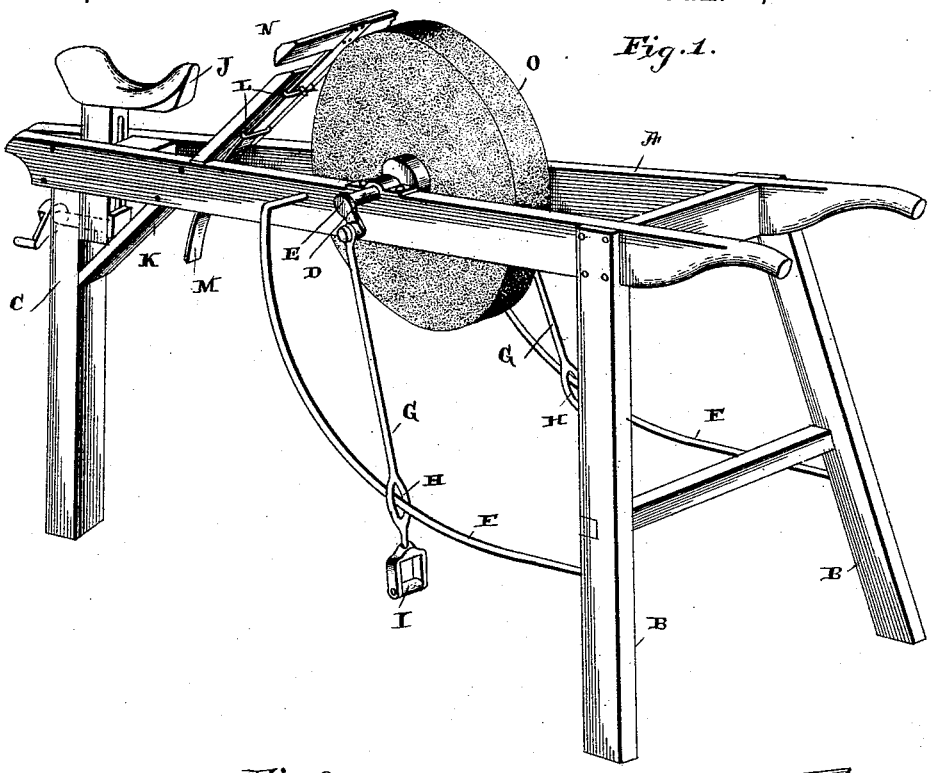


Fig. 2.

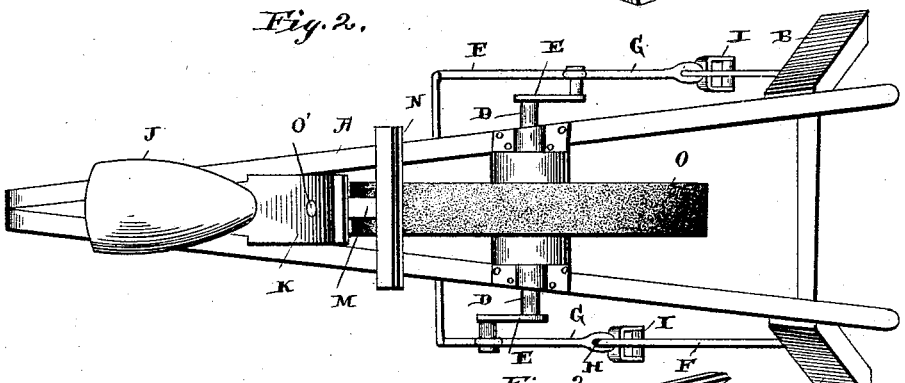
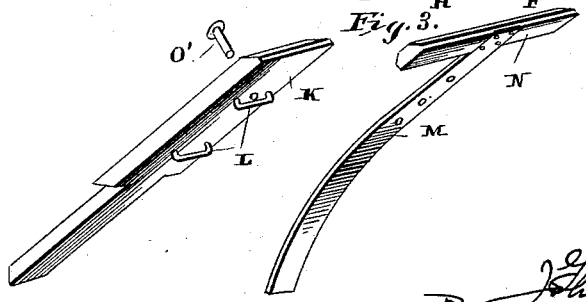


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE W. GANDEE AND JOHN PETERS, OF BELPRE, OHIO.

GRINDSTONE.

SPECIFICATION forming part of Letters Patent No. 489,298, dated January 3, 1893.

Application filed May 13, 1892. Serial No. 432,921. (No model.)

To all whom it may concern:

Be it known that we, GEORGE W. GANDEE and JOHN PETERS, of Belpre, in the county of Washington and State of Ohio, have invented certain new and useful Improvements in Grindstones; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

Our invention relates to an improvement in grind stones: and it consists in the novel features of construction which will be fully described hereinafter and more particularly referred to in the claims.

The object of our invention is to provide an improved means of propelling a grind stone with foot power while the operator is seated on the frame, and further to provide a convenient tool support while thus situated.

Refrering to the accompanying drawings,—Figure 1, is a perspective view of our improved device. Fig. 2, is a plan view of the same. Fig. 3, is a detached view of the work support and its standard.

A, represents a horizontal frame which is preferably triangular in shape which is supported at its forward end by the legs B, and at its rear end by the single leg C.

Journaled across the frame between its ends is the stone shaft D, provided on its ends with the oppositely extending cranks E.

Extending from opposite sides of the frame A, to the respective legs B, are the curved rods or guides F, which describe the segment of a circle.

G, represents operating bars which are secured at their upper ends to the cranks and near their lower ends are provided with the loops H, which surround the guides F, on which they reciprocate. Secured to the lower ends of these bars are the stirrups I. Supported on the rear end of the frame A, is the saddle J, which is adjustable vertically thereon and from this saddle the stirrups I, are within easy reach of the operator.

Projecting upward in front of the saddle is the bar K, to the inner side of which are secured the loops L, through which extends the perforated arm M, to the upper end of which is secured the cross bar or support N, which holds the tool being operated upon over the stone O.

O′, represents a pin which projects through the bar K, and which engages the openings in the arm M, and by this means the tool support is adjusted vertically and held in the desired position.

Owing to the curved guides F, it is impossible for the operating bars G and crank shaft, to get on a dead center and thus the force required to move the stone is always even and uniform, and by our peculiar arrangement of operating bars its propulsion is rendered very easy.

Having thus described our invention, we claim

1. The combination of a frame, a crank shaft journaled thereto, a grind stone on said shaft, foot bars depending from the cranks of said shaft, and curved guides on which the said bars move, substantially as shown and described.

2. The combination of a horizontal frame, legs depending therefrom, a crank shaft journaled across the frame carrying a grind stone, rods depending from the cranks of the shaft having loops formed between their ends and stirrups on their lower ends, and curved guides which extend through the loops of the said rods and which are secured at their upper ends to the sides of the frame and at their lower ends to the said legs, substantially as shown and described.

In testimony whereof we affix our signatures in presence of two witnesses.

GEO. W. GANDEE.
JOHN PETERS.

Witnesses:
G. A. DREMEN,
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