J. G. BAKER.

SAD-IRON GRINDERS

No. 184,819. Patented Nov. 28, 1876.

Fig. 1

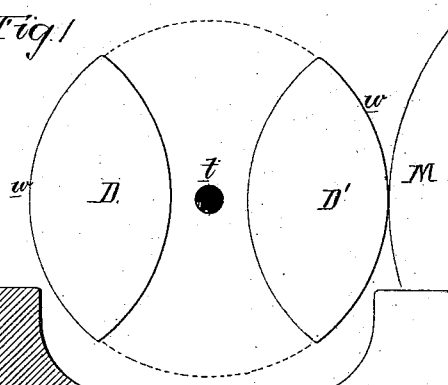


Fig. 3.

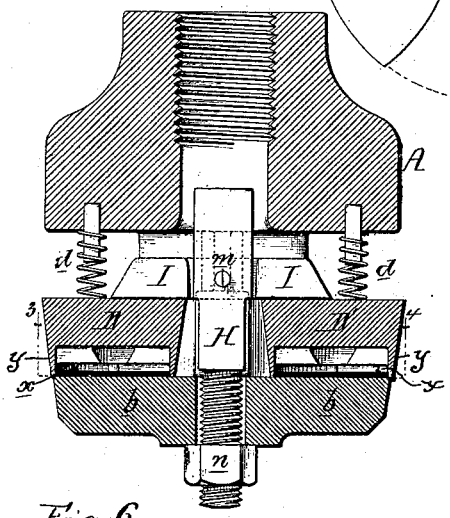


Fig. 2.

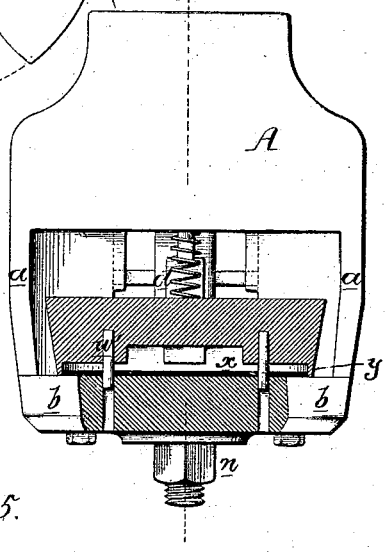


Fig. 6

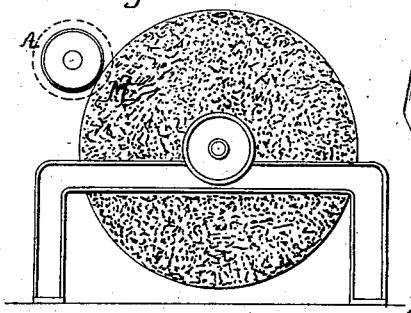
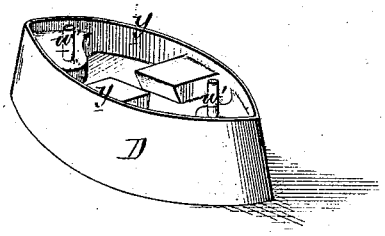


Fig. 5.



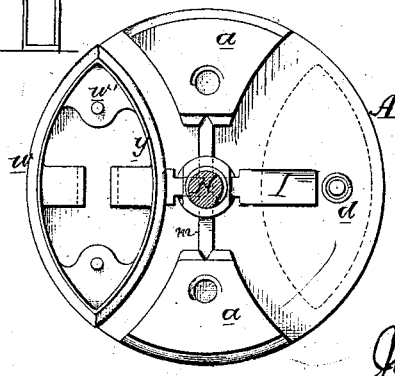


Fig. 4.

Witnesses

Hermann Moessner

Harry Smith

John G. Baker

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UNITED STATES PATENT OFFICE.

JOHN G. BAKER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE ENTERPRISE MANUFACTURING COMPANY, OF SAME PLACE.

IMPROVEMENT IN SAD-IRON GRINDERS.

Specification forming part of Letters Patent No. **184,819**, dated November 28, 1876; application filed September 12, 1876.

To all whom it may concern:

Be it known that I, JOHN G. BAKER, of Philadelphia, Pennsylvania, have invented a Mode of, and Device for, Grinding the Edges of Sad-Irons, of which the following is a specification:

The object of my invention is to rapidly and accurately grind the edges of sad-irons, in the manner and by the mechanism fully described hereafter.

The sad-iron to the grinding of which my invention relates has its two beveled edges made in the arcs of a circle, as shown in the perspective view, Fig. 5, of the accompanying drawing.

My mode of grinding these edges will be best understood by reference to the diagram Figure 1, in which D D′ represent, in outlines, two sad-iron blanks on a revolving plate at equal distances from the center *t* of its rotation, this distance being such that the outer edges *w w* of the irons shall revolve in a circle coinciding with the arc of a circle in which the said edges are made.

On applying a revolving grindstone, M, to the edges *w* of the irons as they are revolved in the circle described, the said edges must be quickly reduced to the desired shape, and must receive a much more regular surface than can be obtained by the usual process of hand-grinding. After the grinding of one edge of each iron, the latter is reversed and the process repeated.

The chucking mechanism which I use in conducting this operation is illustrated in the accompanying drawing, in which—

Fig. 2 is a side view, partly in section, of my improved sad-iron chuck; Fig. 3, a section on the line 1 2; Fig. 4, a section on the line 3 4; Fig. 5, a view of the sad-iron to the retention of which the chuck is applied; and Fig. 6 a view of the chuck applied to a grindstone.

The hub A of the chuck is constructed for attachment to any suitable rotating spindle, and on this hub are two projections, *a a*, to which is secured a circular plate, *b*, or the hub, its prcjections or connections, and the plate may be made in one piece. The projections *a* are of the form shown in Fig. 4, so that two open spaces shall be presented for the reception of two sad-irons, D. On the inside of the plate *b* are two projections, *x*, so adapted to the interior of the rib *y* of the sad-iron that when the latter is adjusted to the said plate *b* it is steadied in its proper position by the said projection *x*. H is a central bolt, the threaded portion of which passes through the plate *b*, and to the plain portion of the bolt is pivoted at *m* a cross-bar, I, which, on tightening the nut *n* of the bolt, binds two of the sad-irons D to the plate *b*, as shown in Fig. 3, the pivoting of the bar insuring an equal pressure on the two sad-irons.

When the irons have been thus chucked, their beveled edges project beyond the edge of the circular plate *b*, and beyond the beveled portions of the projections *a*, and while the chuck revolves the projecting edges of the irons are submitted to the action of a revolving grindstone, and the desired form is imparted to them, after which the sad-irons are removed from the chuck, reversed, and rechucked prior to the grinding of the other edges, and when both edges have been ground the irons are removed to make way for others.

On reference to Fig. 3 it will be observed that a small spring, *d*, bears on each sad-iron and tends to maintain it in contact with the plate *b*. The sole object of these springs is to maintain the sad-irons in their places when the nut *n* has been loosened, for, when the sad-irons are relieved from the pressure of the bar I, the lower one would fall from the chuck while the upper iron is being reversed or replaced, but for these springs, which are too light to present any obstacle to the adjustment of the irons to, or their removal from, the chuck.

In place of the steadying-plates *x*, I can rely on projecting pins *w′*, which are cast on sad-irons of this class, and which are adapted to holes in the plate *b* for steadying the said irons; but I prefer the plates *x*.

It will be evident that the chuck may be constructed for receiving more than two irons.

I claim as my invention—

1. The combination of the hub A of the chuck, and the plate *b* attached to the said hub, and having retaining and steadying pro-

jections adapted to the sad-irons, with devices, substantially as described, for confining the sad-irons to the chuck.

2. The within-described chuck, composed of the hub A, projections *a a*, and plate *b*, with a device for securing sad-irons to the said plate *b*, all substantially as set forth.

3. The combination of the plate *b* of the chuck with the central bolt H and its pivoted cross-bar I.

4. The combination of the hub A and plate *b* of the chuck with the springs *d*.

5. The combination of the plate *b* of the chuck with projections *x*, adapted to the interior of the flange *y* of the sad-iron.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN G. BAKER.

Witnesses:
HERMANN MOESSNER,
HARRY SMITH.