

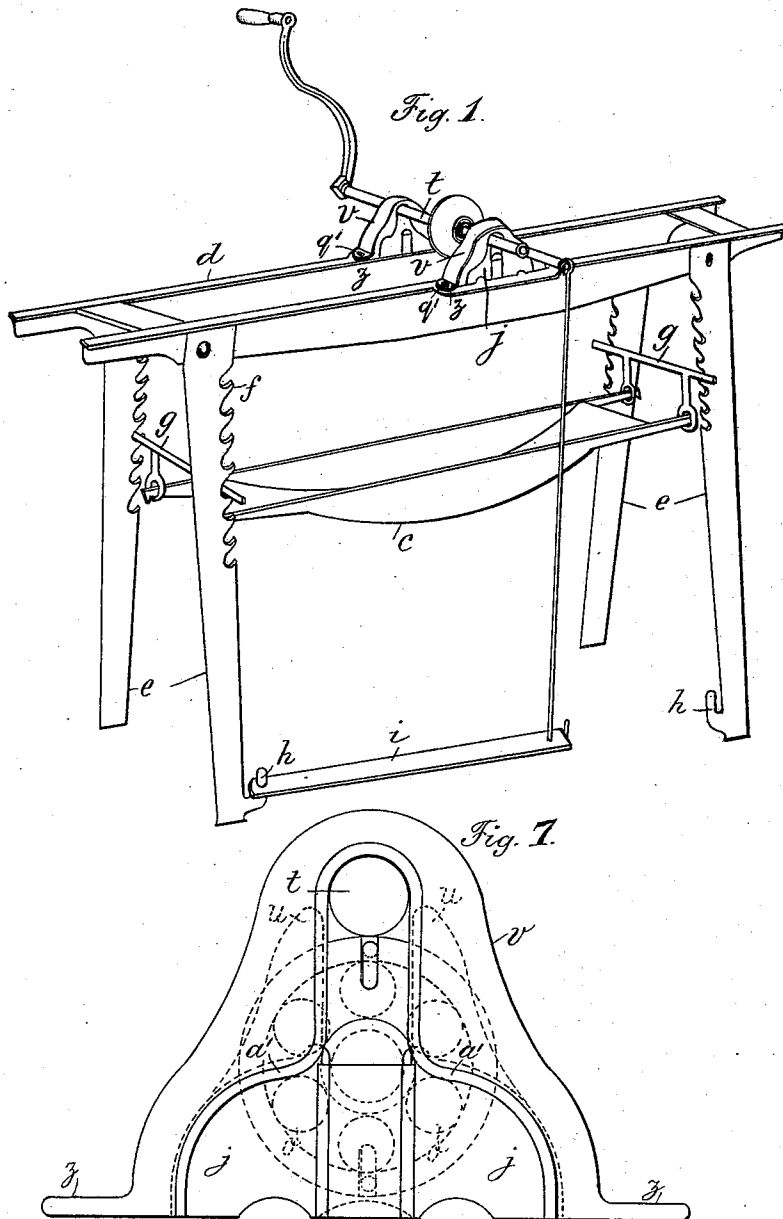
(No Model.)

2 Sheets—Sheet 1.

C. W. PIERCE.
GRINDSTONE FIXTURE.

No. 567,504.

Patented Sept. 8, 1896.



WITNESSES

Ernst Lundgren

Ch. J. Jorgensen

INVENTOR

Chas W Pierce

By A P Thayer
Atty

(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

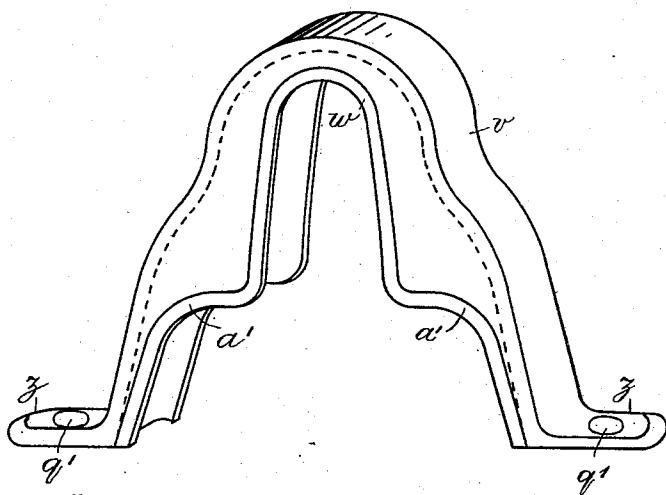


Fig. 3.

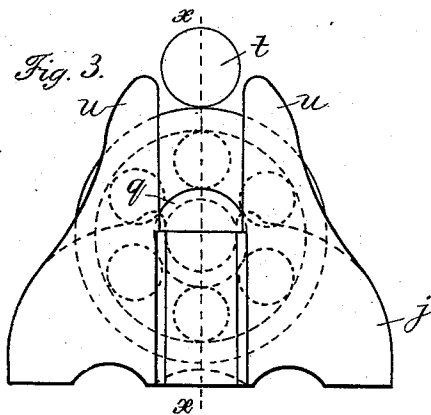


Fig. 4.

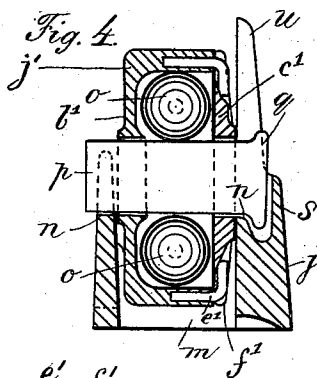


Fig. 5.

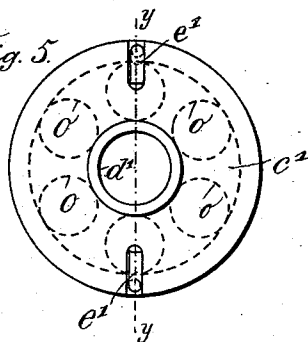
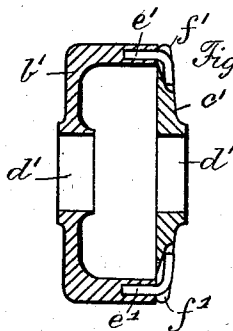


Fig. 6.



WITNESSES.

Ernst Lundgren
O. J. Morgan

INVENTOR.

Chas W Pierce
By A P Thayer
Attor

UNITED STATES PATENT OFFICE

CHARLES W. PIERCE, OF OAK HILL, NEW YORK.

GRINDSTONE-FIXTURE.

SPECIFICATION forming part of Letters Patent No. 567,504, dated September 8, 1896.

Application filed July 13, 1895. Serial No. 555,890. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. PIERCE, a citizen of the United States, and a resident of Oak Hill, in the county of Greene and State of New York, have invented certain new and useful Improvements in Grindstone-Fixtures, of which the following is a specification.

My invention relates to bearings for the axle, and to the trough for holding water to the stone, as hereinafter fully described, reference being made to the accompanying drawings, in which—

Figure 1 is a perspective view of a grindstone-bench and attachments contrived in accordance with my invention. Fig. 2 is a perspective view of the cover for the axle-bearing. Fig. 3 is a side elevation of the bearing without the cover. Fig. 4 is a sectional elevation of the bearing on line *xx* of Fig. 3. Fig. 5 is a side elevation of the antifriction-roller of the bearing detached from the box, and Fig. 6 is a sectional elevation of the shell or case of the antifriction-roller on line *yy* of Fig. 5.

I provide an iron bench for the support of the axle-bearings *b* and the water-trough *c*, said bench consisting of the top *d* and legs *e*, which I prefer to make of cast-iron, but may of course use rolled bars, if desired, preferably casting the top *d*, consisting of side bars and cross-bars, in one piece and making the legs *e* separately and riveting or bolting them to the top.

On the confronting edges of the legs of the opposite ends of the frame I make a series of hook projections *f*, adapted to hang bails *g*, by which the ends of the water-trough *c* are respectively suspended, so as to shift the trough readily relatively to the height of the stone and enabling it to be lowered for relieving the stone of the water when not in use, and thus protecting the stone from the injurious effects of standing with a part in the water and the rest out, which makes one side heavier than the other, and also softer, and thus causes it to wear unevenly. I make each of the legs of one side of the frame with a vertical treadle-pivot *h*, on either of which the treadle *i* may be readily placed to reverse it to accommodate different operators, some of whom tread best with the right foot and others with the left.

For the ball-bearings of the axle I provide the boxes *j*, adapted to rest on the top *d* of the bench. These boxes are chambered between the sides and ends, as at *m*, and have bearing-notches *n* in the upper edges of the sides. An inclosing case *j'* for antifriction-balls *o* is provided, said balls encircling a short axle *p*, and said axle resting in the said bearing-notches *n* and supporting the ball-case in the chamber *m*. The bearing-notches are open through the top of the box to facilitate placing the antifriction-case with the ball-axle in it to avoid the difficulty of inserting said axle through holes in the box and then through the ball-case, as it would have to be if said notches were not open. The axle *p* has a collar *q* on one end, and the box is made with a guard *s* fronting the end of the axle to prevent lateral movement of the axle. The axle *t* of the stone rests on the case between the upwardly-extended prong-housings *u* of the box by which it is partly confined thereon, and a cover *v* is placed over the box, which said cover is notched, as at *w*, to fit the top and sides of the axle and effectually confine the axle in position. The prongs *u* of the box are mainly to confine the axle temporarily until the cover is applied. The cover has foot-bearings *z* for resting on and being secured to the top of the frame, and it has flanges *a'* overlapping the edges of the box, so that it confines the boxes in position without any other fastening.

The ball-case consists of a cast-metal cup *b'* and a cover *c'* with central apertures *d'* for the axle *p*. They are connected in a simple way to confine the balls, which consists of wire studs *e'*, secured in the cup by being placed with a portion projecting into the mold-cavity, so as to be incorporated in the casting, with projecting portions to extend through notches *f'* of the cover and be clutched thereon, as shown on Figs. 4, 5, and 6. These notches of the ball-case cover and the bolt-holes *q'* of the bearing-covers *v*, also the bolt-holes in the bench, are produced in the castings, and all the parts are so made that there is no fitting in setting up the apparatus other than bolting the covers *v* on the bench-top.

I claim—

1. The combination in an axle-bearing, of the boxes, the casings supported in said boxes

and the ball-rollers supported in said casings, with the stone-axle supported on the casings, said ball-casings consisting of a centrally-perforated cup and cover inclosing the balls, 5 and having the short axle in the center and said boxes having the open notches to receive the assembled case, balls, and axle, substantially as described.

2. The combination in an axle-bearing, of 10 a box having the open-notch bearings for the axle of the ball-case adapted to admit said axle when inserted in said case, said ball-case, balls, and the axle of the ball-case, said axle having the collar at one end, said box having 15 stone-axle housings and a guard for said collar of the ball-case axle substantially as described.

3. The combination in an axle-bearing, of 20 the box having the open-notch bearings for the axle of the ball-case, said ball-case, balls, and the axle of the ball-case; said box also having stone-axle housings, and the box and ball-case cover, said cover and the stone-axle

housings confining the stone-axle on the top of said ball-case, and said cover having foot- 25 bearings secured to the top of the frame and flanges overlapping the edges of the box to confine it in position substantially as described.

4. The combination in an axle-bearing, of 30 an axle-box having the notch-bearings for the axle of the ball-case, said ball-case, balls and the axle of the ball-case, said box also having stone-axle housings, and the box and ball-case cover, said cover and the stone-axle housings 35 confining the stone-axle on the top of said ball-case, and the cover overlapping the edges of the box and confining it in position all substantially as described.

Signed at Oak Hill, in the county of Greene and State of New York, this 8th day of De- 40 cember, A. D. 1894.

CHARLES W. PIERCE.

Witnesses:

FRANK WHITCOMB,
SCOTT CHERITREE.