

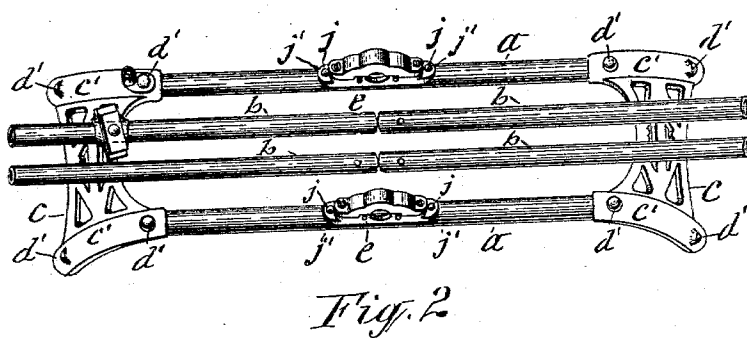
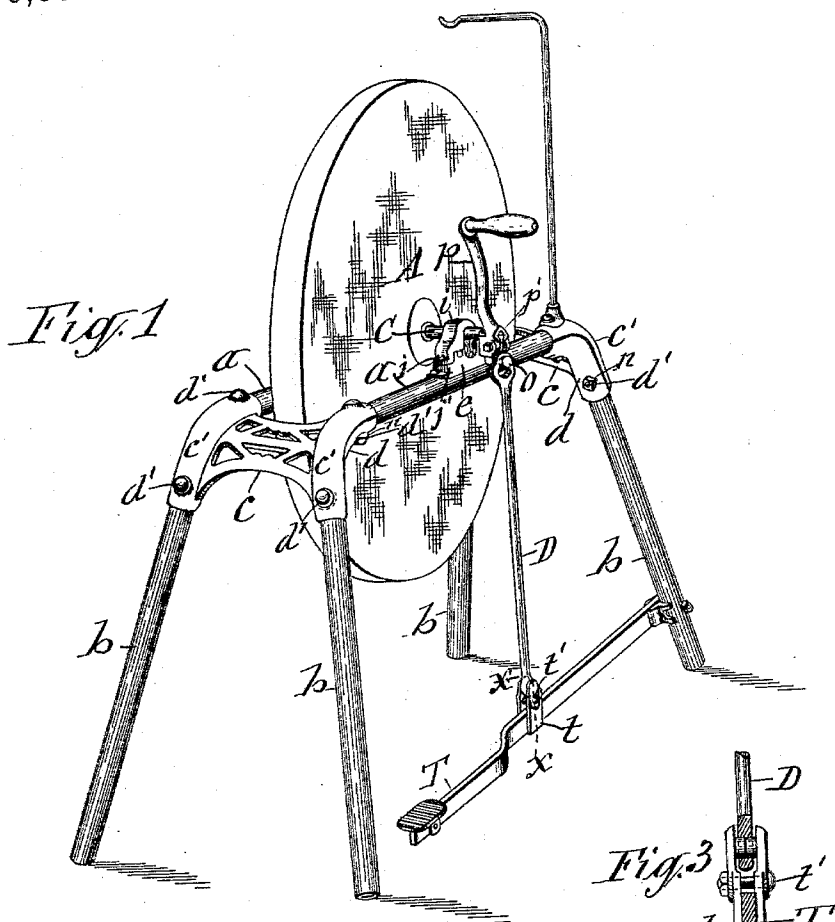
(No Model.)

3 Sheets—Sheet 1.

H. WHITE.
GRINDSTONE FRAME.

No. 569,806.

Patented Oct. 20, 1896.



WITNESSES:

C. L. Burdison
H. B. Smith

INVENTOR

Harvey White

By E. Laess

his ATTORNEYS

(No Model.)

3 Sheets—Sheet 2.

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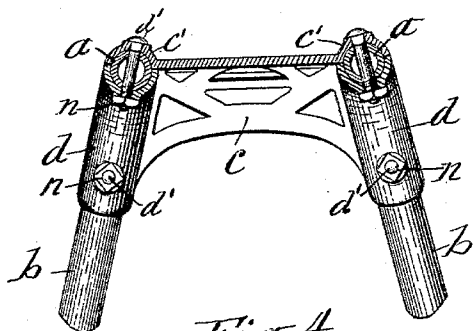


Fig. 4

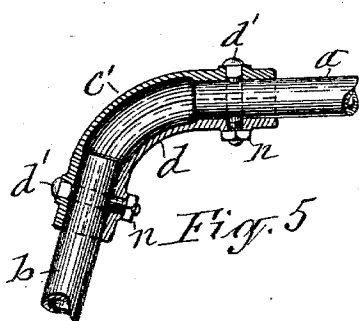


Fig. 5

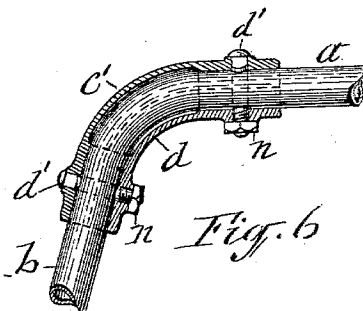


Fig. 6

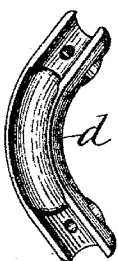


Fig. 8

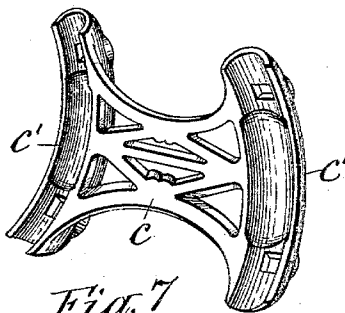


Fig. 7

WITNESSES:

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H. B. Smith

INVENTOR:

Harvey White
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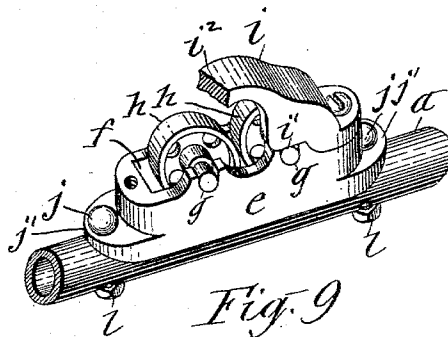
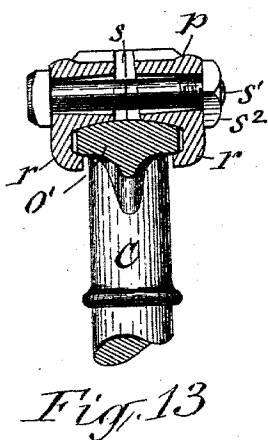
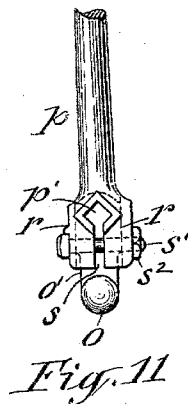
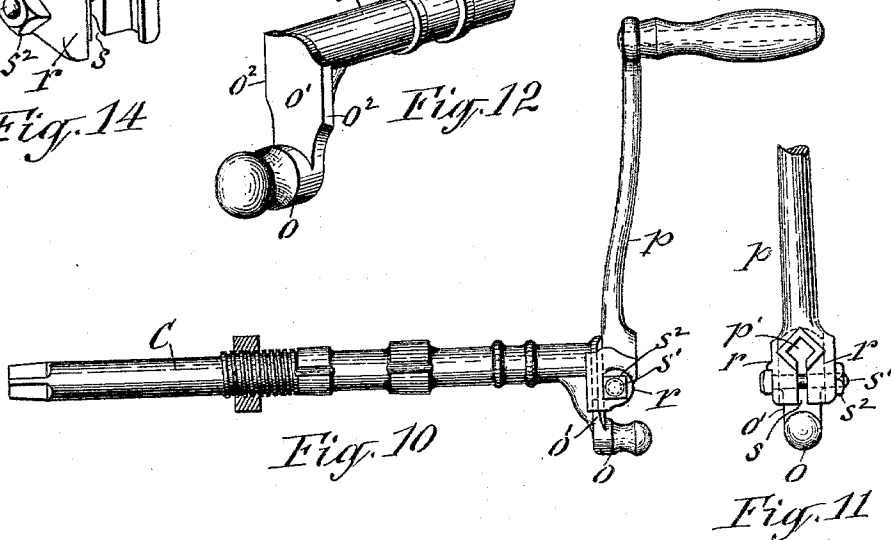
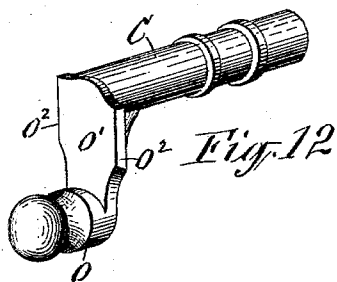
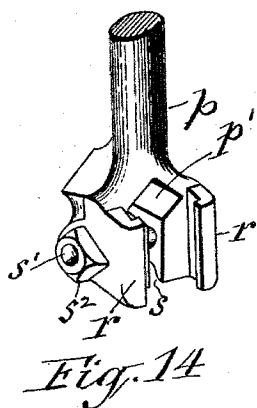
(No Model.)

3 Sheets—Sheet 3.

H. WHITE.
GRINDSTONE FRAME.

No. 569,806.

Patented Oct. 20, 1896.



WITNESSES:

C. L. Bendixon
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INVENTOR

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UNITED STATES PATENT OFFICE.

HARVEY WHITE, OF SYRACUSE, NEW YORK, ASSIGNOR TO THE WHITMAN & BARNES MANUFACTURING COMPANY, OF SAME PLACE.

GRINDSTONE-FRAME.

SPECIFICATION forming part of Letters Patent No. 569,806, dated October 20, 1896.

Application filed June 6, 1896. Serial No. 594,481. (No model.)

To all whom it may concern:

Be it known that I, HARVEY WHITE, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Grindstone-Frames, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

The chief object of this invention is to provide a grindstone-supporting frame which shall combine simplicity and economy in its manufacture with maximum strength and stability of the structure and capability of being readily taken apart and disposed compactly for convenience of transportation or storage; and the object of the invention is also to provide the grindstone with both a hand-crank and a treadle-crank capable of being used interchangeably; and to that end the invention consists in the improved construction and combination of parts hereinafter described, and set forth in the claims.

In the annexed drawings, Figure 1 is a perspective view of a grindstone mounted on my improved supporting-frame and equipped with the interchangeable hand-crank and treadle-crank and adjustable pitman. Fig. 2 is a perspective plan view of the grindstone-frame in its knocked-down condition and as arranged for storage or transportation. Fig. 3 is an enlarged transverse section on line X X in Fig. 1. Fig. 4 is an enlarged vertical transverse section of the upper part of the grindstone-frame. Figs. 5 and 6 are vertical longitudinal sections of the connection of one of the top side bars with one of the legs of the frame, one of said views showing the connection as applied to the aforesaid bar and leg formed separately from each other and the other said figure showing the connection applied to said bar and leg formed in one piece. Fig. 7 is a perspective view of the inner side of one of the tie-plates of the frame. Fig. 8 is a perspective view of one of the clip-plates used in connection with one of the aforesaid tie-plates. Fig. 9 is an enlarged perspective view of one of the antifriction-bearings of the grindstone-axle. Fig. 10 is a detached side view of said axle with the hand-crank connected to the permanently-attached treadle-crank. Fig. 11 is an end view of said shaft

with the aforesaid cranks attached thereto. Fig. 12 is an enlarged perspective view of the end portion of the grindstone-axle which is provided with the permanently-attached treadle-crank. Fig. 13 is an enlarged transverse section of the attaching end of the hand-crank, and Fig. 14 is an enlarged perspective inner side view of the attaching end of the hand-crank.

Similar letters of reference indicate corresponding parts.

a a represent the two parallel horizontal side bars or rails upon which the bearings for the axle of the grindstone are mounted, and *b b* denote the supporting-legs of the grindstone-frame. Said legs and rails I form of metallic tubing, and one of the said side rails, with the legs of the corresponding side frame, may be either formed in one continuous piece bent at the proper angle at the junction of the legs with the side rail or said members of the frame may be formed of separate pieces of tubing. To unite the said rails *a a* with the legs *b b* and thoroughly brace the entire frame, I employ the metallic tie-plates *c*, which are formed at each end with a groove or concave clip *c'*, said clips straddling the top portions of the tubular members *a* and *b* at their junctions, and are securely clamped thereon by concave clip-ties *d d*, applied to the under sides of the tubes, and bolts *d' d'*, passing transversely through the clip-ties, clips, and intervening tubes. Said bolts are headed on one end and provided with a nut *n* on the opposite end, which nut is removable to allow the bolt to be withdrawn and the frame to be taken apart and folded compactly for transportation or storage in a manner represented in Fig. 2 of the drawings. The legs *b b* are inclined to thoroughly brace the frame when set up for use, as represented in Fig. 1 of the drawings. The clips *c'* on the ends of the tie-plates, in conjunction with the clip-bars *d d*, clamped onto the legs and rail *b* and *a* and effectually embracing the tubular members, forms a perfectly rigid frame.

A represents the grindstone, and *C* denotes the axle of said grindstone. For supporting the said axle on the hereinbefore-described tubular frame I attach to the top of each of the rails *a* a metallic saddle *e*, which is con-

caved on its under side to straddle the top of the rail *a* and obtain a firm bearing thereon, and it is firmly secured to said rail by means of bolts *j j*, passing through end flanges 5 *j'* of the saddle and through the rail *a* and provided on the lower ends with nuts *l*, by which the saddle is firmly clamped onto the rail *a*, as more clearly shown in Fig. 9 of the drawings. The saddle is formed with a recess or pocket *f* to accommodate the anti-friction-rollers *h h*, upon which rides the axle *C* of the grindstone. The axles of the rollers are supported in bearings *g g*, formed in the top of the saddle *e*, and over the said 10 rollers and their axles is a cap *i*, which is secured to the end portions of the saddle *e* and is formed with horizontal bottom edges *i'*, which extend across the journals of the rollers *h h* and serve as guards for retaining the said journals or roller-axes in their bearings. The central portion of this cap is formed arching, as shown at *i''*, to accommodate the grindstone-shaft underneath it.

In order to adapt the grindstone to be operated either by a treadle or hand crank, as may be desired, I provide the axle of said grindstone with two cranks *o* and *p*, one of which is designed to have connected to it the pitman *D* of a treadle *T*, and the other crank 15 is provided with a suitable handle for turning it by hand. In order to allow these cranks to be used interchangeably, I form one end of the grindstone-shaft square or polygonal for the reception of the hand-crank *p*, which is provided with a correspondingly-shaped eye 20 *p'* to receive in it the aforesaid end of the grindstone-shaft. The opposite end of said shaft has permanently affixed to it the treadle-crank *o*, the arm *o'* of which is formed with parallel flanges *o''*, as more clearly shown in Fig. 12 of the drawings.

To allow the aforesaid hand-crank to be attached to the same end of the shaft *C* to which the treadle-crank is attached, I form 25 the said hand-crank with two parallel jaws *r r*, which are shaped to receive between them the aforesaid flanged portion of the crank-arm *o'*, as more clearly shown in Fig. 13 of the drawings.

30 The attaching end of the hand-crank is slotted longitudinally, as shown at *s*, to ren-

der it sufficiently flexible to allow it to be firmly clamped onto the arm *o'* by means of a bolt *s'*, passing transversely through the attaching end of the hand-crank and pro- 55 vided with a nut *s''*, by means of which the bolts can be firmly tightened, so as to cause the jaws to securely grasp the flanges *o''* of the crank-arm *o'*. When the said hand-crank is to be used, the pitman *D* of the 60 treadle *T* is disconnected from the crank *o* and is to be placed into a proper position so as not to interfere with the operation of the hand-crank.

In order to allow the pitman *D* to be adjusted in its connection with the treadle *T*, so as to increase or diminish the leverage of the treadle, I employ the shoe *t*, through which the treadle-bar passes. Said shoe being adapted to be moved longitudinally on the 70 treadle-bar to a greater or less distance from the fulcrum of the treadle, and by means of a bolt *t'*, passing transversely through the shoe, the latter is clamped in its desired position on the treadle-bar. The pitman *D* is 75 pivotally connected to the said shoe.

What I claim as my invention is—

1. The within-described knockdown grindstone-frame consisting of the parallel tubes *a a*, inclined tubes *b b b b*, plates *c c*, formed 80 at their ends with concave clips *c' c'* straddling the top portions of the tubes at their junctions, concave clip-ties *d d d d* on the under sides of the tubes, and bolts clamping said clips and clip-ties on the tubes, as set 85 forth.

2. The combination of a shaft having one end terminated polygonal-shaped in cross-section and the opposite end provided with a permanently-affixed treadle-crank, a hand- 90 crank provided with a polygonal eye for receiving therein the correspondingly-shaped end of the shaft and with jaws for embracing the arm of the fixed crank, and a bolt detachably clamping said jaws on said arm, as 95 set forth and shown.

In testimony whereof I have hereunto signed my name this 21st day of May, 1896.

HARVEY WHITE. [L. s.]

Witnesses:

J. J. LAASS,
H. B. SMITH.