

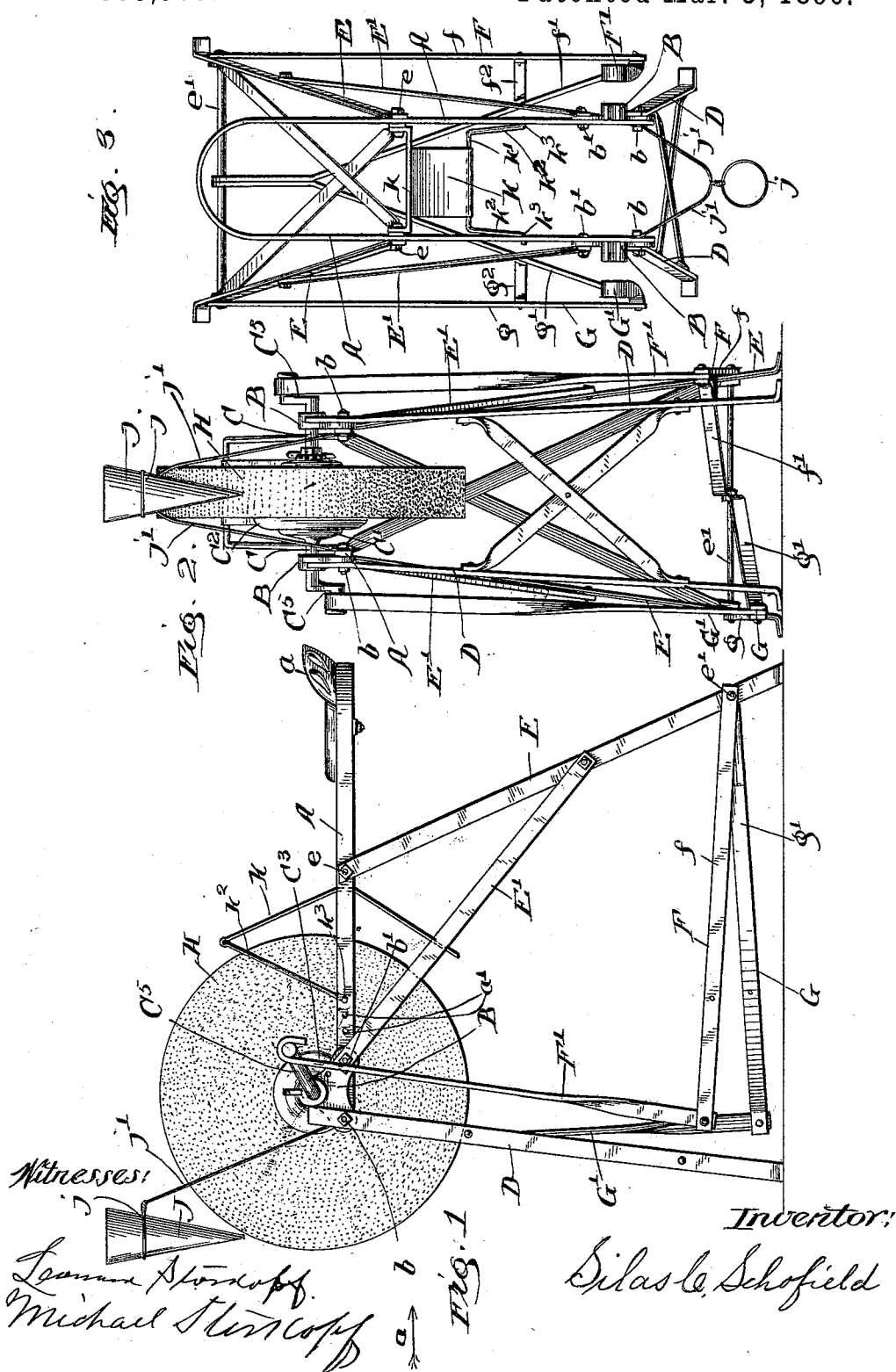
(No Model.)

2 Sheets—Sheet 1.

S. C. SCHOFIELD.
FRAME FOR GRINDSTONES.

No. 555,586.

Patented Mar. 3, 1896.



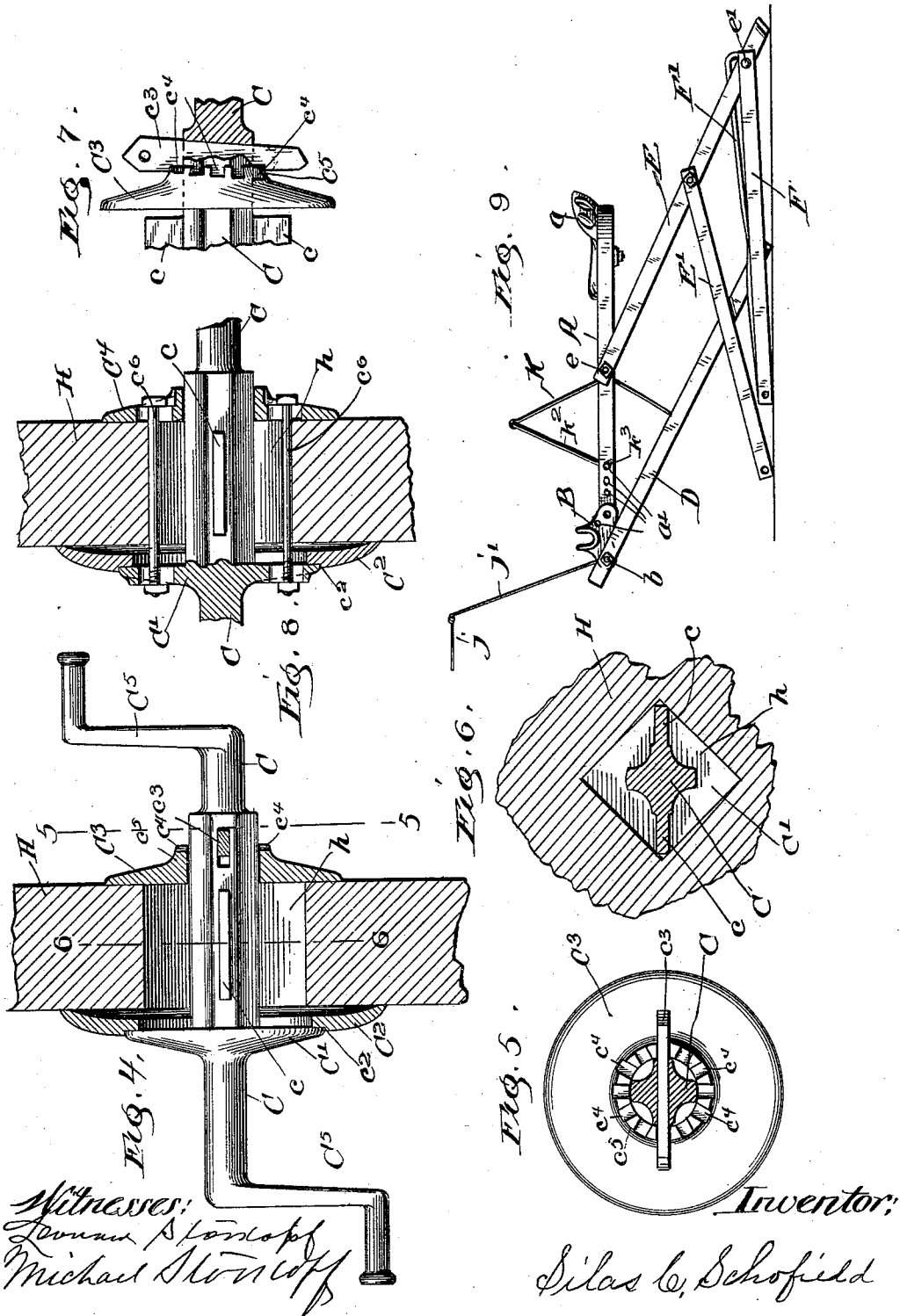
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UNITED STATES PATENT OFFICE.

SILAS C. SCHOFIELD, OF FREEPORT, ILLINOIS.

FRAME FOR GRINDSTONES.

SPECIFICATION forming part of Letters Patent No. 555,586, dated March 3, 1896.

Application filed June 27, 1895. Serial No. 554,189. (No model.)

To all whom it may concern:

Be it known that I, SILAS C. SCHOFIELD, a citizen of the United States of America, residing at Freeport, in the county of Stephenson and State of Illinois, have invented certain new and useful Improvements in Frames for Grindstones, of which the following is a specification.

My invention relates to improvements in frames for grindstones, its object being to provide a frame which shall be light, strong and compact and capable of folding up into a small space for transportation, storage, &c.

My invention is fully illustrated in the drawings presented herewith, in which—

Figure 1 is a side elevation of a grindstone and frame set up in working position. Fig. 2 is an end elevation looking in the direction of the arrow *a*, Fig. 1. Fig. 3 is a top plan with the grindstone removed. Fig. 4 is a diametrical section of the grindstone and showing a means for securing the crank-shaft thereto. Fig. 5 is a section in line 5 5, Fig. 4. Fig. 6 is a section in line 6 6, Fig. 4. Fig. 7 is a detail view of part of the device for securing the shaft to the stone. Fig. 8 is a diametrical section of the grindstone and showing a modified form for securing the crank-shaft thereto, and Fig. 9 is a side elevation of the frame partly knocked down.

In the drawings, A is a bar of iron bent about its middle into a U shape and provided upon its bent end with a seat *a*, secured to it in any suitable manner, preferably by a bar resting against the lower edge of the iron A and a bolt passing through the seat and bar and a nut clamping the two tightly upon the U-shaped iron A.

Upon the ends of the U-shaped iron A are supported bearing-blocks B B, in which is journaled a shaft C of the grindstone H. The bearing-blocks are preferably secured to the ends of the U-shaped iron A by means of bolts *b b'*, and upon the bolts *b* are pivoted two legs D D, which support the forward end of the frame. The legs extend a short distance above the bolts *b b'* and bear against the blocks B, thus holding them in the desired position to support the frame, but allowing them to swing toward the frame in folding the same up. The other two legs are seen at E E and are pivoted to the U-shaped

iron A at *e*, Fig. 1, and extend downward at a slight angle to give the necessary stability to the machine. The legs D D E E are suitably braced by diagonal braces, as seen in Figs. 2 and 3, in order to prevent their spreading and also to make a perfectly-rigid frame. A pair of bars E' E' connect the rear legs, E E, with the blocks B, thus holding them securely in place and forming a brace between them and the member A. A bar *e'* connects the lower ends of the rear legs, and upon this is pivoted a pair of treadles F G, consisting of straight bars *f g*, Figs. 1 and 3, and diagonal bars *f' g'*, Figs. 2 and 3, and short pieces *f² g²*, Fig. 3, secured to the bars *f f'* and *g g'*, respectively, near their free ends and forming pedals by which to operate the same. The free ends of the bars *f f' g g'*, respectively, are connected to pitmen-rods F' G', Figs. 1 and 2, which engage with the cranks C⁵ upon the shaft C.

The stone is secured to the shaft in a very simple manner, yet a very strong and effective one and one which is adapted to different thicknesses of stone. The grindstone H is provided with a square hole *h* at its center, and in two of its diagonally-opposite corners rest two wings *c c*, formed upon the shaft C. The sides of grindstone are usually turned down smoothly within a short distance from the center, where they are left rough, and in order to have the shaft true I provide the same with a flange C', integral therewith a short distance from one crank, (see Fig. 4,) and this flange bears against a slightly-convex ring C², large enough in diameter to bear upon the finished part of the stone. The ring is provided with a circular groove *c²*, in which the flange C' rests. Upon the opposite side of the stone a collar C³ is slipped upon the shaft and pressed against the side of the stone by means of a wedge-shaped key *c³*, (see Fig. 7,) which passes through a slot in the shaft and into a pair of diametrically oppositely arranged notches *c⁴* in a flange *c⁵* upon the collar C³. There are a number of these notches of variable depths, so that if the stone is thinner than ordinary the deeper notches may be placed in line with the slot in the shaft and the key driven through, wedging the collar tightly against the stone. If the stone is a wide one, a small notch may

be used. The wings *c c* being seated in the two diagonally-opposite corners of the hole *h* in the stone necessarily keeps the shaft in the center of the stone, and when the collars are clamped down upon the faces thereof it makes a rigid connection with the stone.

Fig. 8 shows a slight modification for securing the shaft to the stone. The shaft is provided with two wings fitting into the corners of the square hole and with a flange and convex ring bearing upon one side of the stone. On the opposite side is a collar *C*⁴, provided with two slots, and through these slots bolts *c*⁶ pass and connect the collar *C*⁴ with the flange *C*⁷ upon the shaft, which is also provided with slots through which the bolts *c*⁶ pass. These bolts lie in the other two corners of the square hole, and when the nuts are screwed down upon the bolts the flange and collar clamp the stone tightly between them and hold it firmly in place.

I have provided a funnel in which water may be kept in order to moisten the stone when in use. The funnel is seen in Figs. 1 and 2, where it is lettered *J*, and is supported by a wire bent in the form of a loop *j*, then twisted about itself and the two ends *j'* *j'* carried down to the front ends of the bearing-blocks *B B*, where they are held in place by the bolts *b b*, which pass through the ends of the *U*-shaped member *A*, bearing-blocks *B*, and legs *D*, and hold them all together. A guard *K* is provided in front of the seat to keep the water from flying against the operator. The guard is supported by a cross-piece *k*, having its ends bent at right angles to itself and bolted to the sides of the member *A* by the same bolt which connects the legs *E* therewith. The upper end of the guard is bent around the horizontal portion *k'* of a bail *k*², the ends of which are bent outward, as seen in Fig. 3 at *k*³, and inserted in the holes *a'* in the piece *A*. A number of these holes may be provided therein, and one is also shown in the bearing-block *B*, so as the stone wears down the guard may be brought forward and kept near the stone.

This construction forms a very substantial and rigid support for the stone when in use, and in transportation it may be folded up by simply removing the bolts *b'*, which loosens the forward end of the braces *E'* and allows the rear legs to swing backward. The front legs may also be swung about their pivots in the same direction, the pitman disconnected from the cranks and swung underneath the frame and the whole framework folded into a small and compact mass.

I claim as new and desire to secure by Letters Patent—

1. In a frame for grindstones and the like the combination with a piece of strap-iron bent into a *U* shape and provided upon its ends with suitable bearing-blocks, of legs depending from said frame and pivotally secured thereto, the forward legs being provided with extensions above their pivots and adapted to rest against the bearing-blocks, and braces connecting the rear legs with the *U*-shaped member; substantially as described.

2. The combination with a grindstone provided with suitable shaft and cranks for its rotation of the *U*-shaped iron, *A*, bearing-blocks, *B*, the pair of legs, *D*, pivotally secured to the *U*-shaped piece and provided with extensions above their pivots resting against the bearing-blocks, a second pair of legs, *E*, also pivoted to the *U*-shaped piece, the braces, *E'*, connecting the legs, *E*, with the *U*-shaped member and the seat, *a*, secured upon the *U*-shaped piece, substantially as described.

3. The combination with a grindstone provided with a suitable shaft and cranks, of the *U*-shaped piece, *A*, bearing-blocks, *B*, the pair of legs, *D*, pivoted to the *U*-shaped piece, and having extensions resting against the bearing-blocks, a second pair of legs, *E*, pivoted to the *U*-shaped member, the braces, *E'*, connecting the legs, *E*, with the *U*-shaped piece, the bolt, *b'*, securing the connecting-bar and bearing-block to the *U*-shaped member whereby the removal of said bolt allows the legs, *E*, to fold up against the *U*-shaped member; substantially as described.

4. The combination with a grindstone provided with a square hole at its center, of a crank-shaft, two oppositely-arranged wings upon said shaft and adapted to fit into the two opposite corners of the hole, a flange adapted to bear upon one side of the stone, a collar upon the opposite side and a suitable tightening device whereby the flange and collar may be clamped tightly against the faces of the stone.

5. The combination with a grindstone provided with a square hole at its center, of a crank-shaft provided with wings adapted to fit into the two opposite angles of the hole, a flange upon the shaft, a ring substantially larger than the flange and adapted to rest against the side of the stone, a collar upon the opposite side and provided with a number of radial grooves of variable depths, a wedge passing through a slot in the shaft and adapted to enter said grooves and crowd the collar against the side of the stone.

SILAS C. SCHOFIELD.

Witnesses:

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MICHAEL STOSKOPF.