

(No Model.)

F. M. STEARNS.

KNOCKDOWN FRAME FOR GRINDSTONES.

No. 297,466.

Patented Apr. 22, 1884.

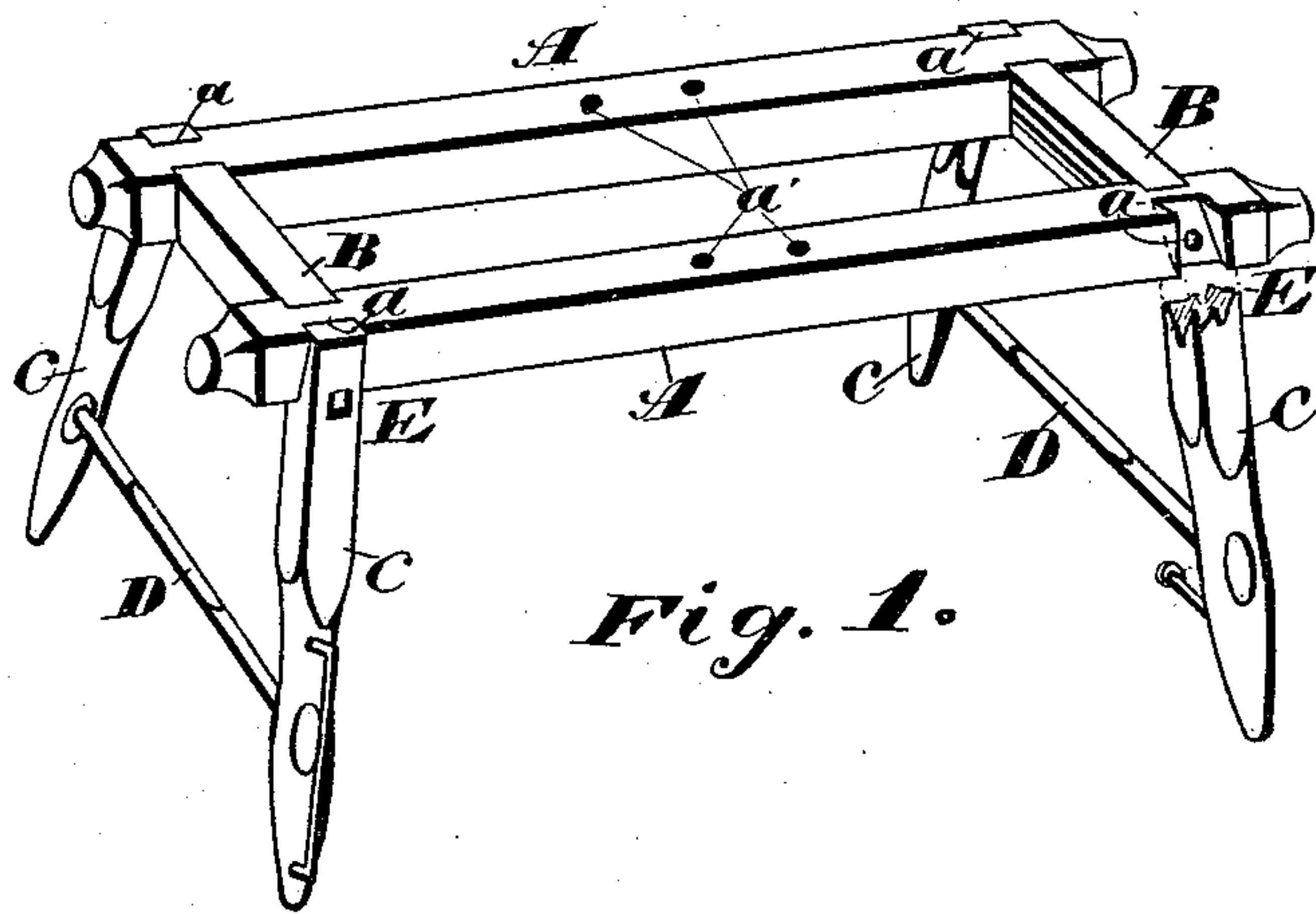


Fig. 1.

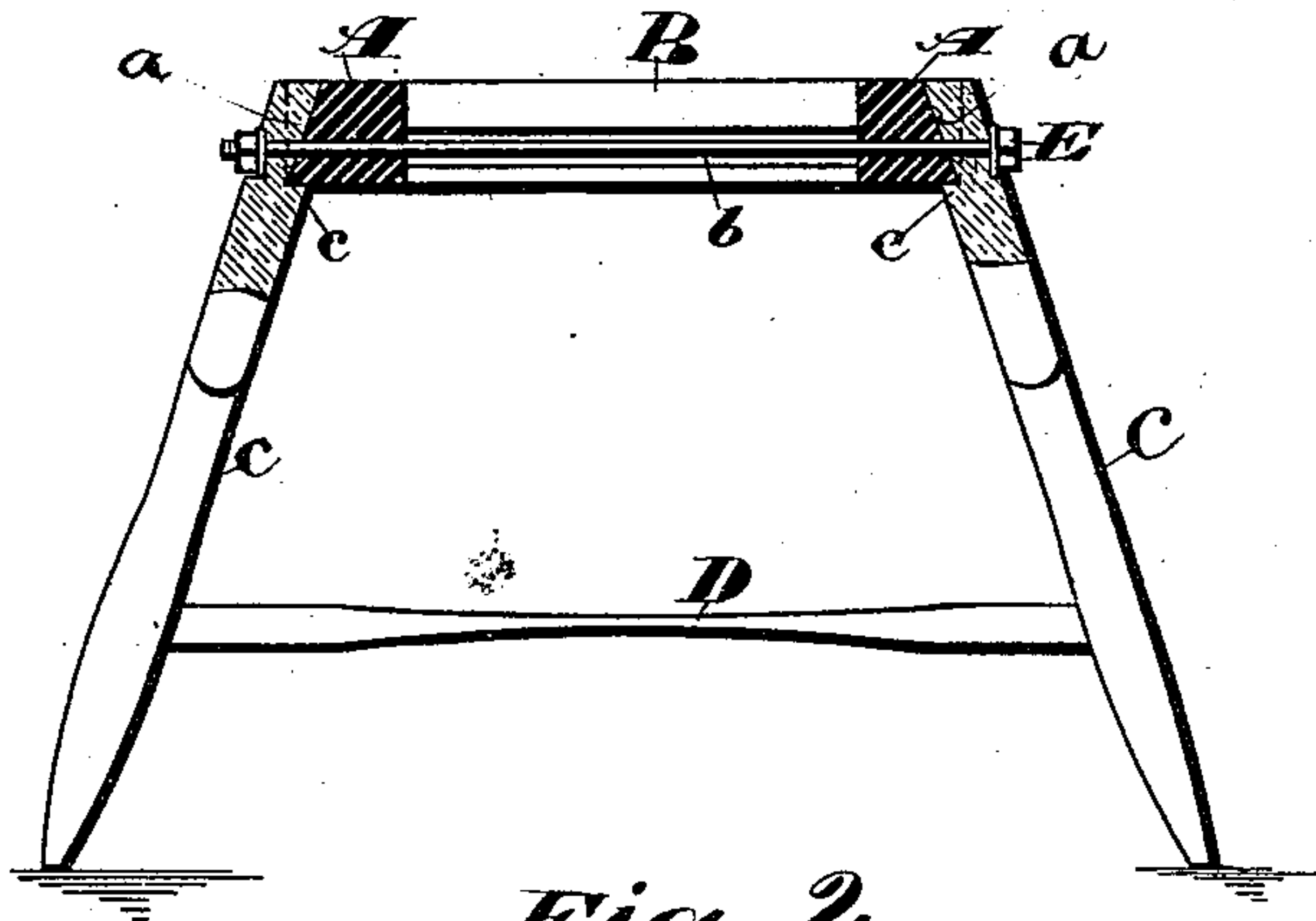


Fig. 2.

WITNESSES

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KNOCKDOWN FRAME FOR GRINDSTONES.

SPECIFICATION forming part of Letters Patent No. 297,466, dated April 22, 1884.

Application filed February 26, 1884. (No model.)

To all whom it may concern:

Be it known that I, FRANK M. STEARNS, of Berea, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Knockdown Grindstone-Frames; and I 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 the same.

My invention relates to improvements in knockdown grindstone-frames, the object being to provide a frame from which the legs may be easily removed for shipment and the parts as easily reassembled, and that when the parts are in position the structure will stand more firmly on its legs than devices for this purpose heretofore in use.

With these objects in view my invention consists in certain features of construction and in combination of parts hereinafter described, and pointed out in the claims.

Knockdown grindstone-frames, to compete with the market prices, must be cheap in initial cost, and so constructed that the parts may be easily assembled at their destination. These qualities are embodied in a variety of this class of goods now on the market.

Another desirable feature that prior to my invention has not, to my knowledge, been embodied in a cheap knockdown grindstone-frame is the securing of the legs in such a manner that the frame will stand firm, and without weaving about on its legs with the motion of the crank. The side pieces and cross-pieces at the end, forming the frame proper, are usually secured together permanently, while the legs are made detachable. Gains are sometimes cut in the side pieces, in which to secure the legs, and the legs usually are provided with shoulders, on which the frame rests. The back walls of these gains were sometimes vertical, but were usually undercut, so that these walls, or two gains forming a pair, were wedge-shaped, the lines converging as they extended downward. Two legs are usually secured together, forming a pair, and the undercut walls aforesaid rendered it easy to place the legs in position. The legs were usually secured in their place in the

gains by bolts or screws passing through the legs and into or through the frame. The difficulty with this construction was that when the bolts or screws were tightened the frame was not by this means drawn down upon the shoulders of the legs, but by means of the undercut gains and the inclined face of the legs the frame was drawn away from the shoulders on the legs by tightening the bolts, thereby materially decreasing the stiffness of the structure.

My improvement consists in arranging each pair of gains so that the back walls converge as they extend upward, so that the distance across the frame between the gains is considerably less at the top than at the bottom of the frame. If the legs were rigidly secured together in pairs, of course they could not be placed in position, and to overcome this difficulty I make the cross-pieces that secure together the two legs, forming a piece sufficiently flexible, so that the legs may be spread apart sufficiently to be placed in position, after which a loose-fitting bolt passing through the frame and the pair of legs is screwed up, binding the legs and frame firmly together. In this case, by tightening the bolt, the frame is drawn down snug upon the shoulders of the legs, causing the structure to stand firmly and without any of that weaving motion so common to knockdown grindstone-frames.

In the accompanying drawings, Figure 1 is a view in perspective of my improved grindstone-frame. Fig. 2 is a vertical section of the side pieces of the frame and the upper portion of the legs, with the cross-pieces of the frame, the lower portion of the legs, and cross-pieces in elevation.

A represents the side pieces, and B the cross-pieces, of the frame; C, the legs, and D the cross-pieces uniting the legs in pairs. The parts A and B are framed together in the usual manner, with short tenons on the latter, and these parts are usually glued or nailed, so that they remain permanently together. The side pieces, A, are gained, as shown at *a*, to receive the legs, the back wall of these gains sloping downward and outward, as shown in Fig. 2. The holes *a'* are in the proper position for securing the fittings that are usually packed in

separate bundles for shipment. The legs are provided with shoulders *c*, on which the frame rests, and are connected in pairs by the cross-pieces D, that are made sufficiently flexible to admit of spreading the top of the legs, so that they may be placed in position in their respective gains *a*, and are therefore secured permanently on the parts D. The cross-pieces B are grooved at *b* for the passage of the bolts E, that pass loosely through holes in the legs and side pieces, A.

When the parts are in position and the bolts are screwed up tight by reason of the inclined seats that engage the legs, the pieces A are drawn down firmly on the shoulders *c* of the legs, making the structure stand firmly on the legs, so that the grindstone, when mounted thereon, may be made to do accurate work.

What I claim is—

1. In a knockdown grindstone-frame, the combination, with side pieces provided with the gains *a*, forming seats for the legs, as shown, of legs engaging the said gains, and provided with the shoulders *c*, and bolts for holding the legs in position, substantially as set forth.

2. In a knockdown grindstone-frame, the combination, with side pieces of the frame, provided with the gains, forming seats for the legs, the inner walls of said gains sloping downward and outward, of legs coupled in pairs by flexible cross-bars, and provided with the shoulders *c*, and bolts for securing the parts together, substantially as set forth.

3. The combination, with the parts A and B, gained to form a frame, as shown, the former provided with the beveled gains *a* and the latter with the grooves *b*, of the legs C, provided with the shoulders *c*, and coupled in pairs by the flexible bar D, and secured by the bolt E, substantially as set forth.

In testimony whereof I sign this specification, in the presence of two witnesses, this 21st day of February, 1884.

FRANK M. STEARNS.

Witnesses:

G. A. HUBBARD,
AMY McCAULEY.