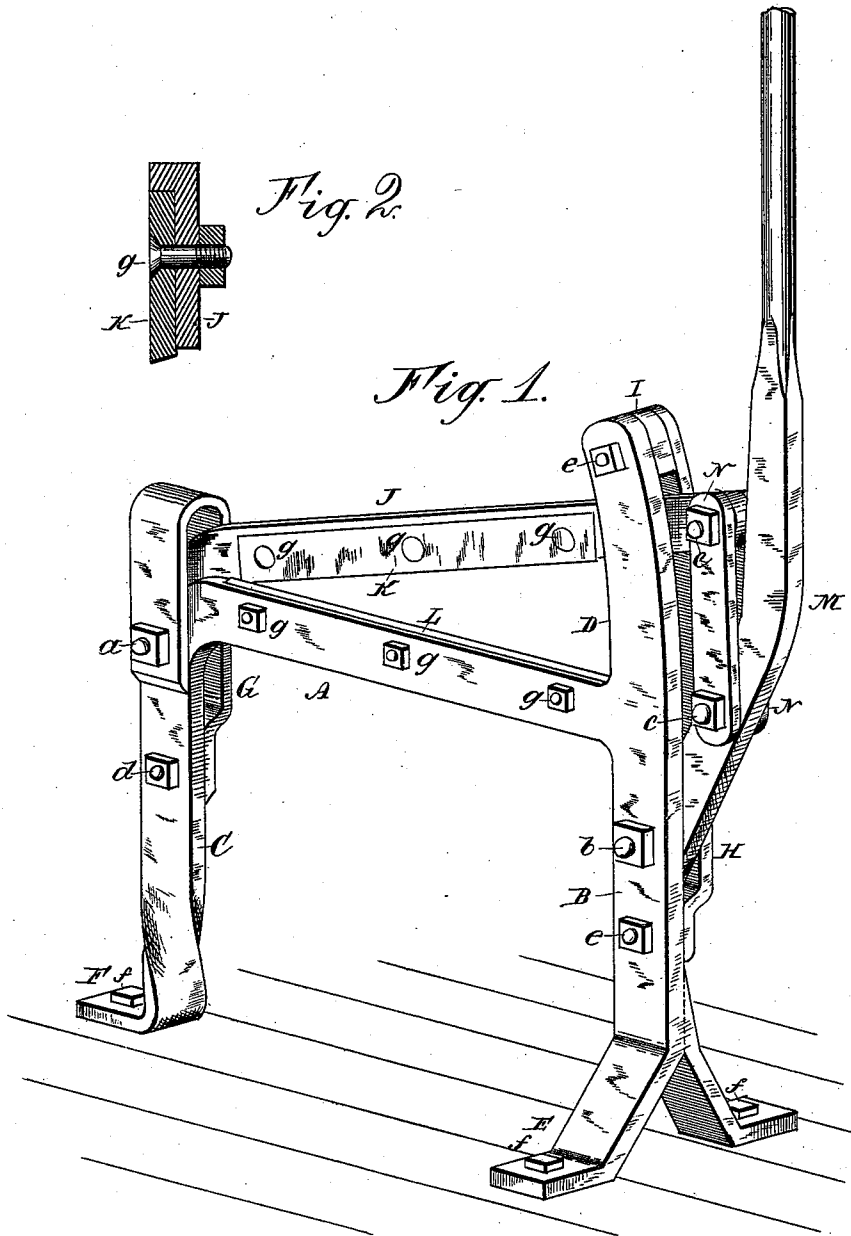


(No Model.)

Z. L. HAYDEN.
SHEARS.

No. 523,984.

Patented Aug. 7, 1894.



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UNITED STATES PATENT OFFICE.

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SHEARS.

SPECIFICATION forming part of Letters Patent No. 523,984, dated August 7, 1894.

Application filed May 19, 1894. Serial No. 511,770. (No model.)

To all whom it may concern:

Be it known that I, ZERAH L. HAYDEN, a citizen of the United States, residing at Cedar Rapids, in the county of Linn and State of Iowa, have invented certain new and useful Improvements in Shears; 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 appertains to make and use the same.

This invention relates to shears used by blacksmiths and other workers in iron and steel for cutting bars, rods, plates and the like; and the object of the invention is to produce a simple, cheap and powerful shear for this purpose. The means by which this result is attained will be hereinafter fully set forth and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a view in perspective of a shear embodying my invention. Fig. 2 is a transverse section across one of the bolt-holes, of the shear-blade and the bar to which it is connected.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A is a horizontal bar, to which one of the shear-blades L is secured. This bar is supported on a pair of legs or standards B and C, the former of which is bifurcated near the lower end, forming a pair of angular legs or feet E E. The other one is preferably twisted near the lower end, and is bent forwardly to form a foot F. The feet are all provided with suitable holes, and are fastened to the floor by bolts or screws *f f f*.

At one end of the bar A is an upward extension D, the inner face of which is flush with the inner face of the shear-blade L, and serves as a guide for the inner face of the shear-bar J, which is hinged at *a*. Opposite this upward extension D, and extending down the leg B a considerable distance below the bar A is an offset plate H, secured to the shear frame by bolts *e e*, and at the upper end separated therefrom a distance corresponding to the thickness of the bar J by a block I. The offset at the lower end serves the same purpose, leaving a space for the mounting of the hand-lever M on the bolt *b*. At the other end of the bar A is attached a loop or stirrup G, the loop of which is wide enough to embrace both the bar A and the bar J. One end of the loop is extended downwardly, and terminates in an offset portion secured to the leg C by a

bolt *d*. Through the loop passes a bolt *a*, which serves as the hinge for the shear-bar J.

In both the shear-bars A and J is formed an offset corresponding practically to the length and thickness of the shear-blades, K K as shown in Fig. 2. The back of the shear-blade thus abuts upon a portion of the bar, and there is very little strain upon the fastening bolts *g g g*, by which the blades are fastened to the respective bars.

The free end of the bar J is connected to the hand-lever M at a suitable distance from its pivot *b* by a pair of links N N, provided with bolts *c c*.

In practice the shear frame is made of wrought iron, and formed integral, with the exception of the plate H and the loop G. In the process of construction the bar A, leg C and foot F are formed of one piece, the offset for the shear-blade being suitably cut and swaged therein. The leg B, extension D and one of the branches E are formed of another piece, with the other branch or foot E welded or bolted thereon, preferably welded. The bar A is welded to the leg B, and a rigid frame is thus produced, adapted to stand firmly on its base. Having but three feet it may be attached so as not to rock, to any floor, however uneven its surface.

Having thus described my invention, I claim—

In a shear, the combination of the stirrup-shaped frame, composed of the shear-bar A, supporting legs B and C, provided with feet E E and F, respectively, and the upper extension D forming a guide for the free end of the movable shear-bar the curved shear-bar J hinged to the frame at *a*, the stirrup G forming a guide for the curved end of the shear-bar J, the offset guide-plate H having block I at the upper end, and secured at its lower end to the leg B, the handle-bar M hinged between the leg and the guide-plate below the shear-bar A, the links N N connecting the free end of the shear-bar J and the hand-lever, and the blades K and L secured in offsets formed in their respective bars, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ZERAH L. HAYDEN.

Witnesses:

L. A. ST. JOHN,
STANLEY ZBANEK.