

G. P. SHEFFIELD.
 DEVICE FOR SHARPENING SHEARS.
 APPLICATION FILED MAR. 1, 1907.

932,586.

Patented Aug. 31, 1909.

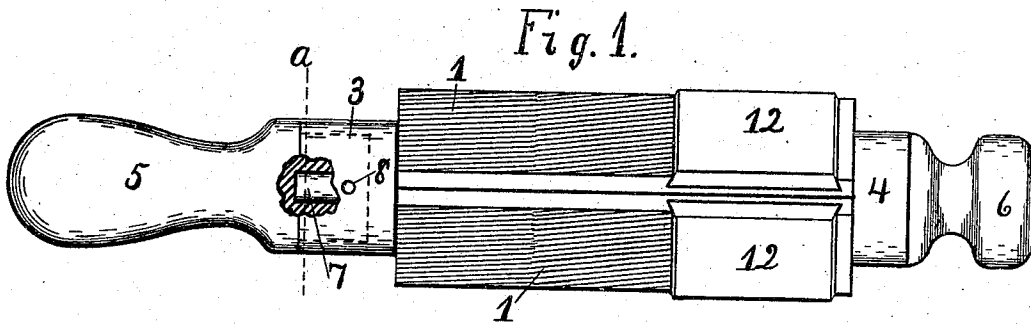


Fig. 2.

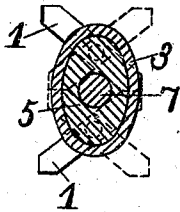


Fig. 3.

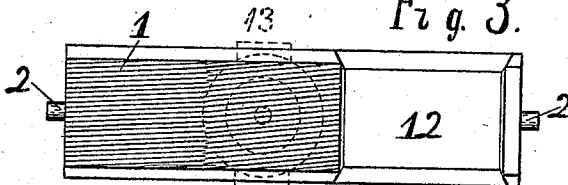


Fig. 5.



Fig. 4.

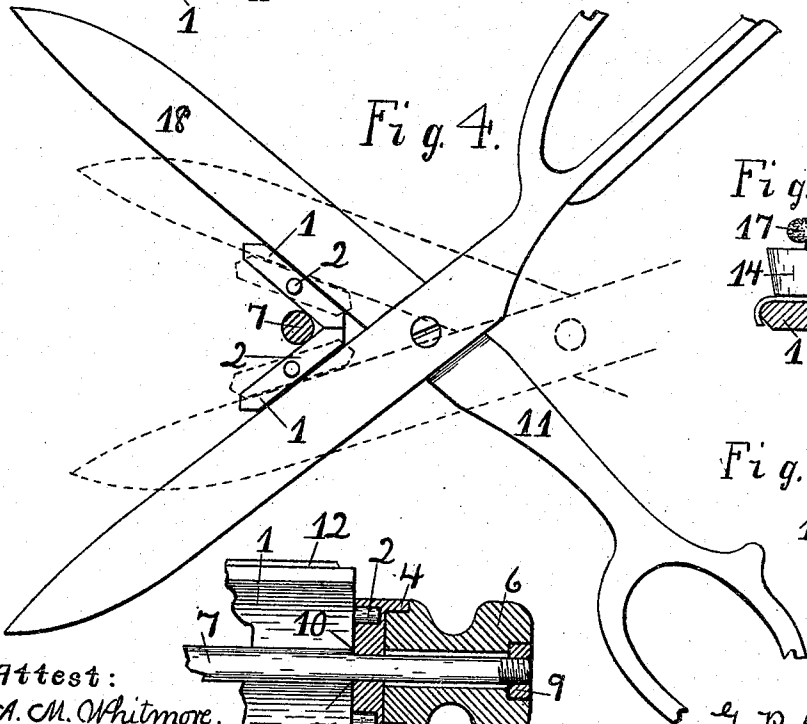


Fig. 6.

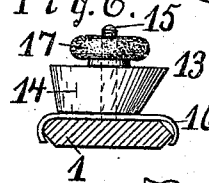
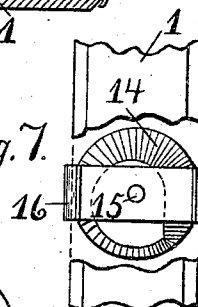


Fig. 7.



Attest:
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UNITED STATES PATENT OFFICE.

GEORGE P. SHEFFIELD, OF ROCHESTER, NEW YORK.

DEVICE FOR SHARPENING SHEARS.

932,586.

Specification of Letters Patent.

Patented Aug. 31, 1909.

Application filed March 1, 1907. Serial No. 360,098.

To all whom it may concern:

Be it known that I, GEORGE P. SHEFFIELD, of Rochester, in the county of Monroe and State of New York, have invented a new and useful Improvement in Devices for Sharpening Shears, which improvement is fully set forth in the following specification and shown in the accompanying drawings.

My invention is an improved device for quickly and conveniently sharpening shears by passing the blades of the shears across the surfaces of abraders, both blades being sharpened simultaneously.

One object of the invention, among others, is to provide a pair of coaxial pivotal abraders that will adjust themselves to the changing angle or position of the convergent edges of the shears as the latter is moved across their roughened surfaces.

Other objects and advantages of the invention will be brought out and made to appear in the following description, and the novel features pointed out in the appended claims, reference being had to the accompanying drawings which, with the reference characters marked thereon, form a part of this specification.

Figure 1 is a front elevation of the device ready for use. Fig. 2 is a cross section of parts taken on the dotted line *a* in Fig. 1, the abraders being shown in two positions by full and by dotted lines. Fig. 3 is a plan of the upper abrader, detached, with a removable part shown in dotted lines. Fig. 4 is an end view of the abraders, and the spindle in cross section, showing the device as in use, parts being shown in various positions by full and by dotted lines. Fig. 5 is a plan of the circular metal head, showing the cavity, the spindle being in transverse section. Fig. 6 is an elevation of the shiftable gage, the associated abrader being in transverse section. Fig. 7 is a plan of a portion of the rear face of the upper abrader, broken away to show the under side of the gage. Fig. 8 is a rear elevation of parts at one end of the device seen in a direction opposite to that in which Fig. 1 is seen, parts being in central longitudinal section.

Referring to the parts shown, 1 1 are a pair of similar abraders, commonly thin rectangular plates of hardened steel having their operating faces made rough as by being grooved

or cut like the surface of a file. These abraders are formed with end trunnions 2 2, Figs. 3, 4 and 8, held to turn in bearings in metal heads 3 and 4, Figs. 1, 2, 5 and 8, the axes of the abraders being parallel and the abraders being so mounted that they may meet at their edges on either side, as shown in Figs. 1, 2 and 4. A handle, 5, is provided for the convenient use of the device to be seized by the left hand, a reduced part of which enters the hollow of the head 3, commonly oval in form, and made rigid therewith. An ornamental knob 6, Figs. 1 and 8, is also usually provided entering the hollow of the circular head 4 and adapted to turn therein.

The heads 3, 4, the handle 5 and the knob 6 are coaxial and joined by an axial shaft or spindle 7, Figs. 1, 2, 4, 5 and 8, a transverse pin 8, Fig. 1, serving to hold the handle and the head 3 rigid with the spindle. The spindle is commonly made flat at its overhanging end, the head 4 being formed with a central opening correspondingly shaped, so the head may not turn on the spindle to the end that the rests for the trunnions 2 of the abraders may be kept directly opposite the respective rests in the oval head 3. The extreme end of the spindle is threaded and the knob 6 is provided with a screw-nut 9, Fig. 8, rigidly in place, to engage with said threaded part of the spindle, by means of which the knob and the head 4 may be removed from the spindle for the purpose of renewing the abraders or for other purposes. When replacing the abraders the trunnions 2 at the proper ends are inserted in the rests in the head 3 and the head 4 is slipped upon the spindle to receive the opposite trunnions. The knob 6 with the nut 9 being turned to place on the spindle serves to press the head 4 against the abraders; shoulders 10, Fig. 8, at the ends of the flattened surfaces of the spindle, serving as stops for the head, the abraders being left free to turn on their trunnions 2.

An inspection of Fig. 4 will clearly reveal the manner of using the device. The shears, 11, are opened and their edges passed upon and across the roughened surfaces of the abraders, which cut away the material, like a file, leaving the edges of the shears sharp, the blades of the shears being pressed firmly against the abrading surfaces. As the shears are moved one way or the other, as the

case may be, across the abraders and the angle between the blades varies in consequence, the abraders will correspondingly rock on their trunnions, as indicated in the figure, and so keep their roughened surfaces flat against the edges of the blades. This I regard as an important feature of the invention as by this construction and by these means both blades of the shears are sharpened simultaneously and alike.

When the abraders turn in either direction to have their edges meet at either side of the spindle 7 they touch, at their rear sides, the surface of the spindle, as appears in Figs. 2 and 4, which constitutes a stop for limiting their rocking motions either way. The spindle thus stopping the motions of the abraders also serves to cause them to meet truly and evenly at their edges, as appears in Fig. 2, and prevent them from taking positions in which the edge of one will lap over or pass the other.

In this device for sharpening shears I employ, also, blocks 12 12 of some fine abrading material or granulated substance as corundum, fine emery, or the like, to give to the blades of the shears finer and smoother cutting edges after rubbing them across the metallic abraders 1, as stated. These blocks are, as a matter of convenience, formed with slanting edges and inserted in corresponding transverse dovetail openings or recesses formed in the abraders, the latter constituting tilting elements or holders for the granulated blocks.

With this device I also employ a gage 13, Figs. 6 and 7, by means of which to give the desired slant or bevel to the edge-surfaces of the shear blades. This gage comprises a body 14, as of hard wood, with eccentric, inclined periphery, held by a threaded stud or screw 15 rigid in a spring-holder or elastic clamp 16 formed to clasp the edges of the upper abrading plate 1, as shown. The gage may be slipped laterally along the holding abrader to any position desired, the body 14 being made temporarily rigid in position on the clasp 16 at any time by a thumb-nut 17 on the stud 15. The curved face of the body 14 being of spiral form causes the body to present various slants or degrees of inclination as it is turned on the stud 15. In use, when sharpening shears, the flat face 18 of the blade uppermost is placed squarely against the slant side of the body 14 when being passed across the abrader, which serves to give to the narrow cutting edges of the blades the desired transverse incline or slant.

It is clear that the manner of roughing the abrading surfaces of the elements 1 1 is not essential to this invention, this being a matter of judgment, or of convenience in given cases. In Figs. 1 and 3 the abrading surfaces are represented as being cut something like the cutting of a float file; and this cut-

ting may be done in a manner to have the sharp ridges or teeth incline laterally one way or the other so as to sharpen shears by pushing them onto the abraders or when pulling them off, as the case may be, the teeth being adapted to act in only one direction. Also, a plain head, as indicated by the reference figure 4, may be substituted for the head 3 if found convenient and desirable in constructing these sharpening devices. Other simple details of construction may also be varied or changed without departing from the spirit of the invention.

What I claim as my invention and desire to secure by Letters Patent is:—

1. A device for sharpening shears, having head portions connected by an axial spindle, and a pair of pivoted gravitating abraders held by the head portions.

2. A device for sharpening shears, having a pair of coaxial heads, a spindle connecting the heads, a pair of gravitating abrading plates formed to have bearings in said respective heads, said plates being held to gravitate in opposite directions to have their adjacent edges meet on either side of the spindle.

3. A device for sharpening shears, having a pair of heads and a central spindle joining the heads, a pair of gravitating abraders held to tilt laterally between the heads, said abraders having parallel axes, and being adapted to turn in positions to meet at their edges and to rest against said spindle in their tilted positions.

4. A device such as described, having a handle with a head, a spindle projecting axially from the head and rigid therewith, a head pierced by the spindle at its opposite end and adapted to slide upon the spindle the latter being screw-threaded, and a knob with threaded nut to turn on the spindle in engagement with its threaded end to press said slidable head toward the opposing head, stops on the spindle for the movable head, and gravitating abraders pivoted between said opposing heads to assume opposite positions by gravity.

5. In a device for sharpening shears, a spindle having a handle at one end; a head on the opposite end of the spindle; and a pair of gravitating abraders pivoted between the handle and the head and on opposite sides of the spindle, and each having abrading surfaces equally disposed on both sides of the pivotal axis.

6. A device for sharpening shears, having an abrader, and a gage on said abrader having a body portion with peripheral face, said body portion being held to have axial motion, and means for fixing said body portion in given positions of axial adjustment.

7. In a device for sharpening shears, a spindle; a handle on one end; a head on the opposite end of the spindle; and a pair of

gravitating abraders pivoted between said handle and head, the said spindle being disposed midway between the pivotal axes of the abraders and being of a size to form
5 a stop for limiting their rocking motions in both directions.

In witness whereof, I have hereunto set

my hand this 27th day of February, 1907, in the presence of two subscribing witnesses.

GEORGE P. SHEFFIELD.

Witnesses:

E. B. WHITMORE,
A. M. WHITMORE.