S. D. LOCKE.

BAND-CUTTING SHEARS.

No. 183,404. Patented Oct. 17, 1876.

Fig. 1.

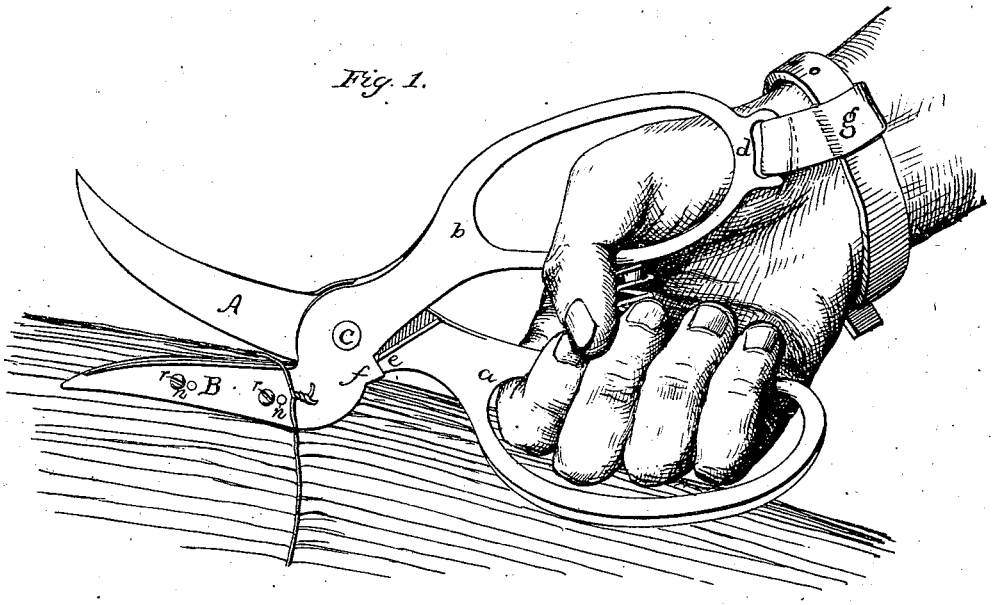


Fig. 2.

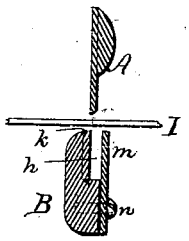


Fig. 3.

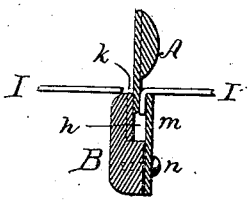
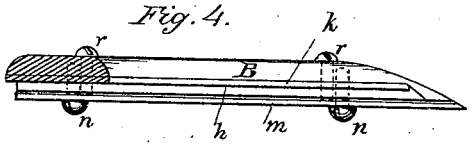


Fig. 4.



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UNITED STATES PATENT OFFICE.

SYLVANUS D. LOCKE, OF HOOSICK FALLS, NEW YORK.

IMPROVEMENT IN BAND-CUTTING SHEARS.

Specification forming part of Letters Patent No. **183,404**, dated October 17, 1876; application filed July 25, 1876.

To all whom it may concern:

Be it known that I, SYLVANUS D. LOCKE, of Hoosick Falls, in the county of Rensselaer and State of New York, have invented new and useful Improvements in Band-Cutters, of which the following is a full and clear description:

This invention relates to that class of shears wherein one of the severed ends is griped in the act of severance, and held by the cutter during the will of the operator. Such shears or cutters are employed in the operation of pruning, grape-gathering, &c., wherein the required griping power is slight, and is therefore sufficiently furnished by an elastic cushion or abutment secured to one blade, and against which the other blade closes, and gripes one of the severed ends between them. This structure, however, would be insufficient for the purpose of severing the wire bands of grain sheaves, because, first, the gripe would be dependent entirely upon the power exerted and continued by the fingers, which, in this case, would be very laborious; second, the gripe is simply compressive, and under any circumstances would occasionally fail to hold.

My invention therefore consists of a cutter composed of blunt-edged shear-blades, one blade of which is female—that is, with a groove or recess to receive the opposite or male blade, one edge of said groove being a shearing-edge, and the opposite edge being a crimper, to crimp and clamp one of the severed ends against the side of said male blade, whereby said severed end is griped and held positively and without exertion on the part of the operator.

That others may fully understand this invention, I will particularly describe it, having reference to the accompanying drawing, wherein—

Figure 1 is a perspective view of my band-cutter in action. Figs. 2 and 3 are transverse sections, showing in successive stages the operation of cutting and griping the wire. Fig. 4 is an edge plan, to show one of the methods of adjusting the crimping-plate to operate with wires of different diameters.

A is the male, and B is the female, blade of my band-cutter. These blades cross each other, and are united by a pivot-screw or rivet, *c*, in the usual way, and are provided with hand-holds *a b*. Stop-shoulders *e f* on the blades, respectively, back of the pivot *c*, limit the opening movement of said blades, and a spring inserted between the hand-holds causes them to open to their fullest extent—*i. e.*, until said shoulders meet—whenever the hand-holds are released from pressure by the hand of the operator, so that the opening of the cutters is entirely automatic. At the upper end of the hand-hold *b* there is a loop, *d*, for the attachment of a wrist-strap, *g*, whereby the instrument is attached to the arm or wrist of the operator, and there is, therefore, no danger of accidentally dropping the band-cutter into the feed, to the damage or destruction of the cylinder of the thrashing-machine, and to the danger of the operator. The blade B is female, and provided with a groove or recess, *h*, into which the male blade A enters, as shown in Fig. 3, severing the band-wire I against the shear-edge *k*, and crimping one of the severed ends of the wire against the clamp-plate *m*, as shown in Fig. 3. The clamped end of the wire is thereby held positively, and without pressure from the hand in excess of the pressure necessary to overcome the expansion-spring between the hand-holds. The crimped end of the wire is turned into the groove *h* at right angles, and therefore the strongest pull can hardly exert sufficient power to draw it out of said groove.

It will not always be possible to procure wire of the preferred size, and therefore it is necessary to make the plate *m* adjustable, to adapt it to variations in the diameter of the wires used. This adjustment may be secured in a great variety of ways; but I find it satisfactory to arrange it as shown, the plate being held by the screws *n n*, and backed out by the opposing screws *p p*.

The operation of the device is as follows: The operator, having secured the cutter to his arm by means of the wrist-strap *g*, slips the point of the blade B under the band as the bundle comes before him, and by a movement of the fingers severs the band and seizes one of the severed ends, whereby he pulls the band off while the sheaf goes into the thrasher. Relaxing the gripe of the fingers permits the shears to open, and the

end of the band will thereby be liberated, and the band itself be allowed to fall into a basket or upon the ground, thereby keeping it out of the thrashing-machine, and avoiding all possible injury of the wire to the grain, the thrasher, or the stock. The points of the blades A B are curved outward, or away from each other, so as to facilitate the entrance of the wire between them.

I am aware that pruning-shears have been made with male and female blades, whereby the twig or branch to be severed would be supported on each side of the knife-edge of the cutting-blades; but these blades, by reason of the sharp edge of the cutter, are unfitted for cutting metal, and incapable of griping one of the severed ends.

Having described my invention, what I claim, and for which I desire Letters Patent of the United States, is—

1. A cutter for severing wire bands, composed of the male and female blunt-edged shear-blades A B, the latter being provided with the crimping-plate *m*, adapted to crimp and clamp one of the severed ends against the side of the blade A, substantially as and for the purpose set forth.

2. In combination with the blades A B, the crimping-plate *m*, made adjustable, substantially as and for the purpose described.

3. The blades A B, having a plate, *m*, attached to one of said blades, for the purpose of clamping against the side of the opposite blade one of the severed ends, and provided with a loop, *d*, to receive a wrist-strap, as set forth.

SYLVANUS D. LOCKE.

Witnesses:
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