

No. 624,706.

Patented May 9, 1899.

J. E. THURMOND.
SHEARS.

(Application filed July 27, 1898.)

(No Model.)

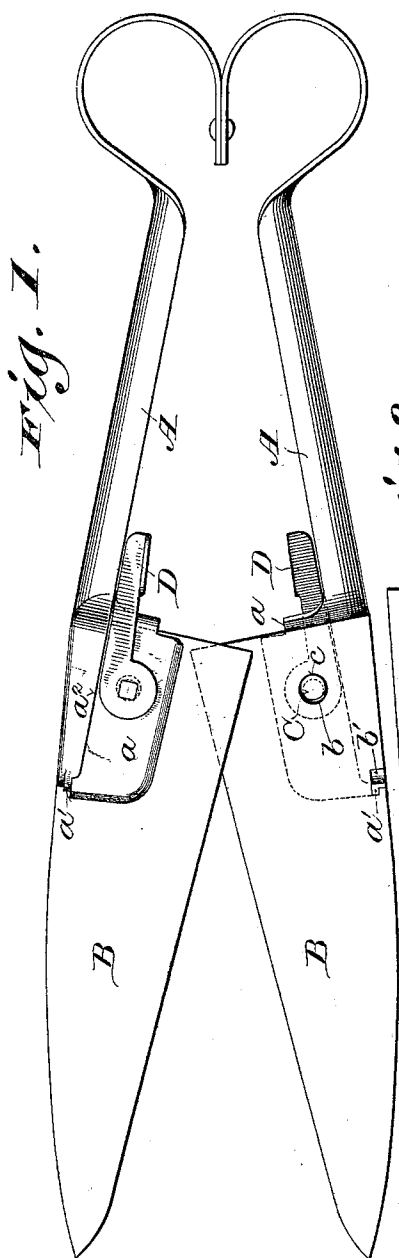


Fig. 1.

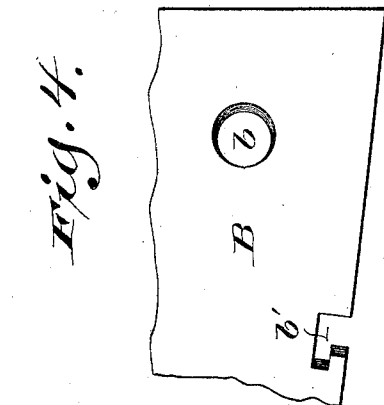


Fig. 4.

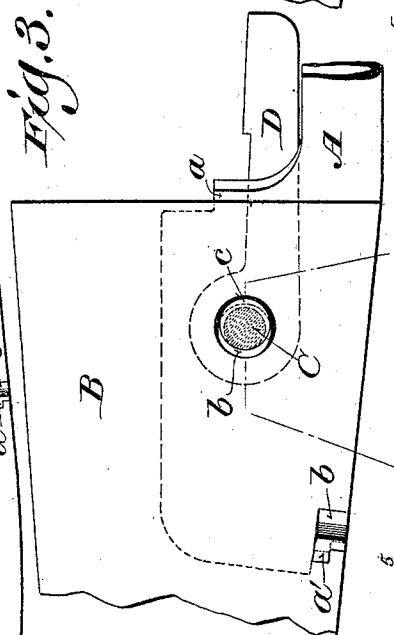


Fig. 3.

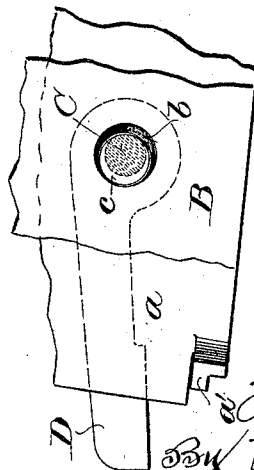


Fig. 2.

Fig. 5.

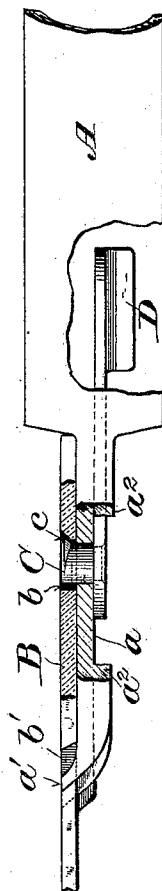
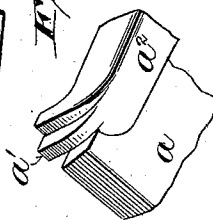


Fig. 6.



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UNITED STATES PATENT OFFICE.

JAMES E. THURMOND, OF BILLINGS, MONTANA.

SHEARS.

SPECIFICATION forming part of Letters Patent No. 624,706, dated May 9, 1899.

Application filed July 27, 1898. Serial No. 637,003. (No model.)

To all whom it may concern:

Be it known that I, JAMES E. THURMOND, a citizen of the United States, residing at Billings, in the county of Yellowstone and State of Montana, have invented certain new and useful Improvements in Shears, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

10 The main objects of my invention are to facilitate the grinding or sharpening and the renewal of the blades and to secure convenience and economy.

It consists, essentially, in providing shears 15 having detachable blades, with cams or eccentrics for easily securing the blades to the handles, and in certain novel features of construction and combinations of parts, as hereinafter particularly described, and defined in 20 the claims.

In the accompanying drawings like letters designate the same parts in the several figures.

Figure 1 is a side elevation of a pair of 25 sheep-shears embodying my invention. Figs. 2 and 3 are detail views on an enlarged scale, showing the fastening devices for attaching the blades to the handles. Fig. 4 is a face view of a part of one of the blades to which 30 the fastenings are applied. Fig. 5 is a section on the line 5 5, Fig. 3; and Fig. 6 is a perspective view of the tongue or projection on one of the handles for engaging the detachable blade.

35 For the purpose of illustration I have shown my invention as applied to sheep-shears; but it is applicable to other kinds of shears.

Referring to the drawings, and particularly to Fig. 1, A A are the handles, which have 40 the usual or any suitable form of spring connection at one end for separating or opening the blades when they are released. At the other end the handles are formed with plates or flattened shanks *a a* for the attachment of 45 the blades.

B B are the blades, which are formed near the ends opposite their points with holes or openings *b* and in their backs with undercut notches *b'*, as shown in Fig. 4.

50 C C are cams or eccentrics which are pivoted or journaled in the plates or shanks *a* of the handles. To the outer ends of the spin-

dles or journals of these cams or eccentrics are secured lever-arms D D. The plates or shanks *a* of the handles are formed, as shown 55 in Fig. 6, with tongues or projections *a'*, which loosely fit into the notches or openings *b'* in the blades. The cams or eccentrics C are formed on one side with beveled lips *c*, as shown in Fig. 5, and they are adapted when 60 the lips are turned forward with the lever-arms D, as shown in Fig. 2, to pass freely into the holes *b* in the blades, these holes being enlarged or elongated for this purpose and beveled on one side, as shown in Figs. 4 and 65 5, so as to be engaged by the lips *c* of the cams or eccentrics when they are turned back into the position shown in Figs. 1 and 3, and thus force and hold the blades backward and firmly against the faces of the plates *a*. The 70 tongues *a'* and the notches *b'* are also beveled on their engaging faces and are so located with reference to the eccentrics C and the holes *b* that when the eccentrics are turned backward, as shown in Fig. 3, the inclined or 75 beveled edges of said notches will be drawn into engagement with the inclined faces of said tongues, thereby locking and holding the blades firmly to and against the plates *a* at or near the backs of the blades and the 80 ends of said plates *a*. The tongues *a'* and the cams or eccentrics C terminate flush with or a little short of the inner faces of the blades, as shown in Fig. 5, so as not to interfere with their closing.

85 The plates *a* are preferably formed on the outside next to the backs of the blades with ribs or shoulders *a''*, which overhang and shield the lever-arms D and also serve as stops therefor.

90 The several parts of the shears are made interchangeable, so that a single handle or pair of handles may be used with different blades and worn, broken, or defective blades can be easily replaced at a small cost. By 95 means of the fastening devices shown and described the blades can be easily and quickly detached from the handles for grinding and sharpening them, and any number of blades can be packed in small compass and convenient form for carrying them. The fastenings, 100 being permanently attached to the handles and blades, cannot be misplaced and lost.

I do not wish to be understood as limiting

myself to the exact details of construction shown in the drawings, as they may be variously modified within the spirit and intended scope of my invention.

5 I claim—

1. Shears having the blades detachable from the handles, and provided with cams or eccentrics for fastening the blades to the handles, substantially as and for the purposes
10 set forth.

2. Shears having handles provided with cams or eccentrics and with tongues or projections, and detachable blades having openings for the engagement of said cams and
15 tongues, substantially as and for the purposes set forth.

3. Shears having handles provided with tongues or projections and with cams or eccentrics pivoted or journaled therein, and detachable blades having openings for the engagement of said cams and tongues, the engaging faces of said cams and tongues and of the openings in said handles being beveled or inclined to draw and hold the parts firmly
20 together, substantially as and for the purposes set forth.

4. The combination in shears of the han-

dles formed with flattened shanks or plates for the attachment of blades, and provided with cams or eccentrics which are pivoted or
30 journaled in said plates and with tongues or projections, lever-arms for turning said cams and detachable blades formed with openings to receive said cams and tongues, substantially as and for the purposes set forth.

5. In shears the combination of handles the shanks of which are provided with tongues or projections and with cams or eccentrics pivoted or journaled therein and having lever-arms for turning them, and blades formed
40 with openings in which said tongues and cams are loosely fitted, the engaging parts of said tongues, cams and blades being beveled or inclined to draw and hold them firmly together when the cams are turned into locking
45 position, substantially as and for the purposes set forth.

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

JAMES E. THURMOND.

Witnesses:

HENRY A. FRITH,
HUGH P. BABCOCK.