No. 627,738. Patented June 27, 1899.

L. A. NICKERSON.

SHEARS.

(Application filed May 23, 1898.)

(No Model.)

Fig. 1.

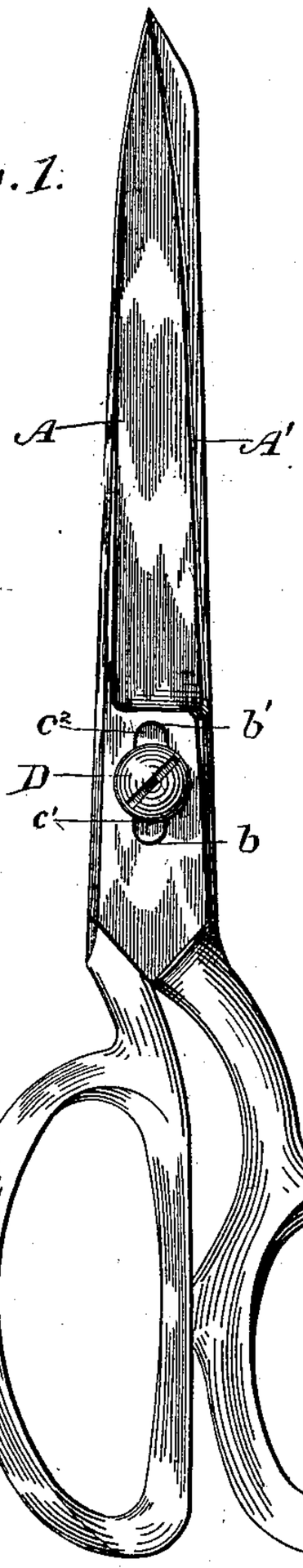


Fig. 2.

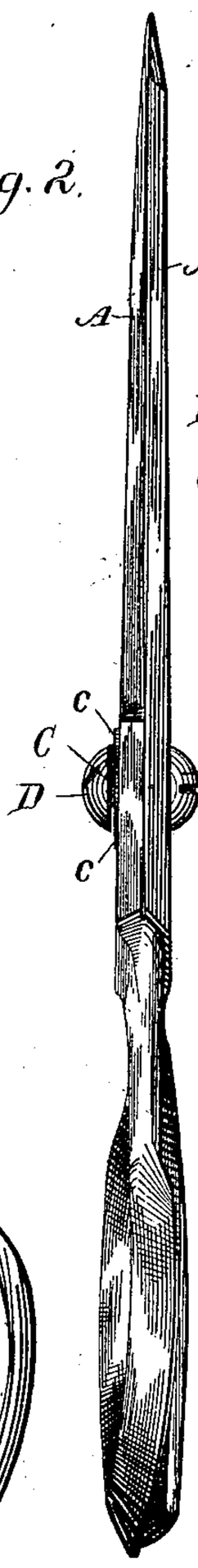


Fig. 3.

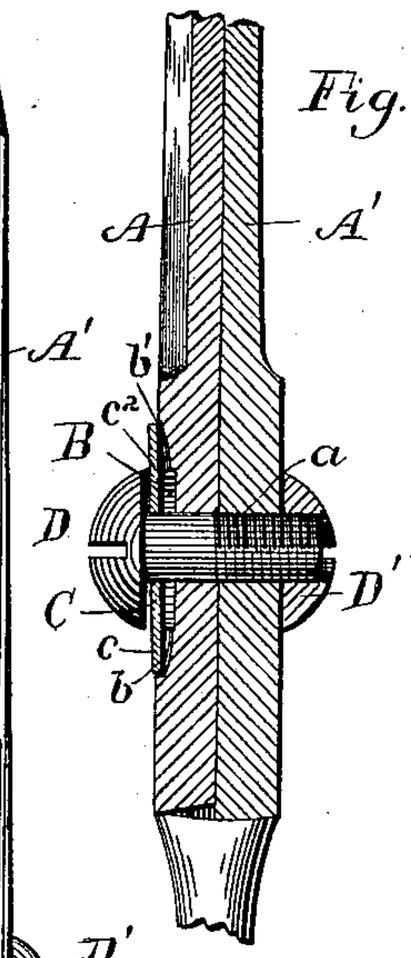


Fig. 4.

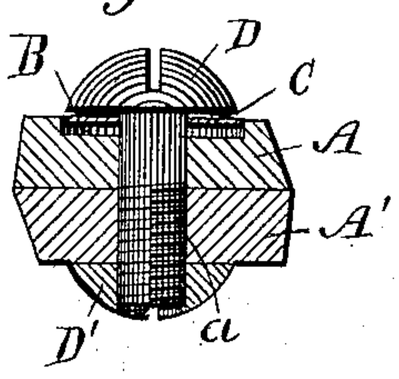


Fig. 5.

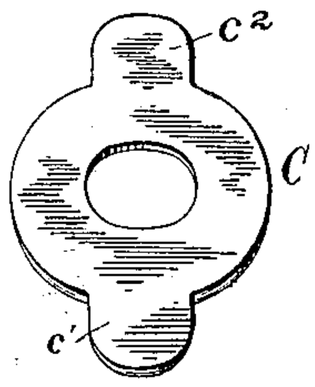
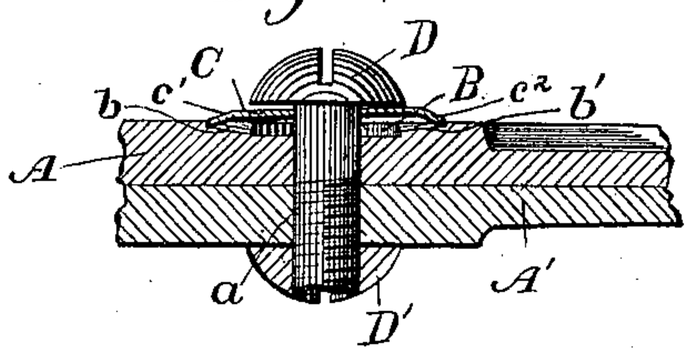


Fig. 6.



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UNITED STATES PATENT OFFICE.

LUKE ALSON NICKERSON, OF BUCHANAN, MICHIGAN, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE JACKSON KNIFE AND SHEAR COMPANY, OF FREMONT, OHIO.

SHEARS.

SPECIFICATION forming part of Letters Patent No. 627,738, dated June 27, 1899.

Application filed May 23, 1898. Serial No. 681,489. (No model.)

To all whom it may concern:

Be it known that I, LUKE ALSON NICKERSON, a citizen of the United States, residing at Buchanan, in the county of Berrien and State of Michigan, 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.

My invention relates to improvements in shears or scissors.

It has for its object principally to cause the blades to move close together along their entire cutting edges from heel to point to secure the greatest efficiency of cutting action and to render them effective throughout the said cutting edges, and also to enable the blades to work freely when swung wide open.

The invention therefore consists of means adapted, in conjunction with the pivot or fulcrum bolt of the blades of the scissors or shears, to apply, through the action of the closing of said blades themselves, pressure to the blades and to relieve said blades of said pressure as their movement is reversed or they are opened; and it consists, further, of certain parts structurally considered, substantially as hereinafter more fully disclosed and specifically pointed out in the claims.

In the embodiment of my invention I employ a metal plate, irrespective of its qualities, of more or less elasticity or inelasticity, resiliency, or non-resiliency, and arrange or adapt it for coöperation with the pivot or fulcrum bolt of the blades of the shears or scissors while being closed and opened. The plate is set in a socket or recess made in one blade and has the pivot or fulcrum bolt passing through it and has one end (its forward end) elevated or standing slightly above the surface of the shear-blade, whereby during the closing action of the blades of the scissors or shears the head of the pivot or fulcrum bolt will ride upon said elevated end of the plate. This will have the effect, it will be seen, to cause the individual blades to move, beginning at the initial point, close together from heel to point instead of diverging to a greater or less extent from straight lines, as heretofore experienced with the ordinary shears, thus securing the greatest efficiency of cutting action and also rendering the blades effective throughout their cutting edges, as will be apparent.

In the accompanying drawings, illustrating one, the preferred, way of practicing my invention, Figure 1 is a side view; Fig. 2, an edge view of a pair of shears with my invention applied thereto. Fig. 3 is an enlarged broken longitudinal section of the same. Fig. 4 is a transverse section taken through the fulcrum of the blades or thereabout. Fig. 5 is a view of the plate detached, and Fig. 6 is an enlarged detailed view showing more fully the construction of the device for effecting the movement of the blades.

In the drawings I have shown shears or scissors comprising blades A A′ of any preferred construction in their general outline. In the shank or portion of the blade A turning or playing on the corresponding shank portion of the other blade A′ is produced at the pivotal point or fulcrum a countersink-like socket or recess B, forming substantially an enlargement of the fulcrum or pivot screw receiving passage *a*. This socket or recess B has opposite or alining extension cavities or recesses *b b′* in the direction of the longitudinal plane or axis of the blade, the forward one, *b′*, being more shallow or less in depth than the rear one, *b*, each extension cavity or recess also having concaved bottoms and sloped toward the central socket or recess B.

C is a plate having a central opening for the passage therethrough of the pivot or fulcrum bolt D of the blades of the shears, the threaded end of said bolt being fitted with a screw-headed-like jam-nut D′ and the head of said bolt bearing upon said plate. The plate C is adapted at its approximately circular portion to set into the socket or recess B, but does not rest upon the bottom of said socket and has two alined or opposite extensions or arms c' c^2, adapted to rest in the extension-recesses and to prevent the plate C from turning. The arm c^2, resting in shallow recess *b′*, is slightly elevated above the surface of the blade, while the opposite arm c' is preferably substantially flush therewith. The

central portion of the plate also extends above the blade and does not rest upon the bottom of the recess B.

As the inclined plate C and the blades A are firmly bound between the bolt-head D and the blade A′ when the shears are closed, it is obvious that the pressure exerted by the plate C will be diminished when the shears are opened, and thus permit the blades to be freely moved upon their pivots. This of course greatly lessens unnecessary frictional contact between the blades and renders them easier of manipulation. The rear extension or arm c' of the plate C rests in the corresponding extension recess or cavity b of the socket B about flush with the upper surface of the blade A, and the extension or arm c^2 rests in the recess or cavity b' of said socket, but stands slightly elevated above said surface of the blade A, as shown, and is arranged, as is also the other arm c', in the longitudinal plane or axis of said blade, whereby it will be seen that as the blades are manipulated so as to approach each other the head of the pivot-bolt will engage or bear upon the elevated arm c^2 from their initial movement to the end, thus causing the blades to move close together throughout from heel to point. The blades are thus rendered more efficient in their cutting action and effective throughout their entire cutting edges, as is apparent.

It will be understood that I do not limit myself to the details of the construction and arrangement of the parts as shown and described, as these may be varied without departing from the spirit or principles of my invention and the same remain intact.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a shears, the combination of the blades, one having around its fulcrum a recess or socket, the plate seated in said recess at an incline to, and projecting above, the surface of the blade, and the pivot-bolt of said blades having its head adapted to bind upon the upwardly-extending portion of said plate more or less as the shears are closed or opened respectively, substantially as described.

2. In a shears, the combination of the plate let into a recess in one of the blades and having a portion thereof standing or elevated above the face of the blade, and the head of the pivot or fulcrum bolt of the shears adapted to bind upon said elevated portion of the plate more or less as the shears are closed or opened, respectively, substantially as described.

3. In a shears, the combination of the plate having extensions or arms, one arm resting within, but substantially flush with the surface of, one of the blades and the other arm within, and slightly extended above the surface of, said blade, and the head of the pivot-bolt or fulcrum adapted to bear upon said elevated arm, substantially as set forth.

4. In a shears, the combination of the blades one having around its fulcrum a recess or socket provided with extension-recesses of different depths, the plate having extensions or arms, said plate, with its extensions, seated in said recess or socket and its extension-recesses, one arm of said plate raised or elevated, and the pivot-bolt of said blades having its head adapted to engage said raised portion of the plate, substantially as set forth.

5. In a shears, the combination of the blades, one having around its fulcrum a recess or socket provided with extension-recesses, the plate having extensions or arms, one having a raised or elevated portion, said plate, with its extensions, seated in said recess or socket and its extension-recesses and the pivot-bolt of said blades having its head adapted to engage the raised portion of said arm, substantially as set forth.

6. In a shears, the combination of the blades, one having, around the fulcrum-bolt, a recess or socket provided with extension-recesses whose bottoms are concaved and sloped toward said socket, the plate elevated, and the extensions or arms, one of which is elevated, a portion of said plate arranged so as not to rest upon the bottom of its said socket, and the pivot-bolt or fulcrum of said blades having its head adapted to engage the elevated portion of said plate, substantially as specified.

7. In a shears, the combination of the blades one having, around the fulcrum-bolt, a central recess or socket and extension-recesses of different depths, the deeper recess toward the handle, the plate and its arms so constructed as to fit snugly within, and prevented from rotating by, said recess and extension-recesses, the arm nearest the handle preferably flush with the surface of the blade, the opposite arm elevated slightly thereabove, and the pivot-bolt or fulcrum of said blades having its head adapted to engage, and bear upon, the elevated portion of said plate and arms more or less when the shears are closed, or opened, respectively, all substantially as described.

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

LUKE ALSON NICKERSON.

Witnesses:

A. C. ROE,

RUTH HUNTER.