

Nov. 11, 1947.

R. G. WHITE

2,430,794

SAFETY SHEARS

Filed April 3, 1946

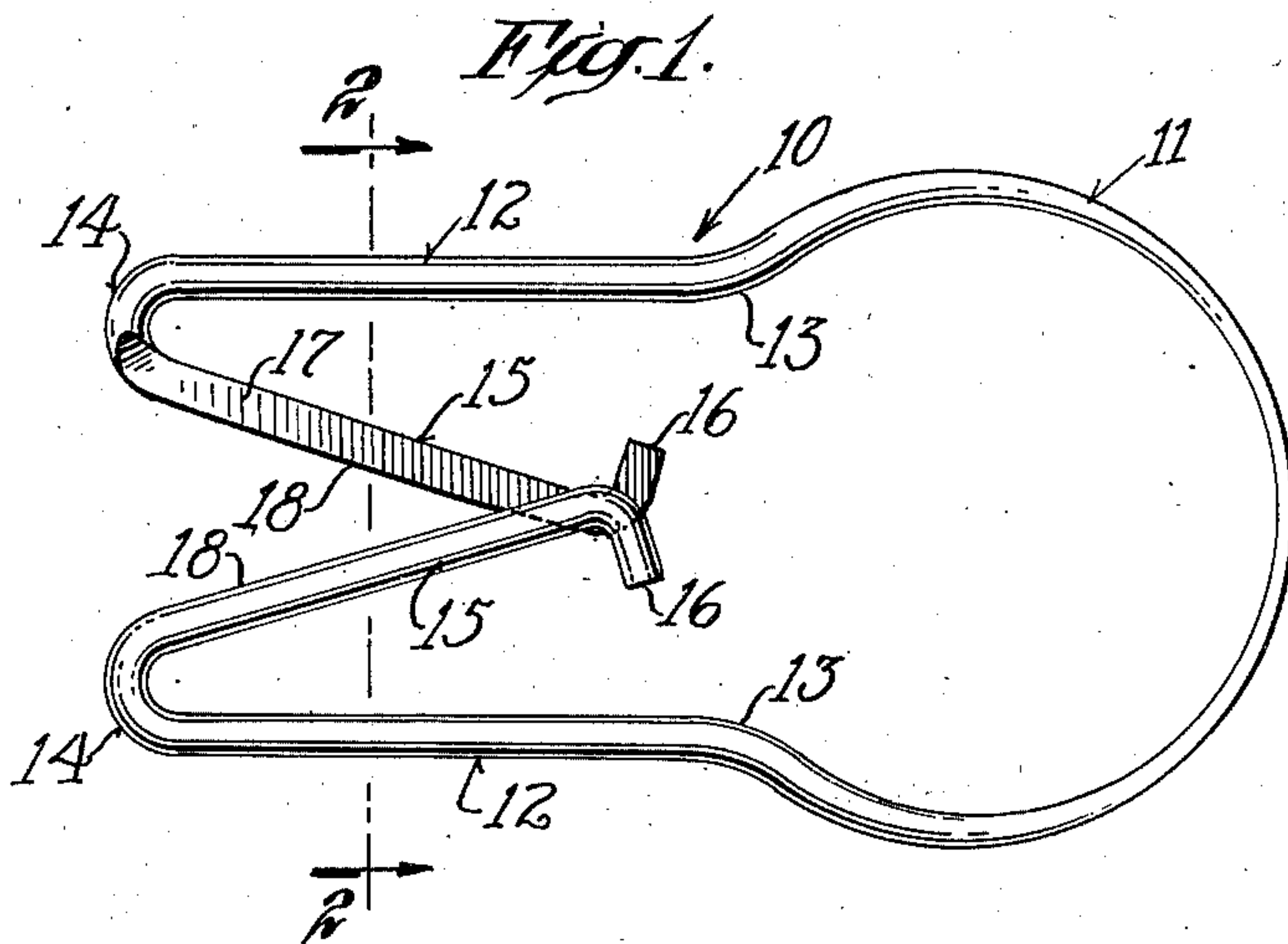


Fig. 2.

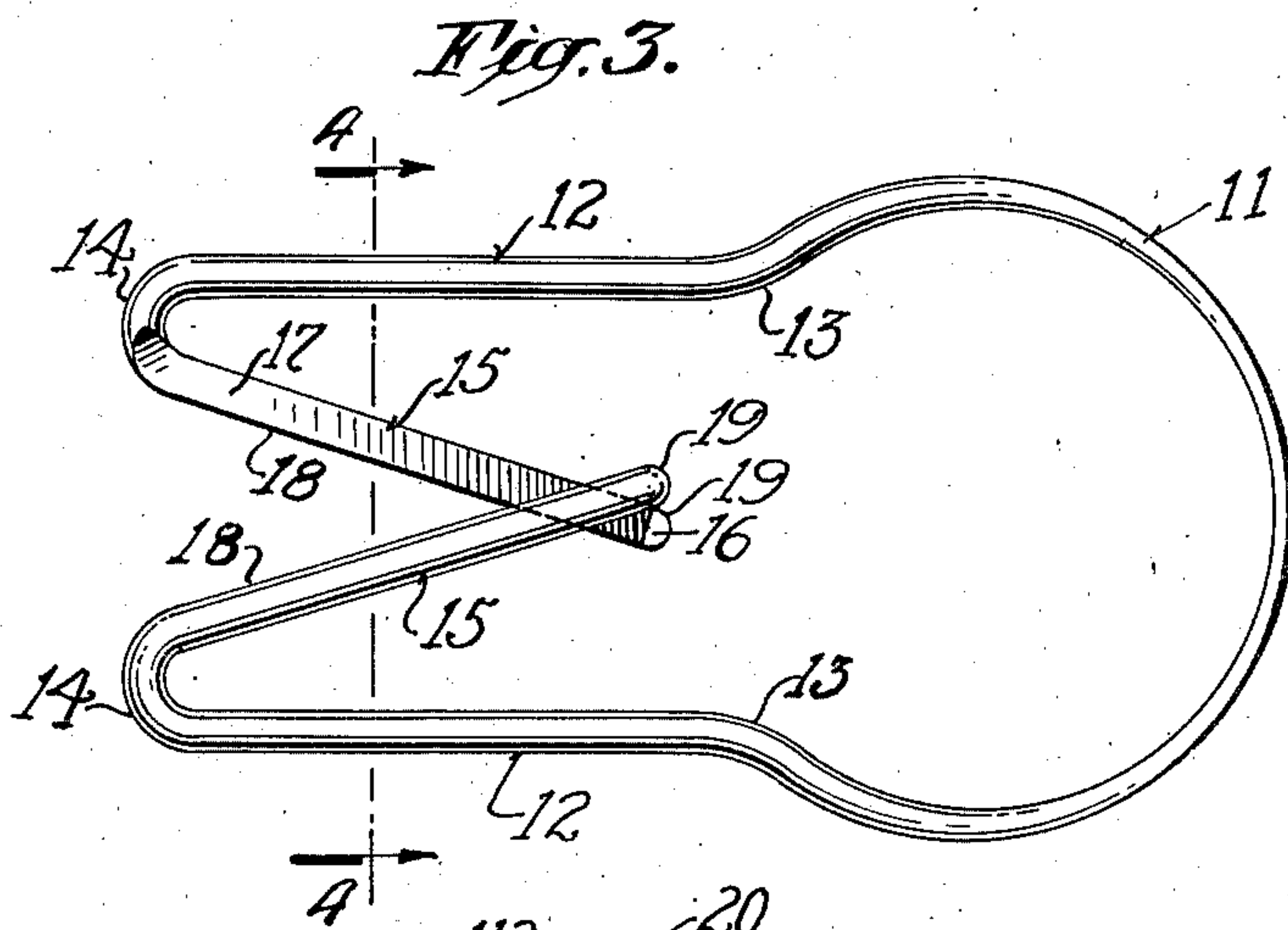
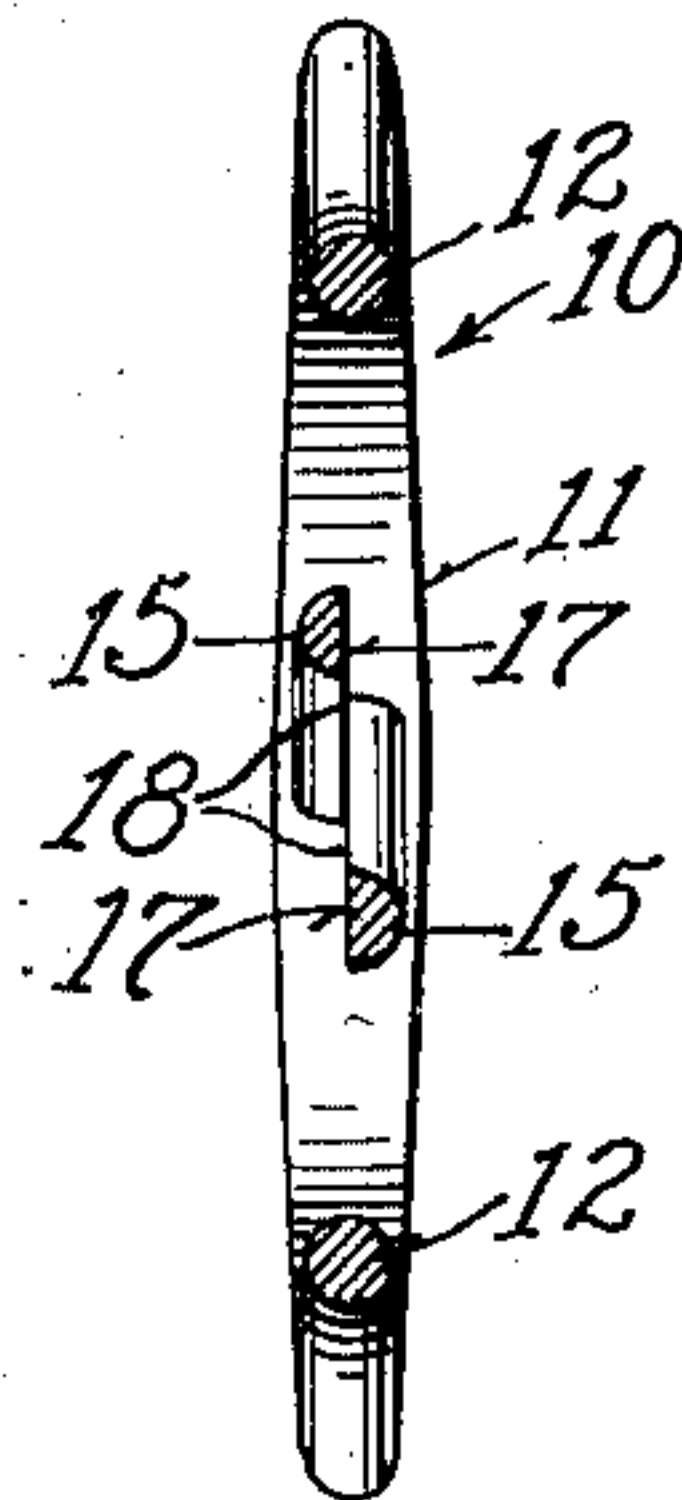
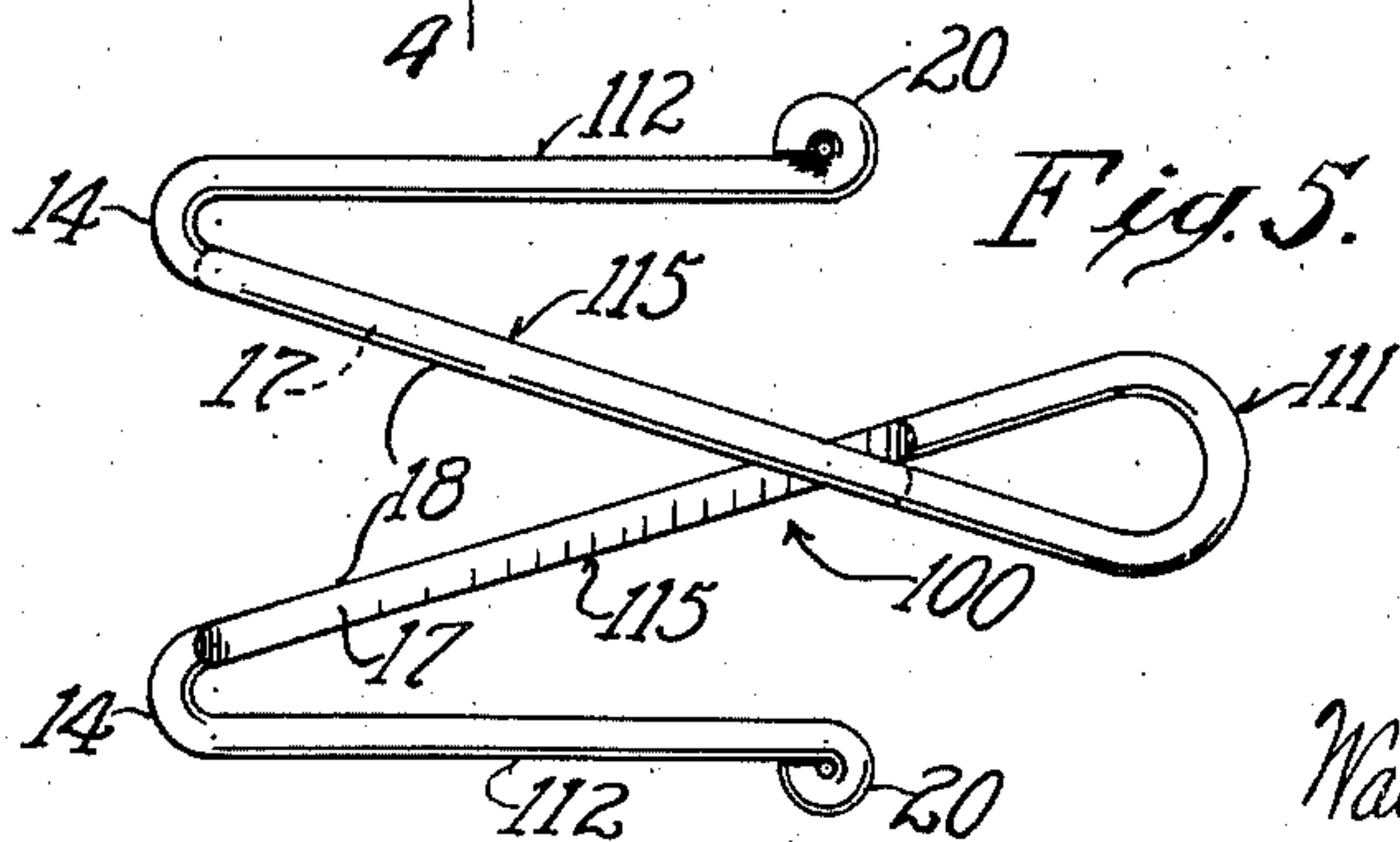
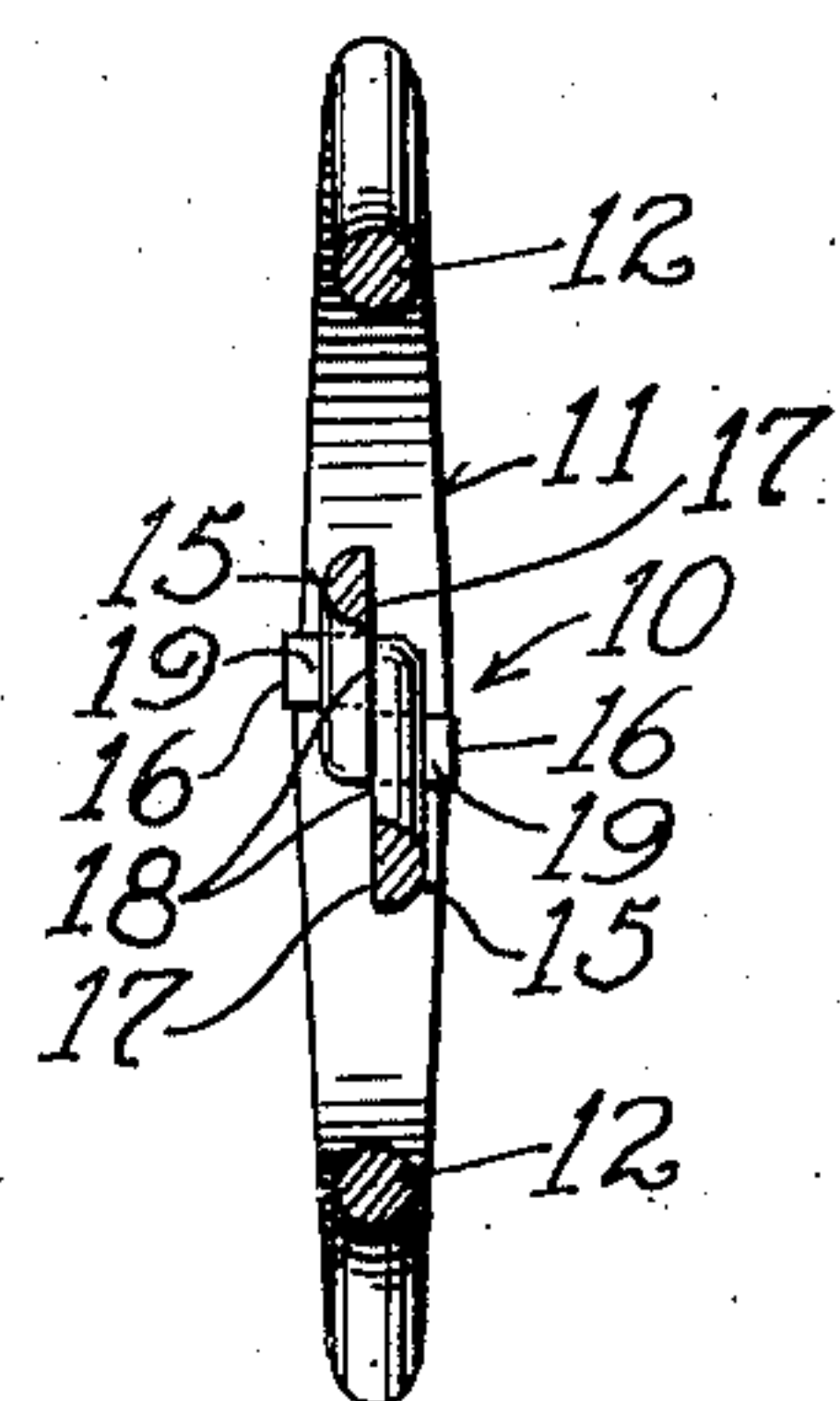


Fig. 4.



INVENTOR.
ROBERT G. WHITE
BY
Watson, Bristol, Johnson & Leavenworth
ATTORNEYS

UNITED STATES PATENT OFFICE

2,430,794

SAFETY SHEARS

Robert G. White, White Plains, N. Y.

Application April 3, 1946, Serial No. 659,323

6 Claims. (Cl. 30—234)

1

The present invention relates to shears or scissors and has for a general object the provisions of safety shears which are extremely simple and easily and economically manufactured in a form in which there are no dangerous sharp points and in which the cutting edges are guarded, making the device particularly desirable for employment by small children.

A more specific object of the invention is the provision of such safety shears characterized by a pair of blade means each having a blunt rounded nose formed by bending relatively slender metallic bar stock back upon itself with an unsharpened guard portion arranged outwardly of an inward portion which has a cutting edge terminating short of the rounded safety nose, thereby eliminating sharp piercing points and minimizing danger from cutting edges.

A more specific object of the present invention is to provide such safety shears which are easily and economically made from a piece of suitable slender bar stock, such as a rod of steel to be tempered, by bending a mid-portion thereof back upon itself to form a loop handle, forming a reverse bend in each of the end portions to provide adjacent inward diverging blade portions and outward protective or guard portions connected to the blade portions by rounded blunt safety noses and tempering to assure that the loop handle will serve as a spring, the blade portions being provided with sharp cutting edges terminating short of the safety noses.

A further object of the present invention is to provide structural embodiments of the device which are readily constructed and allow efficient use and operation thereof.

Other objects of the invention will in part be obvious and will in part appear hereinafter.

The invention accordingly comprises the features of construction, combination of elements and arrangement of parts, which will be exemplified in the construction hereinafter set forth; and the scope of the invention will be indicated in the claims.

For a fuller understanding of the nature and objects of the invention, reference should be had to the following detailed description taken in connection with the accompanying drawing, in which:

Fig. 1 is a plan view of an embodiment of the present invention;

Fig. 2 is a sectional view taken on line 2—2 of Fig. 1;

Fig. 3 is a view similar to Fig. 1 of a modified form of the invention;

2

Fig. 4 is a sectional view taken on line 4—4 of Fig. 3; and

Fig. 5 is a view similar to Figs. 1 and 3 of a further modification of the present invention.

Referring to the drawing, like numerals identify similar parts throughout and it will be seen by reference to Figs. 1 and 2 an embodiment of the present invention may comprise a piece 10 of relatively slender metallic bar stock, such as a rod of tempered steel. Preferably before tempering the mid-portion 11 of the piece of the steel rod is reversely bent back upon itself to provide a loop handle, which portion preferably is flattened out as shown to assure greater elasticity in the loop handle than in the other portions of the shears. Each of the resulting end portions 12, 12 are preferably arranged substantially parallel to each other by forming obtuse bends 13, 13 therein substantially at their points of juncture with the loop handle 11. Each of the end portions 12 is then reversely bent back upon itself at 14 to provide a rounded blunt safety nose and to define a blade portion 15 extending from the vicinity of the safety nose 14 to the vicinity of free end 16. The blade portions 15, 15 are divergently arranged relative to each other, such as by positioning them to extend toward or to a common focal point, and their opposed sides are preferably flattened off or ground at 17 to provide cooperating cutting edges 18, 18. The free ends 16, 16 may be turned away from each other, such as substantially at right angles to the blade portions 15, 15 as shown, to provide extended cooperating side surfaces tending to prevent the blades from springing past each other to inoperative positions. The shaped device is preferably tempered, either before or after the grinding of the faces 17, 17, to make certain that the loop handle 11 will have efficient spring action and to assure that the cutting edges 18, 18 will be durable.

It will be noted that the side surfaces 17, 17 terminate short of the rounded blunt safety noses 14, 14 and that the outward portions of the end portions 12, 12 form safety guard sections for the blade portions 15, 15. These features assure maximum guarding of the cutting edges and the rounded safety noses 14, 14 eliminate danger which is present in structures characterized by sharp points at the outward ends of the blades.

In operation of the embodiment shown in Figs. 1 and 2 an operator, such as a small child, uses those shears with maximum safety by grasping them in the hand with the loop handle 11 resting in the palm. The fingers and thumb are curled about the guard portions 12, 12 of the blade means

3

and squeezing pressure causes the blade portions 15, 15 to slide past each other with shearing action between the sharp edges 18, 18.

In the modification shown in Figs. 3 and 4 the structure is similar to that shown in Figs. 1 and 2, except that the ends 16, 16 of the blade portions 15, 15 are bent laterally to provide opposed end portions 19, 19 which may be hooked one over the other as shown in Fig. 4 to limit spreading movement of the blade portions 15, 15. It will also be understood that the present invention may be embodied in other variations of the structure wherein guard portions are arranged outwardly of the blade portions and each guard portion is connected with a blade portion by means of a rounded blunt safety nose.

In Fig. 5 such a variation is shown which may comprise a piece 100 of metal round bar stock having a loop handle 111 formed in the mid-portion thereof with adjacent portions 115, 115 crossing and diverging and flatted off on opposed faces 17, 17 to provide cutting edges 18, 18. Beyond portions 115, 115 the piece 100 is reversely bent at 14, 14 to provide blunt noses and rearwardly extending terminal guard portions 112, 112. The guard portions 112, 112 terminate in ends 20, 20 curled back upon the guard portions to provide knobs which will tend to prevent the shears from slipping when pressure is applied to the guard portions for operation of the shears. The operation of this modified construction is obvious.

It will thus be seen that the objects set forth above and those made apparent by the above description are efficiently obtained and, since certain changes may be made in the above construction and different embodiments of the invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the following claims are intended to cover all of the generic and specific features of the invention herein described, and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A pair of shears comprising, in combination, a pair of blade means and means connecting said blade means together for relative shearing movement, each of said blade means comprising a relatively slender metallic bar bent back upon itself to form a rounded safety nose and a shearing portion extending inwardly toward a focal point, said shearing portions being arranged divergingly

4

adjacent each other between remaining unsharpened portions of said blade means and having cooperating sharp cutting edges terminating short of said safety noses.

2. A pair of shears formed from relatively slender metallic bar stock comprising a mid-portion bent back upon itself to form a spring loop handle and end portions bent back upon themselves with the ends extending back toward the loop handle to form guarded diverging blade portions terminating in rounded blunt noses, said blade portions having sharp cutting edges terminating short of said rounded blunt noses.

3. A pair of shears formed from relatively slender metallic bar stock comprising a mid-portion bent back upon itself to form a spring loop handle and end portions bent back upon themselves with the ends extending back toward the inside of said loop handle to form diverging blade portions terminating in rounded blunt noses, said blade portions having sharp cutting edges terminating short of said rounded blunt noses.

4. A pair of shears formed from relatively slender steel bar stock comprising a mid-portion bent back upon itself to form a spring loop handle and end portions bent back upon themselves to form adjacent diverging blade portions terminating in ends extending toward the inside of said loop handle, the bends in said end portions being rounded to form blunt safety noses and said blade portions being provided with sharp cutting edges terminating short of said safety noses.

5. A pair of shears formed from relatively slender steel bar stock comprising a mid-portion bent back upon itself to form a loop handle and end portions bent back upon themselves to form adjacent diverging blade portions terminating in crossing ends extending toward the inside of said loop handle, the bends in said end portions being rounded to form blunt safety noses and said blade portions having their adjacent sides flatted off to provide sharp cutting edges terminating short of said safety noses.

6. A pair of shears formed from a relatively slender tempered steel rod comprising a mid-portion bent back upon itself to form a loop handle and end portions, each of said end portions being bent back upon itself on the side opposed to the other end portion to form rounded blunt safety noses and adjacent diverging blade portions terminating in crossing ends extending toward the inside of said loop handle, said blade portions between the ends and said safety noses being ground off on opposed sides to provide cooperating adjacent cutting edges terminating short of said safety noses.

ROBERT G. WHITE.