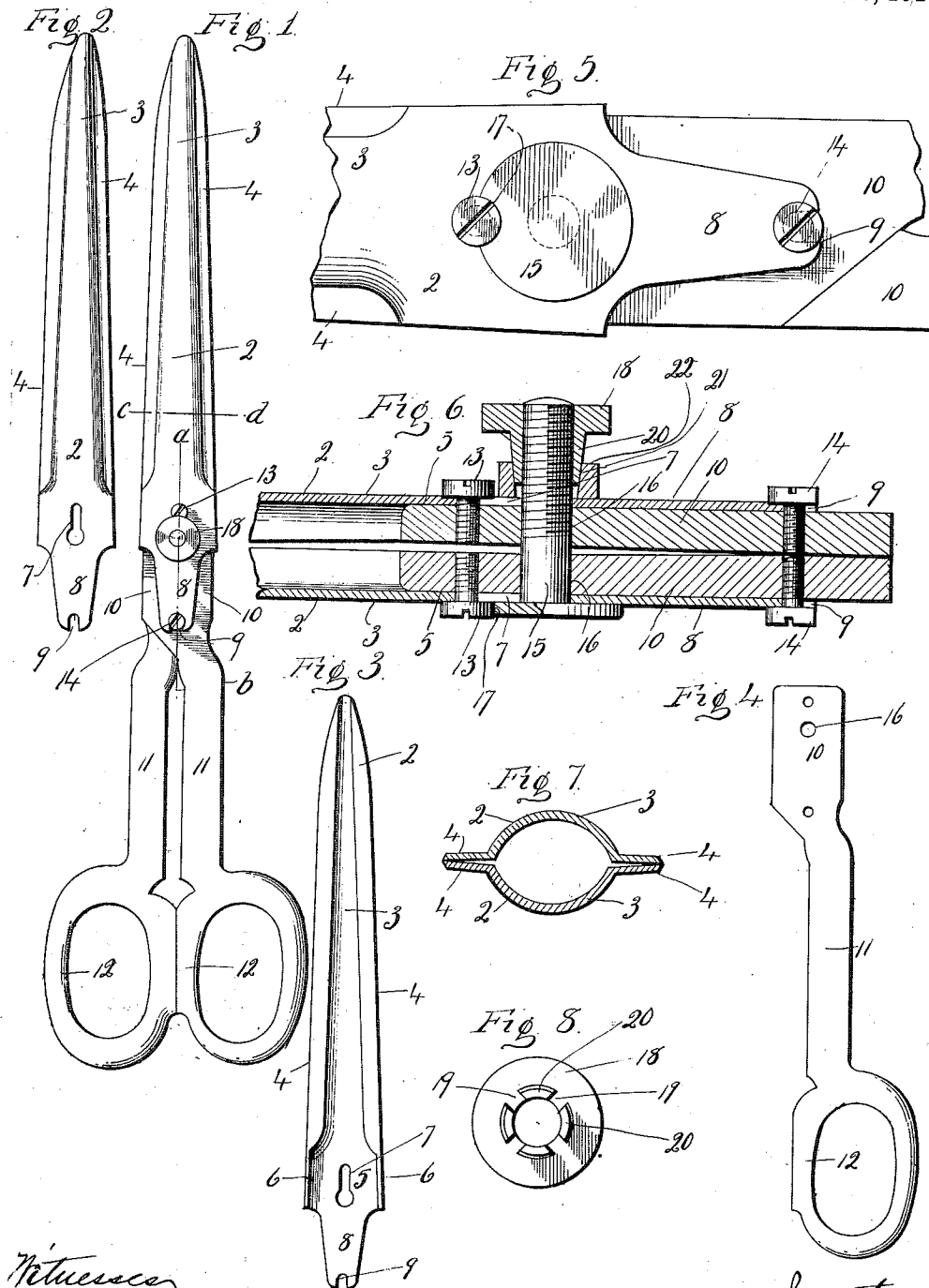


E. S. PIPER, DEC'D.
I. J. GREENO, ADMINISTRATRIX.
SHEARS.

APPLICATION FILED MAY 14, 1910.

995,090.

Patented June 13, 1911.



Witnesses
C. J. Reed.
C. L. Reed

Inventor
Edwin S. Piper
by Seymour T. Green
Att'y

UNITED STATES PATENT OFFICE.

EDWIN S. PIPER, OF BRISTOL, CONNECTICUT; IDA J. GREENO ADMINISTRATRIX OF SAID EDWIN S. PIPER, DECEASED.

SHEARS.

995,090.

Specification of Letters Patent. Patented June 13, 1911.

Application filed May 14, 1910. Serial No. 561,427.

To all whom it may concern:

Be it known that I, EDWIN S. PIPER, a citizen of the United States, residing at Bristol, in the county of Hartford and State of Connecticut, have invented a new and useful Improvement in Shears; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1 a plan view of a pair of sheet metal shears constructed in accordance with my invention. Fig. 2 a detached plan view of one of the blades of my improved shears. Fig. 3 a detached reverse plan view of one of the shear-blades. Fig. 4 a detached plan view of one of the shear-handles. Fig. 5 a reverse broken plan view of the middle portion of the shears, drawn on an enlarged scale. Fig. 6 a view of the shears in longitudinal section on the line *a—b* of Fig. 1. Fig. 7 a view in transverse section through the blades on the line *c—d* of Fig. 1. Fig. 8 a reverse plan view of the binding-nut.

My invention relates to an improvement in hand shears, the object being to produce at a low cost for manufacture, light, cheap, strong, durable and convenient shears constructed with particular reference to having removable, reversible sheet-metal shear-blades.

With these ends in view my invention consists in shears having certain details of construction as will be hereinafter described and pointed out in the claims.

In carrying out my invention as herein shown, I employ two removable shear-blades 2 exactly corresponding to each other and struck up from suitable sheet-metal blanks, each blade being formed with a longitudinal rib or corrugation 3 tapering from its inner to its outer end and flanked on either side by cutting edges 4 which converge toward each other. At its inner end each blade is shaped to form a recess 5 having slightly converging positioning flanges 6 on either side, the bottom of the said recess being formed with a key-hole locking-slot 7 larger at its inner than at its outer end. The extreme inner end of each blade is formed with a flat arm 8 located in the plane of the bottom of the recess 5 aforesaid and formed

with a locking-notch 9 in line with the slot 7 which is in line with the longitudinal axis of the blade. These two blades being duplicates of each other, as stated, may be interchanged for effecting a reversal of their cutting edges, whereby the shears may be used twice as long as otherwise without being sharpened.

With the removable reversible shear-blades above described, I employ two shear handles preferably made of cast-metal and each consisting of a blade-mount 10, a shank 11 and a finger-bow 12. The ends of the said blade-mounts 10 are adapted to fit within the positioning recesses 5 formed at the inner ends of the blades and each blade-mount is furnished with two assembling screws 13 and 14, located in line with the axes of the blade-mounts, projecting from the outer face thereof and separated from each other proportionately to the separation of the locking-slots 7 and locking-notches 9 of the shear-blades, so that when the screws 13 are entered into the smaller ends of the slots 7, the screws 14 will be entered into the notches 9. It will be understood that in applying either blade to either blade-mount, the larger end of the slot 7 is registered with the screw 13 after which the blade is brought to a bearing upon the blade-mount. The blade is then shoved longitudinally inward over the blade-mount, causing the screw 13 to enter the narrow end of the slot 7, and the screw 14 to enter the notch 9. When so assembled the positioning flanges 6 flanking the positioning recesses 5 will engage with the side walls of the blade-mounts and assist in holding the blades in line with the blade-mounts.

Each handle having been furnished in the manner described with a blade, the two handles are pivotally secured together by a screw-pivot 15 passing through the enlarged inner ends of the locking-slots 7 and through holes 16 in the blade-mounts. The head of this screw pivot 15 is formed in its edge with a locking-notch 17 receiving a portion of one of the screws 13 as shown in Fig. 1, whereby the screw pivot 15 is prevented from rotation when the shears are assembled. At its projecting other end, the screw-pivot 15 is provided with a knurled binding-nut 18 having its threaded shank made on a taper and divided by slots 19 into four yielding fingers 20 the inner ends of

which are entered into a tapering hole 21 in a binding-ring 22 passed over the projecting end of the screw-pivot 15 and interposed between the said binding-nut 18 and the blade upon which the binding-ring 22 bears. It will now be apparent that the more the binding-nut 18 is turned inward the more its tapering fingers 20 will be sprung inward by the binding-ring 22, and therefore the tighter their grip upon the screw 15.

Shears constructed in accordance with my invention have the rigidity and strength of wrought metal shears, the lightness of sheet-metal shears, and are easily finished. They also have the advantage of having removable reversible blades, whereby when the cutting-edges in use become dull, the blades may be interchanged and their opposite edges brought into play thus prolonging the usefulness of the shears between each sharpening of the blades.

I have throughout the foregoing employed the term "shears", but would have it understood that my improvement is equally adapted to the production of scissors—a term generally used to designate the smaller sizes of shears.

I claim:—

1. In a pair of shears, the combination with two handles each comprising a blade-mount, a shank and a bow; of two removable, reversible sheet-metal blades each formed with a tapering hollow longitudinal rib and with cutting edges narrower than the said rib and extending along the edges thereof, and the inner ends of the said blades being recessed to adapt them to fit over the respective blade-mounts and each formed with a keyhole slot and with a locking-notch located in line with each other; two assembling-screws mounted in each of

the blade-mounts in position to co-act with the keyhole-slots and locking-notches of the respective blades, whereby the same are removably mounted upon the blade-mounts; and a removable pivot passing through the keyhole-slots of the blades and also through the blade-mounts and forming the pivot upon which the blade-mounts are operated.

2. In a pair of shears, the combination with two handles each comprising a blade-mount, a shank and a bow; of two removable, reversible sheet-metal blades each formed with a tapering longitudinal rib, with two cutting edges narrower than the said rib and extending along the edges thereof, and each blade being formed at its inner end with a recess for the reception of the blade-mounts of the respective handles; assembling-screws mounted in the respective blade-mounts and co-acting with the inner ends of the said blades for removably securing them to the blade-mounts, a removable screw-pivot passing through the said blades and blade-mounts and formed at one end with a notched head co-acting with one of the said assembling-screws for preventing the said screw pivot from turning, a binding-nut applied to the projecting end of the screw-pivot and having a tapering sleeve slotted to form yielding fingers, and a binding-ring into which the said fingers are inserted and upon which they are sprung upon the screw-pivot when the binding-nut is turned inward.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

EDWIN S. PIPER.

Witnesses:

CARLOS V. MASON,
ANTHONY DOLEIRO.