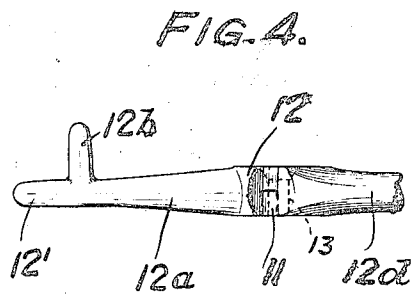
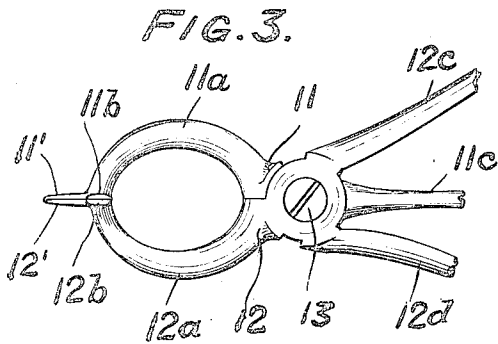
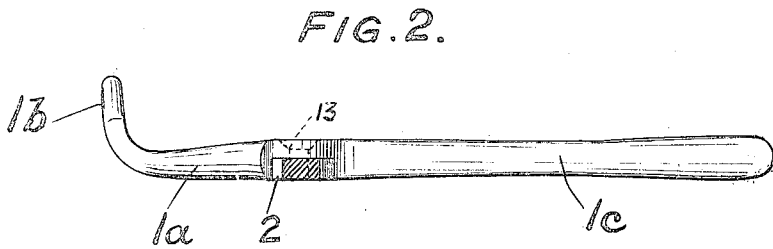
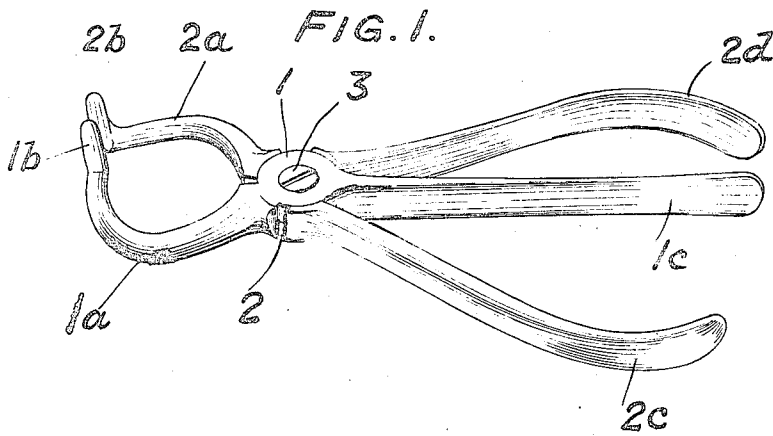


G. W. GILMER, JR.
COMBINATION TOOL.
APPLICATION FILED JUNE 5, 1911.

1,017,093.

Patented Feb. 13, 1912.



WITNESSES:

Prof. R. H. Mitchell.
Geo. G. W. W. W.

INVENTOR

George Walker Gilmer Jr.
BY *Charles N. Butler*
ATTORNEY.

UNITED STATES PATENT OFFICE.

GEORGE WALKER GILMER, JR., OF PHILADELPHIA, PENNSYLVANIA.

COMBINATION-TOOL.

1,017,093.

Specification of Letters Patent.

Patented Feb. 13, 1912.

Application filed June 5, 1911. Serial No. 631,296.

To all whom it may concern:

Be it known that I, GEORGE WALKER GILMER, Jr., a citizen of the United States, residing in the city of Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented an Improved Combination-Tool, of which the following is a specification.

My invention is a combination tool adapted for use as a spreader and as pincers or pliers.

It is characterized by the use of two levers pivoted together intermediate of their lengths so that arms thereof provided with jaws are separated by drawing together oppositely extending arms providing handles. One of the levers is preferably provided with two integrally connected handles between which the handle of the other lever is adapted to oscillate so that by drawing the middle handle toward one of the outer handles the jaws are spread and by drawing the middle handle toward the other of the outer handles the jaws are brought together, gripping movements of the hand serving to both spread the jaws and draw them together.

In the accompanying drawings, Figure 1 is a perspective view of a tool embodying my improvements; Fig. 2 is a side view of the same with one of the outer handles cut away; Fig. 3 is a plan view of a second form of the tool having the handles broken off; and Fig. 4 is a side view of the construction shown in Fig. 3.

The tool, as illustrated in Figs. 1 and 2, comprises the levers 1 and 2 connected together intermediate of their lengths by the pivot 3. The lever 1 is provided with the arm 1^a having the jaw 1^b thereon extending substantially parallel to the pivot 3 and the arm 1^c furnishing a handle. The lever 2 is provided with the arm 2^a having the jaw 2^b extending substantially parallel with the pivot 3 and adapted to coact with the jaw 1^b, this lever having the arms 2^c and 2^d integrally formed with the arm 2^a and providing handles disposed on opposite sides of the handle 1^c.

In operation, it will be understood that by gripping the handles 1^c and 2^c in the hand and drawing them together, the jaws 1^b and 2^b are drawn together and are thus

used for gripping an object, as in the operation of pliers. By gripping the handles 1^c and 2^c in the hand and thus bringing them together, the jaws 1^b and 2^b are spread and can be used for separating parts or spreading an opening, particularly a cut in a rubber tire which it is desired to clean and mend. When it is desired to use the tool as a spreader merely, the handle 2^c can be omitted.

The tool, as illustrated in Figs. 3 and 4, consists of the levers 11 and 12 connected together by the pivot 13. The lever 11 comprises the arm 11^a having the jaws 11^b and 11^c thereon, the former extending transversely to the pivot and the latter substantially parallel thereto, and the arm 11^c which affords a handle. The lever 12 comprises the arm 12^a having the jaws 12^b and 12^c thereon adapted to coact with the respective jaws 11^b and 11^c, the lever having the arms 12^c and 12^d placed on opposite sides of the handle 11^c.

It will be understood that the jaws 11^b and 12^b, extending transversely to the pivot, or in the direction of the respective handles, are adapted for use in situations where direct access can be had to the work, while the jaws 11^c and 12^c, extending transversely to the direction of the handles, are adapted for use where it is necessary to operate the handles from the side of the work.

As in the operation of the previously described form, when the handles 11^c and 12^c are drawn together, the respective jaws 11^b and 12^b, and 11^c and 12^c are drawn together. When the handles 11^c and 12^d are drawn together, the respective jaws 11^b and 12^c, and 11^c and 12^b are separated, due to the characteristic idea that both arms of each lever used in this operation lies on the opposite side from the others with respect to an axial plane passing through the pivot.

Having described my invention, I claim:

1. A tool comprising a lever provided with a jaw and two handles, in combination with a lever provided with a jaw adapted to coöperate with said jaw first named and a handle disposed between said handles first named.

2. A tool comprising a lever having integrally formed therewith a jaw and a pair of handles, a second lever having integrally

formed therewith a jaw and a handle, and
a pivot whereby said levers are connected
together so that the handle of said second le-
ver shall oscillate between the handles of
said first lever, whereby said jaws are
brought together and expanded.

In witness whereof I have hereunto set

my name this 1st day of June, 1911, in the
presence of the subscribing witnesses.

G. WALKER GILMER, JR.

Witnesses:

JOS. G. DENNY, Jr.,
ROBT. R. KITCHEL.