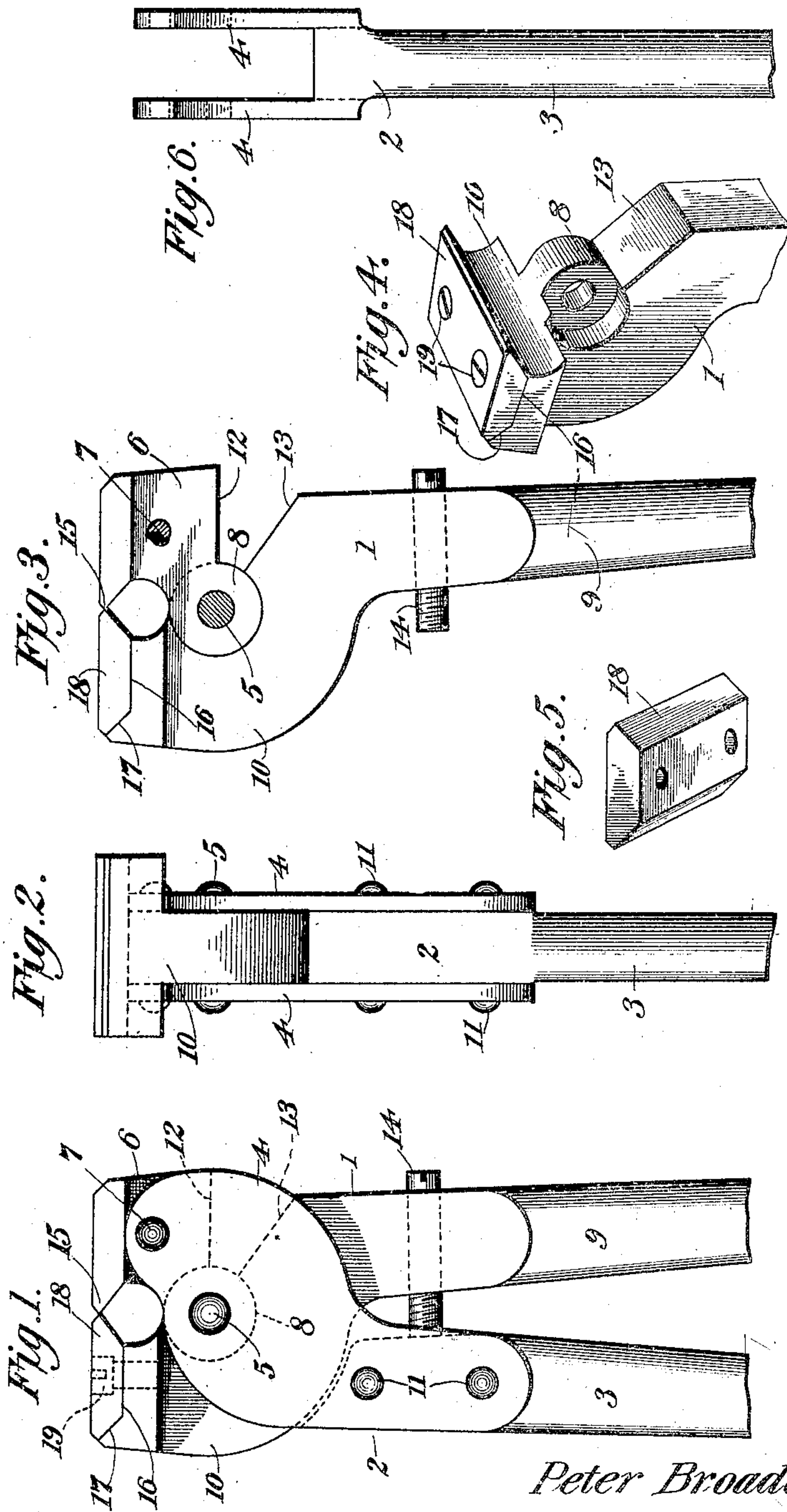


No. 881,092.

PATENTED MAR. 3, 1908.

P. BROADBOOKS
PLIERS.

APPLICATION FILED JUNE 17, 1907.



Inventor:

Peter Broadbooks

Witnesses

James P. Mansfield

By *Alexander Bowell*

Attorneys

UNITED STATES PATENT OFFICE.

PETER BROADBOOKS, OF BATAVIA, NEW YORK.

PLIERS.

No. 881,092.

Specification of Letters Patent.

Patented March 3, 1908.

Application filed June 17, 1907. Serial No. 379,390.

To all whom it may concern:

Be it known that I, PETER BROADBOOKS, of Batavia, in the county of Genesee and State of New York, have invented certain new and useful Improvements in Pliers: and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form part of this specification.

10 In the construction of pincers and like tools wherein the jaws are hinged between side plates it is customary to form the said side plates with offsets in order to throw the ends of the same into proper alinement, and 15 such construction is objectionable for many purposes since the offset portions are not sufficiently rigid and have a tendency to yield when subjected to force.

20 The primary object of the present invention has accordingly been to design a simple and inexpensive tool of the above mentioned type in which the side plates can not spring and which will operate efficiently under the most trying circumstances.

25 The invention further contemplates the provision of a pair of pliers in which one of the jaws carries a detachable blade of novel construction, the said blade being formed with interchangeable cutting edges.

30 For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction, reference is to be had to the following description and accompanying drawings, in which:

35 Figure 1 is a front elevation of a pair of pliers embodying the invention, portions of the handles being broken away. Fig. 2 is a side view of the same. Fig. 3 is a front elevation, the side plates and one of the handles 40 being removed. Fig. 4 is a detail view of one of the jaws. Fig. 5 is a similar view of the detachable cutting blade. Fig. 6 is a side view of one of the companion members and shows a modification.

45 Corresponding and like parts are referred to in the following description and indicated on the accompanying drawing by like reference characters.

50 Broadly speaking the invention is in the nature of a pair of pincers or pliers and comprises pivotally connected companion members 1 and 2 formed with cooperating jaws and handles.

55 More specifically describing the invention it will be observed that the member 2 is con-

stituted by a handle 3 having one end thereof bifurcated, the opposite companion member 1 being received between the arms 4 of the bifurcation and the two members being pivotally connected by means of the pin 5, 60 the said member 1 comprising a handle 9 and jaw 10 formed integrally in one piece. The jaw 6 of the member 2 is separately formed and is received between the extremities of the arms 4 of the bifurcation, being attached to 65 the same by any suitable means such as the pin 7, and is formed with a shank 8 which is pivotally connected to the jaw 10 of the opposite companion member by means of the pin 5. This hinged connection may be 70 brought about in any suitable manner such as in the present instance by halving the jaws 6 and 10 together at the pivot point, the opposite faces of the joint fitting closely against the inner sides of the arms 4 of the bifurca- 75 tion. These arms 4 may, as shown in Fig. 1, be in the nature of separate plates, the inner ends of which overlap opposite sides of the handle 3 and are secured thereto by any suitable means such as the fastening members 11. 80

In order to limit the opening movement of the pliers the rear face of the jaw 6 is formed with an approximately radially disposed shoulder 12 which coöperates with a corresponding shoulder 13 upon the handle of the 85 jaw 10 of the opposite complementary member 1 to produce the desired result. Under some conditions it may be found desirable to employ a gage screw such as indicated at 14 to prevent the cutting edges of the jaws 90 from coming into contact with each other with undue force, the said gage screw being threaded through one of the handles and engaging the opposite handle. By adjusting this gage screw 14 compensation may be 95 readily made for wear as required.

The heads of the jaws are extended laterally in opposite directions for the purpose of providing a large working portion. One of the jaws, and in the present instance the jaw 6, 100 is provided with an integral cutting edge 15, while the opposite jaw 10 is formed with a recess 16, said recess terminating in an inclined shoulder 17. Fitting removably within this recess is a blade 18 which is held in 105 position by means of the screws 19 and has opposite longitudinal edges thereof beveled to form cutting edges. This blade 18 sits interchangeably within the recess 16 and either of the cutting edges thereof may be 110

held in coöperative relation with the before mentioned integral cutting edge of the jaw 6, the opposite beveled edge bearing against the inclined shoulder 17. In this manner 5 the blade 18 is locked in position and the cutting edge not in use is protected from injury.

It is to be distinctly understood that I do not limit myself to the exact construction 10 shown, as slight modifications could be made without departing from the spirit of the invention.

Having thus described the invention, what is claimed as new is:

15 1. The herein described pliers comprising a bifurcated member, and an opposed member having an integral jaw entered between the bifurcation of the first member, a pivot bolt transfixing said jaw and bifurcation, an 20 opposed separately formed jaw fastened to and between the ends of said bifurcation and pivoted on said bolt, said separate jaw and the handle of the solid jaw having opposed radial surfaces adapted to limit the opening 25 movement of the jaw, substantially as described.

2. The herein described pliers composed of a handle having an integrally formed jaw, and also having an inclined shoulder 30 adjacent the pivot point of the jaw; an opposed member comprising a handle having a bifurcation on its upper end, said bifurcation embracing the said jaw and projecting beyond the pivot point; a bolt transfixing 35 the said jaw and bifurcation, a separately formed jaw fastened to and between the ends of the bifurcation and having a shank pivoted on said bolt between the arms of the bifurcation and also having a shoulder adapted 40 to engage the shoulder on the other handle

to limit the opening movement of the jaws, substantially as described.

3. The herein described pliers composed of a handle having an integrally formed jaw provided with a recess at its upper end, and 45 a removable reversible blade detachably secured in the said recess; an opposed member comprising a handle having a bifurcation on its upper end, said bifurcation embracing the aforesaid jaw and projecting beyond the pivot 50 point; a bolt transfixing the bifurcation and said jaw; and a separately formed jaw fastened to and between the ends of the bifurcation and having a shank pivoted on said bolt between the arms of the bifurcation. 55

4. The herein described pliers composed of a handle having an integrally formed jaw provided with a recess at its upper end, and said handle having an inclined shoulder adjacent the pivot point of the jaw, a remov- 60 able reversible blade detachably secured in said recess; an opposed member comprising a handle having a bifurcation on its upper end, said bifurcation embracing the aforesaid jaw and projecting beyond the pivot 65 point; a bolt transfixing the bifurcation on the jaw, and a separately formed jaw fastened to and between the ends of the bifurcation and having a shank pivoted on said bolt and also having a shoulder adapted to 70 engage the shoulder on the opposed handle to limit the opening movement of the jaws.

In testimony that I claim the foregoing as my own, I affix my signature in presence of two witnesses.

PETER BROADBOOKS.

Witnesses:

N. K. CONE,
C. B. PIXLEY.