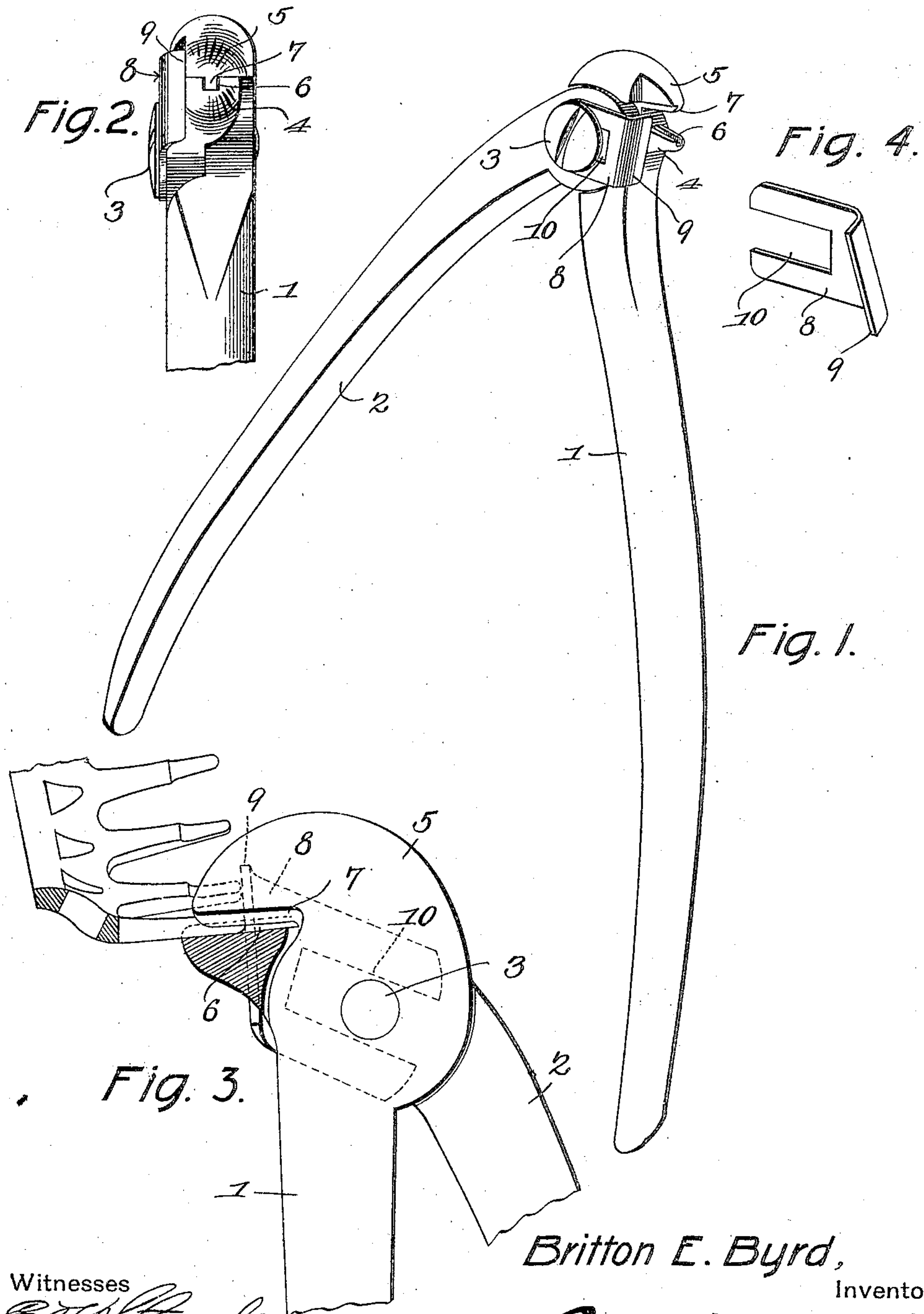


No. 818,347.

PATENTED APR. 17, 1906.

B. E. BYRD.  
JEWEL SETTING PLIERS.  
APPLICATION FILED JUNE 2, 1905.



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# UNITED STATES PATENT OFFICE.

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## JEWEL-SETTING PLIERS.

No. 818,347.

Specification of Letters Patent.

Patented April 17, 1906.

Application filed June 2, 1905. Serial No. 263,485.

*To all whom it may concern:*

Be it known that I, BRITTON E. BYRD, a citizen of the United States, residing at Durham, in the county of Durham and State of North Carolina, have invented a new and useful Jewel-Setting Pliers, of which the following is a specification.

My invention relates to pliers, and especially to that class of pliers used by jewelers and jewel-setters.

The object of my invention is to provide pliers adapted for manipulating the prongs of the gem-cage of a ring or other piece of jewelry in the operation of setting the gem.

A further object of my invention is to provide pliers for use in gem-setting and which have a gage to regulate the length of the prong bent to engage the gem.

It is well known in the craft that in the setting of gems great care must be exercised by the operator to produce the shoulders of the cage in the same plane, so that the gem when set will be firmly seated on each of the shoulders and be "plumb" in the setting.

It is an object of my invention to provide a tool having a gage which will contact with adjacent prongs while a shoulder is being formed and thus produce the shoulders at equal distances from the end.

It is further well known that when one prong of a gem-cage becomes broken it is customary to draw or swage the broken prong to the required length to again produce a hook to engage the gem.

It is an object of my invention to provide pliers having jaw-faces especially designed for drawing a prong without increasing its width. This is accomplished by providing a groove within one jaw-face and a lip upon the other disposed to compress the prong within the groove.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a perspective view of my improved pliers. Fig. 2 is a view

of my improved pliers in edge elevation. Fig. 3 is an enlarged fragmentary vertical sectional view showing the operation of my improved pliers. Fig. 4 is a detail perspective view of the gage member of my improved pliers.

Like characters of reference designate corresponding parts throughout the several views.

In the preferred embodiment of my invention I provide pliers having the usual crossed handles 1 and 2, secured by the pivot 3. The jaw-faces 4 and 5 are preferably disposed obliquely to the axis of the tool. The jaw-face 4 is provided with a longitudinally-extending groove 6, properly proportioned to receive therein a prong of the cage of a ring or other gem-setting. The jaw-face 5 is provided with a longitudinally-disposed lip 7, disposed and proportioned to engage within and substantially fill the groove 6.

Adjacent the work-receiving opening is mounted a gage 8, having an offset portion 9 disposed with its plane substantially perpendicular to the axis of groove 6. The gage 8 is provided with a slot 10, through which is passed pivot 3 or any other approved fastening device.

The operation of my approved pliers is as follows: If the tool is to be used to draw or swage a broken prong, the gage 8 may be removed or turned to a position where it will not contact with the adjacent prongs. The broken prong is then engaged within groove 6, and by a pressure upon the handles a desired swaging pressure may be exerted upon the prong, and owing to its being retained within the groove 6 it is prevented from becoming expanded except longitudinally.

For producing shoulders upon the prongs the gage is adjusted to permit the jaws to engage a predetermined length of prong. The end of the prong is then swaged, as above described, the portion not swaged forming a shoulder and the length swaged regulated by the gage contacting with the adjacent prong.

While my pliers are especially adapted for the purposes mentioned above, it is obvious that they may be used for various other purposes, in which case the operation would necessarily depart somewhat from that described.

Having thus described the invention, what is claimed is—

1. A device of the class described compris-

ing crossed and pivoted levers having jaws  
rigid therewith and having work-engaging  
faces meeting on a line substantially perpen-  
dicular to the general line of the levers and  
5 having tongue-and-groove formations in the  
opposing faces, and a gage adjustably secured  
at the pivot.

2. A device of the class described compris-  
ing a lever having a jaw at one end substan-  
10 tially perpendicular thereto, a work-engaging  
face formed upon the jaw and with a longitu-  
dinal lip centrally of the face, a jaw pivoted

to the lever and having a work-engaging face  
provided with a groove complementary to the  
lip, and a gage adjacent the work-receiving 15  
opening and adjustably secured at the pivot.

In testimony that I claim the foregoing as  
my own I have hereunto affixed my signature  
in the presence of two witnesses.

BRITTON E. BYRD.

Witnesses:

J. B. MASON,

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