

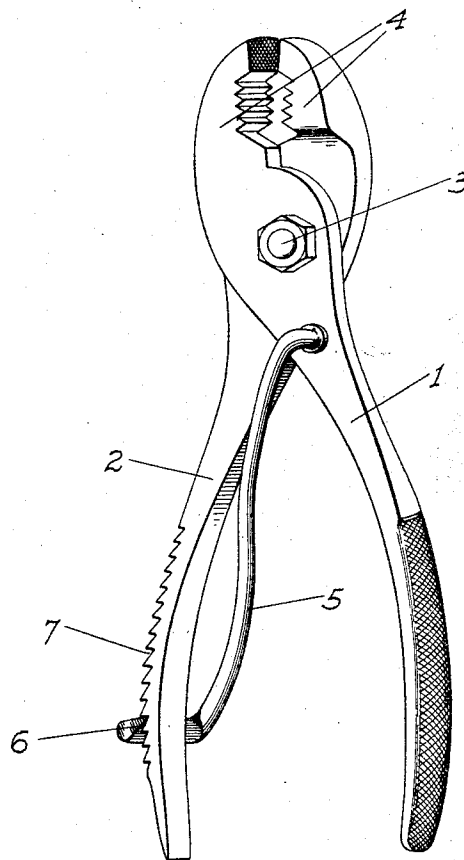
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G. M. PERRY

PLIERS

Filed March 28, 1925



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UNITED STATES PATENT OFFICE.

GEORGE M. PERRY, OF SAN DIEGO, CALIFORNIA.

PLIERS.

Application filed March 28, 1925. Serial No. 19,040.

To all whom it may concern:

Be it known that I, GEORGE M. PERRY, a citizen of the United States, residing at San Diego, county of San Diego, State of California, have invented certain new and useful Improvements in Pliers; and I do declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, and to the characters of reference marked thereon, which form a part of this application.

This invention relates to improvements in pliers of the common "cross-arm" type, my principal object being to incorporate with a pliers of this character an attachment which will make of the pliers a positive gripping device so that the jaws will not spread apart regardless of the turning strain applied to the pliers on the object by hand, and without necessitating a very tight grip being maintained on the handle of the pliers.

Further objects of the invention are to provide an attachment for the purpose which becomes operative by a slight pressure of the hand of the operator and is automatically released when such pressure is released; one which functions without the use of cams, springs, links and the like; a device which enables the pliers to be readily manipulated by either hand and to be used in places prohibiting the use of both hands; one which enables the gripping power of the pliers to be greatly and instantly increased at will without decreasing the speed with which the pliers as ordinarily constructed may be manipulated; and one which will function throughout the full range or capacity of spread of the jaws.

A further object of the invention is to produce a simple and inexpensive device, and yet one which will be exceedingly effective for the purpose for which it is designed.

These objects I accomplish by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claims.

The figure on the drawing is a perspective elevation of a pair of pliers showing my improved attachment incorporated therewith.

Referring to the numerals of reference on the drawings the pliers comprises as usual handles 1 and 2 crossing each other and pivoted together as at 3 and opposed jaws 4 beyond the pivot.

Pivoted at one end and on one side of the handle 1 near the pivot 3 is a rigid rod 5 which projects toward the opposite end of the other handle 2. Intermediate its ends said rod is bent so that its outer end lies outwardly of the outer surface of the handle 2, and is formed on said end with a portion 6 which overhangs said outer surface of the handle 2 at right angles to the longitudinal plane thereof. Said portion 6 which is substantially a pawl is wedge shaped in cross section with its edge facing the handle 2 and adapted to seat in transverse saw-tooth notches 7 cut therein. By reason of the shape and arrangement of the rod 5 relative to the handles said rod cannot swing very far in either direction and the pawl 6 is consequently limited in its movement to or from the notches regardless of the setting of the handles relative to each other. It will be evident that contact of the pawl with the handle 2 of course limits the movement of the rod and pawl in one direction, while the contact of the rod with the inner face of the handle 2 toward the pivotal connection of the latter limits the movement of the pawl in the opposite direction.

The notches are so cut relative to the pivotal point of connection of the rod 5 with the handle 1 that the pawl tends to move out of the notches when the pressure of the operator on the rod is removed.

Thus when it is desired to allow the pliers to open and disengage the jaws from any object, the handles do not first have to be contracted to allow the pawl to escape; and it is impossible for the locking pawl to jam in said notches.

In operation the handles are grasped by either hand of the operator in the usual manner and the jaws set so as to engage the objects to be grasped, the pawl being allowed to move freely along the notches.

When the object is firmly engaged by the jaws the pawl is pressed into and held in engagement with the nearest notch by the fingers of the operator.

As long as only the necessary pressure to thus maintain the pawl in engagement with a notch is maintained, any desired pressure tending to rotate the object can be applied to the pliers without the pawl jumping out of said notch and without the possibility of the jaws spreading.

When it is desired to remove the pliers

the pressure on the pawl is released when, as above stated, said pawl will of itself leave the notch.

From the foregoing description it will be readily seen that I have produced such a device as substantially fulfills the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claims.

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

1. A locking attachment for pliers having crossed handles pivoted together and provided with opposed jaws beyond their pivotal connection, comprising a rigid member pivoted onto one handle on one side and near the pivot thereof and extending thence toward the outer end of the other handle and terminating on the opposite side thereof from the pivotal connection of said rod

with the first handle, a pawl provided on the outer end of the rod and overhanging the outer face of said other handle, and transverse notches in said outer face adapted to be engaged by the pawl.

2. A locking attachment for pliers having crossed handles pivoted together and provided with opposed jaws beyond their pivotal connection, comprising a rigid member pivoted onto one handle near the pivotal connection thereof and extending toward the opposite end of the other handle, a rigid pawl on the outer end of the said member extending across the outer face of the other handle, transverse notches in said other handle adapted to be engaged by the pawl, the notches being so cut relative to the pawl and to the pivotal connection of the rod that the pawl tends to move out of the notches unless pressure is exerted on the pawl in a direction toward the notched face of the pawl.

In testimony whereof I affix my signature.

GEORGE M. PERRY.