R. F. COLEMAN.

WIRE BENDING PLIERS.

APPLICATION FILED AUG. 21, 1912.

1,048,809.

Patented Dec. 31, 1912.

Fig. 1.

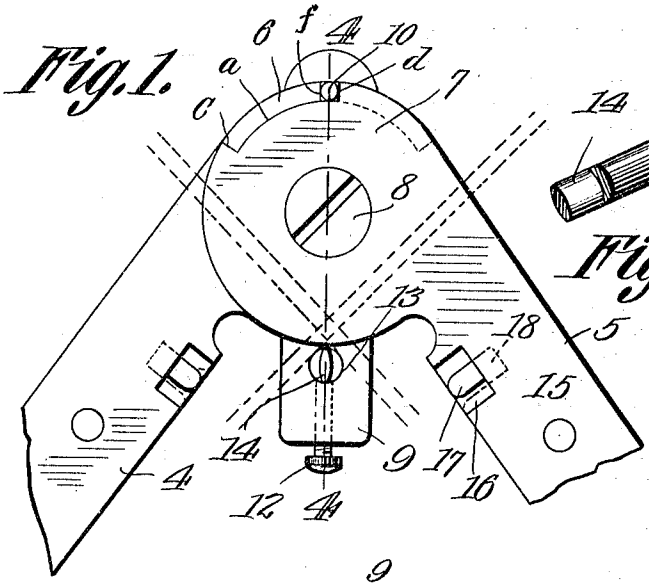

Fig. 5.

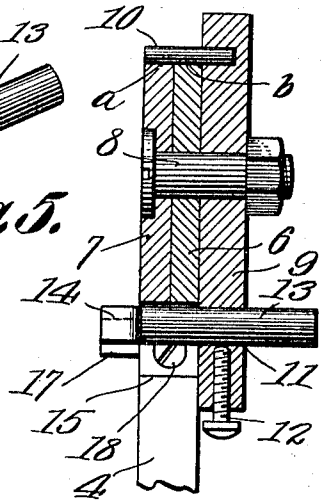

Fig. 2.

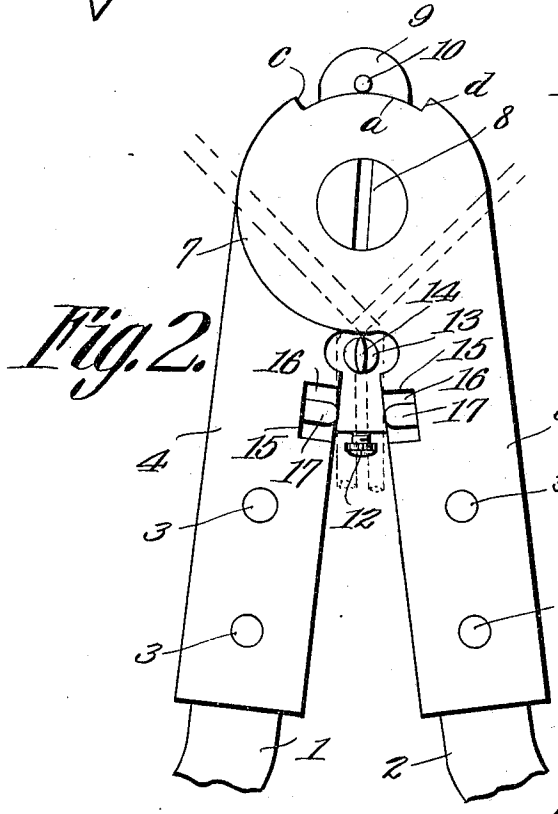

Fig. 3.

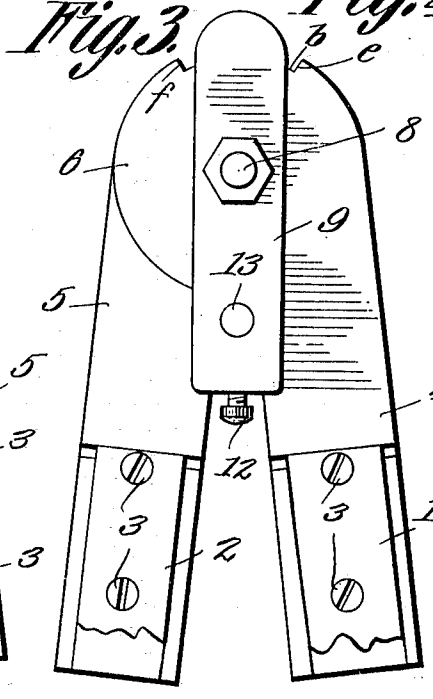

Fig. 4.

Witnesses

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UNITED STATES PATENT OFFICE.

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WIRE-BENDING PLIERS.

1,048,809. Specification of Letters Patent. Patented Dec. 31, 1912.

Application filed August 21, 1912. Serial No. 716,301.

To all whom it may concern:

Be it known that I, ROBERT F. COLEMAN, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented new and useful Wire-Bending Pliers, of which the following is a specification.

The present invention relates to improvements in wire bending pliers.

The primary object of the present invention is the provision of a pair of pliers provided with means whereby the free or crossed ends of two strands of wire generally employed in the construction of guard screens for windows and the like, may be bent in parallel to be threaded through the frame of the screen, the said pliers being provided with a centering means whereby the jaws thereof are permitted the necessary maximum movement and at the same time to simultaneously center the seating anvil of the pliers in position for bending the terminals by the jaw-carried anvils.

A further object of the present invention is the provision of a pair of pliers of this character which is simple and durable in construction, and thoroughly efficient and practical in use.

With the foregoing and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings—Figure 1 is a bottom plan view of the operating end of the pliers, the anvils and the jaws being in the position for the initial reception of the strands of wire to be bent. Fig. 2 is a similar view at the final bending position. Fig. 3 is a top plan view, or a view in reverse to that shown in Fig. 2. Fig. 4 is a section taken on line 4—4 of Fig. 1. Fig. 5 is a perspective view of the angle receiving anvil.

Referring to the drawings, the numerals 1 and 2 designate the handles which are slightly offset to prevent the fingers of the operator from being injured when operating the pliers and are connected by means of bolts or screws 3 to the respective jaws 4 and 5. The jaws 4 and 5 are provided respectively with the disk heads 6 and 7 and are pivotally connected together by means of the bolt or screw 8.

Pivotally mounted upon the screw 8 upon the outer face of the disk 6 of the jaw 4, is a bar 9, which carries upon one end the centering pin 10, said centering pin 10 riding at all times upon the curved recessed portions *a* and *b* of the respective disks 6 and 7, the movement of the respective jaws being limited by the shoulders *c*—*d* and *e*—*f*.

Formed through the bar 9 at the opposite end to the centering pin 10 is an aperture 11 into which is adjustably held by means of the set screw 12, the angle anvil carrying member or pin 13, which is provided with the anvil end 14, said anvil end 14 being disposed to seat within the angle or crotch of the wire strands at the initial application of the tool as indicated in Fig. 1.

The respective jaws 4 and 5 are recessed upon their inner faces as at 15 for the removable reception of the tempered metal blocks 16, each one of which is provided with its respective anvil 17, said blocks 16 being held rigidly in place to its respective jaw by means of its screw 18.

When the pliers are initially assembled for the bending of the free ends of the wire, the anvil 14 is in the position as shown in Fig. 1, with the anvils 17 exteriorly thereof, so that when the pliers are actuated to bring the jaws toward each other, the free ends are engaged and forced to assume the dotted position of Fig. 2, being disposed substantially parallel so that the slotted plates of the frame usually employed to surround the screen formed by the wires may be readily fed or slid upon the parallel ends which are bent outwardly upon the frames to lock the same upon the screen.

From the foregoing description, taken in connection with the drawings, it is evident that when the jaws 4 and 5 are open to be positioned as shown in Fig. 1, that the centering pin 10 will be engaged by the respective shouldered portions *d* and *f* and thus limit the extreme outward movement of the jaws and at the same time insure the centering of the anvil 14 so that the same may fit within the angle or crotch of the wire mesh with the free ends of the wires disposed to be in the path to be engaged by the anvils 17 when the jaws are

moved toward each other to the position as shown in Fig. 2.

By constructing the tool as herein indicated, the same will operate upon diamond as well as square mesh frame, and will operate either upon an acute or an obtuse angle as readily as upon a right angled mesh.

What is claimed is:

1. A pair of pliers of the character described, having two jaws pivoted together, a bar pivotally connected to the pivot of the jaws and in co-active relation to the jaws, means for centering the bar upon the extreme separation of the jaws, an anvil carried by said bar, and two anvils carried by said jaws for co-action with the anvil of the bar.

2. A pair of pliers of the character described, having two jaws pivoted together, a bar pivotally connected to the pivot of the jaws and in co-active relation to the jaws, means for centering the bar upon the extreme separation of the jaws, an anvil carried by said bar, an anvil detachably connected to the inner face of each jaw, said last two anvils being disposed to describe an arc of a circle with the pivot of the jaws as its axis and of greater circumference than the arc of the jaw-carried anvil.

3. A wire bending pliers, having two jaws, each of said jaws being provided with a disk head, a pivot disposed concentrically of the disk heads for securing the jaws together, a bar pivotally connected to the pivot of the jaws and disposed upon one side of one of the disk heads, co-acting means carried by the bar and both of the jaws for limiting the movement of the jaws and for centering the bar, an angle fitting anvil carried by the bar and disposed to be placed between the jaws, and an anvil carried by each jaw upon the inner face thereof for co-action with the bar-carried anvil.

4. A wire bending pliers, having two jaws, each of said jaws being provided with a disk head, a pivot disposed concentrically of the disk heads for securing the jaws together, a bar pivotally connected to the pivot of the jaws and disposed upon one side of one of the disk heads, co-acting means carried by the bar and both of the jaws for limiting the movement of the jaws and for centering the bar, an angle fitting anvil carried by the bar and disposed to be placed between the jaws, the inner face of each jaw being recessed, and an anvil carrying block insertible in each recess of the jaws and detachably connected thereto, said anvils being disposed to co-act with the angle anvil of the bar.

5. A wire bending pliers, having two jaws, a pivoting pin connecting the jaws together, a bar pivotally connected to the pivot of the jaws and having one end disposed to project between the adjacent portions of the jaws, an anvil carried by said end and projecting between the jaws, co-acting means carried by the jaws and the opposite end of the bar for centering such anvil and limiting the outward movement of the jaws, and an anvil carried by each jaw and disposed for co-action with the bar-carried anvil.

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

ROBERT F. COLEMAN.

Witnesses:
JESSE M. BIRCKS,
WILLIAM M. CHASE.