

No. 777,412.

PATENTED DEC. 13, 1904.

J. HAMEL & A. HARDY.
WIRE WORKING IMPLEMENT.

APPLICATION FILED APR. 18, 1902.

NO MODEL.

FIG. 1.

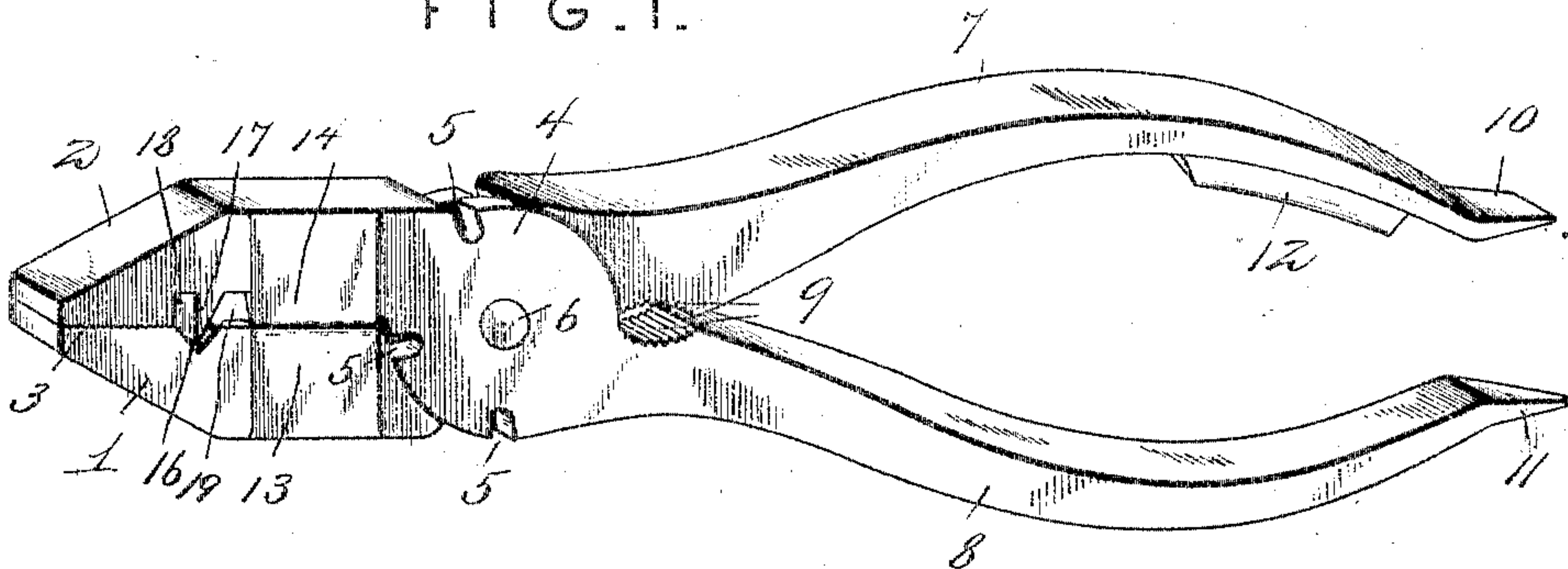


FIG. 2.

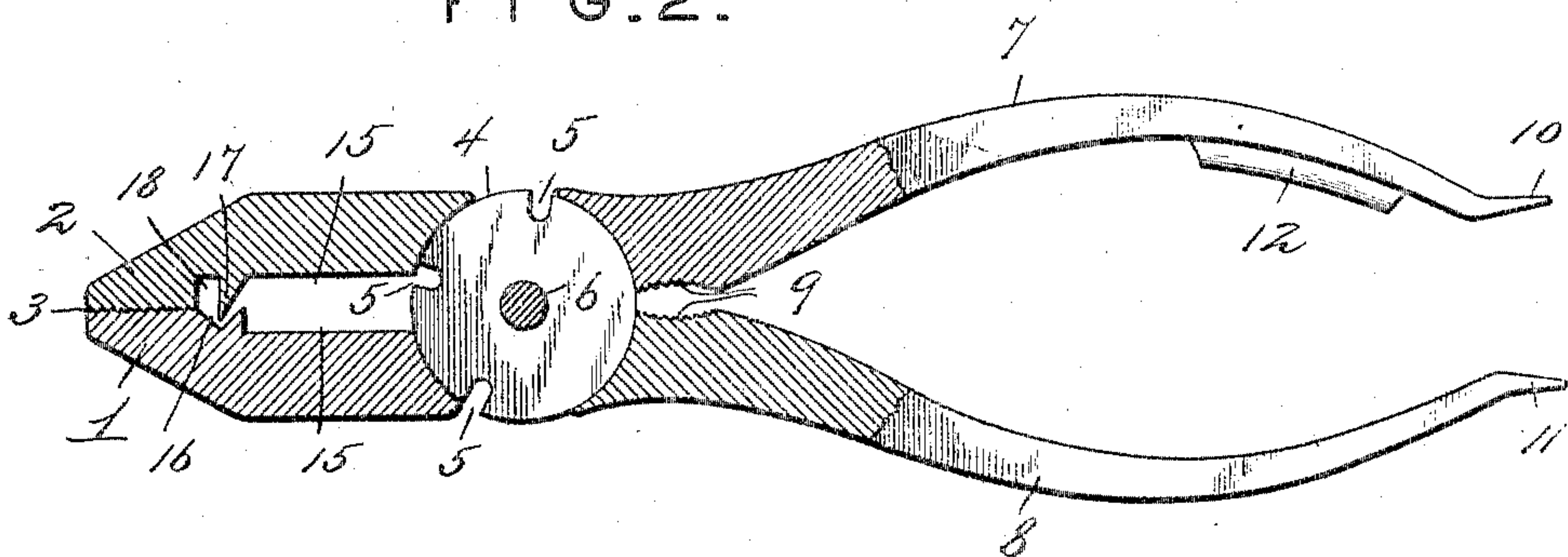
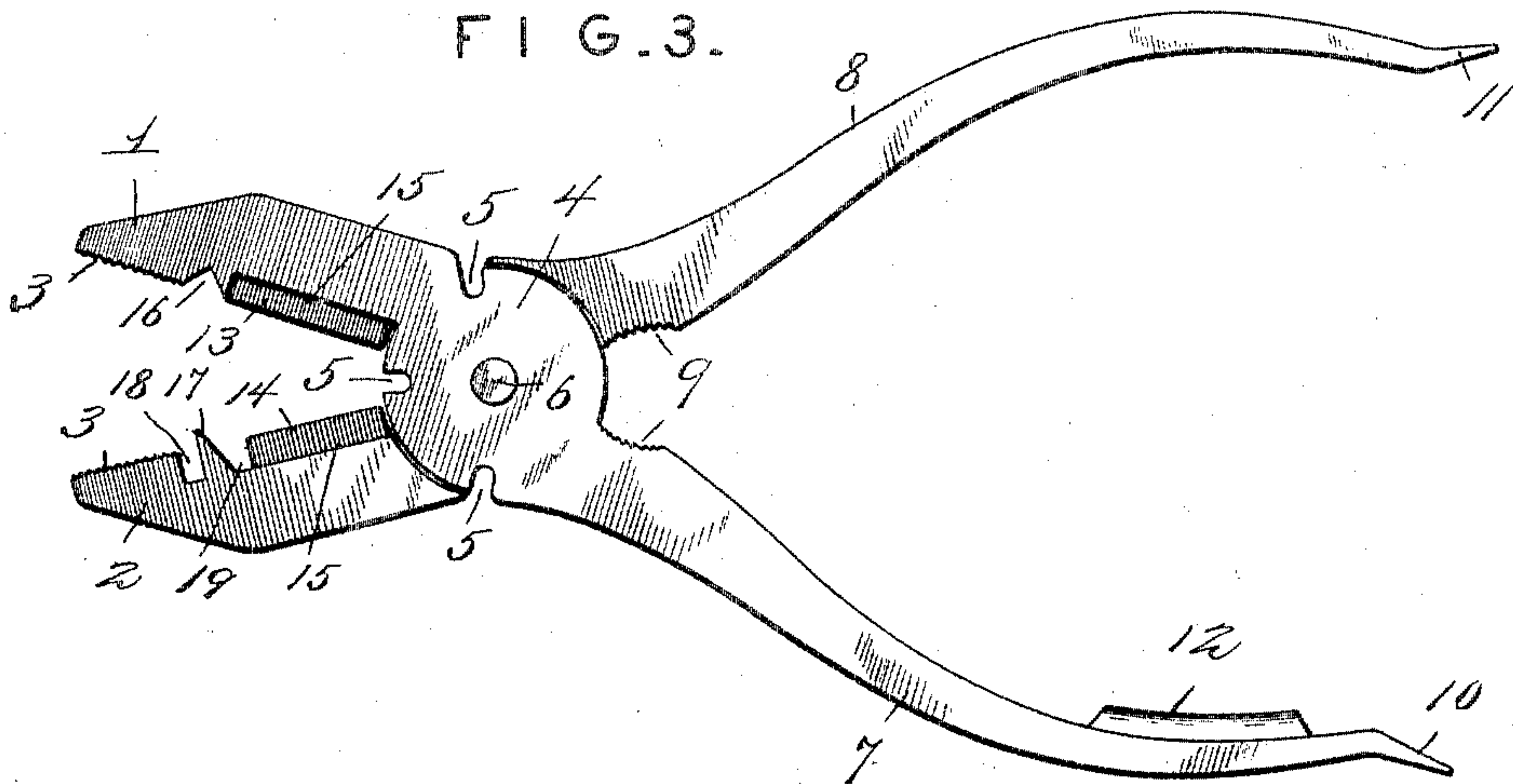


FIG. 3.



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WIRE-WORKING IMPLEMENT.

SPECIFICATION forming part of Letters Patent No. 777,412, dated December 13, 1904.

Application filed April 18, 1902. Serial No. 103,607. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH HAMEL and ALPHONSE HARDY, subjects of the King of Great Britain, residing at Quebec city, in the Province of Quebec, Dominion of Canada, have invented new and useful Improvements in Wire-Working Implements, of which the following is a specification.

This invention relates to wire-working implements in the form of pliers adapted for use by indoor wire workers, electricians in general, and linemen especially; and the primary object of the same is to provide in one implement a number of structural features which will adapt it for use in performing different kinds of work, and particularly in treating insulated wire without requiring a change of tools and a consequent delay, as usually pursued in the old methods.

A further object of the invention is to avoid the use of knives in removing the insulation from an electrical conductor in forming a joint and also to provide means for scraping a wire terminal to produce a practical contact by removing adhering particles of the insulation, as well as to embody in the implement various forms of cutters and shears and a pipe-gripping structure to assist in wiring generally.

With these and other objects and advantages in view the invention consists in the construction and arrangement of the several parts, which will be more fully hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of an implement or pliers embodying the features of the invention. Fig. 2 is a partial longitudinal vertical section of the same. Fig. 3 is a side elevation of the improved implement shown open.

Similar numerals of reference are employed to indicate corresponding parts in the several views.

The numerals 1 and 2 respectively designate jaws similar in general contour to those usually found in pliers and reduced toward their free ends for obvious reasons. The inner opposing straight faces 3 of the jaws are serrated or roughened for gripping purposes, as in the ordinary structure of pliers, and each

jaw continues into a substantially circular articulating member 4, having peripheral notches 5, which are radially disposed and arranged at intervals, the articulating members being connected by a fulcrum or pivot-pin 6, extending transversely through the centers thereof. The notches 5 are so disposed in the contiguous members 4 that they will form shears when the said members are moved and the notches change position in relation to each other, and continuing from the said members are handles 7 and 8, suitably curved or bowed for convenience in gripping the same and operating the jaws.

Both handles 7 and 8 adjacent the members 4 have concave recesses 9 formed therein and longitudinally corrugated or closely grooved to produce oppositely-disposed biting-surfaces, whereby a means for gripping pipe will result similar to the ordinary pipe-tongs. The rear free end 10 of the handle 7 is bent or arranged at an angle and reduced to form a screw-driver, and the similar end 11 of the handle 8 is bent at an angle and reduced to form a reamer. Projecting inwardly from the handle 7, near the rear terminal of the same, is a scraping blade or projection 12, which is used for scraping the exposed portions of insulated wire to remove particles of the insulation which may adhere thereto for the purpose of effecting a practical contact either to engage a binding-post or similar device or in making joints between the terminals of two wires.

The jaws 1 and 2 also have side cutters 13 and 14 for various purposes, and immediately behind or inward from the said side cutters the jaws are constructed with longitudinal slots 15 to form an open space through which wire may extend and be severed by the said cutters 13 and 14, and thereby avoid obstruction to the closing movement of the jaws 1 and 2. In advance of the slot in the jaw 1 an inverted-V-shaped seat 16 is formed, and adapted to depend thereinto is a cutter 17, which has clearance slots or recesses 18 19 in front and rear of the same. The seat 16, cutter 17, and slot 18 extend the full width of the jaws 1 and 2, and the use of the cutter is

to separate or sever the insulation from electrical wires or conductors. In the operation of cutting or severing the insulation from wire the latter is disposed in the seat 16 and the jaws 1 and 2 are closed, thereby bringing the cutter downwardly against and forcing it through the adjacent portion of the insulation. During this operation the wire and the remaining insulating material thereon at the point where a portion of the latter is severed by the blade 17 moves upwardly into the slot 18, and the severed insulation passes into the recess 19. By this arrangement of recesses the blade will be permitted to pass through the insulation a sufficient distance to practically separate the same from the wire without obstruction from the remaining portion of the covered wire because of its becoming clamped between the jaws and preventing free movement thereof toward each other.

From the foregoing it will be seen that a convenient implement is produced embodying in one structure elements usually carried by several different implements or tools, and a workman or lineman will always have in hand and ready for operation in the one implement, as set forth, a number of structural devices for performing different operations necessary in mounting or putting up electrical wires or conductors and avoid delays incident to a workman being required to put down one implement and take up another. The improved implement also overcomes the necessity for the use of a penknife or other separate cutting-blade usually employed in removing the insulation or insulating material from a wire to make a joint or contact, and painful injuries due the use of such cutting operations as now commonly pursued will be prevented. It is also understood that in certain wiring operations it is necessary to disjoint a gas-pipe, and the present implement will have means embodied therein for carrying on this particular work, as heretofore explained, and a great advantage in the present improved device is the economy in the expense to workmen in procuring the same in view of the materially greater expense neces-

sary to obtain separate implements or tools having the same features. 50

Although the preferred form of the improved device has been shown and described, it is obvious that changes in the shape, proportions, dimensions, and minor details may be resorted to without departing from the spirit of the invention. 55

It will be observed that the forward end of the cutter 13 of jaw 1 practically constitutes the inner or rearward wall of seat 16 and that the corresponding end of cutter 14 of jaw 2 constitutes the inner or rearward end of the slot or recess 19. 60

Having thus fully described the invention, what is claimed as new is—

An implement of the class set forth comprising pivotally-united jaws having handles for operating the same and each having a side cutter adjacent to longitudinal slots formed in the opposing sides of the jaws to provide an open space disposed centrally of the implement and having upper and lower walls which are parallel when the jaws are closed, one of said jaws also having a V-shaped seat in advance of its cutter and the other jaw having a V-shaped additional cutter to enter said seat, the longitudinal slot of the jaw carrying the V-shaped additional cutter terminating at the rear side of the latter and forming a rear clearance-opening in advance of its side cutter with relation to said additional cutter, the front wall of the additional cutter being vertically straight and forming the rear terminal of a rectangular clearance-recess 18 in advance thereof, the clearance recess and opening preventing the additional V-shaped cutter from becoming jammed and the space provided by the slots permitting the longitudinal insertion of material between the jaws for engagement by the said additional cutter. 70 75 80 85

In testimony whereof we affix our signatures in presence of two witnesses. 90

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