Oct. 21, 1952 C. E. PETERSON ET AL 2,614,779

ROD POSITIONING FRAME

Filed Aug. 21, 1950

Fig. 1

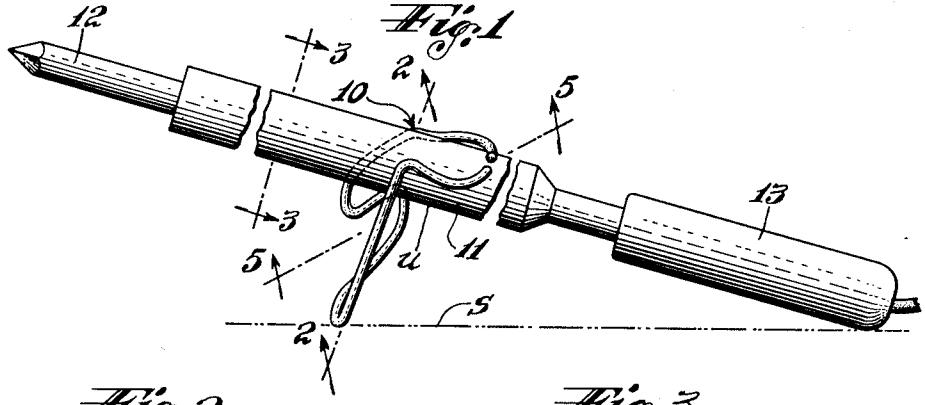


Fig. 2

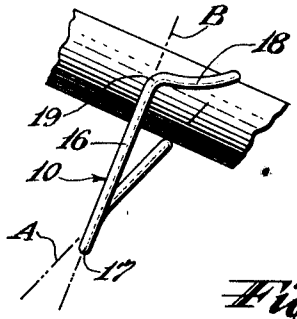


Fig. 3

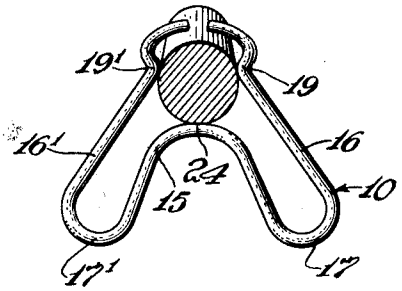


Fig. 4

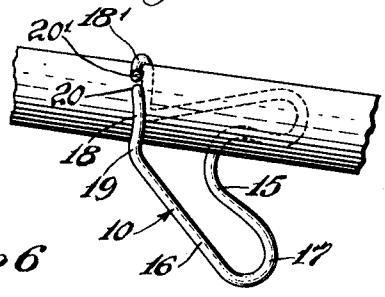


Fig. 5

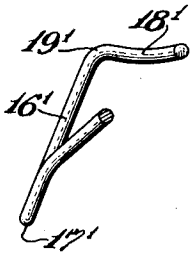
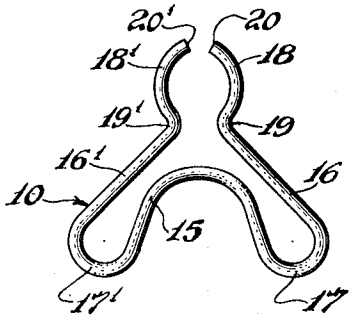


Fig. 6



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ROD POSITIONING FRAME

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1 Claim. (Cl. 248—44)

1

This invention relates to a device for use in connection with elongated tubular or rod-like members intended to be manipulated for successive operations requiring dexterity. It is adapted for use in connection with such devices, for example for holding "the hot end" of a soldering iron in spaced relation to a supporting surface. The operator is thus enabled to position the soldering iron (or other object) on the supporting surface without interrupting his concentration on the soldering or other operations, in an automatic fashion and with complete safety and accuracy. The operator soon acquires dexterity in the use of the device to which the invention is applied, with resultant increase in efficiency, reduction of time required for the operation involved, and a material increase in the safety factor.

While the invention is particularly adapted for use with devices such as soldering irons having ends which are to be supported in spaced relation to a surface, it is equally applicable to other or analogous uses, including application to rod members which are provided with an end to be protected from damage by or contact with a supporting or other surface.

The invention consists of a unitary frame member which may be readily applied to the rod to be supported thereby and will automatically accommodate itself to rods of a reasonable range of different diameters and cross-sectional outlines. It may be made in a standard size calculated to suit most purposes or in several sizes to accommodate rods of materially different sizes.

It is of such structural features that it will inherently tend to securely hold the rod therein and to resist any tendency toward accidental displacement. At the same time, it is so designed that it may be moved instantaneously and readily to inoperative position at the option of the user.

In the drawings:

Fig. 1 is a perspective view of a rod positioning frame embodying the invention applied to a soldering iron (partly broken), and holding one end of the iron out of contact with the supporting surface,

Fig. 2 is a fragmentary elevational view taken on line 2–2 of Fig. 1,

Fig. 3 is a vertical sectional view taken on line 3–3 of Fig. 1,

Fig. 4 is a fragmentary perspective view similar to Fig. 1 but showing the rod positioning frame moved to inoperative position,

Fig. 5 is a vertical sectional view of the frame alone, taken on line 5–5 of Fig. 1, and

Fig. 6 is a plan view of the rod positioning frame.

2

In the drawings the rod positioning frame embodying the invention is indicated at 10 as being a unitary member made of spring wire for application to a rod 11 (such as a soldering iron) having an end 12 to be supported in spaced relation to a surface S. The frame comprises a central downwardly disposed open bowed portion 15 to abut the underside of the rod on application of the frame thereto, and side torque arms 16, 16' connected to the bowed portion 15 at their lower ends and defining at the point of connection corner portions 17, 17'. The torque arms 16, 16' extend above the bowed portion 15 and are directed toward each other and provided with outwardly arced jaws 18, 18' connected thereto at a substantial angle which may be an approximately 90° angle and defining therewith sharp shoulder portions 19, 19' adapted to engage the rod in generally aligned relation to the shoulder portions and which cooperate therewith in engaging the rod and holding the same in the frame. The lower corner portions 17, 17' of the frame are spaced apart a substantially greater distance than the jaws 18, 18' when applied to the rod 11, providing a substantial support for the rod. The bowed portion 15 of the frame is disposed at an axial plane A (Fig. 2) which is nonparallel to that B of the torque arms 16, 16', being inclined toward the free ends of the jaws 18, 18'.

The frame is applied to the rod by inserting the latter therein so as to be disposed between the shoulder portions 19, 19' which, together with the free ends of the jaws 18, 18' embrace the rod and cooperate with the apex 24 of the bowed portion 15 to securely clamp the rod in the frame. The jaw end of the frame will expand to accommodate rods of a fair range of diameters.

The construction of the frame as above outlined is such as to impart inherent rigidity thereto, the torque arms being moved apart under tension in inserting the rod therein so that they will hold their position securely.

The operative position of the device is indicated at Fig. 2, from which it will be noted that the plane A in which the bowed portion 15 of the frame is disposed is directed away from the free end 12 of the rod and toward the other end 13 of the latter. When the device is applied to the rod, the latter may be positioned on the surface with complete assurance that it will be disposed thereon with the end 12 of the rod elevated. The corner portions 17, 17' of the frame 10 rest on the surface and cooperate with the other end 13 of the rod to securely position the rod as shown in Fig. 1. If the operator desires to move the frame to an inoperative position, he

need only rotate the frame on the rod to the position shown in Fig. 4, the frame snapping to that position. If force is brought to bear accidentally or otherwise on the portion of the rod to which the frame is secured, such force will be absorbed by the frame. As a practical matter, one cannot move the end 12 of the rod downwardly onto the surface S while the frame is secured thereto as indicated in Fig. 1. When the frame is secured to the rod, the operator is freed of the necessity of worrying about the rod end 12 contacting the supporting surface, and can from time to time position the rod on the supporting surface, without the necessity of taking his eyes off the job at hand. The frame may be readily removed from the rod by simply sliding the same therealong until it has passed the free end of the rod.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is:

A rod positioning frame adapted to be secured to one end of an elongated rod to hold the same therein and out of contact with a supporting surface on which the frame and other end of the rod are to be positioned, comprising a frame formed from a single strand of spring wire and including a centrally disposed downwardly opening bowed portion, the crown portion of which is adapted to engage the underside side of the

rod on application of the frame thereto, a pair of torque arms connected at their lower ends to the lower ends of the legs of the central bowed portion and defining surface engaging corner portions, said torque arms extending upwardly above the top of the central bowed portion and being directed toward each other, and a pair of coacting curved jaws formed on the upper ends of said torque arms and adapted to engage the opposite sides of the rod, said jaws cooperating to hold the rod and resist forces exerted on the first mentioned end of the rod, the central bowed portion of the frame being disposed at an incline with respect to the plane of the torque arms.

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