Sept. 7, 1954 K. A. SCHMULDT 2,688,267

HOLDER FOR WIRE LEADS

Filed April 3, 1953

FIG 1

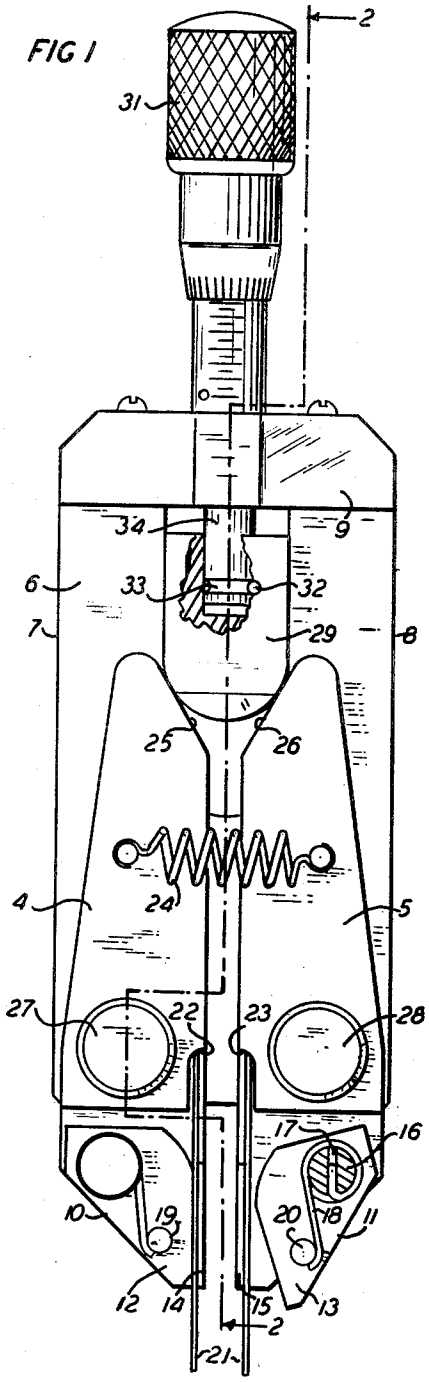


FIG 2

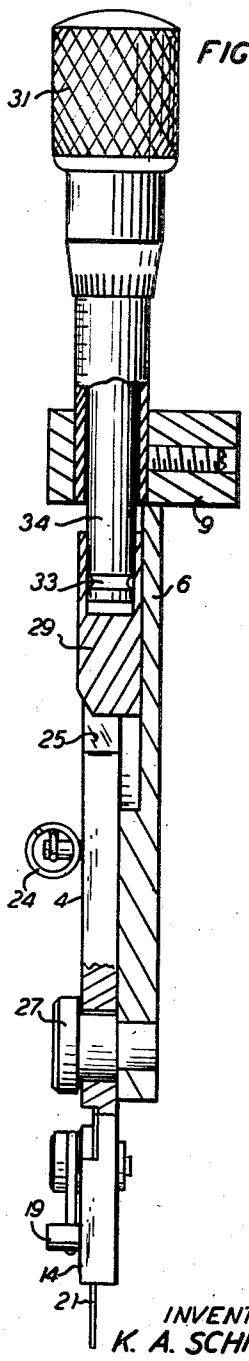
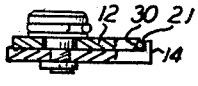


FIG 3



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HOLDER FOR WIRE LEADS

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5 Claims. (Cl. 81—3)

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This invention relates to a wire holding device and particularly a holder for a pair of wire leads.

In the art of transistor manufacture, the pairs of fine wire electrodes for the transistors must be processed through a number of operations. They must be bent to required configurations, the semi-conductor contacting ends must be shaped, they must be spaced and positioned on the semi-conductor body and they must be held thereon while the transistor is capsulated. Due to the small size of the wires involved, these operations present considerable difficulty in handling especially in controlling the spacing between the wires.

It is an object of the present invention to provide a simple holder in which a pair of wires may be securely held while processing and in which the spacing between the wires can be varied and accurately controlled.

In accordance with the above object, the present invention, in one embodiment thereof, comprises a base member provided with a pair of arms pivotally mounted near one end of the base, the arms having jaws extending beyond the end of the base. A jaw member is pivotally mounted on each arm to hold a lead wire against the overhanging jaw and a micrometer type control is provided at the other end of the base for adjusting the spacing of the jaws.

In accordance with a feature of the invention, the base member is provided with smooth, parallel sides for fitting into the ways of the associated fixtures used in processing the wires held in their holder. A stop member is also provided on the base member for positioning the holder in these fixtures.

These and other features of the invention will be more fully understood from the following detailed description taken in conjunction with the accompanying drawing in which:

Fig. 1 is a plan view, partially in section, of a preferred embodiment of the invention;

Fig. 2 is a side elevational view of the device of Fig. 1 through the plane indicated by the section line 2—2 of Fig. 1; and

Fig. 3 is a front elevational view, partially in section, of one of the jaws of the device of Fig. 1.

Referring now to the drawing, two movable arms 4 and 5 are pivotally mounted on one end of base member 6 which is provided with smooth, parallel sides 7 and 8 for fitting into the ways of the associated fixtures which perform the operations discussed above. Stop member or shoulder 9 is also provided on the base for positioning the holder in the ways. These associated fixtures

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are not shown or further described herein since they are not essential to a complete understanding of the invention.

The ends of the arms 4 and 5 which extend beyond base member 6 are provided with wire receiving jaws 10 and 11, respectively. These jaws comprise pivoted, spring biased, jaw members 12 and 13 which clamp wire leads 21 against companion jaw ridges 14 and 15 which are provided on the arms 4 and 5, respectively. In the view of the jaw 10 shown in Fig. 3, it is seen that the member 12 has an inclined surface 30 for securely holding the wire 21 against the ridge 14. The spring biasing of the jaw assembly is more clearly shown in Fig. 1, in the partially broken view of jaw 11 wherein it is seen that a jaw member pivot 16 which is secured to arm 5 has a hole 17 extending transversely therethrough in which one end of a spring 18 is secured. The other end of the spring 18 is tensioned against a pin 20 which is fixed to the jaw member 13. To open the jaws for inserting or removing wire leads 21 therefrom, the pins 19 and 20 are spread apart which causes the jaw members 12 and 13 to pivot away from the ridges 14 and 15, respectively. For illustration, jaw 11 is shown in its open position, some external force being required to hold the jaw open due to the action of the spring. Limiting shoulders 22 and 23 are provided on the arms as stops for positioning wires inserted in the jaws.

The spacing between the jaws and, therefore, the wire leads 21, is controlled by a conventional micrometer device, which is mounted on the end of the base opposite the jaws, and a spring 24, the action of which holds the arms in contact with a separating member 29. The desired spacing of the wires is obtained by adjusting a micrometer screw 31 to vary the position of member 29 which, in engaging inclined surfaces 25 and 26 of arms 4 and 5, rotates the arms 4 and 5 about their pivots 27 and 28, respectively. Dowel 32, which rides in a circumferential groove 33 of a rotatable micrometer advancing member 34, couples the separating member 29 to the member 34.

It is to be understood that the above described arrangements are simply illustrative of the application of the principles of the invention. Numerous other arrangements may be readily devised by those skilled in the art which will embody the principles of the invention and fall within the spirit and scope thereof.

What is claimed is:

1. A holder for a pair of wire leads comprising

a base member, a pair of arms pivotally mounted on one end of the base member and having jaws protruding beyond said end of the base, a jaw member pivotally mounted on each arm to hold a wire against the protruding jaw and means mountd on the other end of the base for adjusting the spacing between the jaws.

2. A holder for a pair of wire leads comprising a base member, a pair of arms pivotally mounted on one end of the base member and extending beyond said end, each of the arms being provided with wire receiving ridges along one side of the extending portions thereof, spring biased jaw members pivotally mounted on the arms to hold wire leads against the ridges and micrometer means at the other end of the base for adjusting the spacing between the arms.

3. A wire holder comprising a base member having smooth, parallel sides for fitting into the ways of an associated fixture and a stop member for positioning the holder in the ways, a pair of arms pivotally mounted near one end of the base and having overhanging jaws, a jaw member pivotally mounted on each arm to hold a lead wire against the overhanging jaw and micrometer means at the other end of the base for adjusting the spacing of the jaws.

4. A holder for a pair of wire leads comprising a base member, a pair of arms pivotally mounted on one end of the base member having jaws extending beyond said end of the base, the arms being provided with wire receiving ridges along one side of the jaws thereof and having spring biased jaw members pivotally mounted thereon

to hold wire leads against the ridges, the ends of the arms opposite the jaws having tapered edges, a separating member for the arms, spring biasing means for holding the tapered edges of the arms in sliding contact with the separating member and micrometer means mounted on the other end of the base for moving the separating member for adjusting the spacing between the jaws.

5. A wire holder comprising a base member having smooth, parallel sides for fitting the ways of an associated fixture and a stop member for positioning the holder in the ways, a pair of arms pivotally mounted on one end of the base member having jaws extending beyond said end of the base, the arms being provided with wire receiving ridges along one side of the jaws thereof and having spring biased jaw members pivotally mounted thereon to hold wire leads against the ridges, the ends of the arms opposite the jaws having tapered edges, a separating member for the arms, spring biasing means for holding the tapered edges of the arms in sliding contact with the separating member and micrometer means mounted on the other end of the base for moving the separating member for adjusting the spacing between the jaws.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
1,142,024	Chott	June 8, 1915
1,334,971	Shore	Mar. 30, 1920
2,553,620	Yeazell	May 22, 1951