

Nov. 26, 1957

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2,814,092

COMBINED FITTING AND CUTTING DEVICE

Filed Aug. 26, 1955

2 Sheets-Sheet 1

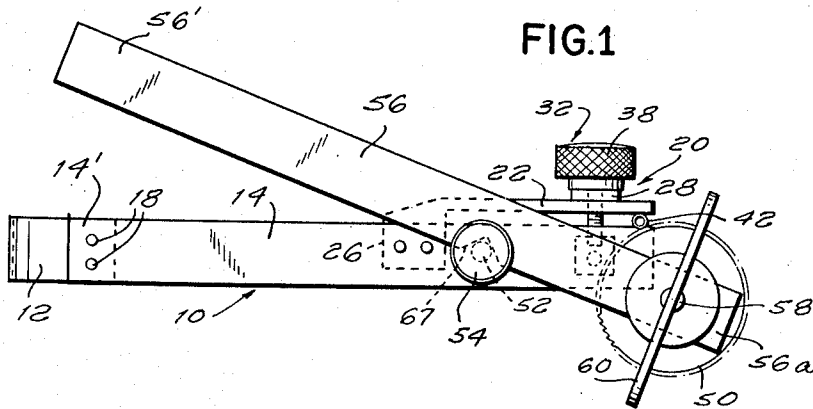


FIG.1

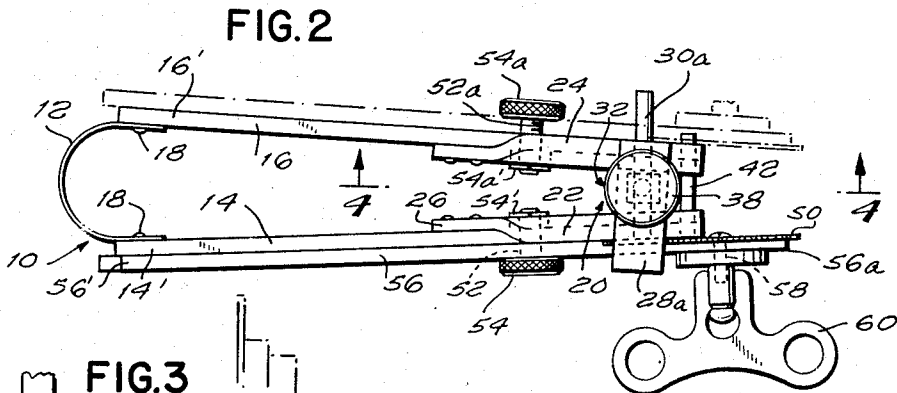


FIG. 2

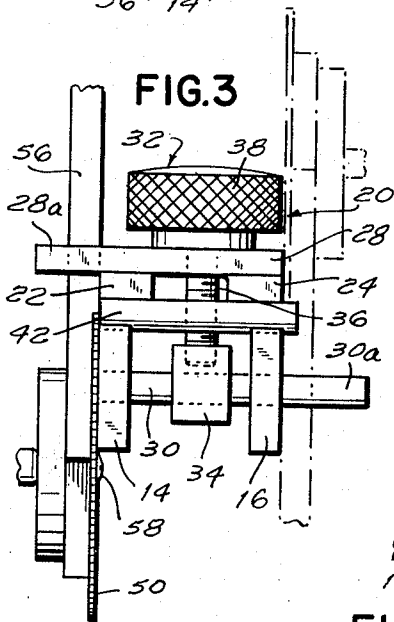


FIG.3

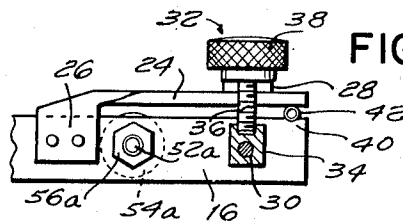


FIG.4

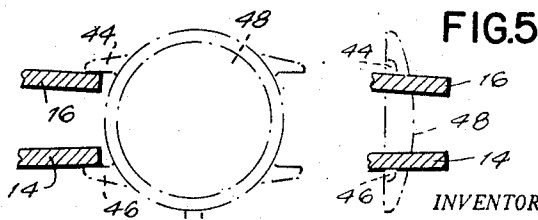


FIG.5



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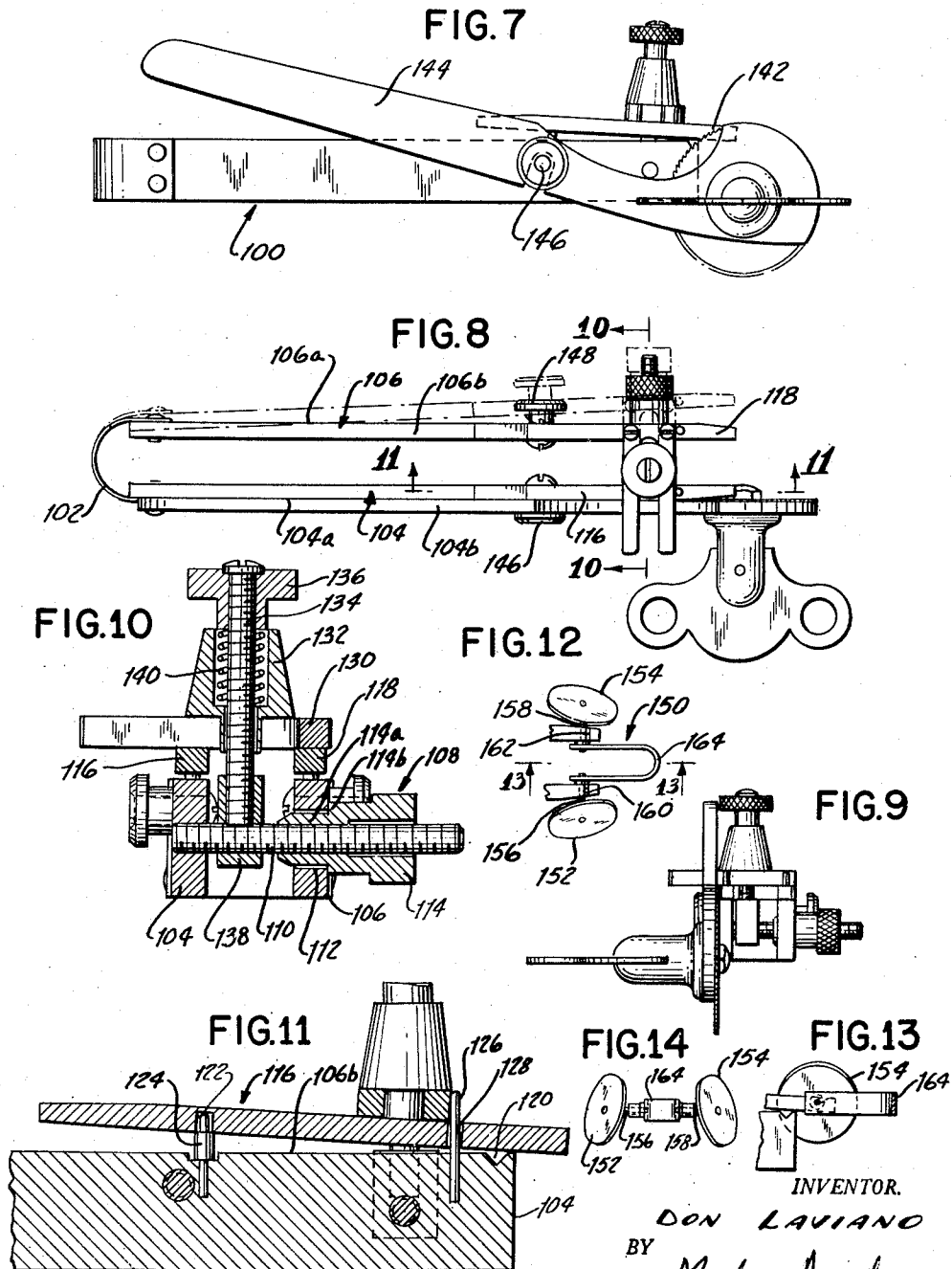
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2 Sheets-Sheet 2



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COMBINED FITTING AND CUTTING DEVICE

Don Laviano, New York, N. Y.

Application August 26, 1955, Serial No. 530,716

9 Claims. (Cl. 29—69)

The present invention relates to cutting tools, and in particular to a combined caliper, vise and cutting device or attachment for fitting metallic rods, tubes and the like to a predetermined length. The invention finds its primary application as a watchmaker's appliance or tool in the fitting of the tubular sleeves of a watch band to a watch casing. This is a continuation-in-part of copending application, Serial No. 429,511, filed May 13, 1954, now abandoned.

Bracelets or bands for watches are usually attached to the casing proper by the use of pins which extend through tubular sleeves at opposite ends of the band or strap. Although the sleeves or clips of the watchband usually fit into the appropriate socket of the watch casing, it is not infrequent that a watchband must be fitted to accommodate the attachment sleeves or clips to the width of the socket of the watch casing. Such fitting involves the removal of portions of the sleeves at their opposite extremities until the length of the sleeve is substantially equal to or somewhat smaller than the length of the socket in the watch casing. The fitting is usually accomplished by filing away the ends of the clip and is not only tedious, time consuming and exacting, but frequently undesired in that there is the ever present risk that the watchmaker will damage or ruin the watchband. It is not uncommon to form rough and unsightly surfaces and/or cause the clips or sleeves to be deformed out of their desired shape as a result of the filing.

Accordingly, it is an object of the present invention to provide improved means for fitting parts, particularly hollow tubular sleeves of soft metal, to various lengths. Specifically, it is within the contemplation of the present invention to provide a cutting and fitting device which may be employed to cut off the attachment sleeves or clips of a watchband to the size of the accommodating sockets on the watch casing.

It is broadly known to employ one or more circular cutting saws in association with a plier-like tool for the fitting of such metal sleeves or tubes to required lengths. However, the acceptance of such tools has been very limited due in part to their inherent complexity, the risk of deforming the part, the lack of versatility and the possibility of improper cutting. Still further, with such tools there is the requirement that the user make an independent measurement of the socket of seating part of the watch casing and then adjust the cutting tools to cut off the desired length of the sleeves.

It is a further object of the present invention to provide a single device which may be used to fit the sleeves to the socket parts of the casing and to cut off the sleeves to desired lengths.

In accordance with an illustrative embodiment demonstrating features of the present invention, there is provided a combined caliper, vise and cutting device which includes a pair of caliper arms arranged in side by side relation and spring mounted for adjustment toward and away from each other. The outer faces of the caliper arms serve as

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references in establishing the spacing between the caliper arms in accordance with length of the part to be fitted. A seat is formed straddling the caliper arms near the reference surfaces, and a clamping structure secures the part in the seat with the ends to be cut off projecting beyond the reference faces. Preferably a circular saw is arranged for selective attachment to the caliper arms with the circular saw being operative substantially in the plane of the reference faces to cut off the projecting ends of the part.

As a feature of the invention, an attachment is provided which facilitates centering of the part to be cut off to assure symmetrical removal of the projecting ends. This further contributes to reliability in fitting of the parts.

As will be appreciated by considering the following detailed description, a watchmaker, by comparatively simple manipulations involving little or no skill or dexterity, is able to fit a watch band to a casing in a very short period of time with the assurance that the fitting will be proper and without risk of damaging the watch band.

The above brief description, as well as further objects, features, and advantages of the present invention will be best appreciated by reference to the following detailed description of presently preferred illustrative embodiments, when taken in conjunction with the accompanying drawing, wherein:

Fig. 1 is an elevational view of a combined measuring and cutting device embodying features of the present invention;

Fig. 2 is a plan view of the device shown in Fig. 1;

Fig. 3 is an enlarged elevational view, with parts in section, taken from the right of Figs. 1 and 2;

Fig. 4 is a sectional view taken substantially along the line 4—4 of Fig. 2 and looking in the direction of the arrows;

Fig. 5 is a fragmentary sectional view showing the adjustment of the caliper arms to a watch casing;

Fig. 6 is a fragmentary elevational view taken from the left of Fig. 5;

Fig. 7 is an elevational view of a modified measuring and cutting device embodying further features of the present invention;

Fig. 8 is a plan view of the device shown in Fig. 7;

Fig. 9 is an elevational view taken from the right of Figs. 7 and 8;

Fig. 10 is a sectional view, on an enlarged scale taken substantially along the line 10—10 of Fig. 8 and looking in the direction of the arrows;

Fig. 11 is a sectional view, on an enlarged scale, taken substantially along the line 11—11 of Fig. 8;

Fig. 12 is a fragmentary plan view showing a centering attachment according to the present invention mounted on the foremost end of the vise or hold down fingers of the device shown in Figs. 7 and 8;

Fig. 13 is a sectional view taken substantially along the line 13—13 of Fig. 12 and looking in the direction of the arrows; and,

Fig. 14 is an elevational view taken from the right of Fig. 12.

Referring now specifically to Figs. 1—6 inclusive, there is shown a combined caliper, vise and cutting device according to the present invention which includes a fork-like body 10 including a pair of side by side caliper arms 14, 16 interconnected adjacent one pair of ends by a U-shaped spring 12. The caliper arms, which are seen to include planar outer faces are preferably fabricated of cold-rolled and case-hardened steel, while the U-shaped member 12 is fabricated of spring steel and serves to bias the caliper arms away from each other. The caliper arms are selected of such a length as to assure that the outer faces of the arms remote from the spring 12 remain in

substantial parallelism in various positions of adjustment of the caliper arms, for a purpose which will subsequently become apparent. In the illustrative form of the invention, the pair of ends 14', 16' are connected to the opposite legs of the U-shaped spring 12 by rivets 18.

Adjacent the pair of ends of the caliper arms 14, 16 remote from the spring 12, there is provided releasable adjustment mechanisms, generally designated by the reference numeral 20, which maintains the caliper arms in various positions of adjustment in relation to each other against the biasing effect of the spring which serves to urge the caliper arms away from each other. The releasable adjustment or attachment mechanisms includes a pair of hold-down or clamping fingers 22, 24 arranged respectively over faces of the caliper arms 14, 16 which extend at right angles to the outer planar reference faces. The fingers or clamping members 22, 24 are fabricated of resilient material, such as spring steel and are anchored to the inner faces of the respective arms 14, 16. In the illustrative form, enlarged ends 26 are provided for the fingers 22, 24 which lie flush against the inner faces of the arms 14, 16 and are fixed thereto by rivets. In that the fingers 22, 24 are fabricated of spring steel, it will be appreciated that the same may be urged toward and away from the adjacent edge faces of the caliper arms, for a purpose which will subsequently be described.

Overlying the hold-down fingers 22, 24 and extending transverse thereto is a bridge member 28 which is fixed to the finger 24. The bridge member 28 has a bearing and sliding contact against the finger 22 and terminates in an end 28a spaced beyond the finger 22. Upon urging of the bridging member 28 into frictional bearing contact with the finger 22 it will be appreciated that the caliper arms 14, 16 may be fixed in relation to each other against the biasing effect of the spring 12.

Spaced below and parallel to the bridging member 28, is a further bridging member 30 which is fixed to the caliper member 14 and extends through an appropriate opening in the caliper arm 16, the bridging member 30 terminating in free end 30a spaced beyond the outer face of the member 16. The bridging members 28, 30 cooperate to guide the caliper members in their movement toward and away from each other.

The required frictional contact between the bridging member 28 and the finger 22 to fix the caliper members in a required position of adjustment is attained through provision of a threaded screw 32 which includes a threaded body 36 tapped into a head 34 rigidly affixed to the bridge member 30 intermediate the caliper arms 14, 16. The screw 32 includes a head 38 which bears against the bridge part 28 and deflects the same downwardly in response to turning of the screw in the appropriate direction. Thus it will be appreciated that the caliper arms 14, 16 may be adjusted to a desired spacing and upon tightening down of the screw 32 the caliper arms are locked against movement from said predetermined spacing.

The edge faces of the caliper arms 14, 16 beneath the respective hold-down fingers 22, 24 are provided with aligned recesses or notches 40 which define a seat straddling the pair of ends of the caliper arms remote from the spring 12. The seat 40 is adapted to accommodate a part to be fitted, for example the hollow attachment sleeve or clip 42. For the purposes of illustration, the sleeve or clip 42 is shown removed from a watchband.

The described caliper and vising arrangement may be employed to fit the sleeve 42 to the width of the socket defined by the lugs or projections 44, 46 on the watch casing 48. As is well understood the lugs or projections 44, 46 are provided with aligned circular seats to accommodate the ends of a pin which is extended through the sleeve 42. Proper fitting requires that the sleeve 42 be somewhat shorter in length than the spacing between the inner faces of the projections 44, 46. To achieve this fitting, it is merely necessary to insert the foremost ends

of the caliper arms 14, 16 between the lugs or projections 44, 46 as illustrated in Figs. 5 and 6. When so inserted, the outer surfaces of the caliper arms serve as references and the spacing between these outer surfaces will correspond substantially to the spacing between the inner faces of the lugs 44, 46. Upon tightening down of the screw 32, the caliper arms 14, 16 will be locked in the desired spacing, with the sleeve or clip 42 clamped in place with its ends projecting beyond the outer faces of the caliper arms. In actual practice, the spacing between the arms 14, 16 is made slightly less than the exact spacing between the lugs 44, 46 so that the sleeve or clip, when fitted will have a little clearance space in relation to the lugs 44, 46. The projecting ends of the sleeve 42 may then be cut off with the use of a conventional file, the file being moved along the outer faces of the caliper arms 14, 16 to shear off the projecting ends in substantially the respective planes of the outer faces of the caliper arms.

Although it is possible to use a conventional file in conjunction with the device described, it is preferred to employ a circular saw 50 which is held flush against the outer faces of the caliper arms for the purpose of cutting off the projecting ends of the tubular member 42.

The circular saw 50 is supported on an elongated flat handle 56 adjacent the end 56a, the handle including a gripping portion 56'. The saw is mounted through provision of an axle or pivot pin 58 and is turned by means of a handle 60 secured to the pin 58. The saw is mounted flush against the outer side face of either of the arms 14, 16 through provision of pins 52, 52a which extend outwardly from the outer side faces of the arms 14, 16. The pins terminate in enlarged heads 54, 54a which are spaced from the outer side faces of the caliper arms by a distance equal to the thickness of the handle 56. The handle is notched, as indicated at 67 whereby the handle may be assembled in either the full line position of Fig. 2 in abutment with the outer surface of the caliper arm 14 or in the broken line position of Fig. 2 in abutment with the outer surface of the caliper arm 16. The spacing of the pivot pins 52, 52a in relation to the seat 40 is selected such that the perimeter of the circular saw 50 may be brought into the position illustrated in Fig. 1 wherein upon turning of the crank of handle 60 the end of the sleeve projecting beyond the outer surface of the caliper arm 14 may be severed in the plane of said outer surface.

It will be appreciated that the saw 50 on its handle 56 may be removed from the engaged position on the pin 52, the body 10 turned over, and the handle 56 engaged on the pin 52a (illustrated by the broken lines in Fig. 2) with the saw in position to cut off the opposite end of the sleeve 42. During the cutting operation, the body 10 is grasped in one hand, the handle 56 depressed by said hand to urge the periphery of the saw into contact with the sleeve 42, the blade is turned with the other hand.

A typical sequence of operation will now be described in detail in order to facilitate a more thorough understanding of the operation of the present device:

Initially the calipers with the saw 50 and handle 56 removed is adjusted to the distance between the lugs 44, 46 of the watch casing 48 or to a distance somewhat smaller than the spacing between the lugs, depending upon whether or not clearance space is required. After this operation the screwhead 38 is somewhat tightened down until there is sufficient bearing contact between the bridge member 28 and the hold down finger 22 to maintain the caliper arms 14, 16 in fixed relation relative to each other.

The cross bar or sleeve of the watch band is then placed in the seat with the ends thereof projecting symmetrically beyond the outer faces of the caliper arms 14, 16. Thereupon the screwhead 38 is further tightened down so that the clamping fingers 22, 24 vise the sleeve 42 into a fixed position on the seat 40.

The handle 56 is then held flush against the outer surface of the caliper arm 14 and upon turning of the handle

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or key 60 the adjacent overhanging end of the sleeve is trimmed off. By appropriate selection of the saw, it is possible to obtain a smooth, burr free cut.

The handle 56 is then removed from its supported position on the caliper arm 14 and the body 10 turned about its longitudinal axis through an angle of 180°. In this position the handle 56 is engaged against the outer face of the caliper arm 16 (see the dotted line showing in Figs. 3 and 4) whereupon the cutting operation is again repeated.

Reference will now be made to Figs. 7 through 11 inclusive, wherein there is shown a modified form of the present invention demonstrating further features of the present invention. The modified form includes a caliper body 100 consisting of a U-shaped spring 102 interconnecting one pair of ends of the caliper arms 104, 106 which extend in substantial parallelism and in side by side relation. The outer surfaces 104a, 106a of the caliper arms are substantially flat and extend substantially in parallel relation in various positions of adjustment of the arms.

Extending between the ends of the caliper arms 104, 106 remote from the spring 102 is an adjustment mechanism, generally designated by the reference numeral 108, which holds the arms in various positions of adjustment in relation to each other against the outward biasing of the spring 102. In the illustrative form these mechanisms include a threaded bolt 110 which is fixed to the caliper arm 104 and extends through a hole 112 in the caliper arm 106. The bolt carries a threaded nut 114 which includes a forward projection 114a extending into the opening 112 and a shoulder 114b bearing against the outer surface 106a of the arm 106. The opening 112 is somewhat elongated whereby the adjustment mechanisms 108 may be accommodated to various positions of adjustment of the caliper arms 104, 106 in relation to each other. Upon turning of the nut 108 in one direction, the arm 106 will be urged toward the arm 104 against the tension of the spring 102; upon turning of the nut 114 in the opposite direction, the arms 104, 106 will be spread apart under the influence of the spring 102.

Overlying the edge faces 104b, 106b of the caliper arms 104, 106 are the respective clamping or hold-down fingers 116, 118. The respective fingers are mounted for adjustment toward and away from the faces 104b, 106b which are notched as indicated at 120 to provide a seat straddling the arms 104, 106. Both of the hold-down or clamping fingers 116, 118 are mounted in a similar way and accordingly it will suffice to describe only one in detail. As shown in Fig. 11 the hold-down finger 116 is provided with an opening 122 in its under surface which accommodates a pin 124 carried by the arm 104. The pin 124 and the accommodating bore mount the arm 116 for rocking movement toward and away from the upper edge face 106b, the finger 116 being guided in said movement through provision of an upstanding guide pin 126 which extends through an opening 128 in the finger 116.

Appropriate means are operatively connected to the hold-down fingers 116, 118 for urging the same toward the seat 120 to lock a sleeve or the like against the seat for trimming of opposite end portions which project beyond the surfaces 104a, 106a. This clamping structure includes a bifurcated bridging member 130 which is fixed to the hold-down finger 118 and overlies and bears against the hold-down finger 116. Positive locking is achieved through provision of a bearing member 132 supported on a threaded bolt 134 having a head 136. The threaded bolt extends axially through the bearing member 132 and is received within a head 138 threadedly engaged on the threaded bolt 110. The abutment member 132 is provided with a bore which accommodates a spring 140 which is supported between one end wall of the bore and the head 136 and serves to bias the abutment member 132 against the bridging member 130. The arrangement is such that upon tightening down on the abutment 132 by

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turning of the head 136 the same is brought to bear against the bridge member 130 to attain the desired frictional contact between the bridging member 130 and the hold-down finger 116.

The operation of the modified form of the invention illustrated in Figs. 7 to 11 inclusive is substantially the same as that of previously except for the provision of the independent mechanisms 108 for locking the caliper arms 104, 106 in relation to each other, and the structure for urging the hold down fingers 116, 118 toward the seat. Accordingly a detailed description of a typical sequence of operation will be omitted.

In association with the described caliper there is provided a circular saw 142 supported on a handle 144 which may be selectively supported on pivots 146, 148 provided on opposite sides of the caliper arms 104, 106. In that the use of the saw attachment is the same as previously detailed, further description is dispensed with.

Reference will now be made to Figs. 12 to 14 inclusive wherein there is shown a centering device or attachment, generally designated by the reference numeral 150 which may be used with either of the illustrative devices to initially center the sleeve or pin which is to be cut off in relation to the outer surfaces of the caliper arms; that is, the centering device 150 is employed to assure removal of equal parts from the opposite ends of a sleeve in fitting the same to a watch casing. The importance of the symmetrical removal of the end portions of the sleeve will be appreciated when it is recalled that the sleeve is usually rigidly fixed to the watch band and it is essential that the watch band be properly positioned transversely in relation to the watch casing.

The centering device 150 includes a pair of cam members 152, 154, illustrated as circular disks, which are eccentrically mounted with respect to supporting shafts 156, 158; that is, the cam members are toed in toward each other in two directions as may be appreciated by progressively inspecting Figs. 12 and 14. The stub shafts or pins 156, 158 are adapted to be accommodated within notches 160, 162 formed in the leading ends of the hold-down fingers (designated by the reference numerals 22, 24 in Fig. 2; and designated by the reference numerals 116, 118 in Fig. 8). The innermost ends of the shafts 156, 158 are interconnected by a common actuating member 164, illustrated as a U-shaped spring clip. The spring clip has its legs somewhat under a tension when supported in the position illustrated in Fig. 12 whereby the cam elements 152, 154 are seated on the respective hold down fingers. It will be appreciated that the elements 152, 154 and 164 are rigidly interconnected such that upon imparting upward and downward movement to the actuating member (as illustrated by the arrows in Fig. 13) the cam members 152, 154 are moved in unison. In the response to the movement of the cam members it will be appreciated that abutment surfaces are provided symmetrically of the caliper and in alignment with opposite ends of the seat 120. These abutment surfaces may be brought closer together or spread apart, depending upon the rotational position of the cam members 152, 154. By this structure it is possible to place the sleeve or part to be cut off into seat 120, attach the centering device 150 as illustrated, and by merely turning the actuating member 164 automatically center up the part in relation to the seat 120. Other equivalent camming structures are equally within the contemplation of the present invention for the symmetrical disposition of the part to be cut off in relation to its seat.

In either form of the invention, it may be desirable to round the edge surfaces formed with the notches defining the seat, whereby curved as well as straight sleeves may be readily accommodated in the present device. For example, the surfaces 104b, 106b may be convexly shaped from side to side of the respective caliper arms 104, 106.

A latitude of substitution and variation is intended in the foregoing disclosure and accordingly the appended

claims should be construed broadly as is consistent with the teachings herein; in some instances some features of the invention will be used without a corresponding use of other features.

I claim:

1. A combined caliper, vise and cutting device comprising a pair of caliper arms arranged in side by side relation, spring means interconnecting said caliper arms adjacent one pair of ends and mounting said caliper arms for adjustment toward and away from each other, the outer faces of said caliper arms adjacent said other pair of ends being substantially planar and remaining in substantial parallelism in various positions of adjustment of said caliper arms, said outer faces serving as references in adjusting said caliper arms, means providing a seat straddling said other pair of ends of said caliper arms, said seat being adapted to accommodate a part to be cut off at its opposite ends to a length determined by the spacing of said outer faces, means operatively connected to said caliper arms for clamping said part in said seat, a saw, and means for mounting said saw in an operative position against the outer face of one of said caliper arms.

2. A combined caliper and vise comprising a pair of caliper arms arranged in side by side relation, spring means interconnecting said caliper arms adjacent one pair of ends and mounting said caliper arms for adjustment toward and away from each other, the outer faces of said caliper arms adjacent said other pair of ends being substantially planar and remaining in substantial parallelism in various positions of adjustment of said caliper arms, said outer faces serving as references in adjusting said caliper arms, means providing a seat straddling said other pair of ends of said caliper arms, said seat being adapted to accommodate a part to be cut off at its opposite ends to a length determined by the spacing of said outer faces, and means operatively connected to said caliper arms for clamping said part in said seat.

3. A combined caliper, vise and cutting device comprising a pair of caliper arms arranged in side by side relation, spring means interconnecting said caliper arms adjacent one pair of ends and mounting said caliper arms for adjustment toward and away from each other, said spring means biasing said caliper arms away from each other the outer faces of said caliper arms adjacent said other pair of ends being substantially planar and serving as references in adjusting the spacing of said caliper arms, adjustment means operatively connected to said caliper arms for maintaining said caliper arms in various positions of adjustment in relation to each other, means providing a seat straddling said other pair of ends of said caliper arms, said seat being adapted to accommodate a part to be cut off at its opposite ends to a length determined by the spacing of said outer faces, means operatively connected to said caliper for clamping said part in said seat, a saw, and means for mounting said saw in an operative position against the outer face of one of said caliper arms.

4. A fitting and cutting device comprising a pair of caliper arms arranged in side by side relation, spring means interconnecting said caliper arms adjacent one pair of ends and mounting said caliper arms for adjustment toward and away from each other, the outer faces of said caliper arms adjacent said other pair of ends being substantially planar and serving as references in adjusting said caliper arms, faces of said caliper arms extending at right angles to said outer faces being formed to provide a seat straddling said other pair of ends of said caliper arms, said seat being adapted to accommodate a part to be cut off at its opposite ends to a length determined by the spacing of said outer faces, means operatively connected to said caliper arms for clamping said part in said seat, a circular saw, a handle for supporting said saw, and means on the outer faces of said caliper arms for mounting said saw in a flush position against the respective outer faces of said caliper arms.

5. A fitting and cutting device comprising a pair of caliper arms arranged in side by side relation, spring means comprising interconnecting said caliper arms adjacent one pair of ends and mounting said caliper arms for adjustment toward and away from each other, means operatively connected between said caliper arms for releasably securing said caliper arms in various positions of adjustment, the outer faces of said caliper arms adjacent said other pair of ends being substantially planar and serving as references in adjusting said caliper arms, faces of said caliper arms extending at right angles to said outer faces being formed to provide a seat straddling said other pair of ends of said caliper arms, said seat being adapted to accommodate a part to be cut off at its opposite ends to a length determined by the spacing of said outer faces, means operatively connected to said caliper arms for clamping said part in said seat, a circular saw, a handle for supporting said saw, and means on the outer faces of said caliper arms for mounting said saw in a flush position against the respective outer faces of said caliper arms.

6. A fitting and cutting device comprising a pair of caliper arms arranged in side by side relation, a U-shaped spring interconnecting said caliper arms adjacent one pair of ends and mounting said caliper arms for adjustment toward and away from each other, the outer faces of caliper arms adjacent said other pair of ends being substantially planar and serving as references in adjusting said caliper arms to a predetermined fitting, faces of said caliper arms extending at right angles to said outer faces being notched to provide a seat straddling said other pair of ends of said caliper arms, said seat being adapted to accommodate a part to be cut off at its opposite ends to a length determined by the spacing of said outer faces, a pair of hold down fingers for urging same toward said seat operatively connected to said caliper arms over said seat, means operatively connected to said fingers for clamping said part in said seat, a circular saw, a handle for supporting said saw, and means on the outer faces of said caliper arms for mounting said saw in a flush position against the respective outer faces of said caliper arms.

7. A fitting and cutting device comprising a pair of caliper arms arranged in side by side relation, spring means interconnecting said caliper arms adjacent one pair of ends and mounting said caliper arms for adjustment toward and away from each other, the outer faces of said caliper arms adjacent said other pair of ends being substantially planar and serving as references in adjusting said caliper arms, faces of said caliper arms extending at right angles to said outer faces being formed to provide a seat straddling said other pair of ends of said caliper arms, said seat being adapted to accommodate a part to be cut off at its opposite ends to a length determined by the spacing of said outer faces, means operatively connected to said caliper arms for clamping said part in said seat, a circular saw, a handle for supporting said saw, means on the outer faces of said caliper arms for mounting said saw in a flush position against the respective outer faces of said caliper arms, and means operatively disposed in relation to said seat for centering said part in relation to said outer faces of said caliper arms.

8. A device for fitting and cutting tubular sleeves of a watchband to sockets in a watch case comprising a pair of caliper arms arranged in side by side relation, means interconnecting said caliper arms and mounting said caliper arms for adjustment toward and away from each other, the outer faces of said caliper arms adjacent one pair of ends being substantially planar and serving as an outside caliper in adjusting said caliper arms in accordance with the length of the sockets in said watch case, means on said caliper arms extending at right angles to said outer faces providing a seat straddling said other pair of ends of said caliper arms, said seat being adapted to accommodate the tubular sleeves to be cut off at its

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opposite ends to a length determined by the spacing of said outer faces, means operatively connected to said caliper arms for clamping the tubular sleeves in said seat, a circular saw, and means on each of the outer faces of said caliper arms for mounting said saw in a flush position against the respective outer faces.

9. A device for fitting and cutting tubular sleeves of a watchband to sockets in a watch case comprising a pair of caliper arms arranged in side by side relation, means interconnecting said caliper arms and mounting said caliper arms for adjustment toward and away from each other, the outer faces of said caliper arms adjacent one pair of ends being substantially planar and serving as an outside caliper in adjusting said caliper arms in accordance with the length of the sockets in said watch case, means on said caliper arms extending at right angles to said outer faces providing a seat straddling said other

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pair of ends of said caliper arms, said seat being adapted to accommodate the tubular sleeves to be cut off at its opposite ends to a length determined by the spacing of said outer faces, means operatively connected to said caliper arms for clamping the tubular sleeves in said seat, a circular saw, means on each of the outer faces of said caliper arms for mounting said saw in a flush position against the respective outer faces, and means operatively disposed in relation to said seat for centering said part in relation to said outer faces of said caliper arms.

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