Nov. 17, 1959 E. V. SPURR 2,912,764

MICROMETER ATTACHMENT

Filed May 21, 1957

Fig. 1.

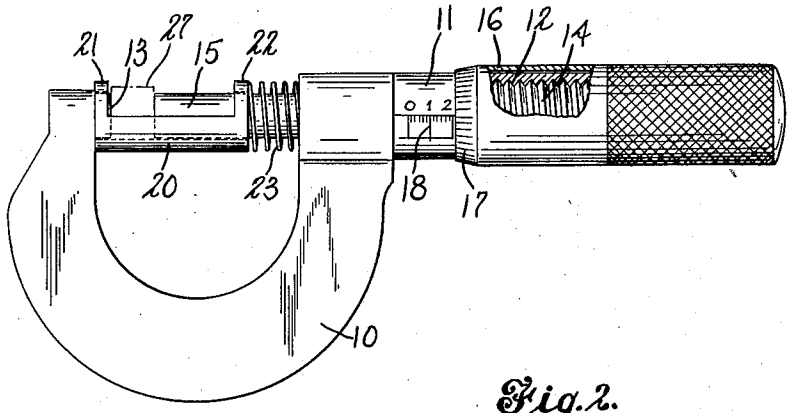


Fig. 2.

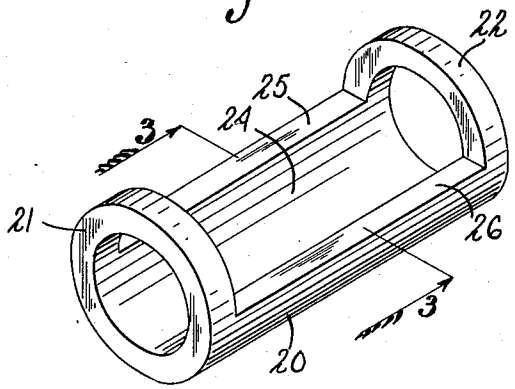
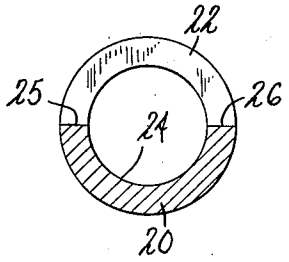


Fig. 3.



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MICROMETER ATTACHMENT

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7 Claims. (Cl. 33—167)

This invention relates to a micrometer attachment, and more particularly to an attachment for micrometer gauges to assist the user of such an instrument in holding the work between the spindle and anvil of the micrometer in a convenient manner so that it may be accurately measured.

In the use of a micrometer, it is sometimes difficult to hold the article being measured or gauged, particularly if it is in the shape of a strip or an elongated member, and at the same time manipulate the screw-threaded spindle of the micrometer to bring the opposed faces of the anvil and spindle against the work.

The present invention relates to an attachement which may be readily applied to the usual micrometer without the use of tools and which will be held in proper position by the spindle and anvil to support the work between these two members and, therefore, permit the operator to manipulate the spindle more conveniently.

Moveover, the attachment is adapted to rotatably receive the anvil and spindle of the micrometer in rings adjacent the ends of the supporting element so that the micrometer itself may be rotated with respect to the supporting element and with respect to the article being measured so that the indicia on the micrometer may be readily read.

A spring is provided between the supporting element of the attachment and a part of the body or frame of the micrometer to releasably hold the attachment in place so that it will not become detached inadvertently.

One object of the present invention is to provide a new and improved work-holding attachment for micrometers.

A still further object of the invention is to provide an improved work-holding attachment for micrometers which may be readily applied to a micrometer of usual and ordinary form without the use of tools and may be as readily detached from the micrometer if the use of the attachment is not desired.

A still further object of the invention is to provide a work-supporting attachment for a micrometer, the attachment comprising means at its ends to removably engage the anvil and spindle of the micrometer and with a body portion between the ends thereof having substantially flat supporting surfaces against which the work may be placed.

Specifically the attachment consists of a pair of end ring members adapted to rotatably and slidably receive the pin and anvil respectively of the micrometer, these ring members being connected by a semi-cylindrical body portion having flat faces at the edges thereof against which the work may be engaged.

To these and other ends the invention consists in the novel features and combinations of parts to be hereinafter described and claimed.

In the accompanying drawings:

Fig. 1 is a side elevational view of a micrometer having my improved work-supporting attachment applied thereto, certain of the parts being broken away to show the interior construction;

Fig. 2 is a perspective view of the attachment removed from the micrometer; and

Fig. 3 is a sectional view on line 3—3 of Fig. 2.

To illustrate one embodiment of my invention, I have shown a micrometer having the usual frame or body comprising a C-shaped end portion **10** and a sleeve portion **11**, this sleeve being internally threaded, as shown at **12**, and open at both ends. At the outer end of the C-shaped portion is an anvil **13** adapted to engage the work or the element to be measured in the usual manner.

A spindle member **14** which is externally threaded is threadedly mounted in the sleeve portion **11**. This spindle extends through the inner end of the C-shaped frame portion **10** and its projecting end is shown as a pin **15**, which engages one side of the workpiece and cooperates with the anvil **13** in measuring the width thereof. It will be understood that as usually made both the anvil **13** and spindle pin **15** are circular in cross section.

Secured to the spindle **14**, in spaced relation thereto, is an outer shell **16** which extends over the sleeve **11**. The inner end of this shell may contain graduations **17** which cooperate with graduations **18** on the sleeve to indicate the measurement. It will be understood that with this construction the shell **16** may be rotated, which will rotate the spindle **14** and advance the spindle pin **15** toward or retract it from the anvil **13** in the usual manner.

The work-supporting attachment, shown more particularly in Figs. 2 and 3, comprises a body portion **20** illustrated as of semi-cylindrical form with means at each end thereof for engaging the spindle pin **15** and anvil **13** to hold the supporting attachment in place. This means, as shown, comprises ring members **21** and **22** which slidably receive the anvil **13** and spindle pin **15** respectively. A spring **23** (Fig. 1) may be mounted upon the spindle pin **15** between the ring **22** and the edge of the C-shaped frame to urge the supporting member toward the opposite end of the C-shaped frame and thus maintain the ring **21** upon the anvil. Thus the attachment will be supported by the anvil and spindle and, while it may be readily removed therefrom by moving it in a direction to compress the spring **23**, it will not be inadvertently disengaged.

As shown, the body portion **20** of the attachment is of semi-cylindrical shape, being provided with a recess **24** of arcuate or semi-circular shape in cross section. The edges or faces **25** and **26** are flat and in substantially the same plane so that the workpiece or article to be measured indicated at **27** in Fig. 1 may rest upon these surfaces and its opposite sides engaged by the anvil **13** and spindle pin **15**.

The supporting member may be readily made by cutting away the intermediate portion of a hollow cylindrical member along a plane through its axis so as to provide the rings **21**, **22** at the ends of a semi-cylindrical, hollow, body portion. It may, of course, be made in other ways and the form thereof may be varied without departing from the invention.

It will be obvious that the attachment may be economically made and can be readily applied to the usual micrometer without the use of any tools. The spring **23** holds the fitting or supporting member in place upon the anvil so that it will not become inadvertently detached. It may, of course, be readily removed from the micrometer when its use is not desired. The fitting will be particularly useful in measuring the widths of flat strips which can be readily supported upon the plane faces **25** and **26** of the body member **20**, these faces lying substantially in a plane through the axis of the spindle pin **15**. Moreover, the fitting is rotatably attached to the micrometer so that the latter may be turned at any angle

with respect to the faces 25 and 26 so as to enable the user to readily read the measuring indicia regardless of the position of the strip or item which is being measured. This feature is useful if the strip being measured is fixed at its ends so that it cannot be turned.

While I have shown and described one embodiment of my invention, it will be understood that it is not to be limited to all of the details shown, but is capable of modification and variation within the spirit of the invention and within the scope of the claims.

What I claim is:

1. A work-supporting attachment for a micrometer having a frame and a rotatable spindle and anvil supported thereby, said attachment comprising a substantially semi-cylindrical body member extending between the anvil and spindle having a work-supporting surface, and integrally formed ring members on said body member at each end of said surface to rotatably receive the anvil and spindle respectively to hold the attachment in place.

2. A work-supporting attachment for a micrometer having a frame and a rotatable spindle and anvil supported thereby, said attachment comprising a substantially semi-cylindrical body member extending between the anvil and spindle and provided with means at its ends to detachably embrace the anvil and spindle respectively to hold the attachment in work-supporting position, and spring means surrounding said spindle and reacting between the frame and the attachment to urge the latter toward the anvil.

3. A work-supporting attachment for a micrometer having a frame and a rotatable spindle and anvil supported thereby, said attachment comprising a body member extending between the anvil and spindle, said body member having a ring at each end thereof slidably receiving the anvil and spindle of the micrometer, and said body member having flat parallel work-supporting surfaces extending between said rings and lying substantially in the plane at the axis of the spindle and a recess of arcuate shape in cross section between said surfaces.

4. A work-supporting attachment for a micrometer having a frame and a rotatable spindle and anvil supported thereby, said attachment comprising a member of hollow cylindrical shape cut away between its ends to form end rings connected by a semi-cylindrical body member, said

body member having substantially flat parallel edge surfaces lying in the same plane, and said rings slidably embracing the anvil and spindle respectively of the micrometer.

5. A work-supporting attachment for a micrometer having a frame and a rotatable spindle and anvil supported thereby, said attachment comprising a hollow cylindrical element having its intermediate portion cut away along a plane through its axis to provide end ring members connected by a semi-cylindrical body portion, said body portion having flat end faces lying substantially in the same plane and in the plane of the axis of the spindle, and said ring members suspending the attachment from the anvil and spindle respectively.

6. A work-supporting attachment as in claim 3 wherein coil spring means are provided upon the spindle to react between the frame and one end of the attachment to urge the latter toward the anvil and releasably maintain the ring at the other end of the attachment in engagement with the anvil.

7. A micrometer having a frame comprising a C-shaped member, a sleeve portion connected thereto, a spindle rotatably mounted in the sleeve portion and projecting through one end of the C-shaped member and an anvil secured to the other end of the C-shaped member and projecting therefrom toward the spindle, a work-supporting member comprising a body member having a ring at each end thereof between which the body member extends, said rings being adapted to rotatably and detachably embrace the anvil and spindle respectively, said body member having substantially flat work-supporting surfaces, one on each side of the axis of the spindle, and a coil spring surrounding the spindle and reacting between a portion of the C-shaped member and the adjacent end of the attachment to maintain the ring at the remote end of the attachment in engagement with the anvil.

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