Feb. 24, 1970 P. J. SOMMER 3,497,250

GAGE PIN HOLDER

Filed Aug. 21, 1968

FIG. 1

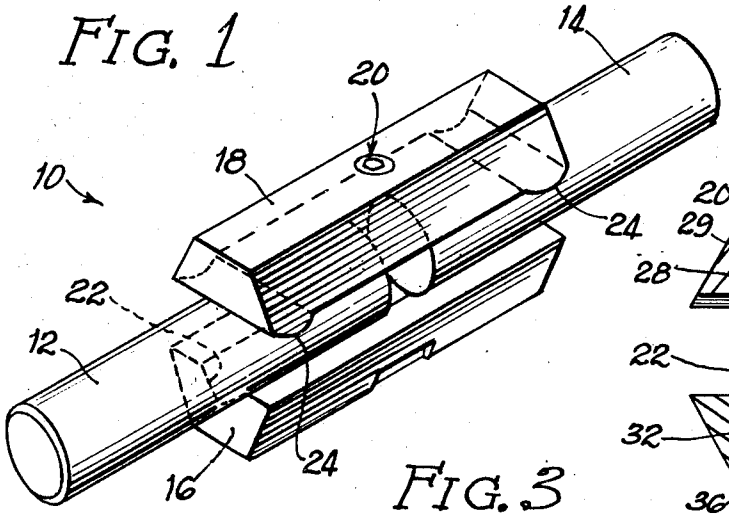


FIG. 2

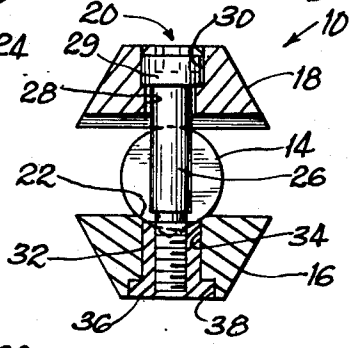


FIG. 3

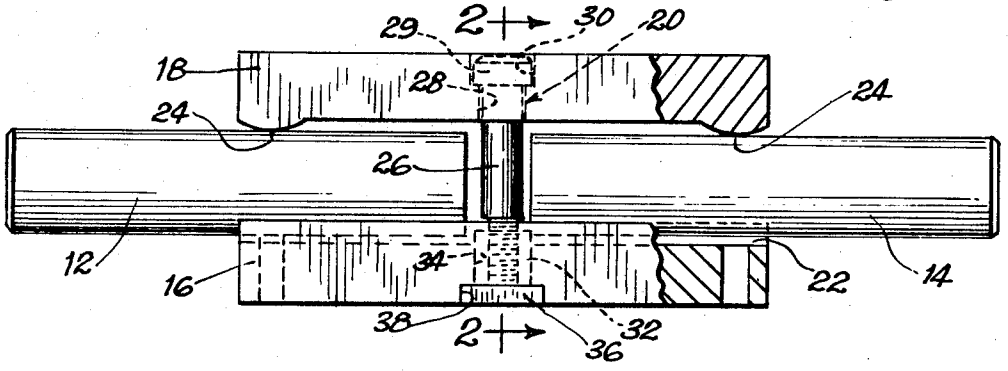
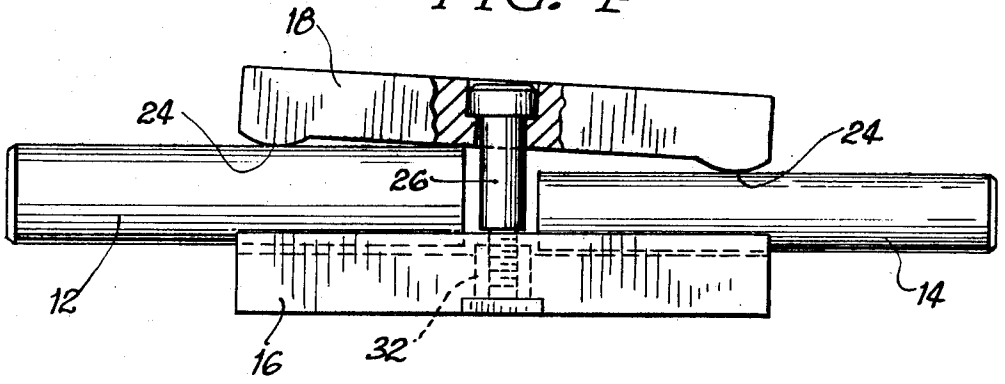


FIG. 4



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GAGE PIN HOLDER

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U.S. Cl. 287—111 1 Claim

ABSTRACT OF THE DISCLOSURE

A gage pin holder for holding a pair of gage pins of different sizes, comprising a first clamping bar having a longitudinal groove therein for receiving the gage pins, a second clamping bar for clamping the gage pins into said groove, and a screw fastener extending between said bars, said second bar having a pair of abutments projecting laterally therefrom and capable of immovably clamping the gage pins into said groove despite a substantial difference between the sizes of said gage pins, said abutments preferably being in the form of transversely extending rocker ribs of rounded shape.

This invention relates to a handle for holding a pair of gage pins of different sizes. Such gage pins are extensively used for gaging the size of holes, as an inspection procedure in manufacturing operations.

The gage pin holders in current use have the disadvantage of being incapable of satisfactorily accommodating gage pins of substantially different sizes. When the difference between the sizes is particularly great, the present gage pin holders do not hold the gage pins securely but rather permit wobble or play between the pins and the holder.

Thus, one principal object of the present invention is to provide a gage pin handle which is capable of immovably holding two gage pins of considerably different sizes.

In accordance with the present invention, this is accomplished by providing a gage pin handle having a first clamping bar with a groove therein for receiving the gage pins, a second clamping bar for clamping the pins into the groove, and a screw fastener extending between the clamping bars, the second clamping bar having a pair of abutments projecting laterally therefrom toward the first clamping bar for immovably clamping the pins into the groove. The abutments are preferably in the form of transversely extending rocker ribs of curved shape. Preferably, the screw fastener comprises an externally threaded screw extending through an opening in one of the bars, and an internally threaded insert mounted in another opening in the other bar.

Further objects and advantages of the present invention will appear from the following description, taken with the accompanying drawings, in which:

FIG. 1 is a perspective view showing a gage pin handle to be described as an embodiment of the present invention.

FIG. 2 is a cross section taken through the gage pin handle, along the line 2—2 in FIG. 3.

FIG. 3 is a side elevation of the gage pin handle, partly in longitudinal section.

FIG. 4 is a view similar to FIG. 3 but showing the manner in which gage pins of widely different sizes are securely held.

The embodiment of FIGS. 1–4, to be described by way of example, comprises a gage pin handle **10**, capable of immovably holding a pair of gage pins **12** and **14**, even though the gage pins are of widely different sizes. The illustrated gage pins **12** and **14** are of simple cylindrical shape, but may assume various other forms.

The gage pin handle **10** comprises first and second clamping bars **16** and **18**, between which the gage pins **12** and **14** are clamped. A screw fastener **20** is provided between the central portions of the clamping bars **16** and **18**.

The first clamping bar **16** is formed with a longitudinal groove **22** for receiving and locating the gage pins **12** and **14**. Preferably, the groove **22** is V-shaped, but it may assume various other forms.

The second clamping bar **18** is provided with a pair of abutments **24**, projecting laterally therefrom, toward the first clamping bar **16**. Preferably, the abutments **24** are in the form of transversely extending rocker ribs of rounded shape. It will be seen that the abutments **24** have a generally cylindrical curvature.

The screw fastener **20** preferably comprises an externally threaded screw **26** extending through a clearance opening **28** in one of the clamping bars, in this case the bar **18**. The illustrated screw **26** has a head **29** which is recessed into a counterbore **30** in the bar **18**. The screw **26** is adapted to be screwed into an internally threaded insert **32**, mounted in an opening **34** in the other bar **16**. The illustrated insert **32** has a head or flange **36**, received in a counterbore **38** which is formed in the bar **16**. The insert **32** is preferably mounted in the bar **16** with a press fit, so as to be immovable therein.

The bars **16** and **18** may be made of aluminum, plastics or other suitable materials. The screw **26** and insert **32** are preferably made of a durable material such as steel.

As shown to best advantage in FIGS. 3 and 4, one side portion of each of the pins **12** and **14** is snugly seated in the longitudinal groove **22**. The other side portion of each gage pin is engaged by the corresponding abutment **24**. Due to the provision of the abutments **24**, the gage pins **12** and **14** are immovably clamped into the groove **22**, despite wide differences in the sizes of the pins. As shown in FIG. 3, the gage pin **14** is slightly smaller than the gage pin **12**. FIG. 4 illustrates an extreme condition, in which the gage pin **14** is considerably smaller than the gage pin **12**. It will be seen that the gage pin handle **10** accommodates this difference, in that the clamping bar **18** is capable of rocking to a slanted position, while still maintaining firm clamping contact between the abutments **24** and the pins **12** and **14**. This action is promoted by the rounded rocker shape of the abutments **24**. The pins **12** and **14** are caused to seat snugly in the groove **22**, by the clamping pressure exerted by the abutments **24**. Thus, the gage pins are held without any wobble or looseness despite the wide difference between the sizes of the pins.

Various other modifications, alternative constructions and equivalents may be employed without departing from the true spirit and scope of the invention, as exemplified in the foregoing description and defined in the following claim.

I claim:

1. A gage pin holder for holding two gage pins of different sizes,

comprising first and second clamping bars for engaging opposite side portions of the gage pins,

said first clamping bar having a longitudinal groove of V-shaped cross section formed therein for receiving and locating the gage pins,

said second clamping bar having a pair of transversely extending ribs of curved rocker shape projecting laterally therefrom toward said first clamping bar for engaging the gage pins and causing them to seat snugly in said groove,

the curved tops of said ribs being spaced inwardly from the ends of said first and second clamping bars,

said second clamping bar having a portion between said ribs and relieved away from said first clamping bar to avoid engagement with said pins,

and a screw extending between the central portions of said clamping bars for exerting force therebetween to hold the gage pins securely between said bars,

said screw having a head at one end and an externally threaded portion at the opposite end,

said first clamping bar having an internally threaded member for receiving said externally threaded portion of said screw,

said second clamping bar having a hole therein for receiving said screw,

said second clamping bar having a countersunk recess therein around the outer portion of said hole for receiving said head,

said hole and said countersunk recess being larger than the corresponding portions of said screw to provide for a range of rocking movement of said second clamping bar, said internally threaded member comprising an internally threaded insert of T-shaped cross section mounted in said first clamping bar, said first clamping bar having an opening extending from the V-shaped groove to the outer periphery of said first clamping bar and having a counterbore at the outer

periphery of sufficient depth to receive the enlarged portion of said insert with a press fit and flush with the outer periphery of said first clamping bar.

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U.S. Cl. X.R.

33—178; 269—94