L. SCUSA.

GAGE.

APPLICATION FILED JAN. 24, 1918.

1,279,919. Patented Sept. 24, 1918.

Fig. 1.

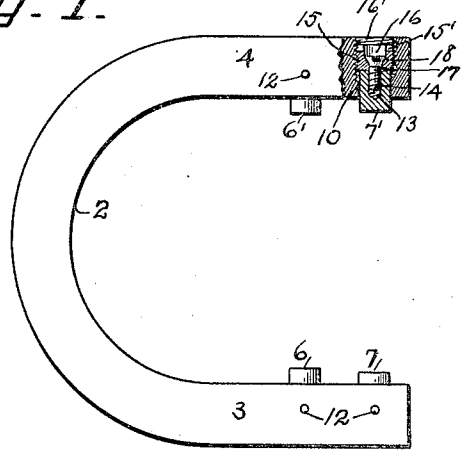


Fig. 2.

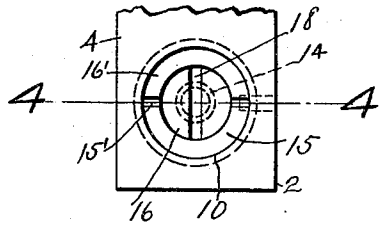


Fig. 3.

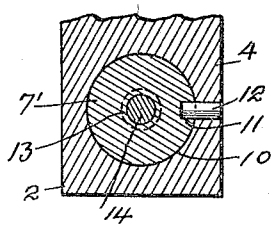


Fig. 4.

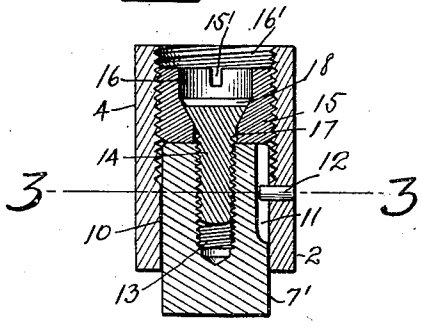
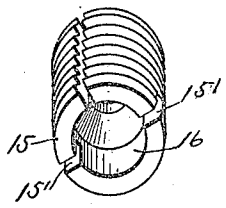


Fig. 5.



WITNESSES

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UNITED STATES PATENT OFFICE.

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GAGE.

1,279,919. Specification of Letters Patent. **Patented Sept. 24, 1918.**

Application filed January 24, 1918. Serial No. 213,588.

To all whom it may concern:

Be it known that I, LINO SCUSA, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Gages, of which the following is a specification.

This invention relates to improvements in gages, designed for use by machinists, toolmakers, and the like, and has for its object to provide a "snap" gage particularly adapted for gaging manufactured or stock articles, wherein the gages are adjusted and set and used for turning out a number of similar parts. A further object is to provide a gage of the class which is capable of being set for accurately gaging and indicating the rough, as well as the finish cuts and sizes to the smallest fraction of an inch. And a particular object is to provide novel, simple and positive means for readily, quickly and precisely adjusting the several movable gage-parts, and for retaining the various adjustments during the periods of work.

I attain these objects by the means set forth in the detailed description which follows, and as illustrated by the accompanying drawing, in which—

Figure 1 is a side elevation of the complete gage, with parts broken away to show one of the several adjusting parts.

Fig. 2 is a top view of the parts shown in Fig. 4.

Fig. 3 is a horizontal section, on line 3—3 of Fig. 4; showing the means for guiding the gage-points.

Fig. 4 is a vertical cross-section, taken on line 4—4 of Fig. 2; showing the adjusting, retaining and guiding means on an enlarged scale.

Fig. 5 is a perspective view of the split adjusting nut.

In the drawing, 2 represents the body of the gage, which is preferably in the form of a horse-shoe, having similar arms 3 and 4. Each of said arms is provided with two or more gage-members, as 6—7, and 6′—7′, the corresponding members being disposed in the respective arms concentrically. The gage-members 6—7 and 6′—7′, are all preferably provided with novel individual adjusting means, which will be understood from the following detailed description:

Gage-member 7′, for example, consists of the cylindrical part 7′, which is disposed in a bore or hole 10 in the arm 4 of the body, and is movable toward and away from the member 7 in the arm 3. At one side, the member 7′ has a longitudinal guide slot 11, which is engaged by a pin or stud 12, the latter being preferably driven tightly into the arm 4. The slot 11 is preferably so positioned that it does not at any time show beyond the body, in order to exclude dust and dirt from entering the same. This pin and slot construction prevents the rotation of the gage-member, but allows the said member to be moved endwise during the adjustments. Each gage-member is bored out centrally for a part of its length, and the said bore is threaded, as indicated at 13, to receive a locking-screw 14.

15 represents a split expansible screw-threaded sleeve, externally threaded, which screws into the threaded end of the bore 10, and the said sleeve is employed for moving and regulating the adjustment of the gage-member. The sleeve 15 has a screw-driver slot 15′ in its outer end, and is also counterbored, as at 16, to receive the head of the locking-screw 14, while the body of said screw passes loosely through a hole 17, which is concentric to the threaded hole or socket 13 of the gage-member, as well as to the counterbore 16 of the sleeve 15. The head of the screw 14, and the inner end of the counterbore 16 are correspondingly tapered or beveled, preferably at about 60° to the end of the screw. The head of screw 14 has the usual screw-driver slot 18.

The operation of my improved gage-member adjusting and locking means is as follows: To change or readjust one of the gage-members, as 7′, in one direction, the operator takes a screw-driver, inserts it in the counterbore 16 and unscrews the screw 14 about one turn. He then unscrews the split sleeve 15 sufficiently to cause the gage-member to be drawn into the arm of the body the exact distance required for the adjustment. The sleeve is then allowed to

remain in the latter position. The final operation consists of tightening up the screw 14, which draws the gage-member tightly against the inner end of the sleeve 15, and at the same time the tapering head of said screw expands the split sleeve 15 until it becomes tight and immovable in the bore 10. To adjust the gage-member in the opposite direction, the operator first unscrews the screw 14 sufficiently to allow the sleeve 15 to contract and become loose, then he screws the sleeve 15 inwardly, which forces the gage-member out of the hole 10 until the proper adjustment is accomplished. The screw 14 is then screwed up tightly for expanding the sleeve 15 and again drawing the gage-member and sleeve tightly together, in which condition the parts remain until a new adjustment is required. After the gage is properly adjusted, as described, the hollow space or cavity, as 16′, at the outer end of the sleeve 15 is preferably filled with wax or like substance for temporarily concealing the sleeve, and thus preventing tampering, or accidental changing of the adjustments of the gage-members.

Where but a slight adjustment is required, only the gage-member carried by one of the arms of the body need be changed. In case the adjustment of the gage is to be greatly increased or decreased, the gage-members of both of the arms 3 and 4 of the body may be changed, as described.

The means herein shown and described for effecting the adjustment of the several gage-members are extremely simple, convenient and positive, and enable mechanics to readily and accurately adjust the device for gaging close and fine work, and to preserve or retain such adjustments indefinitely.

It is obvious that some changes or modifications of the parts may be made within the scope defined by the appended claims without departing from the spirit of the invention.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is—

1. In a gage, a reciprocable gage-member, a split screw threaded sleeve alining with and adapted to reciprocate said gage-member and a locking-screw provided with a tapering head pivotally connecting said gage-member and said sleeve and adapted to expand said sleeve for holding said gage-member in adjusted positions.

2. In a gage, a gage-member having a threaded socket, a locking-screw provided with a tapering head engaging said socket, and a split adjusting sleeve disposed in line and in engagement with said gage-member having a counterbore to receive the head of said screw.

3. In a gage, a gage-member having a threaded socket, an expansible screw-threaded sleeve alining with said member having a counterbore concentric to said socket, and a locking screw passing through said sleeve and screwed into said socket and adapted to expand said sleeve for preventing change of the adjustment of said member.

4. In a gage, a plurality of gage-members having threaded sockets arranged in pairs alining and movable toward and away from each other, a split screw threaded adjusting sleeve associated with each gage-member, and a screw provided with a tapering head, passing through each sleeve and engaging the socket in the corresponding gage-member and adapted to draw and hold the gage-member and sleeve tightly together, the head of said screw positioned in the sleeve and adapted to expand the sleeve for preventing accidental movement of the gage-member.

5. In a gage, a cylindrical gage-member having a threaded socket and an external guide-slot, a pin engaging said slot for preventing rotation of said member, a split screw threaded sleeve disposed in line and in engagement with one end of said member and having a counterbore and a locking screw provided with a tapering head pivotally connecting said gage member and said sleeve, the head of said screw disposed in the counterbore of said sleeve and adapted to expand said sleeve for holding said gage member in adjusted positions.

6. In a gage, a cylindrical gage-member having a threaded socket and an external guide slot concealed in the body of the gage, a split screw threaded sleeve having a tapering counterbore disposed concentric to and in engagement with one end of said gage member, a locking screw having a tapering head pivotally connecting said gage member and said sleeve, the head of said screw disposed in the tapering counterbore in said sleeve and adapted to expand said sleeve for holding said gage member in adjusted positions, and a pin engaging the slot in said gage member for preventing the rotation of said gage member.

In testimony whereof I affix my signature.

LINO SCUSA.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."