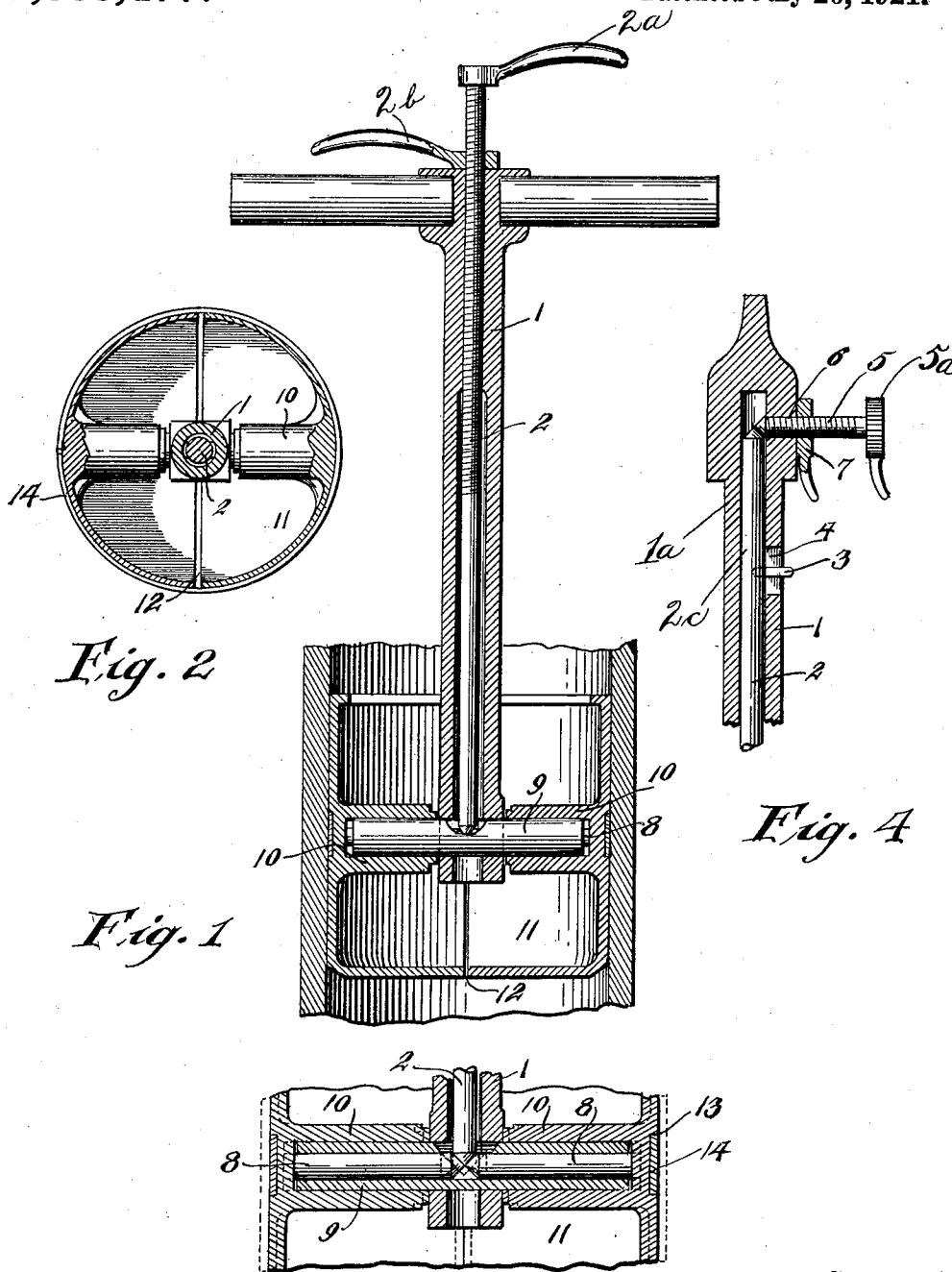


J. F. SEMONES.
ADJUSTABLE TOOL.
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Patented July 26, 1921.



Witness
R. H. Blanchard

Inventor
J. F. Semones
By *Edwin Peritt*
Attorney

UNITED STATES PATENT OFFICE.

JOHN FREDERICK SEMONES, OF UNION CITY, TENNESSEE.

ADJUSTABLE TOOL.

1,385,477.

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To all whom it may concern:

Be it known that I, JOHN F. SEMONES, a citizen of the United States, residing at Union City, in the county of Obion and State of Tennessee, have invented certain new and useful Improvements in Adjustable Tools; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to certain improvements in instruments for taking the inside measurements of cylindrical devices or articles with accuracy, and, further, to provide a tool of this character which may be set to different standards and made secure against inadvertent disarrangement of the adjustment while in use; also to provide for expanding or contracting said tool for the reception thereof by the cylinder, as conditions may require.

The object of the invention is to carry out these purposes in a simple, effective and ready manner and with facility.

Further objects of the invention will be readily apparent from the following description of the construction and operation thereof.

The invention consists, therefore, of certain instrumentalities and structural features of the device, substantially as herein-after more fully disclosed and defined by the appended claims.

The accompanying drawings illustrate the preferred embodiment of my invention or one form thereof, wherein it will be understood that various changes and modifications may be made as to the detail construction and arrangement of parts without departing from the spirit or scope thereof as embraced in the claims, and in which drawings:

Figure 1 is a longitudinal central section of the invention.

Fig. 2 is a transverse section taken through the lower end of the tool or device.

Fig. 3 is a detail enlarged sectional view showing more particularly the pins with their tapering ends engaging corresponding ends of the adjusting shaft member.

Fig. 4 is a sectional elevation of a modification thereof.

As characteristic features of my invention, I employ a tubular member 1 within

which is arranged a threaded shaft 2, threaded into the tubular member 1 in order to provide for the vertical adjustment of the shaft 5 for a purpose presently made apparent. The upper end of the shaft 2 has fixed thereon a lever or handle 2^a for its convenient actuation, also threaded thereon is a "tailed" jam or locking nut 2^b for the effective retention of the shaft 5 against inadvertent turning. The lower end of the screw shaft 2 also is tapered or pointed and adapted to engage the corresponding opposite ends of pins 8 arranged within additional tubular members 9 secured to the tubular member 1 and extending laterally therefrom. The tubular member 1, with its lateral tubular extensions 9, is adapted to have pivotal movement for its convenient manipulation. The lateral extensions 9 are adapted to be received within sockets 10 within a cylindrical member 11, said cylindrical member being bisected or split vertically as at 12, in order to provide, as the screw shaft 2 engages the pins 8, to expand laterally for carrying said split members into contact with the inner surface of the cylinder or bore of a tubular member. The split cylindrical member is provided in its external surface or circumference with an annular groove 13 to receive a resilient member or spring 14 in order to provide for the automatic return of the sections of the split member to initial position.

As shown in Fig. 4, in lieu of extending the shaft, primarily used to expand the sections of the bisected cylindrical member 11, through the upper end of its inclosing tubular member 1, a plain or unthreaded shaft 2^c may be substituted therefor, with the upper end thereof projecting into the closed tubular member 1^a, a spline and slotted like connection 3, 4 being provided therebetween to limit the movement of the shaft in the tubular member 1. The shaft 2^c as employed in this case is actuated by a short threaded shaft 5 extending laterally through a screw-threaded passage 6 in the tubular member 1^a, the engagement between the shafts 5, 2^c being effected, as the shaft 5 is actuated, through bevel-ended contacting portions thereof. The shaft 2^c is held in fixed position by a jam or lock nut 7 applied to the threaded shaft 5 suitably equipped with a milled or ratchet head 5^a for its convenient manipulation.

It will be seen from the foregoing that

provision is made for the expansion and contraction of the sections of the cylindrical member 11 whereby said sections are adapted, as above stated, to contact with the inner surface of a cylinder for ascertaining the cross section thereof in order to provide for securing the true measurement of the inner walls of the cylinder, as will be readily appreciated. It will be readily understood that the measurements may be determined by the use of a micrometer or calipers of any approved style, by any artisan familiar with this art.

Having thus described the invention, I claim:

1. A device of the type described, including a threaded shaft having a tapered end, a tubular member receiving said shaft and having lateral tubular extensions, said shaft having a movement longitudinally of said tubular member, pins arranged within said tubular extensions and provided with tapered ends adapted to be engaged by the tapered end of said shaft, and a split cylindrical member adapted to be expanded by said pins.

2. A device of the type described, including a threaded shaft having a tapered end, a tubular member receiving said shaft and having lateral tubular extensions, said shaft having a movement longitudinally of said tubular member, pins arranged within said tubular extensions and provided with tapered ends adapted to be engaged by the tapered end of said shaft, said pins having a movement at right angles to said shaft, and a split cylindrical member adapted to be expanded by said pins.

3. A device of the type described, including a threaded shaft having a tapered end, a tubular member receiving said shaft and having lateral tubular extensions, said shaft having a movement longitudinally of said tubular member, pins arranged within said

tubular extensions and provided with tapered ends adapted to be engaged by the tapered end of said shaft, said pins having a movement at right angles to said shaft, a split cylindrical member adapted to be expanded by said pins and provided with a resilient member adapted to provide for the automatic return of the sections of said split cylindrical member to initial position.

4. A device of the type described, including a threaded shaft having a tapered end, a tubular member receiving said shaft and having lateral tubular extensions, said shaft having a movement longitudinally of said tubular member, pins arranged within said tubular extensions and provided with tapered ends adapted to be engaged by the tapered end of said shaft, said pins having a movement at right angles to said shaft, a split cylindrical member adapted to be expanded by said pins and provided with an annular groove, and a resilient member arranged within said groove for the contraction of said split cylindrical member.

5. A device of the type described, including a threaded shaft having a tapered end, a tubular member receiving said shaft and having lateral tubular extensions, said shaft having a movement longitudinally of said tubular member, pins arranged within said tubular extensions and provided with tapered ends adapted to be engaged by the tapered end of said shaft, said pins having a movement at right angles to said shaft, a split cylindrical member adapted to be expanded by said pins, and a resilient member applied to said split cylindrical member for the automatic return of the latter to initial position, said screw threaded shaft engaging said tubular member and provided with a clamping screw for locking it in place.

In testimony whereof, I affix my signature.

JOHN FREDERICK SEMONES.