

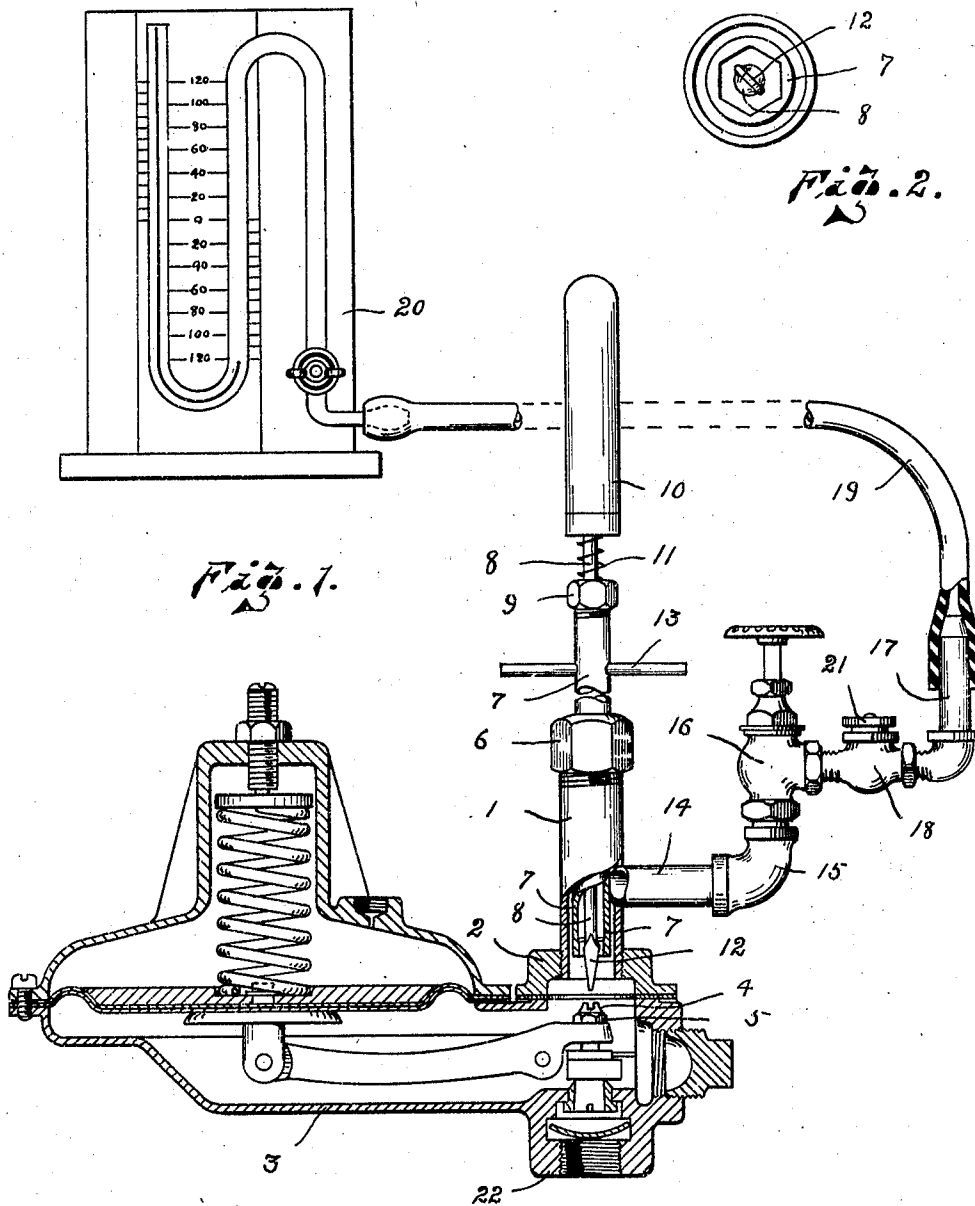
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REGULATOR ADJUSTING MECHANISM

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REGULATOR ADJUSTING MECHANISM

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This invention relates to an adjusting mechanism especially designed for use in connection with the adjusting of gas pressure regulators and particularly adapted to those known as pressure dome regulators.

As is well known, the adjustment of such regulators necessitates exceedingly careful manipulation and skill in making the adjustment, and in view of which the present invention is provided for accomplishing same as readily and efficiently as possible, and this comprises the principal object of the invention.

Further objects and advantages of the invention will appear in the following description thereof.

Referring now to the accompanying drawing, forming part of this application, and wherein like reference characters indicate like parts:

Figure 1 is a central vertical sectional view of a gas pressure regulator of the dome type, shown partially in elevation, and as having one of the improved adjusting mechanisms applied thereto, it also being partially broken away for a better comprehension of the details thereof and its connection to the manometer.

Figure 2 is an enlarged end elevation of the adjusting mechanism.

The device comprises a relatively short tubular body portion 1 having an externally screw threaded lower extremity which is adapted to be screwed into the discharge 2 of the regulator 3, and beneath which discharge is found installed within such regulator the adjusting screw 4, surrounded by the lock or jamb nut 5, which two devices it is well known must be carefully manipulated to adjust the discharge through the regulator, and which manipulation usually requires a considerable length of time, and ordinarily performed through the openings as found in such regulators.

However, when one of the improved instrumentalities is installed, this operation becomes quite simple as would appear in the following description thereof.

The upper end of the tubular body portion 1 is provided with a suitable stuffing gland, not shown, but the nut of which appears at 6, so that a tight fit may at all times be assured about the hollow spindle 7 which is installed concentrically within the body portion 1. This spindle 7 also carries axially thereof the screw driver rod 8, and the spindle 7 also has a suitable stuffing gland at the upper end thereof, regulated by the nut 9, between which and the lower end of the handle 10 is installed an expensive helical spring 11 to

insure the screw driver blade 12 remaining in a retarded or inactive position, normally away from the adjusting elements of the regulator. The lower end of the spindle 7 has formed therein a wrench socket of a shape and size to fit the jamb nut 5 on the ordinary dome regulator, and the upper end of the spindle 7 is provided with opposed handles 13 for rotative manipulation of the wrench when upon the nut, or for applying it to the nut 5.

An important feature of this assembly is that the spindle 7 is materially less in diameter than the interior of the tubular body 1 so that the application of the wrench socket to the nut may be more conveniently accomplished, in that the lower end of the spindle may be flopped about for finding the nut, as it may be slightly to one side of the center from time to time or vary some in different regulators as the case may be.

From the tubular body 1 there is provided the lateral pipe extension 14 carrying the elbow 15 thereupon communicating with a suitable globe valve 16 having a discharge connection terminating in the hose nipple 17. Between it and the valve is installed a T-connection 18 carrying the relief valve or bleeder 21, this latter being provided to relieve any pressure that might be caused within the tube 19 by the slipping of the end of same onto the nipple 17 and/or misadjustment of the regulator which might destroy proper registration in the manometer if not relieved before final adjustment of the regulator occurred.

To test and/or adjust a gas pressure regulator with my improved device above described, the device is attached to the regulator as illustrated, and then a compressed air or gas line is attached to the regulator in the internally screw threaded inlet opening 22. Since this work is done under ordinary circumstances on a bench in the shop, air is preferable as it is just as efficient as gas for the purpose and much less dangerous to the workmen. The air will then pass through the regulator and through the improved adjusting mechanism to the manometer which will indicate the pressure of the air which the regulator permits to pass therethrough, and if too high or too low, by manipulating the screw driver 10 to adjust the screw 4, the pressure may be regulated to the desired amount as indicated by the manometer, when the jamb nut 5 may be tightened by operation of the wrench socket on the lower end of the hollow spindle 7. Then the adjusting mechanism may be removed from the regulator and the latter placed back into service.

The manometer is illustrated at 20 and it is

obvious that some other form of gage may be employed without departing from the spirit of the invention.

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

5 1. In a device for adjusting gas regulators, a main tubular body portion for application to the discharge of the regulator, a tubular wrench member within said body portion for applica-
10 tion to the jamb nut in the regulator, and a screw driver mounted axially of said wrench member, a manometer, and a controlled pipe connection from said body portion to said ma-
15 nometer whereby pressure of fluid passing through said regulator will be indicated upon said manometer when adjustment of the regulator is made.

2. In a device for adjusting gas regulators hav-
20 ing pressure adjusting screws and lock nuts therein, comprising a tubular body portion for

application to the discharge of the regulator, means within said body portion for adjusting the adjusting screw and turning the lock nut, a pres-
sure indicating gage, and a connection from said tubular body portion to said gage whereby the
5 pressure of fluid passing through said regulator will be indicated upon said gage.

3. In a device for adjusting gas regulators hav-
ing pressure adjusting screws and lock nuts therein, comprising a body portion for applica-
10 tion to the discharge of the regulator, means within said body portion for adjusting the ad-
justing screw and turning the lock nut, a pres-
sure indicating gage, and a connection from said
15 body portion to said gage whereby the pressure of fluid passing through said regulator will be in-
dicated upon said gage, and means for relieving the pressure within said connection.

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