

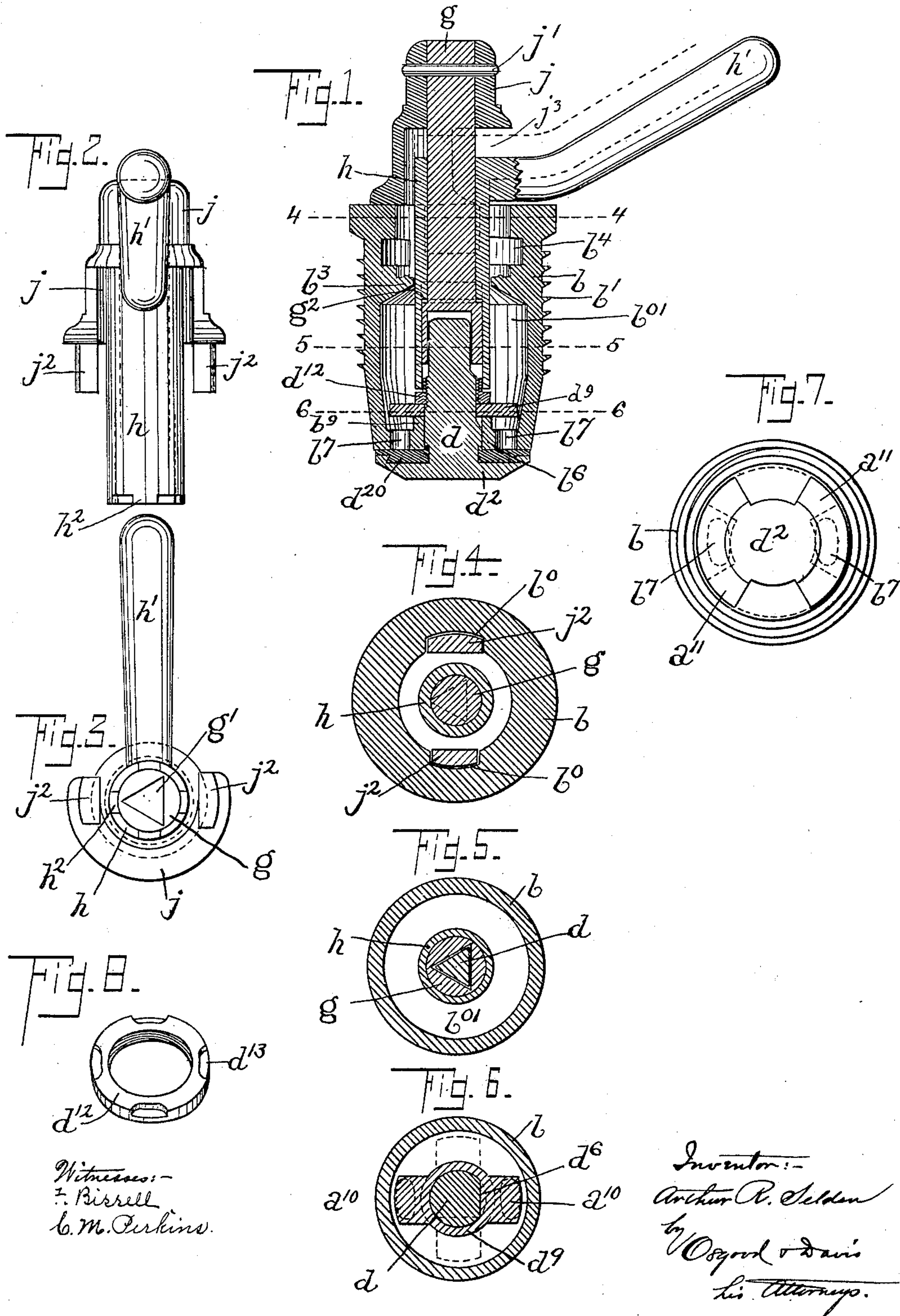
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A. R. SELDEN.
WRENCH.

(Application filed Apr. 25, 1900. Renewed May 7, 1901.)

(No Model.)



UNITED STATES PATENT OFFICE.

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WRENCH.

SPECIFICATION forming part of Letters Patent No. 688,202, dated December 3, 1901.

Application filed April 25, 1900. Renewed May 7, 1901. Serial No. 59,174. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR R. SELDEN, a citizen of the United States, and a resident of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

This invention relates to a new and improved wrench for use with the taps or bungs for barrels or casks of the type shown in United States Patent No. 600,501, dated March 8, 1898; and it consists of the wrench mechanism hereinafter described.

In the drawings, Figure 1 is a vertical section of a tap and wrench embodying this invention. Fig. 2 is an elevation of the wrench on the side of the handle thereof. Fig. 3 is a bottom plan view of the wrench. Figs. 4, 5, and 6 are cross-sections on the lines 4-4, 5-5, and 6-6 of Fig. 1, respectively. Fig. 7 is a bottom view of the tap or bung shown in Fig. 1, and Fig. 8 is an enlarged perspective view of the tightening-nut on the valve-stem.

In the drawings, b is the tap or bung, provided on its exterior with screw-threads b^1 for engaging the side walls of a perforation in the barrel or package, as usual. Inside the outer end of the tap or bung are the usual cam-slots b^4 , adapted to engage cams upon a faucet that is inserted in said tap or bung in a well-known manner. In the outer end of the bung are notches b^0 to permit the passage of the cams upon the faucet in a manner also well known. Below the cam-slots b^4 is a circular valve-seat b^3 , against which a flange on the faucet (with an intermediate washer, if desired) engages in a manner well known. The valve-seat b^3 is centrally perforated, and there is an enlarged chamber b^0 within the body of the tap or bung.

The tap or bung has a bottom web b^6 , provided with a suitable number of apertures or ports b^7 . In the present case there are shown two of these apertures or ports. The valve-disk d^2 , provided with a packing d^{20} , if desired, fits against the inner end of the tap or bung and against the face formed by the web b^6 and has wings a^{11} , (see Fig. 7,) that are adapted to cover the ports or apertures b^7 in certain positions of the valve-disk and to uncover said ports or apertures in other positions thereof.

The valve-disk d^2 has a valve-stem d , that extends through a central aperture in the web b^6 upward and into the chamber b^0 inside the bung. The central aperture through the web b^6 may have an upward cylindrical extension b^9 . The valve-stem is flattened on one side, as shown at d^6 , Fig. 6, and on the stem is a washer d^9 , having a face fitting the face d^6 , as shown in Fig. 6, in order that the washer may not turn upon said stem. The said washer has wings a^{10} , which act as guards to prevent wires being inserted from the outer end of the tap or bung through the apertures or ports b^7 . The washer is so set upon the stem d that when the valve is closed the valve-disk d^2 closes the apertures b^7 and the wings a^{10} cover said apertures. On the valve-stem and above the washer is the nut d^{12} , provided with a series of notches d^{13} in its outer edge. This nut fits upon a screw-threaded portion of the stem and is adapted to force the washer against the web b^6 or its flange b^9 , and thus by tightening the nut to draw the valve-disk d^2 tightly against the inner face of the web b^6 . The upper end of the valve-stem d is preferably triangular, as shown in Fig. 5. This triangular end is adapted to fit into the end of the usual faucet in order that when the faucet is turned the ports b^7 are opened and fluid may pass out from the barrel or package.

The form of wrench in Fig. 15 of the drawings forming part of United States Patent No. 600,501, dated March 28, 1898, may be so used as to loosen the nut d^{12} (shown in Fig. 12 of said patent) without maintaining the proper angular position of the valve-disk d^2 with reference to the ports a^3 in the body of the tap b . It is important to maintain the position of the valve-disk with reference to said ports in order that when the barrel is delivered to the customer it may be properly adjusted, so that when the faucet is inserted into the tap the proper engagement of the cams f^4 may take place with the cams b^4 in the tap, and also that the valve may be so set by means of the wrench that the valve-disk completely covers the ports. Any failure of adjustment of this character may permit leaking from the barrel, particularly when there is gas-pressure inside it.

In order to avoid the objections above men-

tioned and to provide a wrench by which the nut d^{12} may be tightened upon the valve-stem d in order to cause proper compression of the valve-disk d^2 against the inner end of the tap and at the same time to cause a proper setting of the valve-disk, the invention herein described has been produced.

The wrench to which this invention relates is adapted for use with a bung having a valve, a valve-stem inside the bung, and a tightening-nut on said stem and is composed, broadly, of a wrench for turning said nut, a spindle rotatable inside said wrench and adapted to engage said valve-stem to hold it, and means connected with said spindle for engaging the bung to hold the spindle stationary while the wrench is turned. The mechanism comprising the present embodiment of this invention has a central spindle g , having a socket g' in its lower end adapted to fit upon the triangular end of the valve-stem d . This central spindle has a shoulder g^2 , larger than the main portion of the stem. Around the central stem is a sleeve h , integral with or fastened to a handle h' , extending outward from the sleeve. The sleeve fits upon the spindle g and is provided with a shoulder corresponding to the shoulder g^2 , so that the sleeve cannot slip off the spindle, but may turn thereon. The end of the sleeve is adapted to extend over the end of the spindle and is provided with projections h^2 , which are so proportioned and arranged as to fit the notches d^{13} in the nut d^{12} . Upon the outer end of the spindle g is a cap j , that is securely fastened to said spindle in any suitable manner, such as by the pin j' . The cap has downwardly-extending lugs j^2 , that are adapted to fit into the notches or recesses b^0 of the tap or bung b . The handle h' extends out through an opening j^3 in the side of the cap j , and the cap has an interior recess, so that the sleeve h may slide longitudinally upon the spindle g , but without being removable therefrom.

The operation of the wrench is as follows: The wrench is inserted into the tap, the triangular socket g' of the spindle g fitting upon the triangular end of the valve-stem d and the lugs j^2 of the cap j fitting in the notches b^0 within the tap or bung. It will now be seen that the valve-stem d cannot be turned so long as these parts are in place, while the sleeve or wrench proper, h , may be turned by means of the handle h' . On lowering the sleeve h the lugs h^2 engage the notches d^{13} in the nut d^{12} , and on turning the handle h' to one side or the other the nut may be turned, tightening or loosening it, as the case may be. After moving the nut in one direction the handle h' is raised, thus lifting the lugs h^2 out of the notches in the nut d^{12} , and then the sleeve may be turned back to a position for a new engagement with said nut, so that the nut may be further tightened or further loosened. The proportions of the parts of this wrench are such, as shown in the drawings, that it can-

not be employed to turn the nut unless the valve-stem d is held firmly against revolution by means of engagement of the socket in the spindle g with the valve-stem and the engagement of the lugs j^2 with the bung or tap, and the nut d^{12} cannot be turned unless the valve-stem is so held, and the lugs j^2 are of such length that the spindle cannot engage the valve-stem unless the lugs j^2 are in the notches b^0 , thereby necessitating the non-rotatability of the valve-stem whenever the sleeve or wrench h is inserted into the bung far enough to engage the nut d^{12} . Further, the position of the lugs j^2 with reference to the socket g' in the spindle necessitates the invariable setting of the valve-disk d^2 in accurate relation to the ports b^7 . Of course the ends of the stem need not be triangular, but may be of any suitable form other than cylindrical.

What I claim is—

1. The combination, with a bung having a valve, a valve-stem inside the bung and a nut on said valve-stem, of a wrench for turning said nut, a spindle inside said wrench adapted to engage said valve-stem, and means connected with said spindle for engaging the bung and holding the spindle stationary while the wrench is turned, substantially as described.
2. The combination with a bung having a valve, a valve-stem inside the bung and a nut on said valve-stem, of a wrench for turning said nut, a spindle inside said wrench adapted to engage said valve-stem and adapted to turn and to move longitudinally thereon, and means connected with said spindle for engaging the bung and holding the spindle stationary while the wrench is turned, substantially as described.
3. The combination with a bung having a valve, a valve-stem inside the bung and a nut on said valve-stem, of a wrench for turning said nut, a spindle inside said wrench adapted to engage the valve-stem and to turn and to move longitudinally thereon, means for retaining said spindle in said wrench, and means connected with said spindle for engaging the bung and holding the spindle stationary while the wrench is turned, substantially as described.
4. The combination with a bung having a valve, a valve-stem inside the bung and a nut on said valve-stem, of a spindle for holding the valve-stem, means for holding the spindle stationary in the bung, and a wrench carried by and rotatable about said spindle and provided with means for engaging and turning the nut on the valve-stem, substantially as described.
5. The combination with a bung having a valve, a valve-stem inside the bung and a nut on said valve-stem, of a spindle for holding the valve-stem, means for holding the spindle stationary in the bung, and a sleeve permanently set on said spindle and provided with means for engaging and turning the nut on the valve-stem, substantially as described.
6. The combination with a bung having a

valve, a valve-stem inside the bung and a nut on said valve-stem, of a spindle for holding the valve-stem, means for holding the spindle stationary in the bung, a sleeve carried by 5 and rotatable about said spindle, and having a longitudinal movement thereon, and means for engaging and turning the nut on the valve-stem, substantially as described.

7. The combination with a bung having a 10 valve, a valve-stem inside the bung and a nut on said valve-stem, of a central spindle for holding the valve-stem, means for holding the spindle stationary in the bung, a sleeve permanently set on said spindle and adapted to 15 have a longitudinal and a rotary movement on said spindle, and means for engaging and turning the nut on the valve-stem, substantially as described.

8. The combination with a bung having an 20 outer valve on the end, a valve-stem extending inside the bung, a tightening-nut on said valve-stem, and notches on the outer end of the bung, of a spindle for engaging and holding the said valve-stem, means connected 25 with the valve-stem for setting in said notches, and holding the spindle stationary in the bung, and a sleeve carried by and rotatable about said spindle and provided with means for engaging and turning the nut on the valve-stem, 30 substantially as described.

9. The combination with a bung having an 35 outer valve on the end, a valve-stem extending inside the bung, a tightening-nut on said valve-stem, and notches on the outer end of the bung, of a spindle for engaging and holding said valve-stem, means connected with the valve-stem for setting in said notches and holding the spindle stationary in the bung,

and a sleeve permanently set on said spindle and rotatable about the same and provided 40 with means for engaging and turning the nut on the valve-stem, substantially as described.

10. The combination with a bung having an outer valve on the end, a valve-stem extending inside the bung, a tightening-nut on said 45 valve-stem, and notches on the outer end of the bung, of a spindle for engaging and holding said valve-stem, means connected with the valve-stem for setting in said notches and holding the spindle stationary in the bung, 50 and a sleeve carried by said spindle and adapted to have a longitudinal and a rotary movement thereon, and provided with means for engaging and turning the nut on the valve-stem, substantially as described. 55

11. The combination with a bung having notches at its outer end, a web at its inner end provided with ports and a central opening for a valve-stem, a valve fitting against the face of said web and adapted to open and 60 close said ports, a valve-stem extending inside the bung, and a nut running on said valve-stem and adapted to tighten the valve, of a wrench having a spindle adapted to fit said valve-stem, and a handle, a sleeve on 65 said wrench-spindle adapted to engage said nut for turning the same, and a head fastened to said wrench-spindle and having lugs adapted to fit in said notches in said bung, whereby the valve-stem is held stationary 70 while the nut is turned by said sleeve, substantially as described.

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Witnesses:

F. BISSELL,
C. M. PERKINS.