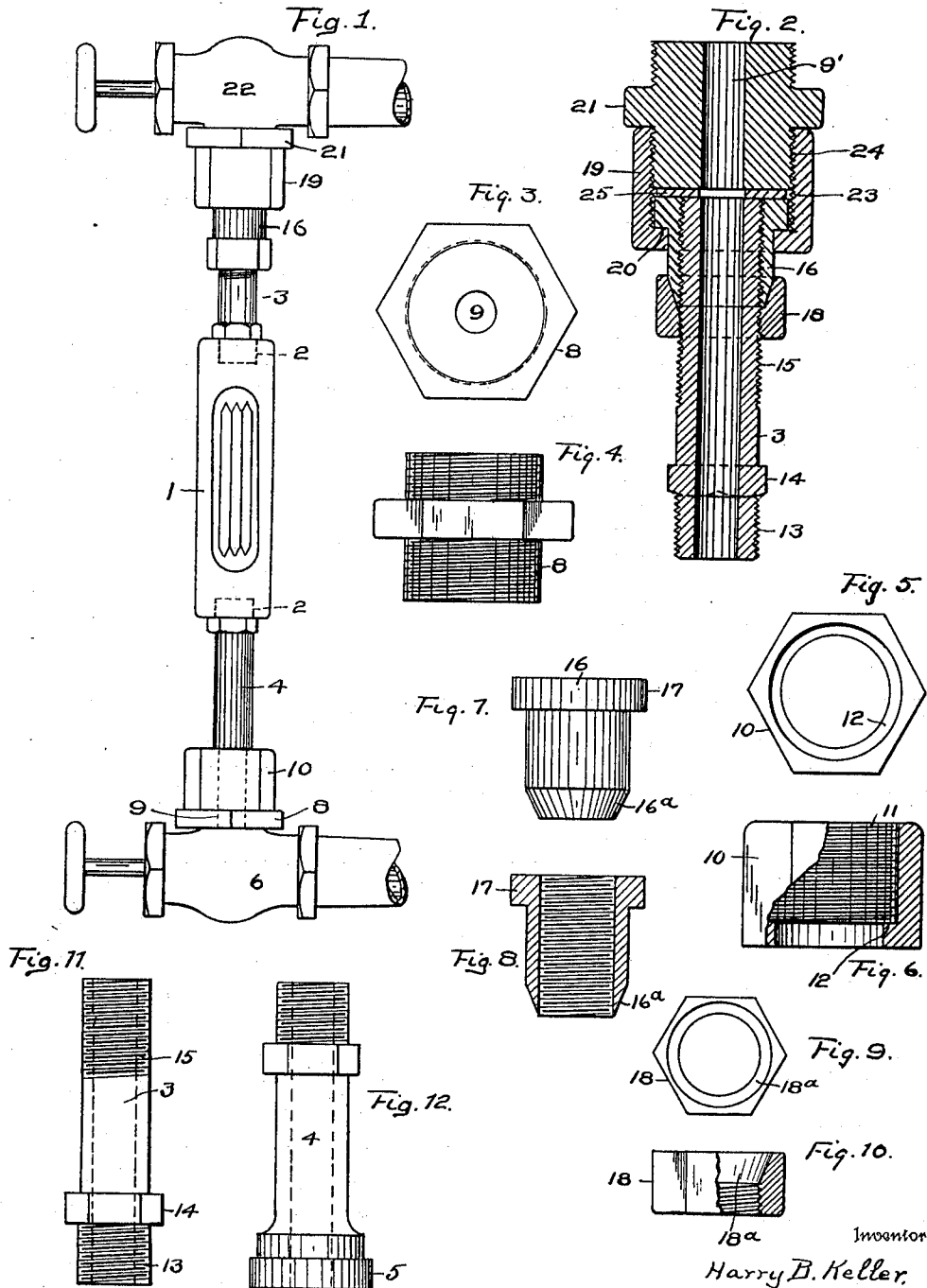


H. B. KELLER.
ADJUSTABLE FLUID CONNECTION.
APPLICATION FILED NOV. 26, 1910.

1,053,609.

Patented Feb. 18, 1913.



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UNITED STATES PATENT OFFICE.

HARRY B. KELLER, OF FORT WAYNE, INDIANA.

ADJUSTABLE FLUID CONNECTION.

1,053,609.

Specification of Letters Patent.

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Application filed November 25, 1910. Serial No. 593,982.

To all whom it may concern:

Be it known that I, HARRY B. KELLER, a citizen of the United States, and resident of Fort Wayne, in the county of Allen and State of Indiana, have invented new and useful Improvements in Adjustable Fluid Connections, of which the following is a specification.

My invention relates to adjustable fluid connections which may be used for connecting various kinds of fluid conveying means. Its object is to provide a cheap, simple and efficient device which shall be adjustable to connect any two suitable fluid passageways and which shall be free from packing, thereby producing a great saving in cost of maintenance of the connection.

The invention consists in the novel construction and arrangement of parts hereinafter described and illustrated in the drawings, in which I have shown my invention as applied to a Klinger water glass for the purpose of connecting the latter to a boiler.

Referring to the drawings, Figure 1 is a side elevation of a water glass connected by my invention to two valves; Fig. 2, a cross section of the adjustable connection; Fig. 3, a plan view of the screw plug; Fig. 4, an elevation of the plug; Fig. 5, a plan view of the union nut; Fig. 6, an elevation of the union nut partly in section; Fig. 7, an elevation of the adjustable member; Fig. 8, a longitudinal section of the member; Fig. 9, a plan view of the lock nut; Fig. 10, a sectional elevation of the same; Fig. 11, an elevation of the upper pipe section and Fig. 12, an elevation of the lower pipe section.

I illustrate, for convenience, my invention as applied to a water gage of the type commonly known as the "Klinger." 1 is such a gage, in the upper and lower ends of which are threaded openings 2, which lead into the interior of the gage. Into these openings and in threaded engagement with the gage casing are two pipes 3 and 4. Pipe 4 is provided at its lower end with a collar 5.

The usual water gage valve 6 is connected to the boiler in the usual manner. In the usual opening in this valve is threaded a plug 8 having a central bore 9. The collar 5 on pipe 4 bears against the upper end of plug 8, and a union 10 having internal threads 11 engages the plug and by means of flange 12 in one end engages the upper surface of collar 5 to draw the pipe 4 tight on

plug 8. A gasket may be inserted between the adjacent surfaces of the plug and pipe, if desired, as is provided for the upper connection about to be described.

Pipe 3 is provided on one extremity with threads 13 by which the pipe may be secured to the upper end of the gage 1, the hexagonal portion 14 serving as a means by which the pipe may be placed into connection with the gage. The remaining portion of pipe 3 is provided with a suitable number of threads 15. On the latter threads is engaged a member 16 having at one extremity a collar 17, its other extremity 16^a being tapered inwardly toward pipe 3. By reason of the threaded engagement of member 16 on pipe 3 the member 16 is adjustable along that pipe. Also in threaded engagement with pipe 3 is a lock nut 18, a portion 18^a of the bore of which is smooth and tapered outwardly to correspond to the taper of member 16, the two tapered surfaces being adapted to coact to lock the parts as hereinafter described. Loosely engaged about collar 17 is a union 19 similar in construction to union 10, the flange 20 thereof engaging, in use, the under surface of collar 17. A plug 21 similar to plug 8 and having a central opening 9' is engaged in valve 22, which valve is connected in the usual manner to the boiler. The internal threads 23 on union 19 engage the external threads 24 on plug 21 and by turning which union the upper surface of member 16 is brought into tight contact with the lower end of plug 21. If desired, a copper or other suitable form of gasket 25 may be inserted between said adjacent surfaces as the parts are assembled.

In connecting the water gage to the valves the lower connections 4, 8 and 10 are first attached to the gage and lower valve. Pipe 3, having on the same lock nut 18, member 16 and union 19, is then secured to the top of the gage. Member 16, which in the claims I will designate as the adjustable swivel, is then adjusted on pipe 3 to the proper height thereon to cause its upper surface to reach the desired position relative to the lower end of plug 21. Lock nut 18 is then tightened on the tapered end of member 16 by rotating the nut on pipe 3 toward member 16 to force the two tapered surfaces of the nut and member 16 into tight contact so that further movement of that member on pipe 3 is obviated. Union 19 is then slipped along member 16 and

placed in threaded engagement with plug 21 to securely retain the plug and member 16 (and the gasket, if one is used) in contact.

- 5 By providing the adjustable member or swivel 16 on pipe 3 the connection between valve 22 and the gage is quickly made and without strain on the gage or other parts. It also permits of an adjustment of the
10 parts to compensate different relative positions of the two valves.

- Plugs 8 and 21 may be omitted if the valves are of proper form to connect to unions 10 and 19, and if desired pipe 3 with
15 its above described connections may be substituted for pipe 4 and its connections.

- It is apparent that my invention is capable of use with many devices where it is desirable or advantageous to have adjustment of the connecting parts, consequently
20 I do not wish to be limited to its use described above or to the precise structure specified above.

What I claim is:

- 25 1. In an adjustable fluid connection for water gages, the combination of a water gage, a valve, a pipe in threaded connection with the gage, an adjustable swivel in

threaded connection with the pipe having a collar at its upper end and tapered at its
30 lower end, a lock nut in threaded engagement with the pipe and frictionally engaging the tapered end of the swivel, and a union nut loosely carried by the swivel in engagement with the collar and having a
35 connection with the valve.

2. In an adjustable fluid connection for water gages the combination of a water gage, a valve, a pipe in threaded engagement with the gage, a swivel adjustably
40 engaged on the upper end of the pipe having its lower end tapered toward the pipe and having a collar on its upper end, a lock nut in threaded engagement with the pipe and frictionally engaging the tapered end of the
45 swivel, a member in threaded engagement with the valve, and a union in threaded engagement with the member and loosely engaging the swivel below the collar.

In witness whereof I hereunto subscribe
50 my name this 23rd day of November, 1910.

HARRY B. KELLER.

Witnesses:

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HELEN F. GLENN.