A. H. BLANCHARD.

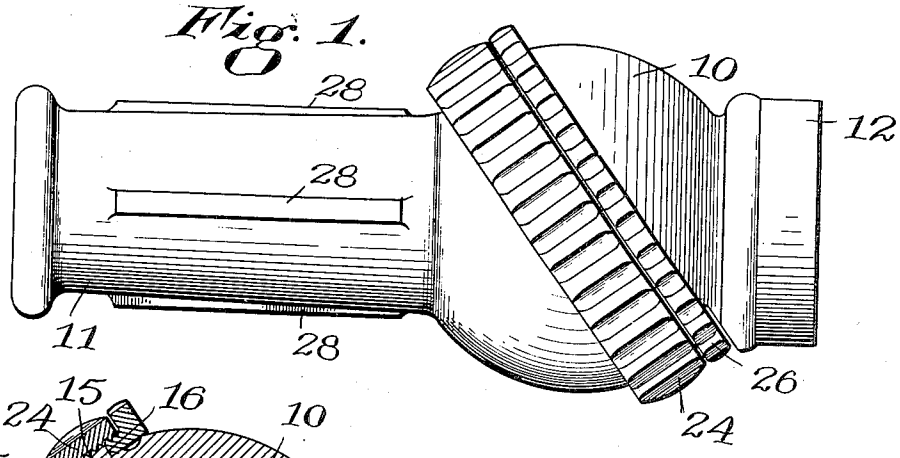
ADJUSTABLE COUPLING.

APPLICATION FILED SEPT. 2, 1913.

1,125,642.

Patented Jan. 19, 1915.

Fig. 1.



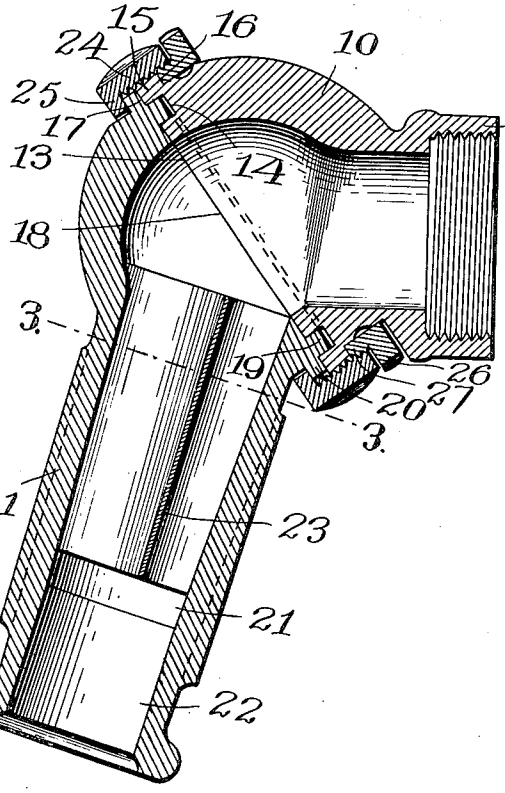


Fig. 2.

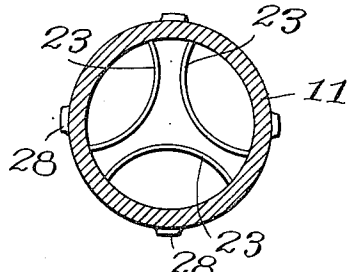


Fig 3.

Witnesses
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UNITED STATES PATENT OFFICE.

ARTHUR H. BLANCHARD, OF WORCESTER, MASSACHUSETTS.

ADJUSTABLE COUPLING.

1,125,642. Specification of Letters Patent. Patented Jan. 19, 1915.

Application filed September 2, 1913. Serial No. 787,633.

To all whom it may concern:

Be it known that I, ARTHUR H. BLANCHARD, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Adjustable Coupling, of which the following is a specification.

This invention relates to an adjustable coupling and particularly to a coupling adapted for use in a nozzle tip which is adjustable to permit a stream to be thrown at an angle to the axis of the body of the nozzle.

In the fighting of fires it often becomes desirable to throw a stream at an angle to the direction of the fire hose, as for example, when it is necessary to direct a stream through a small opening into a building or to attack a fire which is burning within a partition. Under such circumstances it is commonly necessary to hold the nozzle at an angle to the hose and when this is done the re-action of the water makes the control of the nozzle extremely difficult.

It is one of the objects of my invention to provide an improved adjustable coupling especialy adapted for use in a nozzle tip. By the use of this coupling the tip may be set to throw a stream at any desired angle to the axis of the nozzle, the tip and coupling being self-contained, so that it may be used interchangeably with the regular tip on a standard nozzle. Inasmuch as the angularly related parts are united in a single structure the reaction of the water is taken up within said structure and the difficulty of control above noted is avoided.

With these objects in view, my invention consists of certain arrangements and combinations of parts hereinafter described and more particularly pointed out in the appended claims.

A preferred form of my invention is shown in the drawings in which—

Figure 1 is a side view of my device; Fig. 2 is a longitudinal sectional view showing the parts in a different angular relation; and Fig. 3 is a detail sectional view on the line 3—3 in Fig. 2.

In the embodiment of my invention herein shown the nozzle tip comprises a body portion 10 and an end or tip portion 11. The body portion 10 is provided with an internally threaded sleeve 12 which is adapted to be screwed upon the end of a standard fire hose nozzle in place of the straight nozzle tip commonly used. The body portion is also provided with an angularly disposed bearing surface 13 having a rectangular groove 14 formed therein, and having its edge portion formed into an externally threaded out-standing flange 15 having parallel radial surfaces 16 and 17. The end or tip portion of the nozzle is similarly provided with an angularly disposed bearing surface 18 having an annular rib 19 formed thereon and is surrounded by a radial flange 20. The rib 19 is made to form a sliding fit in the groove 14 and these parts constitute a water-tight joint between the surfaces 13 and 18.

The end portion is reamed out to provide a tapered hole 21 opening into a straight or cylindrical bore 22. Within the tapered portion are rigidly secured a plurality of longitudinally extending ribs 23 as shown in Fig. 3. The object of these ribs is to overcome the whirling motion of the water induced by the sharp angular turn in the nozzle tip, thereby permitting the water to issue from the tip in a solid stream at whatever angle the parts are disposed.

The body and end portions are adjustably secured to each other by an internally threaded sleeve 24 provided with an internal flange 25. This sleeve when screwed upon the threaded out-standing flange 15 clamps the radial flange 20 firmly against the end of the flange 15 and holds the same in any desired angular relation thereto. A binder 26 provided with an externally threaded projecting part 27 is screwed into the sleeve 24 until it contacts with the lower radial surface 16 of the out-standing flange 15. When in this position it serves to bind the sleeve 24 firmly in place, thus permitting relative rotation of the parts 10 and 11 without loosening the sleeve 24.

The external surfaces of the parts 24 and 26 are grooved for convenience in manipulation, and the end or tip portion 11 is also provided with a plurality of external ribs 28 by which the same may be grasped and easily set to any desired angle.

When the parts are in the relative position shown in Fig. 1, the nozzle tip acts the same as a regular nozzle tip and throws a straight stream. Fig. 2 shows the parts in extreme angular relation, and by partially

rotating the parts relative to each other, any desired angular adjustment between these two positions may be obtained.

By a careful adjustment of the connecting means the parts may be secured with sufficient friction between the surfaces to retain them in any adjusted angular position, while at the same time they may be freely moved to any desired different relation without disturbing the adjustment of the connecting means.

While I have shown my improved coupling as embodied in a nozzle tip it is equally well adapted for use in other devices in which angular adjustment of tubular parts is desirable.

Having thus described my invention it will be evident that many changes and modifications can be made therein without departing from the spirit thereof, and I do not wish to be limited to the specific details disclosed herein, but

What I claim is:—

1. An adjustable coupling comprising a body portion, an end portion, and means for connecting said portions and permitting angular adjustment between them, said body portion having a bearing surface and an externally threaded flange, said end portion having a coöperating bearing surface and a radial flange adapted to contact with the end of said externally threaded flange, said connecting means comprising a sleeve and a binder, said sleeve having an internal flange adapted to engage said radial flange on the end portion and an internal screw thread fitting the externally threaded flange on the body portion and said binder being externally threaded to fit within said connecting sleeve and having a radial end surface contacting with the radial surface on the threaded flange of the body portion.

2. An adjustable coupling comprising a body portion, an end portion, and means for connecting said portions and permitting angular adjustment between them, said connecting means comprising a sleeve and a binder, said sleeve having an internal flange adapted to engage a radial flange on the end portion and having an internal screw thread fitting an externally-threaded flange on the body portion, and said binder being externally threaded to screw within said connecting sleeve and having a radial end surface contacting with the radial surface of the threaded flange of the body portion.

3. An adjustable coupling comprising a body portion, an end portion and connecting means therefor, said body portion having an externally-threaded flange thereon provided with two radial surfaces, said end portion having an external flange thereon also provided with two radial surfaces, one of said surfaces contacting with one of the radial surfaces of the flange on the body portion, said connecting means comprising a sleeve and a binder, said sleeve being internally threaded to fit the threaded flange on the body portion and having an internal flange contacting with the second radial surface on the end portion to clamp said portions together, and said binder being externally threaded to fit said connecting sleeve and having a radial end surface contacting with the second radial surface of said body portion and thereby binding said sleeve to said body portion.

In testimony whereof I have hereunto set my hand, in the presence of two subscribing witnesses.

ARTHUR H. BLANCHARD.

Witnesses:

CHAS. T. HAWLEY,

C. F. WESSON.