

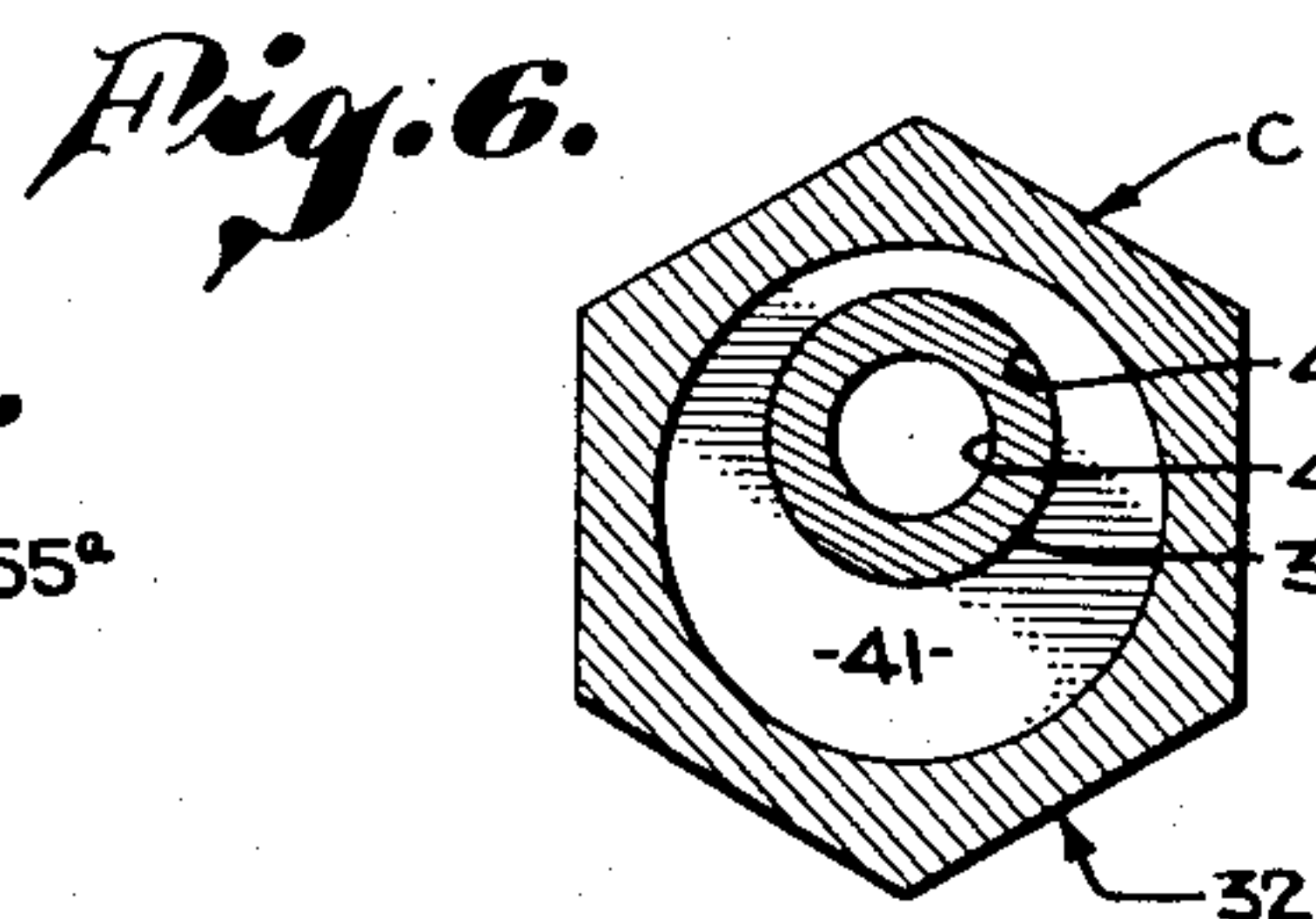
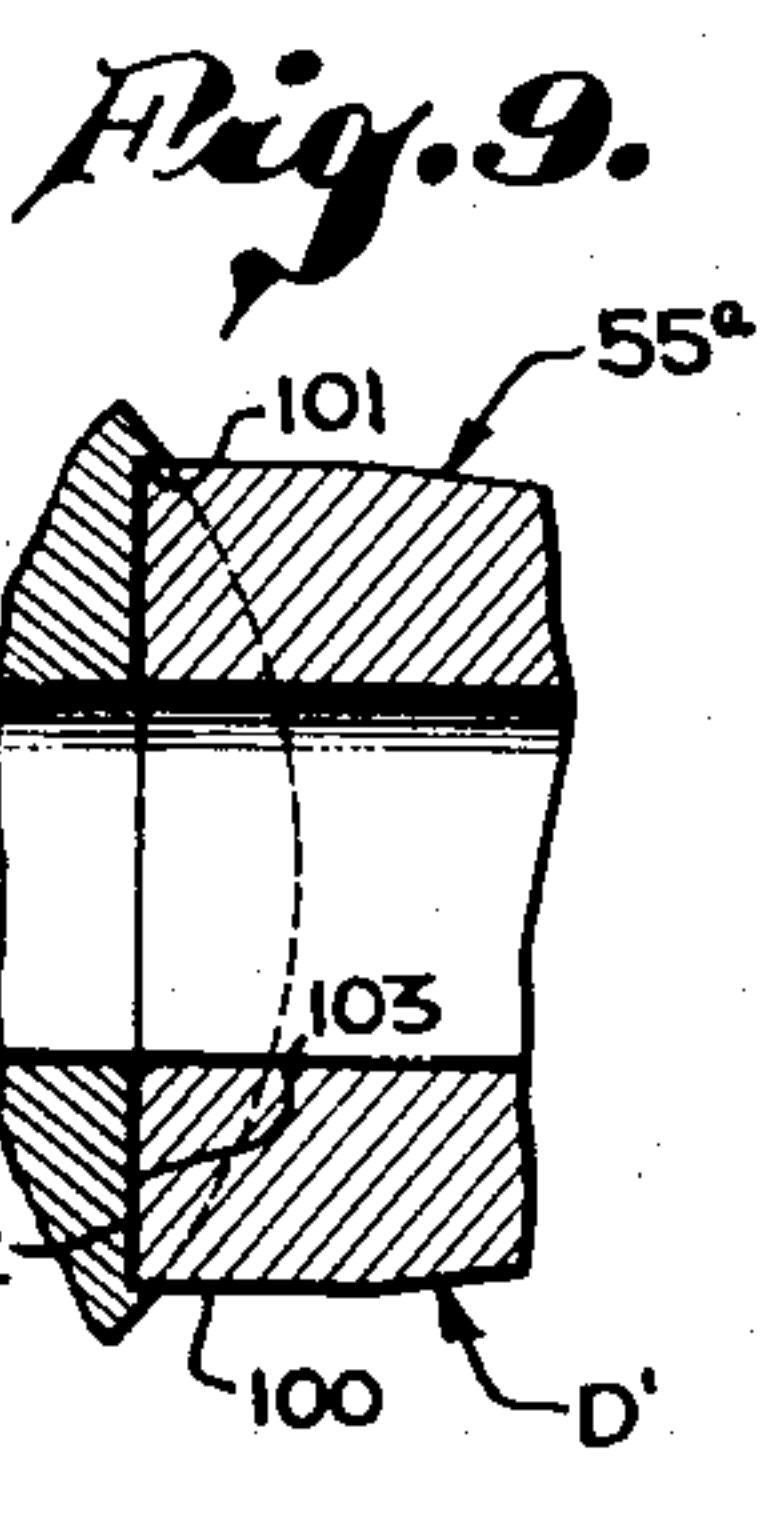
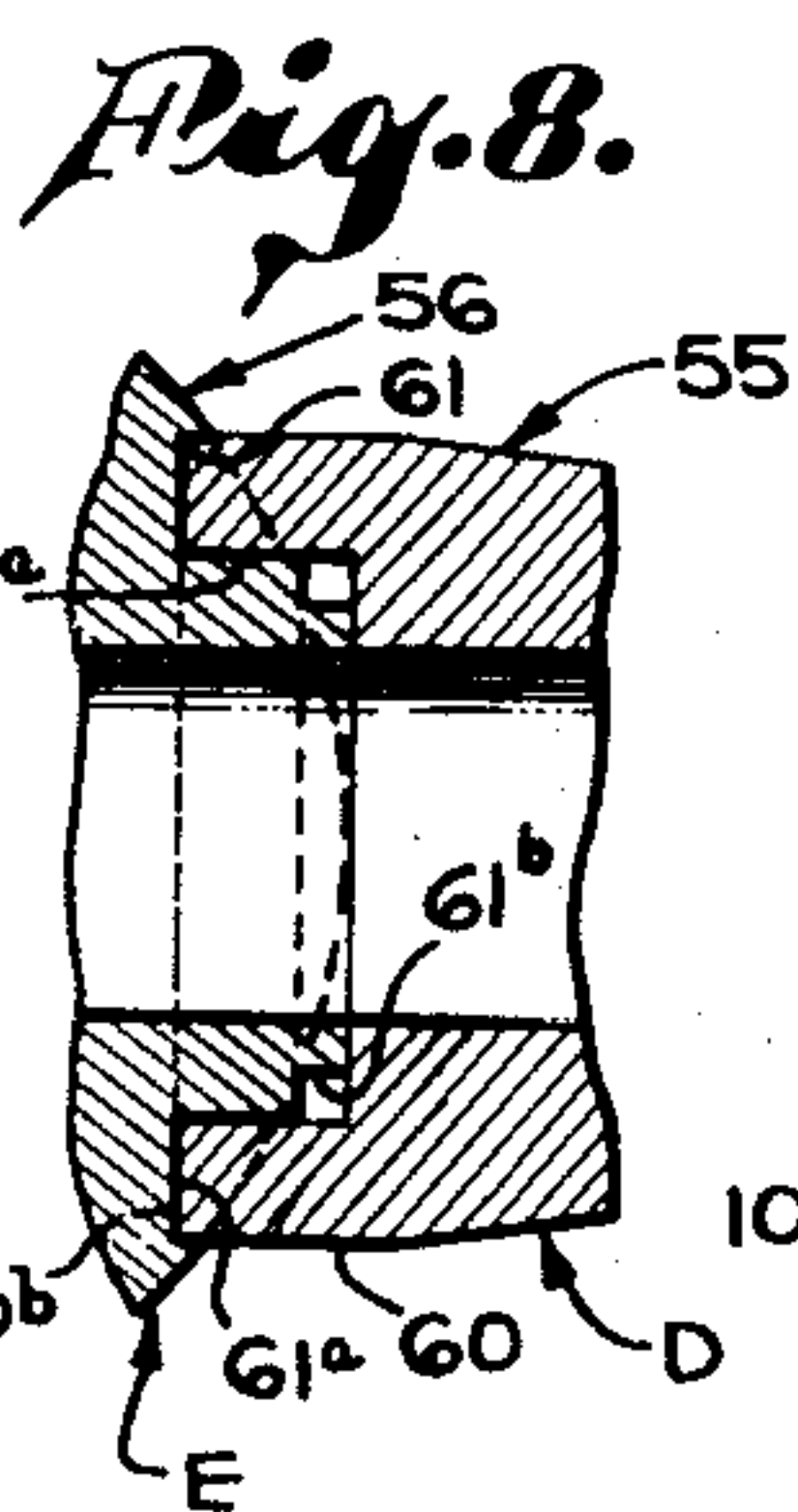
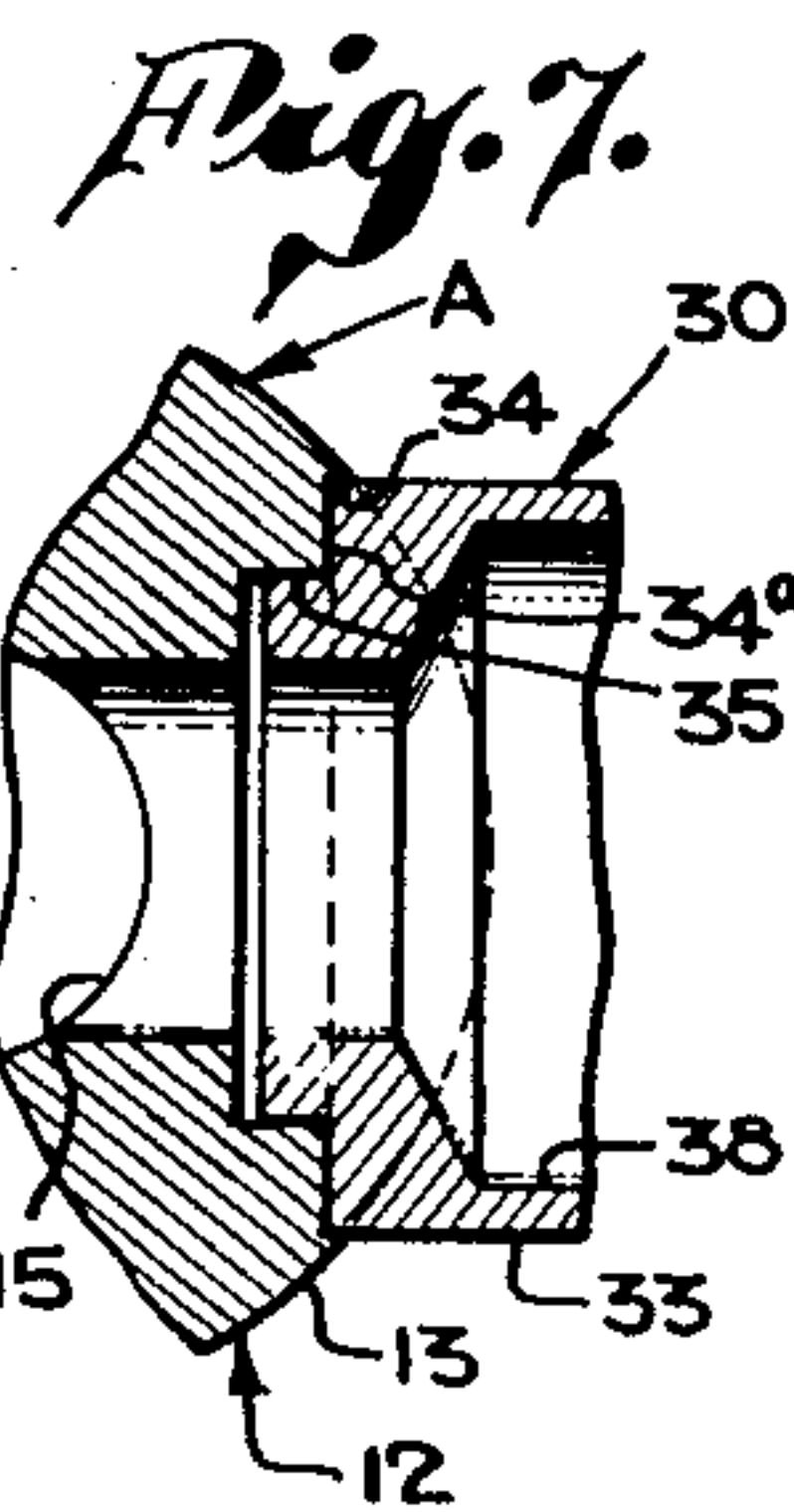
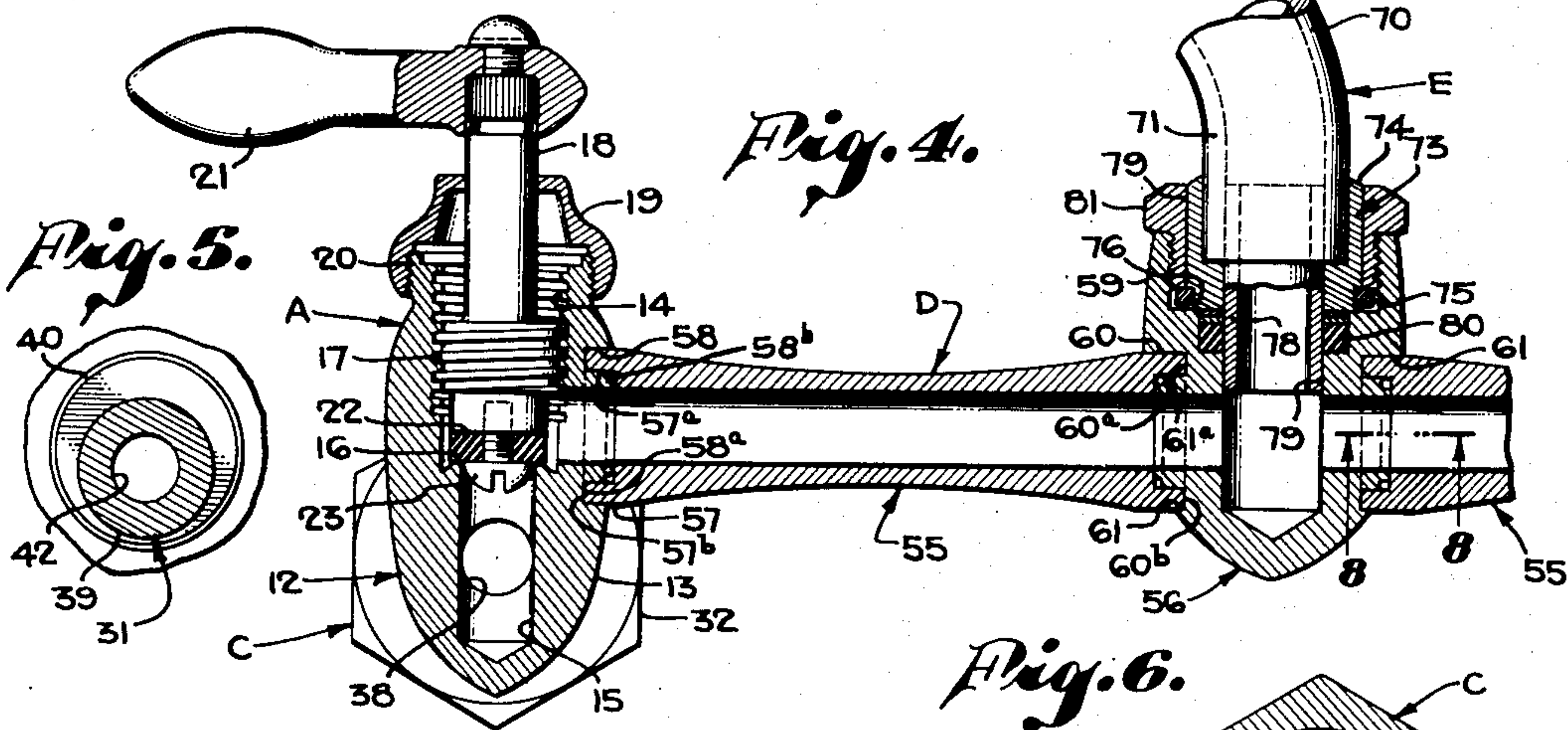
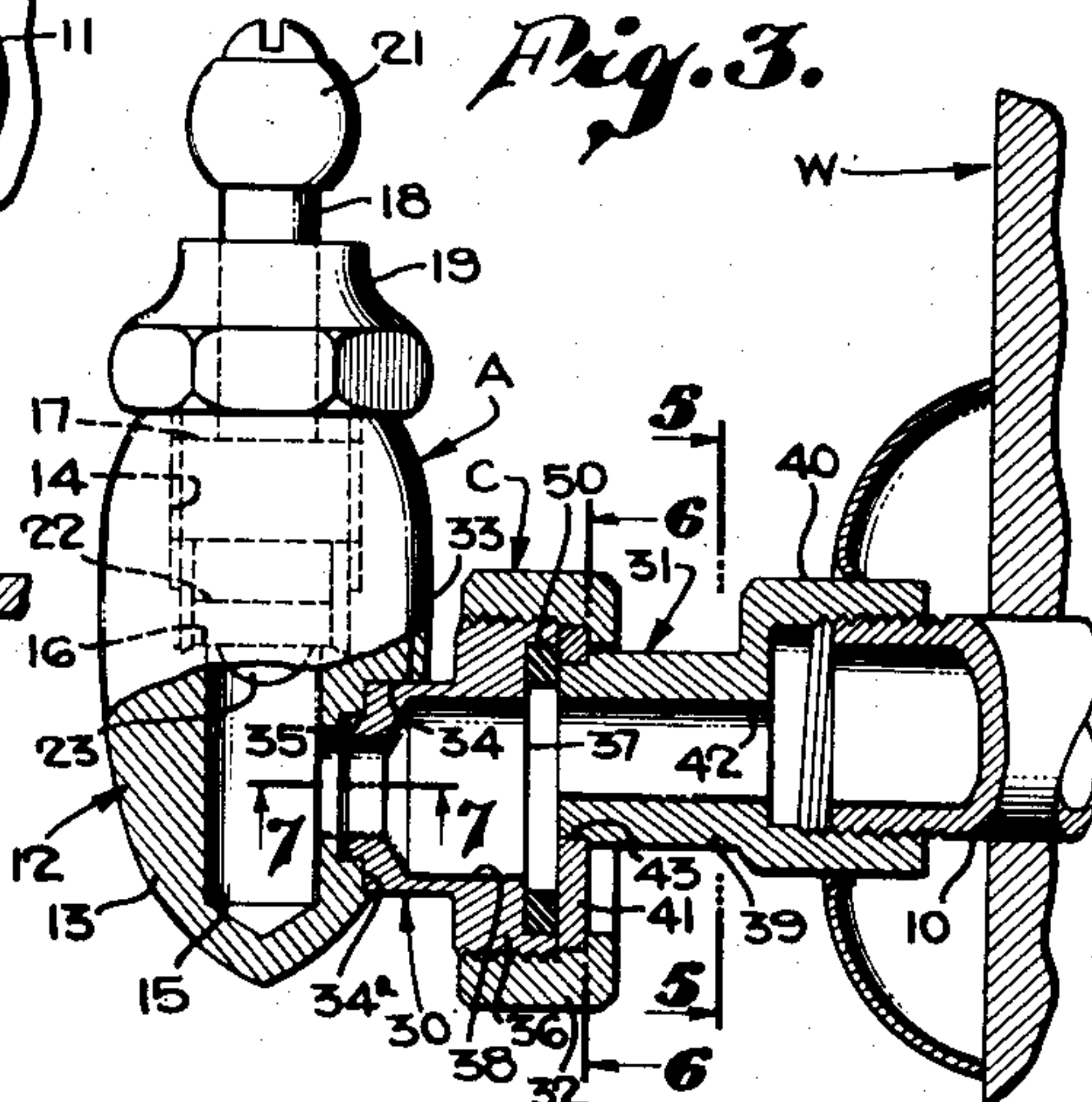
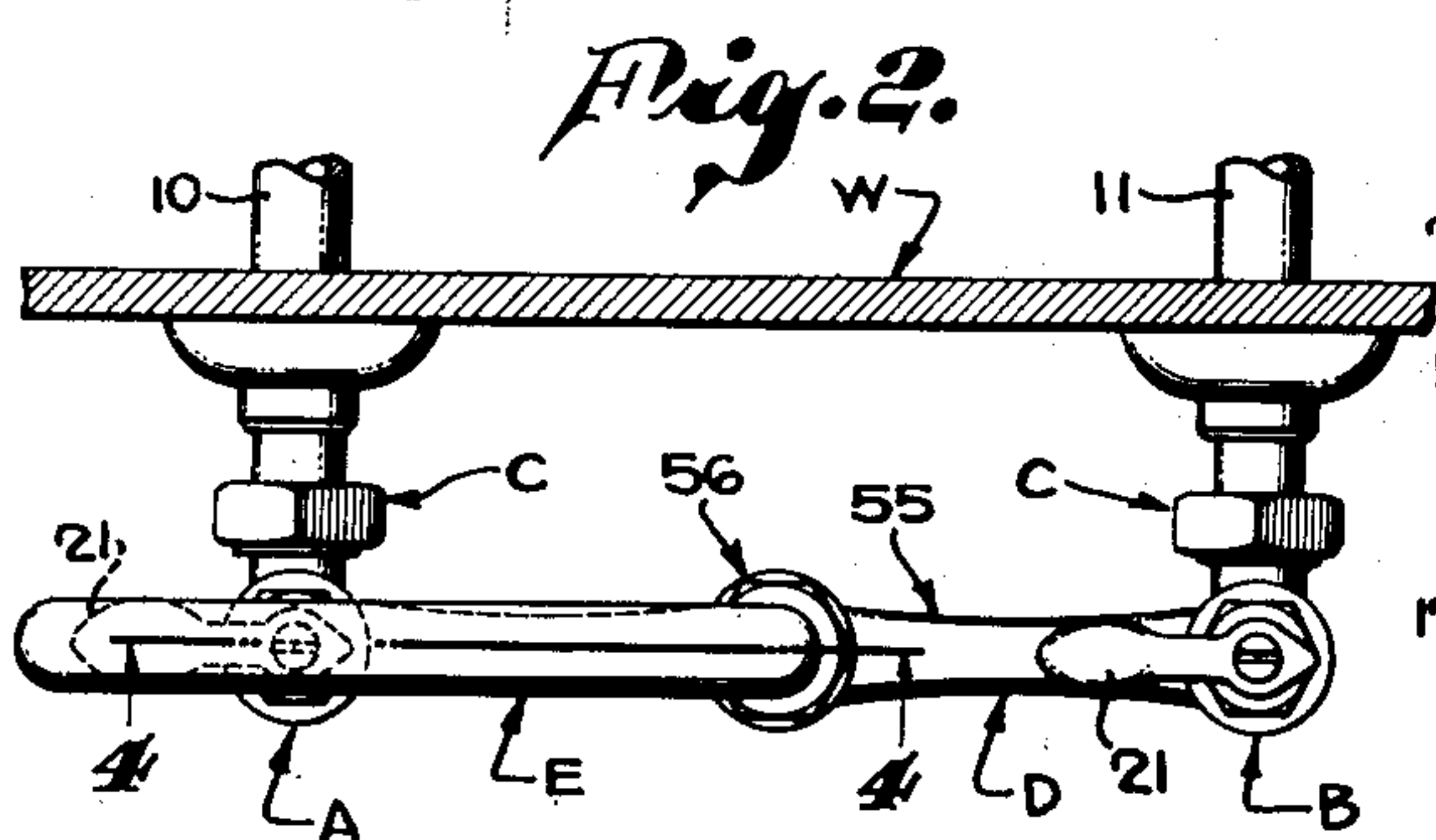
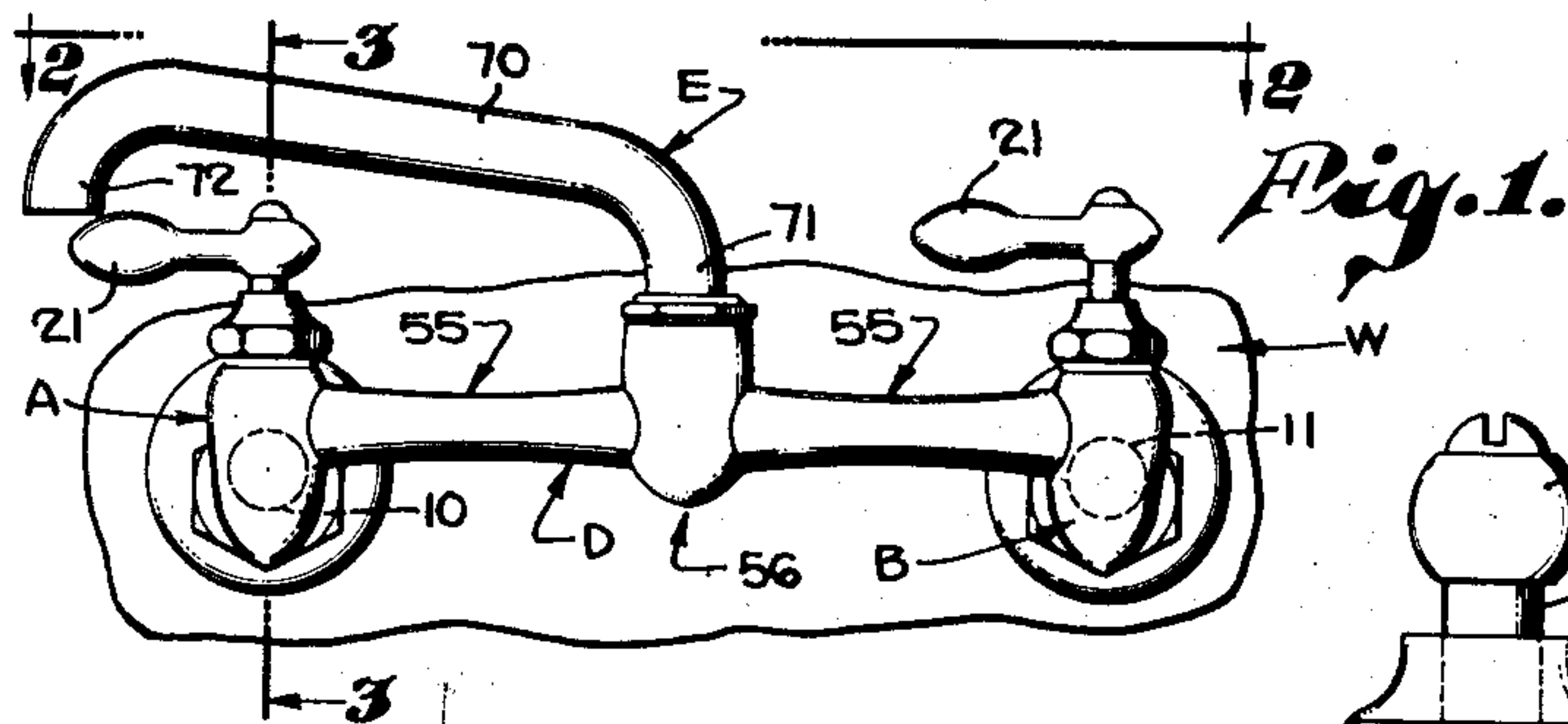
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FABRICATED FAUCET FIXTURE

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FABRICATED FAUCET FIXTURE

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1 Claim. (Cl. 137—733)

1

2

This invention has to do with a fabricated faucet fixture, it being a general object of the present invention to provide a simple, inexpensive, practical fixture of the general type used in connection with sinks, wash-tubs, and the like.

It is common to provide a fixture of the type that I will term a sink fixture with two valves, a coupling for joining each valve to a supply pipe, and a common outlet duct from the valves, which duct is equipped with a shiftable spout. It is practical and in some cases required that such fixtures be formed of non-ferrous metal, such as brass or bronze, and it has been common to form them of castings. The main casting of such a fixture usually incorporates the bodies of the valves, parts of the couplers, and parts of the outlet duct, and therefore is a rather bulky complicated and difficult element to machine. Further, such a cast element, being a casting, usually involves considerably more metal than is necessary, and it is rather expensive to finish in the manner necessary for a sink fixture.

A general object of the present invention is to provide a fabricated fixture involving a simple, practical, assembly of very simple, inexpensive parts. With the construction of the present invention the several parts entering into the structure are turned, and such that they can be very cheaply produced in quantity.

Another object of the present invention is to provide a fixture of the general character referred to wherein all of the essential parts, being simple turned parts such as may be produced on ordinary machines, are initially produced in a smooth or finished form, ready for plating, making it unnecessary to resort to grinding or expensive finishing operations such as are required in the case of castings.

Another object of the present invention is to provide a structure of the general character referred to which involves few simple easily formed joints. The present invention provides a fabricated structure involving a minimum number of joints with the result that the finished fixture is inexpensive of assembly and is strong and durable.

Another object of the invention is to provide a sink fixture of the general character referred to which is of simple form and which is compact. By my present invention the fixture involves a minimum number of parts and a minimum amount of material, all to the end that the complete structure is very simple and cheap of manufacture.

The various objects and features of my inven-

tion will be fully understood from the following detailed description of typical preferred forms and applications of my invention, throughout which description reference is made to the accompanying drawings, in which:

Fig. 1 is a front elevation of the fixture embodying the present invention, showing it mounted in a typical manner. Fig. 2 is a plan view of the fixture, being a view taken as indicated by line 2—2 on Fig. 1. Fig. 3 is a view taken substantially as indicated by line 3—3 on Fig. 1, showing the principal parts in section. Fig. 4 is a sectional view taken as indicated by line 4—4 on Fig. 2. Fig. 5 is a sectional view taken as indicated by line 5—5 on Fig. 3. Fig. 6 is a detailed sectional view taken as indicated by line 6—6 on Fig. 3. Fig. 7 is an enlarged detailed sectional view taken as indicated by line 7—7 on Fig. 3. Fig. 8 is an enlarged detailed sectional view taken as indicated by line 8—8 on Fig. 4, and Fig. 9 is a view similar to Figs. 7 and 8 showing another form of the invention.

The fixture of the present invention is applicable to spaced supply pipes 10 and 11 such as are usually incorporated in a building to project through a wall W or the like. The fixture involves, generally, two like vertically disposed valves A and B, spaced apart horizontally and adapted to handle flow from the pipes 10 and 11, respectively. The fixture further includes a coupling C at the back of each valve by which the valve is coupled to the supply pipe supplying the valve. An outlet duct D extends between the valves A and B and carries a spout E.

For purpose of example the pipe 10 may be considered as handling hot water, while the pipe 11 handles cold water, in which case valve A will control hot water and may be referred to as the hot valve, while valve B controls cold water and may be referred to as the cold valve.

The valves A and B are alike and are of the simple rising stem type such as is common in fixtures of the general character referred to. Each valve includes an elongate vertically disposed body 12, the outer surface 13 of which is round or turned and is of any suitable profile. A bore enters the body 12 from its upper end and has a large upper end portion 14 which is screw threaded and has a reduced lower end portion 15 joining the upper end portion and forming an inlet passage. Where the two portions 14 and 15 of the longitudinal bore join, the body has an upwardly facing seat 16.

The valve further includes a valve element 17 threaded in the upper portion 14 of the bore and

3

provided with a stem 18 projecting up through a cap 19 carried on a reduced threaded upper end portion 20 of the body. A suitable handle 21 is carried by the projecting upper end of the stem 18 and it is preferred that a washer 22 be carried by the lower end of the valve element by means of a screw 23, or the like. The washer is such as to cooperate with the seat 16.

The couplings C that join the valves to the supply pipes are preferably alike and each includes a fixed tubular element 30 joined to a valve body, a rotatable element 31 joined to the supply pipe and a sleeve 32 coupling the elements 30 and 31.

The fixed element 30 has a reduced turned base portion 33 fitted tightly into a lateral opening or bore 34 provided in the back of the valve body. A reduced continuation 35 of the bore communicates with the portion 15 of the central bore in the valve body. A shoulder 34^a limits the extent to which the base portion can be engaged in the bore 34.

The fixed element 30 is provided at its outer end with an enlargement or head 36 which is externally screw threaded and which has a flat outer face 37. The element 30 has a central passage or bore 38 extending through it from one end to the other, which passage is in communication with the central bore of the valve body.

The rotatable element 31 is a tubular part with a reduced central portion 39, an internally threaded socket 40 and a flange 41. The central part 39 is a simple tubular part with a central flow passage 42 through it. The internally threaded socket 40 is in the nature of an enlargement on one end of the part 39 and is internally threaded to receive the end of a supply pipe or the like. It is to be observed that the socket 40 is located somewhat offset or eccentric to the portion 38.

The flange 41 is formed separate from the other parts of element 31 and is preferably in the nature of a simple flat disc mounted on the end of the portion 39 opposite to that provided with the socket 40. The flange 41 is in the nature of a simple, flat round disc with an eccentric opening 43 in it, in which a reduced end portion of part 39 is secured. Through this construction the flange 41 is fixed or secured on the middle portion 39 so that it is eccentric thereto.

In the arrangement of parts that is provided, the flange 41 opposes the face 37 of head 36 and a suitable seal or washer 50 may be interposed between the head and the flange. The sleeve 32 couples the head 36 and the flange 41, being threaded on the exterior of the head and having an inwardly projecting lip overhanging the flange to hold it against the head or against the washer interposed between the head and the flange.

The outlet duct D in accordance with the invention involves two like aligned flow pipes 55, one engaged with each valve, and a spout mounting 56 between and joining the pipes. The outer end of each flow pipe 55 is fixed to a valve body to be in communication with the enlarged bore portion 14 of the body. In accordance with the invention the outer end portion of the pipe 55 has a turned outer surface 57, has a counterbore 57^a, and has a flat smooth end face 57^b. A laterally disposed annular groove or channel 58 is formed in the side of the valve body, as clearly illustrated in Fig. 4 of the drawings. The channel 58 is defined by an annular outer wall or bore and a concentric inner wall parallel with the outer wall, and by a flat bottom 58^a. The outer

4

end portion of pipe 55 is engaged in the channel 58 so that the surface 57 engages the outer wall of the groove, and so that the wall of the counterbore 57^a engages the inner wall of the groove. End face 57^b of the pipe 55 engages the bottom 58^a limiting the extent to which the pipe 55 can be engaged in the channel 58. An annular recess or channel 58^b is formed in the inner wall of the groove thereby establishing a chamber when the parts are assembled to accommodate a ring of brazing material or the like. When the parts are heated to the desired temperature during the brazing operation the ring of material is consumed as it flows into the joint to bond the parts together leaving the chamber empty.

The spout mounting 56 is an elongate vertically disposed part, the exterior 59 of which is turned and is of any suitable profile. A bore enters the mounting 56 from its upper end and the inner or adjoining ends of the pipes 55 are joined with the mounting to be in communication with the bore. In accordance with the invention the inner end portion of pipe 55 has a turned outer surface 60, has a counterbore 60^a, and has a flat smooth end face 60^b. A laterally disposed annular groove or channel 61 is formed in the side of the mounting 56, as clearly illustrated in Figs. 4 and 8 of the drawings. The channel 61 is defined by an annular outer wall or bore and a concentric inner wall parallel with the outer wall, and by a flat bottom 61^a. An annular recess or channel 61^b is formed in the inner wall thereby establishing a chamber when the parts are assembled. The inner end portion of pipe 55 is engaged in the channel 61 so that the surface 60 engages the outer wall of the groove, and so that the wall of the counterbore 60^a engages the inner wall of the groove. End face 60^b of the pipe 55 engages the bottom 61^a limiting the extent to which the pipe 55 can be engaged in the channel 61. A ring of brazing material or the like is placed in the chamber formed by recess 61^b and when the parts are heated for brazing the material is drawn into the joint by capillary attraction thereby bonding the parts together leaving the chamber empty.

The spout E may be of any suitable size and shape. In the case illustrated it is a simple, tubular part having a tubular body 70 of considerable length, an inner end 71 which is vertically disposed, and an outer end or tip 72 which is faced downwardly. The spout may be shaped and proportioned, as shown, so that the body 70 extends upwardly and outwardly from the inner end 71 to clear the valve handles 21. The inner end 71 of the spout carries or is provided with a fitting 73 having a sleeve portion 74 tight on the end of the tubular part 71 that rests on a seat 76 in the upper portion of the bore provided in the mounting 56. The fitting is provided with a depending wash pipe 78 extending below the part 74 and rotating in the reduced bore portion 79 in the mounting 56. Suitable packing 80 is provided around the wash pipe immediately beneath the fitting 73. An annular groove in the exterior of the sleeve 74 carries a snap ring 75 and a threaded retainer 81 is threaded into the upper end portion of the bore provided in the mounting 56 to engage and retain the ring 75, as clearly shown in Fig. 4 of the drawings.

In accordance with the present invention the various parts hereinabove described are individually formed or produced, preferably on automatic machines, it being notable that each and every one of the parts involved in the construction

is such that it may readily be formed from stock of limited size and with a minimum of machining or waste of material. In assembling the fixture, the base portions of the couplings are engaged in the bores provided in the backs of the valve bodies, the outer ends of the pipes 55 are engaged in the annular channels in the sides of the valve bodies, and the inner ends of the pipes 55 are engaged in the annular channels in the sides of the spout mounting 56. In practice the annular channels 58 and 61 are of substantially large diameter consistent with the size and shape of the valve bodies and the mounting 56. The end portions of the pipe 55 engage in the channels and are of correspondingly large diameter. Each pipe 55 has a slender intermediate portion and has flared or enlarged inner and outer end portions. By forming the pipes with enlarged end portions engaged in channels of large diameter I provide a structure that is rigid and of substantial strength.

The fits at these various places are preferably snug and in accordance with my invention these joints or couplings are made permanent, as by any suitable well known method, such as soldering, brazing, etc. If desired, furnace brazing may be utilized in permanently securing or bonding these various parts together. In like manner, the fitting 73 is made tight on the end of the spout and may be permanently joined or bonded thereto by welding, soldering, brazing or the like, and likewise the flange 41 is seated tight on the part 39 and may be permanently joined or bonded thereto by welding, soldering, brazing, or the like. When furnace brazing is employed the bore 35 in end valve body may be of greater depth than the extent of the part 30 engaged therein so that a chamber is defined by these parts. In practice a ring of suitable brazing material may be placed in the chamber to join these parts together when sufficient heat is applied thereto. In a similar manner the recesses 58^b and 51^b are provided as above described so that a chamber is defined to carry a ring of brazing material to join these parts together.

In Fig. 9 of the drawings I have shown a form of my invention somewhat different than that hereinabove described. The outlet duct D' in accordance with this form of the invention involves two like aligned flow pipes 55^a arranged in the manner above described. The outer and inner end portions of each pipe 55^a are turned at 100 and are fitted tightly into lateral bores 101 in the sides of the body or spout mounting as the case may be. The face or end 102 of the pipe abuts a face or shoulder 103 that limits the extent to which the part can be engaged in the bore 101. A thin flat annular ring of brazing material or the like, may be inserted between the faces 102 and 103. When sufficient heat is applied the material flows into and joins the end 102 to the shoulder 103. The bore 100 is of sub-

stantial diameter thereby producing a joint of great strength.

It will be apparent that apart from these various joints that are made permanently secure or fixed, the various other parts of the fitting fit freely together and when assembled, as shown throughout the drawings, the fixture is complete and in working condition. It will be understood how the offset or eccentric parts involved in the couplings enable the fitting to be accommodated to supply pipes that may be located various distances apart or may be somewhat misplaced, as is often the case with rough plumbing. It is also to be noted that the various external or exposed parts of the fixture are all turned parts that can be economically finished to be smooth in the course of manufacture of the parts, making grinding or other such operation wholly unnecessary preliminary to plating.

Having described only typical preferred forms and applications of my invention, I do not wish to be limited or restricted to the specific details herein set forth, but wish to reserve to myself any variations or modifications that may appear to those skilled in the art and fall within the scope of the following claim.

Having described my invention, I claim:

A fixture of the character described including, a vertically disposed valve, a coupling at the rear side of the valve, and an outlet duct receiving flow from the valve, the coupling including a fixed tubular element with a reduced base at one end permanently engaged with the valve and in communication with an opening in the rear side of the valve, said element having a head at its other end, a tubular rotatable element with a middle portion, a pipe socket on one end of said portion, and a head engaging flange on the other end of said portion, and a sleeve threaded to the head and holding the flange in engagement therewith, the centers of the flange and socket being offset in opposite directions from the center of said middle portion.

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