

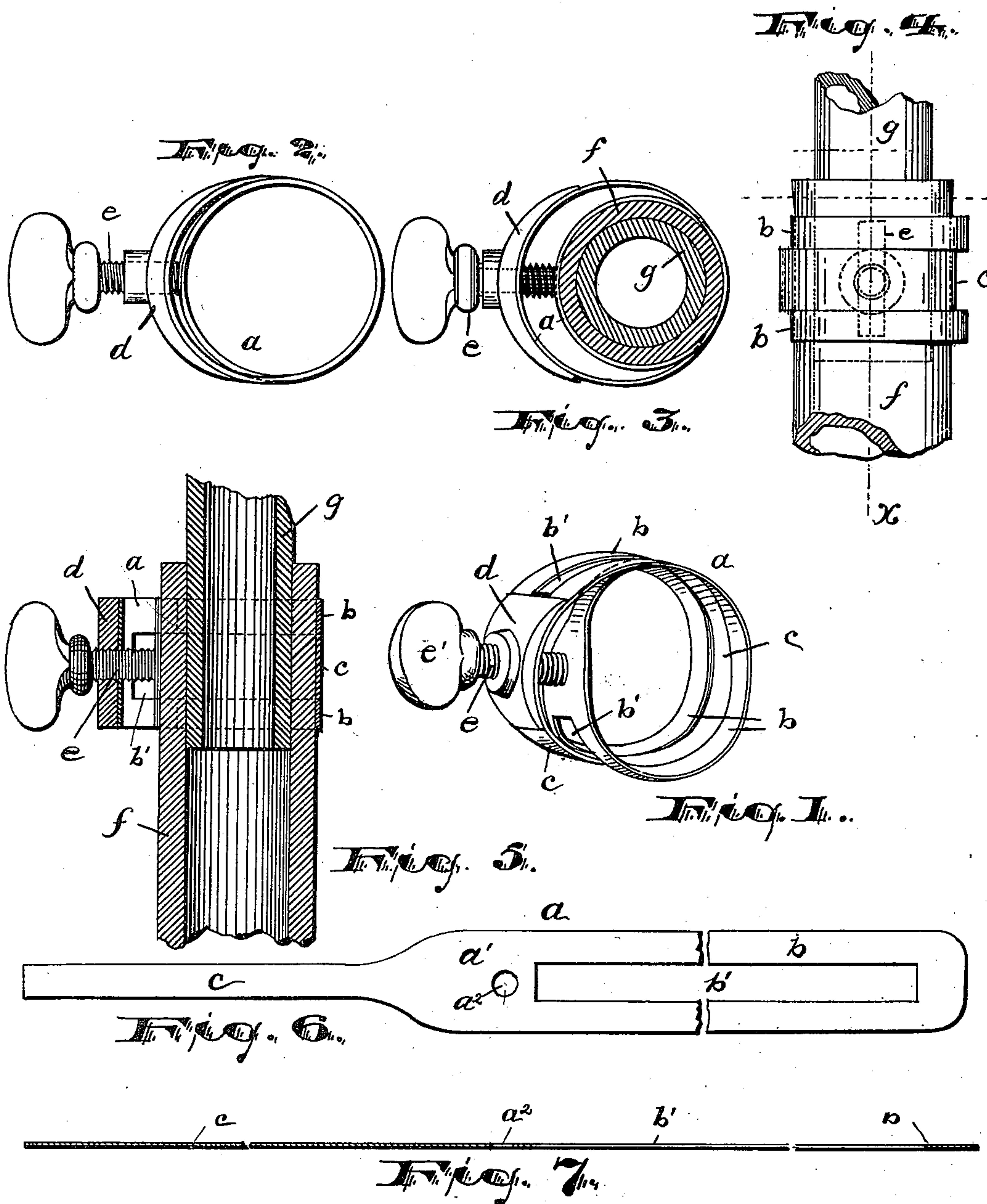
No. 662,225.

Patented Nov. 20, 1900.

C. DIEHL.
HOSE COUPLING.

(Application filed July 6, 1900.)

(No Model.)



WITNESSES:

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UNITED STATES PATENT OFFICE.

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HOSE-COUPLING.

SPECIFICATION forming part of Letters Patent No. 662,225, dated November 20, 1900.

Application filed July 6, 1900. Serial No. 22,664. (No model.)

To all whom it may concern:

Be it known that I, CHARLES DIEHL, a citizen of the United States, residing at New York, borough of Manhattan, and State of New York, have invented certain new and useful Improvements in Hose-Couplings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The objects of this invention are to facilitate the operation of coupling a hose to the nozzle of a faucet or other connection or duct for fluid, to enable differently-sized hose to be coupled by the one coupling, to provide a coupling that can be readily applied to the hose preliminary to the coupling operations, and to secure other advantages and results, some of which may be hereinafter referred to in connection with the description of the working parts.

The invention consists in the improved hose-couplings and in the arrangements and combinations of parts of the same, all substantially as will be hereinafter set forth, and finally embraced in the clauses of the claim.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in each of the several views, Figure 1 is a perspective view of the improved coupling. Fig. 2 is an end view of the same. Fig. 3 is another end view showing said coupling closed around the hose. Fig. 4 is a plan of the parts in coupled relation. Fig. 5 is a section taken on line x , Fig. 4. Fig. 6 is a plan of the blank spring employed in the construction of the coupling, and Fig. 7 is a central longitudinal section of the same.

In said drawings, a indicates the spring, comprising the body of the coupling, which spring is longitudinally slotted, as at b , at one end, and at its opposite end is reduced in width, as at c , to form a narrow tongue adapted to enter through the slot b' . This spring is preferably formed of sheet metal in any manner common to the spring-maker's art and is then curled into its position in the coupling, as shown in Fig. 1. To the mid-

dle broad portion a' of the spring is soldered or otherwise secured a curved reinforcing-piece d , which at its center is perforated and threaded to receive a cooperating set-screw e , having the finger-piece e' , by which it can be turned. The spring a is perforated, as at a^2 , in coincidence with the threaded perforation of the reinforcing-piece d , so that the inner end of the thumb-screw e may extend transversely through the spring, as will be understood. The reinforcing-piece d is curved to conform to the curled position of the spring in the finished coupling and serves to prevent too sharp a bend of the spring at the point where the set-screw is, as well as to provide increased thickness in which to cut the screw-threads.

The two ends b and c of the spring are oppositely bent, as around the circumference of a circle, the narrow end c lying in the middle slot b' of the wide end and the extremities of the two ends being brought together at the extremity of the thumb-screw e and either welded, riveted, or otherwise inseparably joined. In this condition of things it will be seen that the spring has been curled into a double coil and made endless and that the thumb-screw e , working in the outer coil, presses at its end against the inner coil. When not in use, said screw is left in an outermost position, with its extremity not projecting beyond the inner surface of the outer coil of the spring, and the inherent elasticity of the spring tending to uncoil it then expands the inner coil closely against the outer one.

In use the ring-like double coil constituting the coupling is slipped in its relaxed position over the end of the hose f , and said hose end is slid telescopically onto the tubular connection g , to which it is desired to couple the hose, so that the end of the hose lies between the coupling on the outside and the connection g on the inside. The set-screw e is then tightened up, and because its inner end strikes against the inner coil the perforated and threaded outer coil will be carried outward upon the screw-threads as said screw is turned. This draws the inner coil together and closes it tightly about the hose f , as clearly shown in Fig. 3, imperviously binding said hose to the connection g .

Obviously various unimportant changes in

the details of construction may be made without departing from the spirit and scope of the invention—as, for example, the spring-blank *a* might be connected at its free ends to the reinforcing-piece *d* and the set-screw abut against the integral middle part *a'* with substantially the same results. I therefore do not wish to be limited by the foregoing positive description except as the state of the art may require.

10 Having thus described the invention, what I claim as new is—

1. A hose-coupling comprising an endless spring forming a double coil, and a thumb-screw working in one coil and pressing against the other, substantially as set forth.

2. A hose-coupling comprising a spring bent into a double coil and having its ends connected, and a thumb-screw for forcing the coils radially apart at one point of the coil, substantially as set forth.

3. A hose-coupling comprising a spring bent into a double coil and having its ends connected, and means for forcing the coils radially apart at one point and increasing the difference of their diameters, substantially as set forth.

4. A coupling for hose-pipe and the like, comprising a flat spring bent into a double coil and having its ends connected, one of the coils lying within the other, and a screw working radially upon the outer coil, in a threaded perforation, and abutting at its inner end against the inner coil, substantially as set forth.

5. A coupling for hose-pipe and the like, comprising a flat spring slotted at one end and reduced in width at the other, said spring being bent into a double coil with the reduced

end lying in the slot of the other end and having the extremities connected, and means for forcing said coils apart in a radial line, substantially as set forth.

6. The herein-described coupling for hose-pipe and the like, comprising an endless sheet-metal spring, made wide for a portion of its length and slotted, and another portion being narrow, said spring forming two coils one lying within the other, and a radially-disposed thumb-screw turning in the outer coil and pressing against the inner coil, substantially as set forth.

7. The herein-described coupling for hose and the like, comprising a flat spring bent into a double coil, portions of said spring being narrowed and slotted, respectively, to permit the coils to lie in the same plane, a reinforcing-piece on the outer coil, and a thumb-screw working radially in said reinforcing-piece, substantially as set forth.

8. In a hose-coupling, the combination of a double-coiled spring having a narrowed portion *c*, passing through a slotted portion *b*, a curved reinforcing-piece secured to the outside of the outer coil and being perforated and threaded, and a screw working radially in said reinforcing-piece and adapted to engage at its end the inner coil, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 5th day of April, 1900.

CHAS. DIEHL.

Witnesses:

CHARLES H. PELL,
C. B. PITNEY.