

(No Model.)

J. G. HALLAS.  
MANUFACTURE OF HOSE COUPLINGS.

No. 454,647.

Patented June 23, 1891.

Fig. 1.

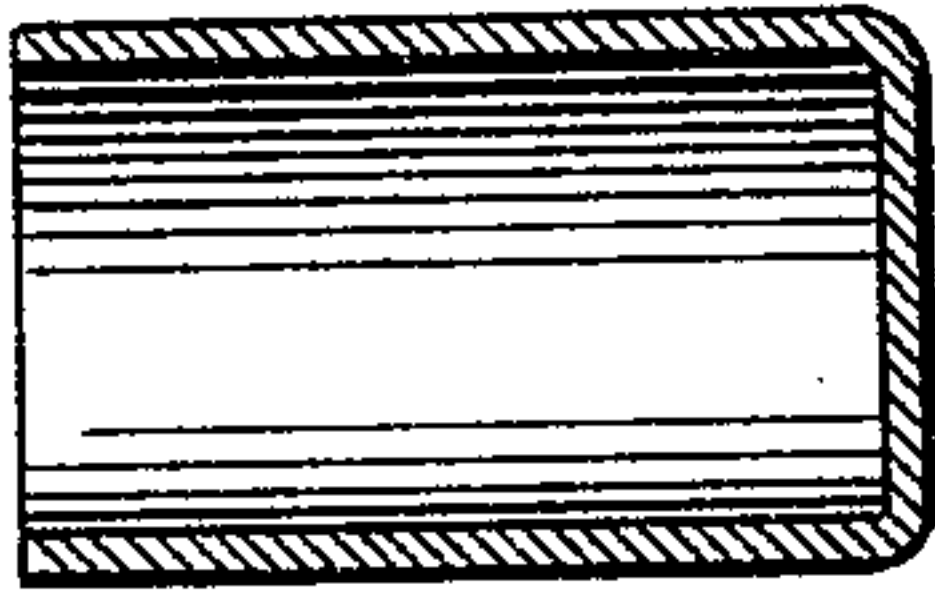


Fig. 2.

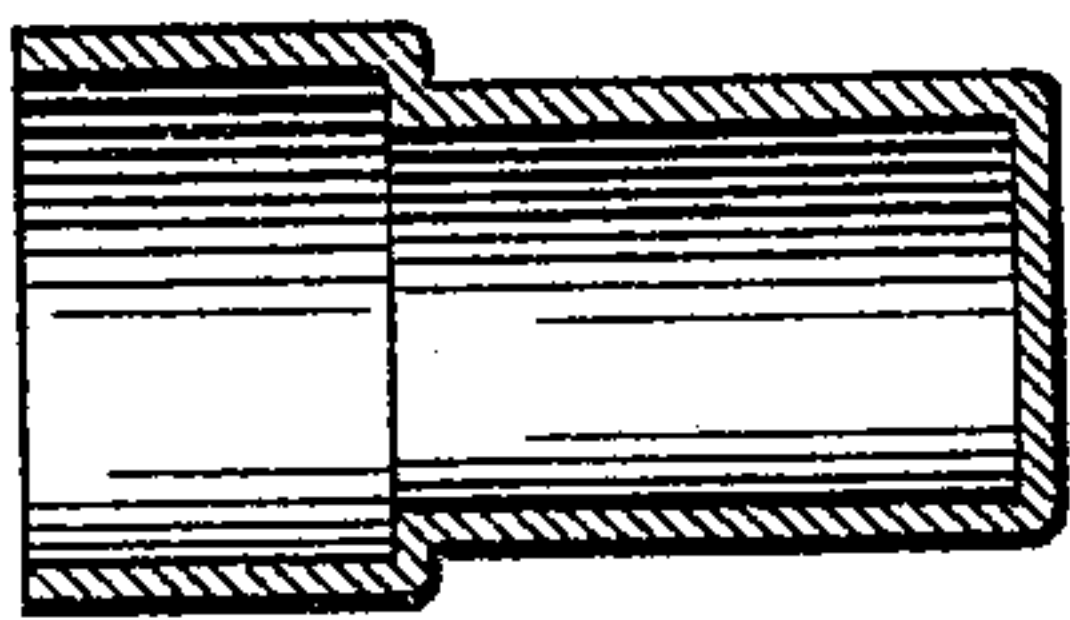


Fig. 3.

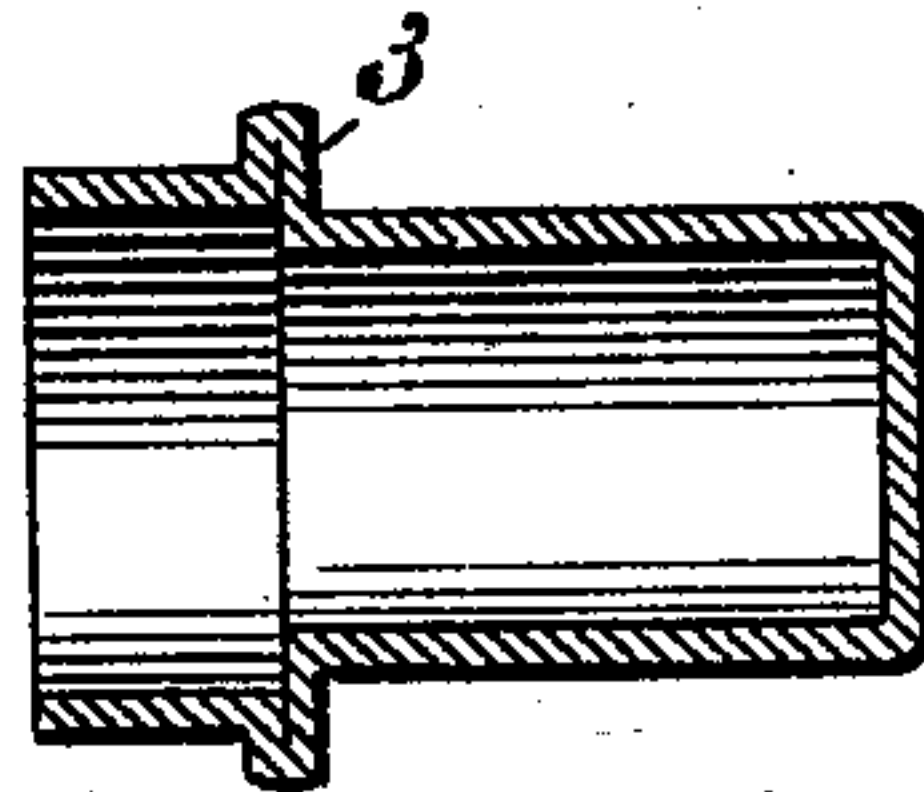


Fig. 4.

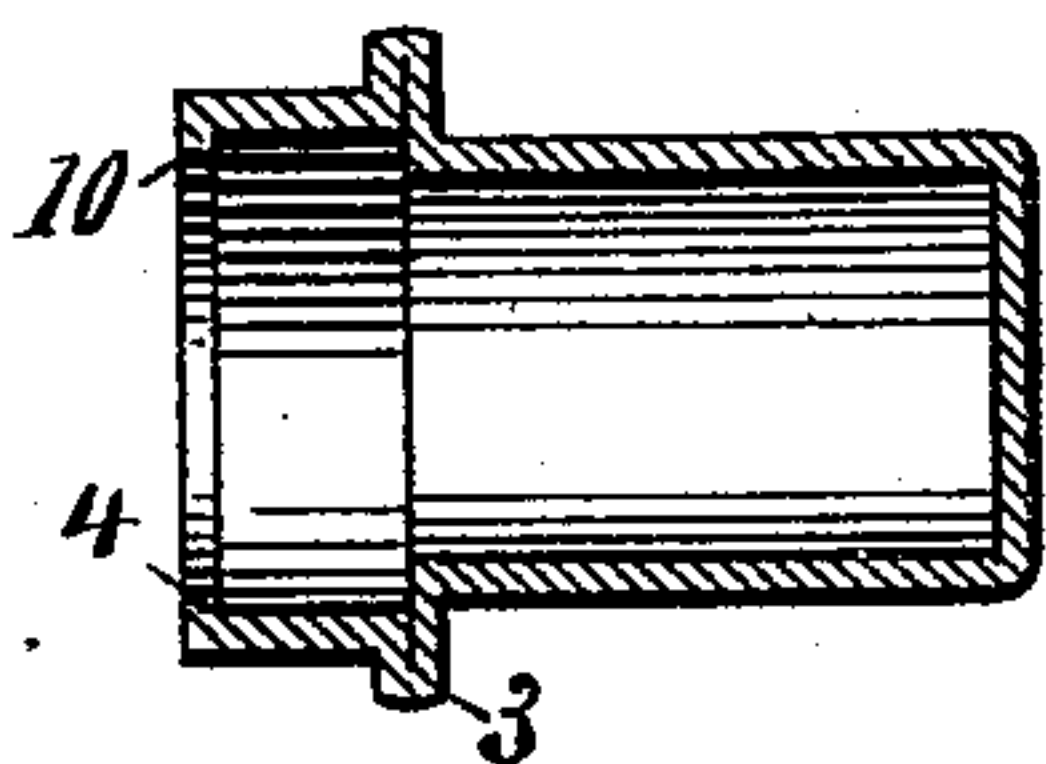


Fig. 5.

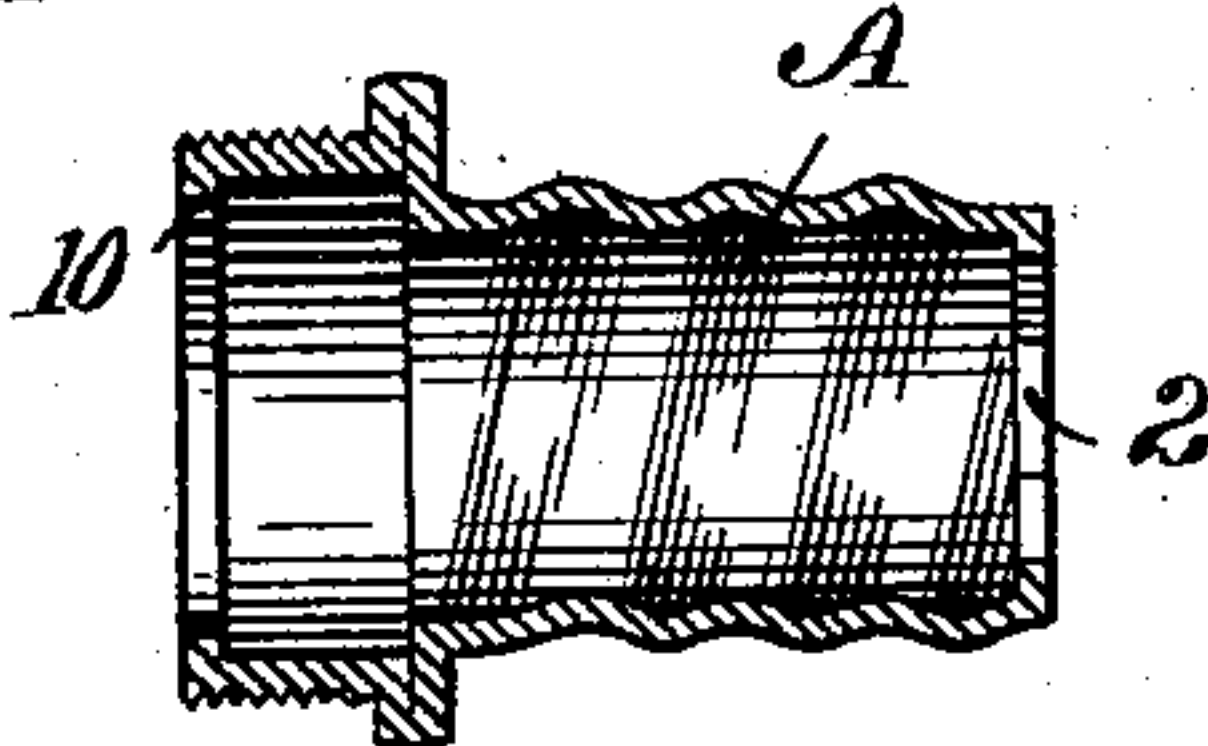


Fig. 6.

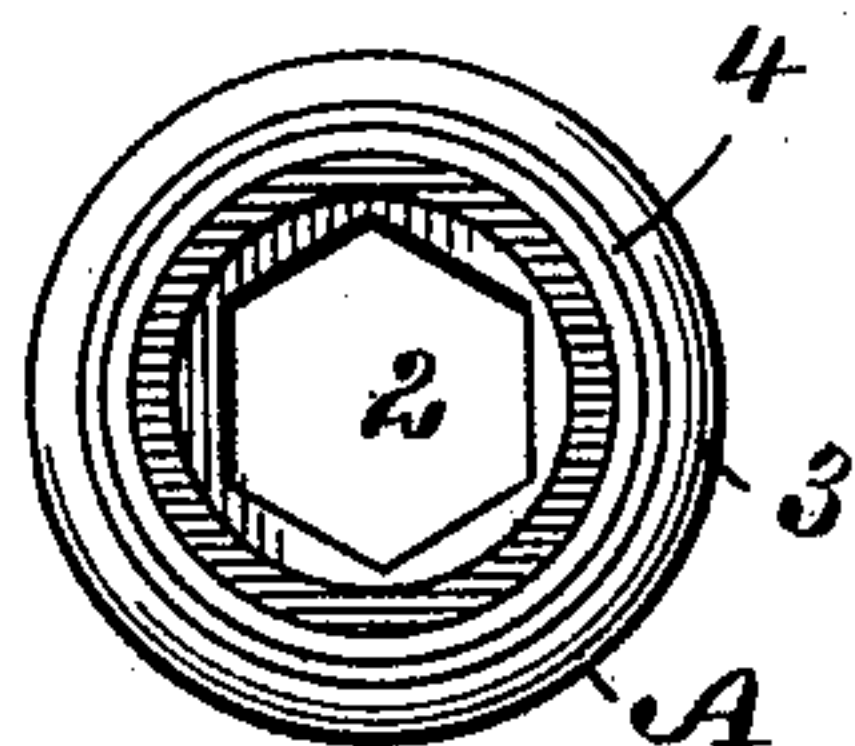


Fig. 9.

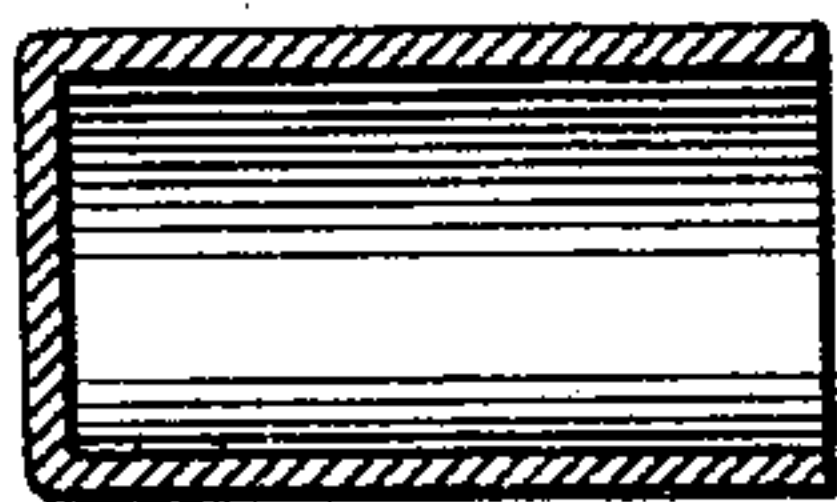


Fig. 10.

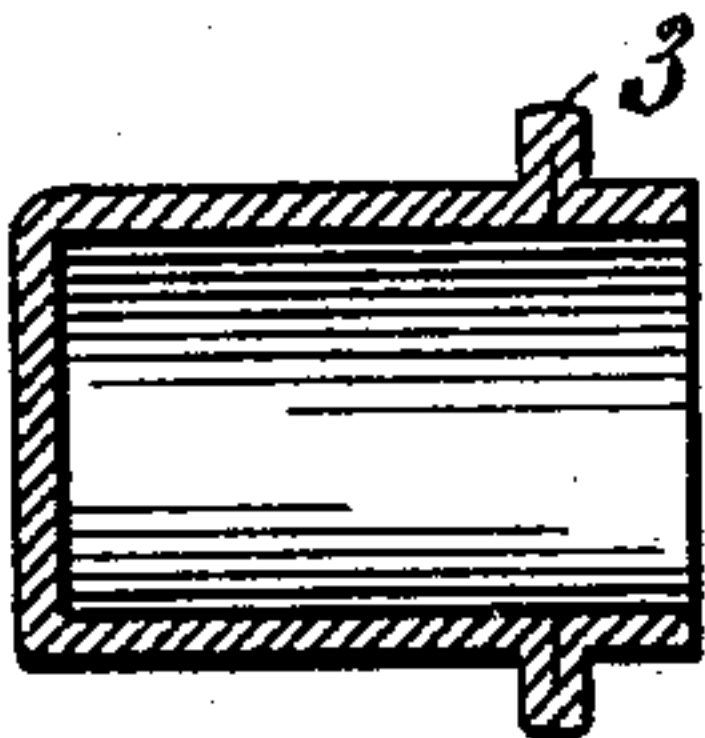


Fig. 11.

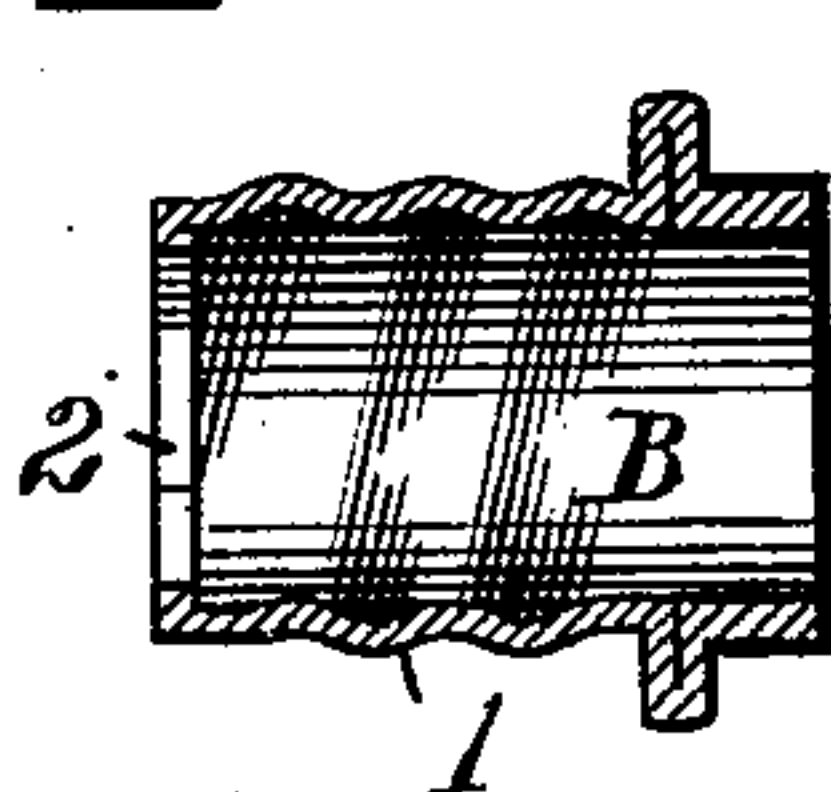


Fig. 8.

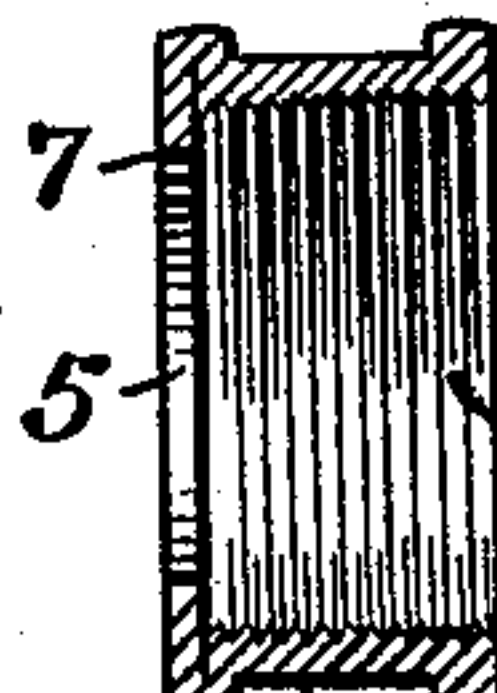


Fig. 7.



Fig. 12.

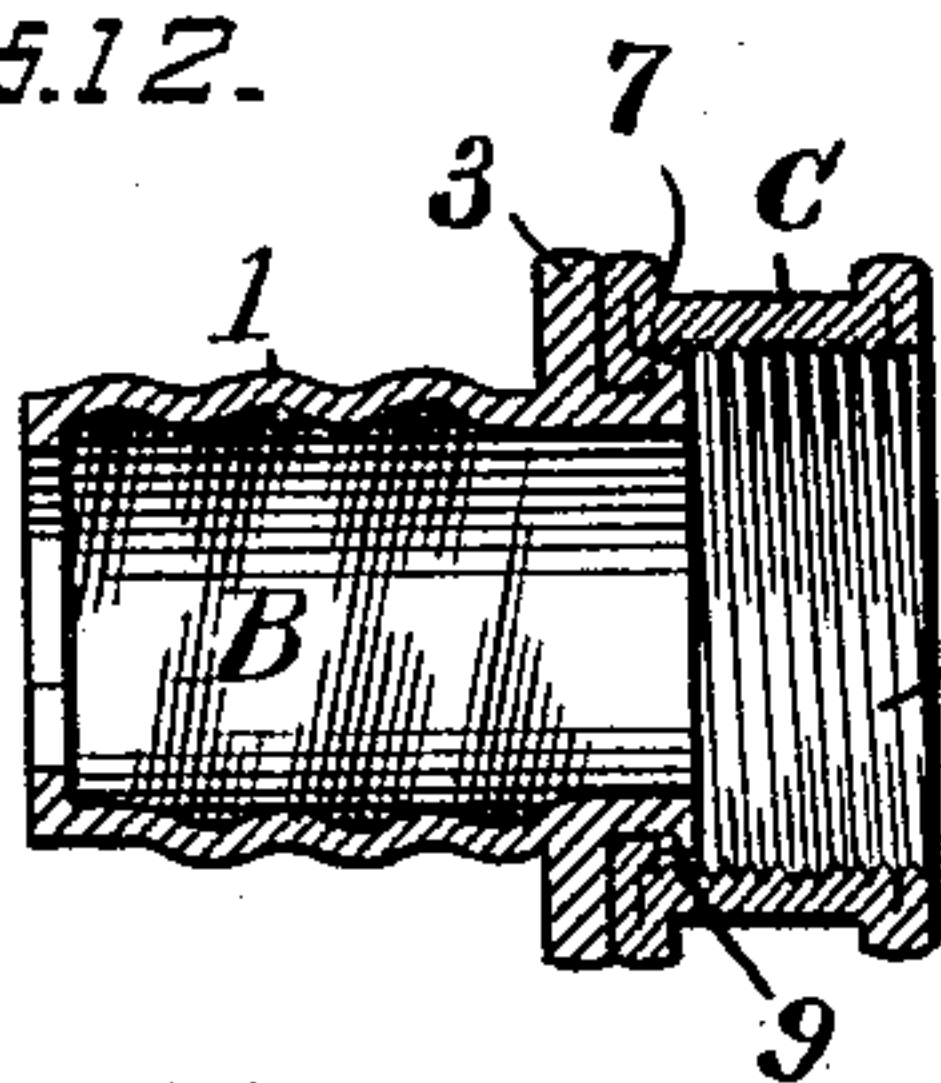
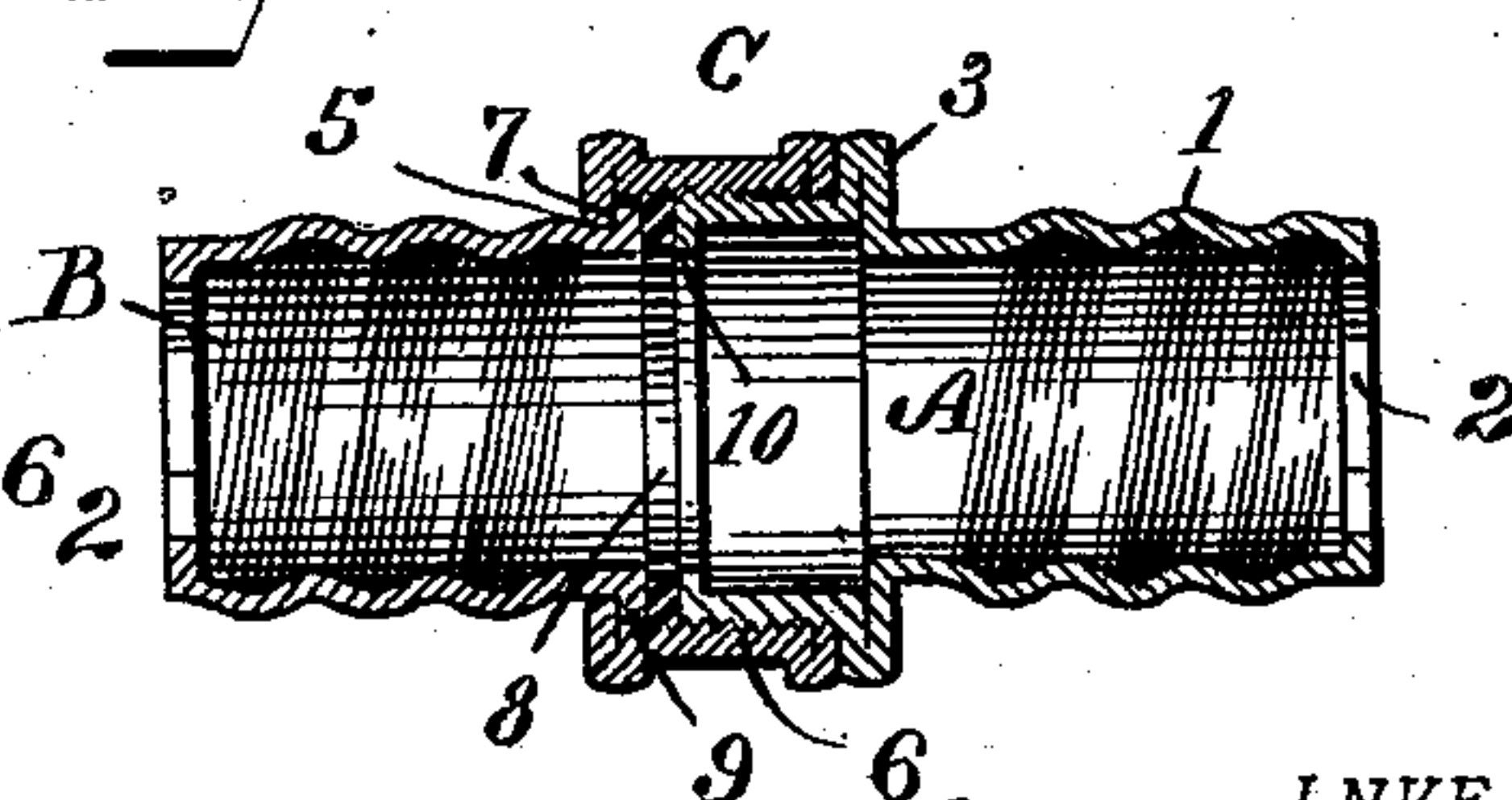


Fig. 13.



WITNESSES

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# UNITED STATES PATENT OFFICE.

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## MANUFACTURE OF HOSE-COUPINGS.

SPECIFICATION forming part of Letters Patent No. 454,647, dated June 23, 1891.

Application filed May 5, 1890. Serial No. 350,554. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES G. HALLAS, a citizen of the United States, residing at Waterbury, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in the Manufacture of 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.

My invention has for its object the production of a hose-coupling the parts of which shall be adapted to be turned into place in the hose by a key, all of said parts being made from sheet metal, thus securing a smoother, more finely-finished, and more accurately-made coupling than has been practicable with parts formed by casting, the cost of production, moreover, being greatly reduced.

With these ends in view I have devised the simple and novel coupling of which the following description, in connection with the accompanying drawings, is a specification, numbers being used to denote the several parts.

Figures 1, 2, 3, 4, and 5 are sections illustrating the several steps in the formation of the male member of the coupling; Fig. 6, an end view of said member as seen from the left in Fig. 5; Figs. 7 and 8, sections illustrating the formation of the sleeve of the coupling; Figs. 9, 10, 11, and 12, sections illustrating the formation of the female member of the coupling; and Fig. 13 is a section of a modified form in which neither member is permanently attached to the sleeve.

A denotes the male member of the coupling, which engages the sleeve in the usual manner, and B the female member to which in use the sleeve (denoted by C) is connected. Both members of the coupling are provided with rounded screw-threads, (denoted by 1,) which adapt said members to be turned into the ends of hose, the elasticity of the hose causing the material thereof to press into and fill the depressions in the rounded thread, thereby effecting a very strong and perfectly water-tight connection, and one that can be made at any time by any person and without a complicated lot of tools to do it with, the sole requirement being a metallic key adapted

to engage the polygonal opening 2 at the inner end of each of the members.

My present construction and arrangement of parts are such that I am enabled to make the entire coupling from sheet metal, thus doing away with the numerous serious objections to, as well as the additional cost of, cast-metal couplings. The parts are all drawn from disks of sheet metal.

The first five figures of the drawings illustrate the formation of the male member. In Fig. 1 I have illustrated the cup produced from the disk of metal by the first operation. The second operation (illustrated in Fig. 2) reduces and elongates the closed end of the cup, leaving a shoulder. At the next operation (illustrated in Fig. 3) the metal of the shell is upset endwise, shortening the shell, to form an outwardly-projecting flange (denoted by 3.) The next operation (illustrated in Fig. 4) consists in turning in the open end of the shell to form a flange 10, which acts as a seat for the packing-washer 8. The next operation (illustrated in Fig. 5) consists in forming the rounded threads upon the longer portion of the member—that is, the portion having the smallest diameter. These threads may of course be formed in any suitable manner, either by rolling, cutting, or turning. The next two operations are also illustrated in Fig. 5, and consist in cutting the male thread (denoted by 4) which is adapted to engage the sleeve, and the angular opening 2 at the closed end of the member, which is adapted to be engaged by a key to turn it into the end of the hose.

In Fig. 6 I have illustrated the completed member in end elevation. The female member of the coupling is formed in substantially the same manner, as will be clearly understood from Figs. 9, 10, and 11. The sleeve of the coupling is also made in substantially the same manner as illustrated in Figs. 7 and 8, the final operations in the formation of the sleeve being the cutting of a female thread 6, adapted to be engaged by thread 4, and a round opening (denoted by 5) at the closed end of the cup, said opening being surrounded by an inwardly-extending flange 7. It will be noticed by comparing Figs. 3 and 10 that the two members of the coupling when partly



formed are substantially alike, the only difference at this stage being that the open end of the cup from which member B is formed is closed in farther than in member A, so that the open end of the cup—that is, the portion forward of the flange in member B—is given the same diameter as the remaining portion, this member having, when completed, practically the same diameter from end to end. In my preferred form—that is, as illustrated in Figs. 11 and 12—parts B and C are permanently connected together by passing the outer end of part B through opening 5 until flange 3 upon part B rests against the end of part C, after which the end of part B is turned outward, forming a flange 9, which is closed down upon and closely engages the flange 7, surrounding opening 5, as clearly shown in Fig. 12. It will be seen that flange 7 on part C is held between flanges 3 and 9 on part B, part C, however, being of course left free to turn. The two members are thus securely connected together and in such a manner as to render leakage practically impossible.

In Fig. 13 I have shown the same general principle applied to a coupling, in which member B is not permanently locked to the sleeve. In this form a flange 9 at the end of member B engages flange 7 the same as in the other form; but as flange 3 is dispensed with, the parts are not permanently locked together. In assembling this form the threaded portion of part B is passed through part C, as clearly shown in Fig. 13. 8 denotes a packing-washer within the central member or sleeve between the ends of members A and B, this washer being preferably used in all forms of coupling.

The operation of attachment to hose is as follows: The key (not shown) is passed through member A from the open end until the angular opening is firmly engaged. The member is then turned to place in the end of hose by the key. Member B is attached in the same manner, the key in this instance being passed through both parts C and B from the open end.

Having thus described my invention, I claim—

1. The process of forming members of hose-couplings, which consists in drawing shells from disks of metal to suitable shape and size, upsetting the metal of the shells endwise to form outwardly-projecting flanges, and forming suitable engaging threads, substantially as described.

2. The process of forming members of hose-couplings, which consists in drawing shells from disks of metal to suitable shape and size, upsetting the metal of the shells endwise to form outwardly-projecting flanges, turning the metal at the open ends of the shells to form flanges, and forming suitable engaging threads upon the shells and angular openings at the closed ends of the shells, for the purpose set forth.

3. The process of forming the male member of hose-couplings, which consists in drawing a shell from a disk of metal to cup shape, elongating the closed end of the shell, leaving a shoulder, upsetting the metal endwise to form an outwardly-projecting flange at the shoulder, forming rounded threads upon the longer portion of the member to engage hose and threads upon the shorter portion to engage a sleeve, and cutting an angular opening at the closed end, as and for the purpose set forth.

4. The process of forming the male member of hose-couplings, which consists in drawing a shell from a disk of metal to cup shape, elongating the closed end of the shell, leaving a shoulder, upsetting the metal endwise to form an outwardly-projecting flange at the shoulder, turning in the open end of the shell to form a seat for a packing-washer, forming rounded threads upon the longer portion of the member to engage hose and threads upon the shorter portion to engage a sleeve, and cutting an angular opening at the closed end for engagement by a key in turning the member to place.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES G. HALLAS.

Witnesses:

ROSWELL H. BUCK,  
BENJAMIN HALLAS.