

J. H. IRVING & M. PEDERSEN.

HOSE COUPLING.

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1,047,063.

Patented Dec. 10, 1912.

Fig. 1.

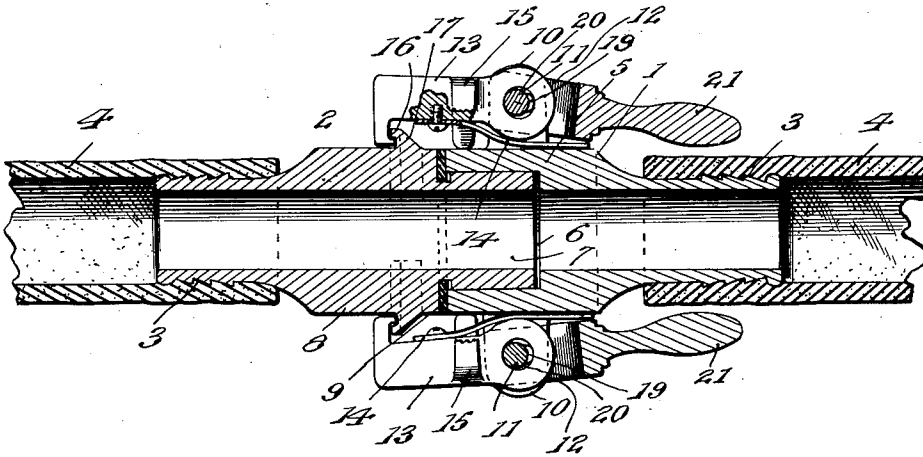
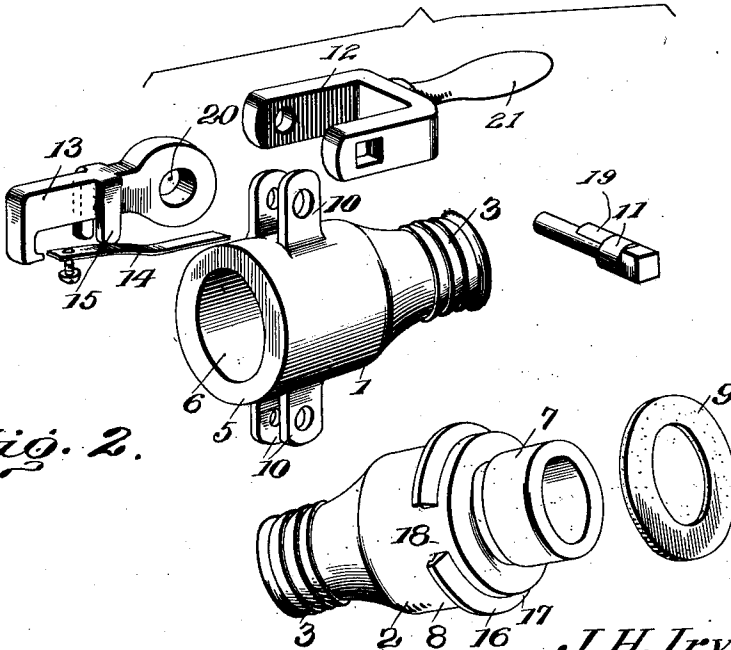


Fig. 2.



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HOSE-COUPLING.

1,047,063.

Specification of Letters Patent.

Patented Dec. 10, 1912.

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To all whom it may concern:

Be it known that we, JOSEPH H. IRVING and MARTIN PEDERSEN, citizens of the United States, residing at Kenosha, in the county of Kenosha and State of Wisconsin, have invented certain new and useful Improvements in Hose-Couplings, of which the following is a specification, reference being had to the accompanying drawings.

Our invention relates to new and useful improvements in hose couplings, and our object is to provide a device of this character wherein hook members carried on one of the sections of the coupling are designed to engage portions of the other section of the coupling through the operation of levers.

A further object of the invention resides in the provision of cam members operated by the levers, whereby said hooks are disposed in their effective and ineffective positions.

Still another object of the invention resides in the provision of leaf springs, to the one end of each of which is secured a hook, and a still further object resides in providing annular flanges on the opposed section of the coupling which are adapted to be engaged with said hook members, whereby the sections of the coupling may be retained together.

A still further object resides in the provision of a device which is extremely simple, but durable in construction, one which may be readily and cheaply manufactured, and which is very effective and useful in operation.

With these and other objects in view, our invention consists in the novel features of construction, combination and arrangement of parts as will be hereinafter referred to and more particularly pointed out in the specification and claim.

In the accompanying drawing forming a part of this application, Figure 1 is a vertical longitudinal section of the coupling in locked position. Fig. 2 is a perspective view of the device with the parts disassembled.

In describing our invention, we shall refer to the drawing in which similar reference characters designate corresponding parts throughout the several views and in which—

1 and 2 indicate tubular members, the one end of each of which is serrated or otherwise notched, as shown at 3, to receive

the sections of a hose 4 thereon, and the section 1 has the opposite end thereof enlarged to form a head 5 thereon, said head being provided with a socket 6 in the end thereof which communicates with the bore of the member 1. The opposed section 2 is provided on its opposite end with a small head 7 adapted to fit within the socket 6 of the section 1 and is also provided with an enlarged head 8 spaced a short distance to the rear of said head 7, the space between said heads 7 and 8 being adapted to receive a washer or the like 9, and when the section 2 is properly positioned against the section 1, said head 7 will enter the socket 6, and the washer 9 will contact with the outer edge of the head 5. This construction will form a close-fitting and effective coupling, but some means must be provided for the retaining of the sections of the coupling together, and to this extent, we provide the section 1 with pairs of laterally extending ears 10 arranged on the periphery of said head 5 at diametrically opposite points thereon, and rotatably mounted in each pair of ears, is a shaft or the like 11 which has the ends thereof securely mounted in a yoke-like member 12. Loosely mounted on each of the shafts 11 between the pairs of ears 10, is the one end of a hook member 13, and secured to the under face of each hook member intermediate of its ends, is one end of a leaf spring 14, said leaf spring being disposed through the pair of ears 10 and having the opposite end thereof resting freely on the outer periphery of the head 5. As so arranged, the tendency of the springs 14 will be to force the free or effective ends of the hook members 13 toward the longitudinal center of the section 1, and in order to retain the hook members normally in a substantially horizontal position, said hook members are provided with a pair of depending arms or the like 15, one arm being disposed on each side face of the hooks, thereby forming guide members for the springs 14 and at the same time having their free ends contacting with the outer periphery of the head 5 to limit the inward movement of said hook members. The opposed section 2 has the head 8 thereof provided with a pair of peripheral flanges 16 which have their outer faces beveled, as shown at 17, and the rear faces of which are adapted to receive in engagement therewith, the effective or engaging ends of the hooks 17 to retain the sections of the cou-

pling together when brought into engagement with one another. It will be appreciated that when the sections of the coupling are brought together, the free ends of the hooks 13 will readily ride over the beveled faces 17 of said flanges 16, due to the springs 14, to allow the effective ends of said hooks to engage the rear faces of the flanges 16, and when thus positioned, the two sections cannot be readily separated by a longitudinal movement in opposite directions. The flanges 16, however, are spaced from one another, as shown by the channel-ways 18, and in order to separate the two sections of the coupling, the same must be turned so that the hook members 13 register with these channel-ways, whereupon a longitudinal movement in opposite directions of said sections will accomplish the desired result.

Although the engagement of the hook members 13 with the flanges 16 will prevent the longitudinal separation of the two sections of the coupling, the same will not lock the two sections to such a degree as to prevent the rotation of said sections, so that some means must be provided for this purpose, and to this extent, we provide each of the shafts 11 at the points thereon upon which the hooks 13 are mounted, with a cam 19. As stated, the hook members 13 are loosely mounted on the shafts 11, the same being provided with the enlarged openings 20 and the inner walls of said openings 20 are adapted to be engaged by said cams 19 as the shafts 11 are rotated to force the hooks 13 into their effective or ineffective positions, and in order to provide means whereby these shafts 11 may be rotated, the yokes 12 to which the ends of said shafts are secured, are provided with the handle members 21. Thus, when the handle members are moved into the position, as shown in Fig. 1, the cams are moved so as to draw the hooks 13 into their effective positions to prevent the casual rotation and possible separation of the sections of the coupling, whereby when said handle members are moved into a position, as shown in dotted lines, said hook members will be moved into their ineffective positions and the sections of the coupling allowed to be partially rotated in order that they may be separated.

In operation, after the two sections 1 and 2 have been, respectively, engaged with the sections of the hose and it is desired to couple the same, said sections are brought together so that the head member 7 enters the socket 6, it being understood that the levers or handle members 21 have been moved to their upward or outward positions so as to ineffectively dispose the hook members 13. In bringing the two sections together, the hook members 13 will ride over the beveled faces of the flanges 16 and engage the rear faces thereof to retain the

outer edges of the heads 5 and 8 in abutment, and when it is desired to lock the sections in this position, the levers or handle members 21 are forced inwardly toward one another to a position, as shown in full lines in Fig. 1. This action will draw the hook members 13 into tight engagement with the rear faces of the flanges 16 to prevent the casual rotation of the two sections as well as possible longitudinal or lateral movement thereof. In this position, the fluid may readily flow through the sections of the coupling without danger of leakage and the sections of said coupling are not adapted for separation except by manual operation. When it is desired to separate the sections, the handle members 21 are raised outwardly to release the hook members from their tight engagement with the flanges 16 and the sections 1 and 2 then partially rotated in opposite directions until the hook members 13 register with the channel-ways 18, whereupon a longitudinal movement of said sections in opposite directions will allow the same to be entirely separated.

From the foregoing, it will be seen that we have provided an improved hose coupling which is composed of sections, one of said sections being provided with hooks adapted to engage portions of the other section to retain the same together. It will still further be seen that these hook members are loosely mounted on the one section and are acted upon by leaf springs which freely contact with the outer periphery of the one section of said coupling. It will still further be seen that the opposed section of the coupling is provided with peripheral flanges which are adapted to receive in engagement therewith, the effective ends of the hook members, and furthermore, it will be observed that we have provided cam members which are adapted to cause said hook members to be tightly engaged with said flanges. Furthermore, it will be observed that the cam members are carried on the shafts upon which the hook members are loosely mounted and entirely out of view. It will still further be seen that this device is extremely simple and durable in construction, thereby inexpensive to manufacture, and one which is very effective and useful in operation.

What we claim is:—

A hose coupling comprising a pair of sections, one of which is provided with peripheral flanges, the opposed section being provided with pairs of ears disposed at diametrically opposite points thereon, shafts rotatably mounted on said ears, each of said shafts having a cam formed thereon, hook members having the inner ends thereof disposed between said ears and engaged with the portions of said shafts having the cams thereon, supporting arms formed on said

hook members adapted to rest on the outer
periphery of the last mentioned hose sec-
tion, leaf spring members secured at one
of their ends to the under faces of said hook
5 members and guided through the aforesaid
arms and ears, the free end of said spring
members freely contacting with the outer
periphery of the last mentioned section, and
means to rotate said shafts.

In testimony whereof we hereunto affix 10
our signatures in the presence of two wit-
nesses.

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Witnesses:

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