(No Model.)

T. D. GREENE.

HOSE COUPLING.

No. 458,349. Patented Aug. 25, 1891.

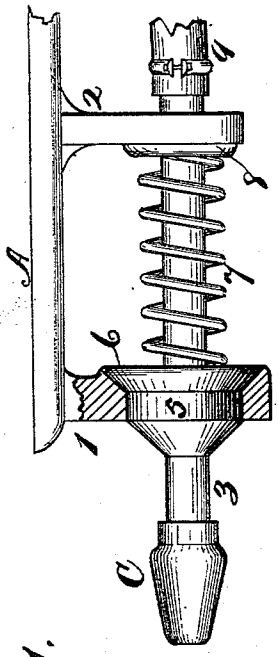

Fig. 1.

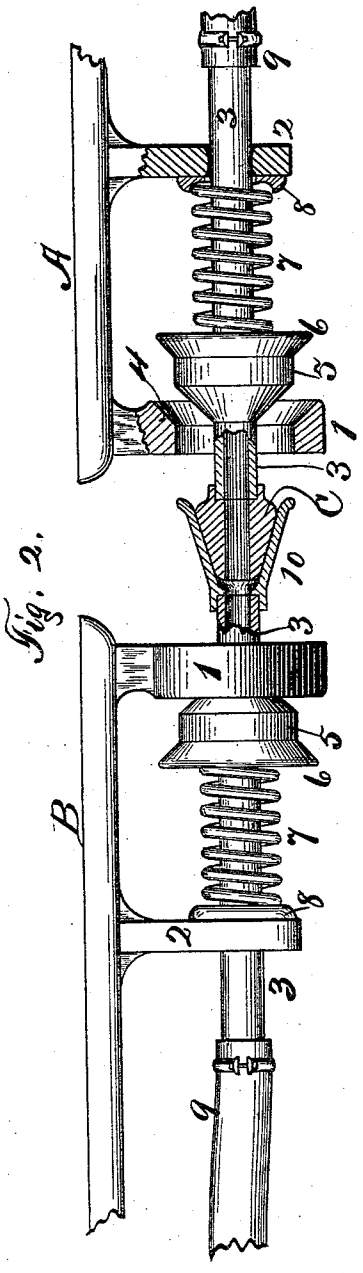

Fig. 2.

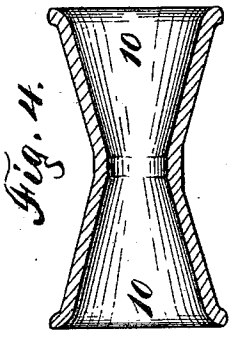

Fig. 4.

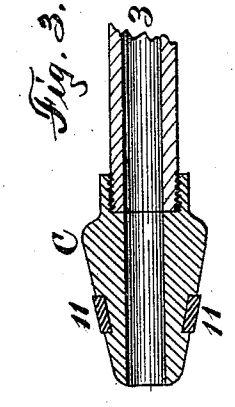

Fig. 3.

Witnesses
H. A. Carhart.
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By his Attorneys
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UNITED STATES PATENT OFFICE.

THOMAS D. GREENE, OF SYRACUSE, NEW YORK.

HOSE-COUPLING.

SPECIFICATION forming part of Letters Patent No. 458,349, dated August 25, 1891.

Application filed March 3, 1891. Serial No. 383,648. (No model.)

To all whom it may concern:

Be it known that I, THOMAS D. GREENE, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Hose-Couplings, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to hose-couplings for steam, hot-air, or water pipes, and especially to that class which is adapted to automatically couple or uncouple without requiring the use of any levers, locking-pins, or other locking mechanisms, and not ordinarily requiring any handling or twisting one way or the other.

My object is to produce an improved coupling consisting of a tubular conical head and a socket to receive the head, each being mounted upon a metal pipe and provided with means to hold them in contact or engagement entirely frictional, and either with or without a packing, and also having the pipes so mounted that when coupled they will adapt themselves to the vertical and lateral movements and motions of the cars.

My invention consists in the several novel features of construction and operation hereinafter described, and which are specifically set forth in the claims hereunto annexed.

It is constructed as follows, reference being had to the accompanying drawings, in which—

Figure 1 is a side sectional elevation showing the parts ready to be brought into engagement to make a coupling. Fig. 2 is a like view of the same parts coupled. Fig. 3 is a sectional detail of the tubular head, also showing one method of applying a packing-ring. Fig. 4 is a longitudinal section of a double socket.

A and B represent a part of the platforms of two cars, each provided with the blocks 1 and 2 upon its under side.

C is a tubular head having a conical or frustro-conical outer surface and a socket in its inner end, which receives the end of the pipe 3, and it is either detachably connected thereto, as by a screw-thread in the joint, or rigidly secured thereto in any ordinary manner. This pipe passes through the blocks and is supported thereby. The perforations in the block 1 is enlarged, and is also beveled in its inner side, as at 4. The hole in the block 2 is beveled or rounded from both sides, as hereinafter explained. Upon the pipe I secure a conically-tapered guide and stop combined, having a body 5, adapted to substantially fill the pipe-hole in the block 1 and having a flaring flange 6, adapted to fit the bevel 4 and operating as a stop to the outward projecting of the pipe. Around the pipe I place a spring 7, its outer end bearing against a concaved washer-plate 8, secured upon the block 2. A hose 9 is secured upon the inner end of the pipe. All of the parts beneath the platform B are counterparts of those under the platform A, except that I secure or detachably connect to the outer end of that pipe a socket-piece 10, having a conical or frustro-conical socket or recess exterior to the bore proper therein of proper size and form to receive the head C. The bore proper of the head and socket-piece is the same as that of the pipes.

In Figs. 1 and 2 I show the coupling-sections (head and socket) as adapted to make a proper joint without any packing. In Fig. 3 I show a packing-ring 11 around the head in the groove therein; but it is obvious that packing can be applied in many other ways well known to mechanics. In Fig. 4 I show a double-ended socket or two sockets connected at their small ends, which can be used under some circumstances, as, for instance, where two heads come opposite each other and both are secured to the pipes. It will be seen that both pipes and the coupling-section are in Fig. 1 carried in proper alignment by the block 1, so that when the platforms approach each other the head will properly enter the opposite socket, and that when the cars are coupled together the pipes will be forced back, bringing the pipe-guides out of the blocks 1, making a perfect joint in the hose-coupling; that the springs will then be under constant tension to hold the coupling-sections together securely; that then the platforms can move laterally or vertically without affecting the coupling or the inner ends of the pipes, and that the pipes fit with a rocking bearing in the blocks 2. It will be also seen that when the cars are uncoupled and separate, the hose-coupling will automatically uncouple by the simple separation of the head from the socket, requiring no operation of unlocking levers, no removal of pins

or other unlocking, nor any manipulation whatever. In fact no manipulation whatever is required to either couple the sections together or to uncouple them.

It will be seen that the conically-tapered points of the guides upon the pipes operate to guide the couplings and to center them while a coupling is being made, and when the coupling is disconnected the springs will throw the pipes and sections outward, the guides entering their seats in the supporting-blocks, and when seated therein the flanges 6 operate as stops to the outward projection of the sections, and the coupling-sections and pipes are held in proper position for recoupling without any manipulation.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A coupling comprising a tubular conical head-section, a tubular and conically-recessed section adapted to receive the head-section, and pipes to which the sections are connected, mounted and adapted to slide in supports under a car, in combination with conically-tapered guides and stops combined secured upon the pipes, adapted to fit into openings in the outer pipe-supports, and springs around the pipes bearing against the plugs and the inner pipe-supports.

2. A coupling comprising a tubular conical head-section, a tubular and conical recessed section adapted to receive the head-section, and pipes to which the sections are secured, in combination with an outer pipe-support having an enlarged opening therein through which the pipe passes freely, an inner pipe-support through which the pipe passes loosely, a conical-pointed guide secured upon the pipe and adapted to close the opening in the outer support when the coupling-sections are disconnected, and a spring around the pipe and bearing against the plug and the inner support.

3. The combination, with the pipes and coupling-sections, of the reciprocatingly-yielding conically-tapered guides secured upon the pipes, and the pipe-supports provided with seats receiving the guides.

In witness whereof I have hereunto set my hand this 14th day of January, 1891.

THOMAS D. GREENE.

In presence of—
H. P. DENISON,
C. B. KINNE.