

(No Model.)

2 Sheets—Sheet 1.

D. J. HARDING.  
HOSE COUPLING.

No. 599,782.

Patented Mar. 1, 1898.

Fig. 1.

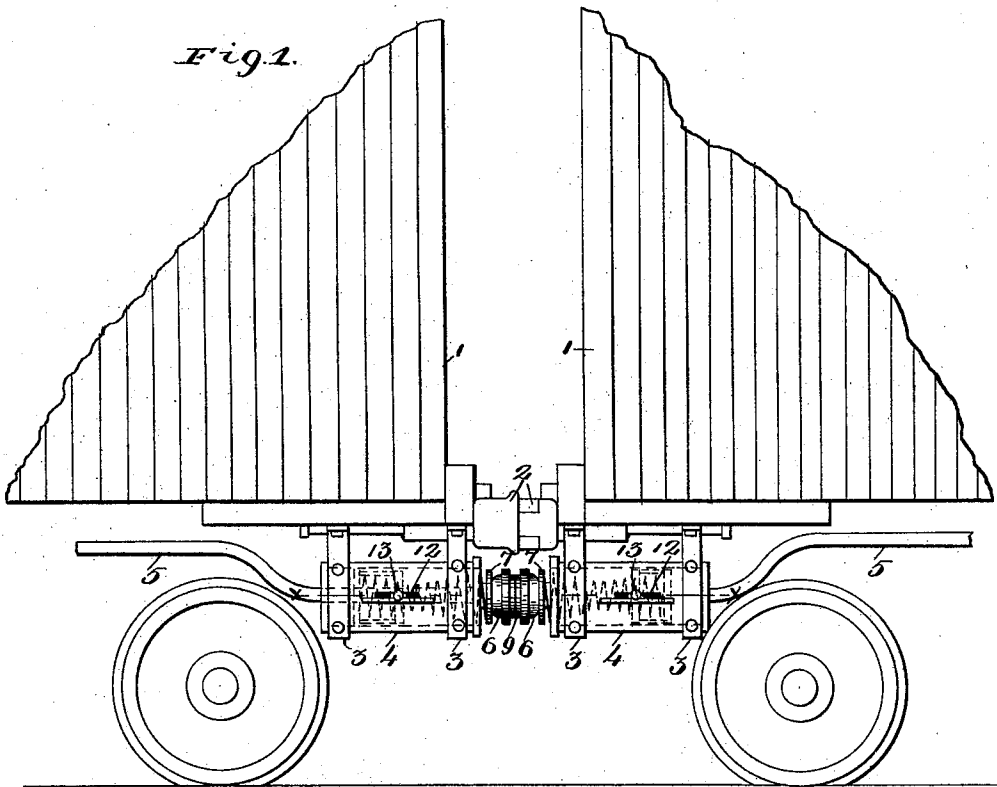
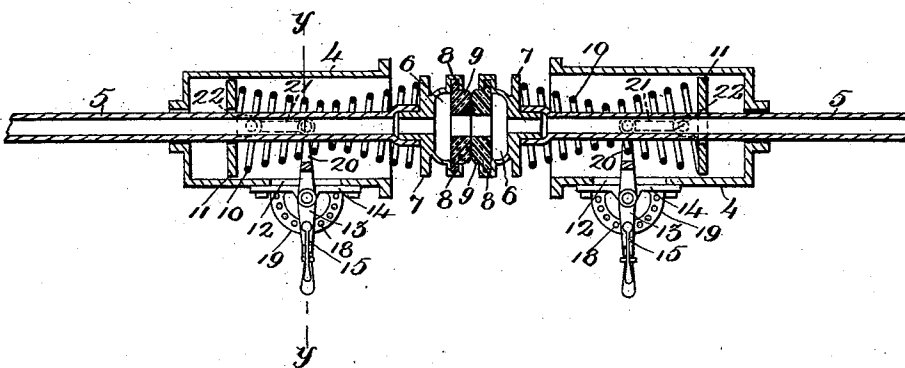


Fig. 2.



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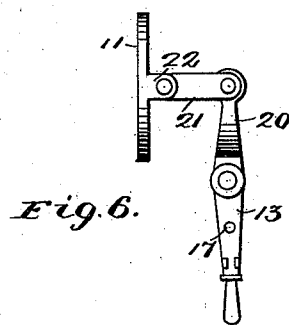
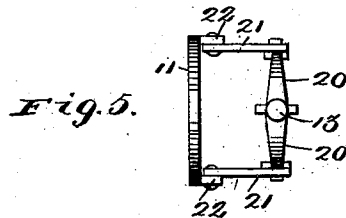
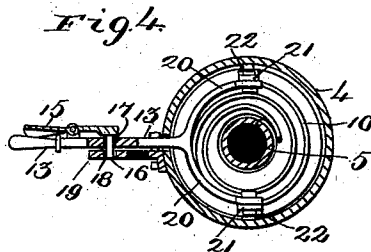
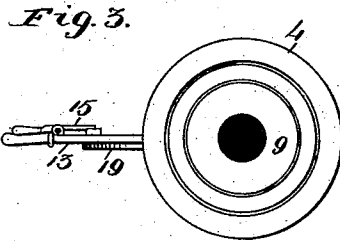
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2 Sheets—Sheet 2.

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Witnesses

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# UNITED STATES PATENT OFFICE.

DANIEL J. HARDING, OF CORSICANA, TEXAS.

## HOSE-COUPLING.

SPECIFICATION forming part of Letters Patent No. 599,782, dated March 1, 1898.

Application filed May 7, 1897. Serial No. 635,667. (No model.)

*To all whom it may concern:*

Be it known that I, DANIEL J. HARDING, a citizen of the United States, residing at Corsicana, in the county of Navarro and State of Texas, have invented certain new and useful Improvements in Hose-Couplings, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in hose-couplings; and it consists in the novel arrangement and combination of parts more fully set forth in the specification and pointed out in the claims.

In the drawings, Figure 1 is a side elevation of the coupled ends of two freight-cars, showing my invention applied thereto. Fig. 2 is a horizontal section on line  $xx$  of Fig. 1. Fig. 3 is an end view of the coupling. Fig. 4 is a section on line  $yy$  of Fig. 2. Fig. 5 is an end view of the shifting lever detached, and Fig. 6 is a top plan view of said lever.

The object of my invention is to construct a hose-coupling for the meeting ends of the flexible sections of hose or pipe carried by the train-pipes of an air-brake system, which coupling shall be of such a nature as to permit the parting of two sections without injury to the hose when the cars are uncoupled or when one car breaks away from another in case of accident.

In detail the invention may be described as follows:

Referring to the drawings, 1 represents the adjacent ends of two freight-cars, and 2 the couplers by which they are held together. Carried by straps 3, disposed below the coupler-rigging immediately below each coupler, is a (preferably cylindrical) casing 4, through which passes the hose or pipe section 5, leading from the train-pipe, (not shown,) the outer projecting end of each hose-section carrying a metallic cup 6, opening outward, the base of the cup being provided with a flange 7 and the free edge thereof with an inner circular groove 8, which is adapted to snugly receive and retain a terminal yielding rubber or other elastic annular or polygonal coupling-disk 9. Located within the casing 4 and encircling the hose-section is a coiled spring 10 of a form resembling a bed-spring—that is, narrow at

the center and expanding outwardly in each direction—the outer end of the spring bearing against the base of the flange 7 and the inner end being controlled by an annular or polygonal plate 11, loosely passed over the hose-section 5 and free to be moved against or from the spring for regulating the tension thereof, as presently to be seen. Passing through a longitudinal slot 12, formed in the peripheral wall of each casing, is a lever 13, pivoted along a supporting-plate 14, secured to the casing-wall, the outer end of the lever being provided with a tripping-pawl 15, whose inner projecting pin 16 passes through an opening 17 of the lever and engages one of a series of circularly-arranged openings 18 of a bracket 19. A pawl-and-ratchet arrangement of course is a full equivalent of the construction just described. The inner end of the lever 13 is provided with a yoke 20, the free ends of whose arms are pivotally secured to the links 21, whose inner ends are pivotally connected to the lugs 22, located diametrically opposite to one another along the outer edge of the controlling-plate 11.

When the cars become coupled, it is apparent that the outer yielding surfaces of the adjacent disks 9 will be brought and forced against each other, and will remain in that relation by the frictional contact between their adjacent surfaces. To increase this frictional contact, the operator swings the levers 13 in a direction to draw the plates 11 toward the open ends of the casings 4, in this way compressing the springs 10 and causing the contacting disks 9 to press or bear against each other with great force and prevent the escape of the air within the train-pipe. When the levers are swung to their proper positions, each is locked in position by the pin 16 of each pawl engaging its proper opening on the bracket 19. By giving the coiled spring the shape above indicated—that is, narrow at the center and expanding outwardly in each direction—said spring will better conform to the many oscillations to which the cars are subjected, the spring readily bending or yielding at its narrow portion without disturbing the relation between the contacting disks 9, by which the frictional coupling is effected. When the cars are uncoupled,

the disks merely separate and no damage whatever results to any portion of the hose or parts connected thereto.

It is apparent of course that the device might be altered in details without departing from the spirit of my invention.

Having described my invention, what I claim is—

1. In a coupling, a hose or pipe section, a cup carried at the free end of said section, a contact-disk secured along the outer or expanded end of said cup, a casing for said hose-section and cup, a spring coiled about the hose and confined within the casing, one end of the spring bearing against the base of the cup, and the opposite end having a bearing within the casing, whereby when two cars are coupled, the adjacent faces of the contact-disks of two opposite cups will be brought together and a coupling effected by frictional contact and means for varying the tension of the spring, substantially as set forth.

2. In a coupling, a hose or pipe section, a cup carried at the free end of the same, a contact-disk carried by the cup, a coiled spring encircling the hose, said spring being narrowest at the center and expanding outwardly in each direction, a casing for confining said

spring, one end of the spring bearing against the cup, and a sliding plate or disk adapted to bear against the opposite end of the spring, for varying the tension thereof, the parts operating substantially as and for the purpose set forth.

3. In a coupling, a suitable casing, a slot formed along the peripheral wall thereof, a lever pivoted in proximity to the casing and having one arm passed through said slot into the casing, a spring confined within the casing, a contact or coupling disk in cooperation with said spring, a controlling disk or plate bearing against the inner end of the spring and confined within the casing, and suitable connections between the controlling disk or plate and the lever for shifting the said plate against the tension of the spring by the movement of the lever in one direction, the parts operating substantially as and for the purpose set forth.

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

DANIEL J. HARDING.

Witnesses:

EMIL STAREK,  
ALFRED A. MATHEY.