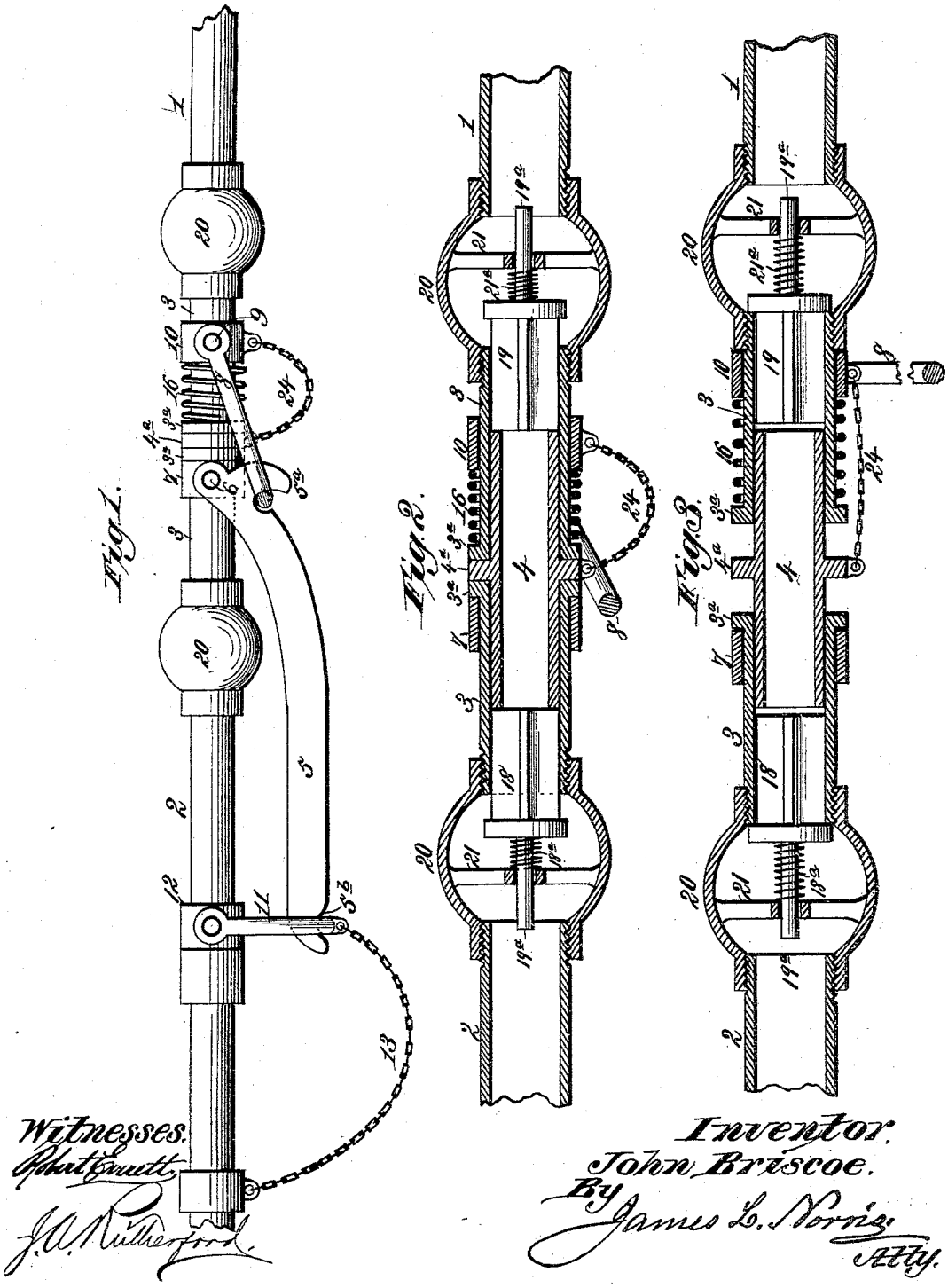
(No Model.)

J. BRISCOE.

COUPLING AND CUT-OFF FOR STEAM AND AIR PIPES FOR CAR HEATERS, BRAKES, &c.

No. 378,284. Patented Feb. 21, 1888.



Witnesses.
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UNITED STATES PATENT OFFICE.

JOHN BRISCOE, OF CUSTER CITY, PENNSYLVANIA.

COUPLING AND CUT-OFF FOR STEAM AND AIR PIPES FOR CAR HEATERS, BRAKES, &c.

SPECIFICATION forming part of Letters Patent No. 378,284, dated February 21, 1888.

Application filed April 7, 1887. Serial No. 234,058. (No model.)

To all whom it may concern:

Be it known that I, JOHN BRISCOE, a citizen of the United States, residing at Custer City, in the county of McKean and State of Pennsylvania, have invented new and useful Improvements in Couplings and Cut-Offs for Steam and Air Pipes for Car Heaters, Brakes, &c., of which the following is a specification.

The present invention has for its object to provide a novel coupling and cut-off attachment for pipes or tubes employed upon railroad-cars to conduct air, steam, or other fluids to brake devices, heaters, &c., it being the intention to have such an arrangement of parts that the coupling of the pipe-sections between the cars can be quickly effected, the uncoupling accomplished automatically when the cars become detached, and an automatic cut-off brought into action in order to prevent the contents of the main from escaping when the coupling comes apart.

To these ends the invention consists in the construction and arrangement of parts, which will be hereinafter more fully described, and then set forth in the claims.

In the accompanying drawings, Figure 1 is a side elevation of my improved pipe-coupling and cut-off. Fig. 2 is a longitudinal section showing the parts in position to permit the flow of the fluid through the pipes. Fig. 3 is a similar view showing the position of the parts when the cut-off is brought into action.

The reference-figures 1 and 2 designate two pipes or tubes, which are applied to adjoining cars, and are intended to be coupled between the latter in order to provide a continuous passage for the flow of steam, air, or other fluids.

The parts comprising the coupling proper are two short barrels, 3, which are each provided with a flange, 3^a, at one end, and are fitted on a hollow center plug, 4. The latter also has a flange, 4^a, located an equal distance from each end, and on the opposite sides of such flanges bear the flanges on the barrels 3, as is clearly seen in Fig. 2. The hollow plug forms two plungers, which closely fit the surrounding barrels, and the joint between the pipes is formed by bringing together the flanges on the barrels and plunger. This is accomplished by means of a lever, 5, hung on gudgeons or fulcrum-studs 6 on a sleeve, 7, encircling one of the barrels. The lever has a claw or hook, 5^a, which engages with an open link, 8, pivotally hung by means of fulcrum-studs 9 on a sleeve, 10, surrounding the other barrel. The claw or hook on the lever is brought as near to the barrel as possible, and when the parts are in the position shown in Fig. 1 the joint between the pipes is complete and a throughflow of the air or steam can take place. The lever 5 is elongated and extends along one of the pipes, 2, to be joined, and its free end has a notch, 5^b, which engages with a pendent link or stirrup, 11, pivoted to a sleeve, 12, on the pipe 2. This link is connected with one end of a chain, 13, which is of such length as to hang slack when the coupling or joint is intact, and the other end of said chain may be attached to a collar on the pipe 2, or to some part of the framework of the car.

When the link 11 is in the vertical position shown in Fig. 1, the free end of the lever 5 is held by the same, and a rigid joint is preserved between the two barrels and the flanged hollow plug. One of the barrels is surrounded by a coiled spring, 16, between its collar and the sliding sleeve 10, bearing the link 8. The pressure of this spring upon the sleeve 10 will, by means of the link 8, be also transmitted to the hooked lever and its sleeve 7, and thus an equal pressure is brought to bear upon the coupling until the lever is released from the stirrup 11 for the purpose of uncoupling the joint.

It will be understood that were it not for the presence of the spring 16 the lever might drop slightly from a rigid position, thus producing a slack joint. The automatic cut-off comprises two winged stem-valves, 18 19, the stems of which are fitted into the ends of the barrels 3, the latter constituting valve-seats. To the barrels 3 and the pipes 1 and 2 are applied valve-casings 20, which have each a bar, 21, serving as a bearing for the valves 18 19. The latter have shanks 18^a 19^a, encircled by spiral springs 21, so that they will be forced upon the ends of either of the barrels when the joint is broken. When the joint is complete, as shown in Fig. 2, the center plug forces the valves the proper distance from their seats to allow the contents of the pipes to flow through; but when the union of the parts is effected there is nothing

to obstruct the valves from finding their seats, thus cutting off the contents of the main line on each side of the union or coupling.

It will be understood that all that is necessary to effect an uncoupling of my joint is the drawing tight of the chain 13 by some abnormal movement of the car, when the link 11 is released from the lever and the parts can assume the position shown in Fig. 3 and become completely separated in the event of derailment. A short chain, 24, connected with one of the barrels and the center plug, serves to prevent the latter from loss when the joint is broken.

My joint and cut-off devices are specially adapted for steam and air conveying pipes for car brakes and heaters; but they can also be used in connection with all kinds of pipe and hose-connections upon railroad-cars.

What I claim is—

1. A pipe-coupling and automatic cut-off comprising the flanged barrels, a flanged and hollow center plug, sleeves on said flanged barrels, a link carried by one sleeve, a lever hung upon the other sleeve, a stirrup for supporting the lever, and valves operating in the flanged barrels, substantially as described.

2. The combination, with the flanged barrels, hollow center plug, and cut-off valves, of the two sleeves, the spring bearing upon one of said sleeves, the link, the hooked lever, the stirrup for supporting the lever, and the chain connected with said stirrup, substantially as described.

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

JOHN BRISCOE.

Witnesses:
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W. M. KEELER.