(No Model.) 2 Sheets—Sheet 1.

E. U. SCOVILLE.

PIPE COUPLING.

No. 410,032. Patented Aug. 27, 1889.

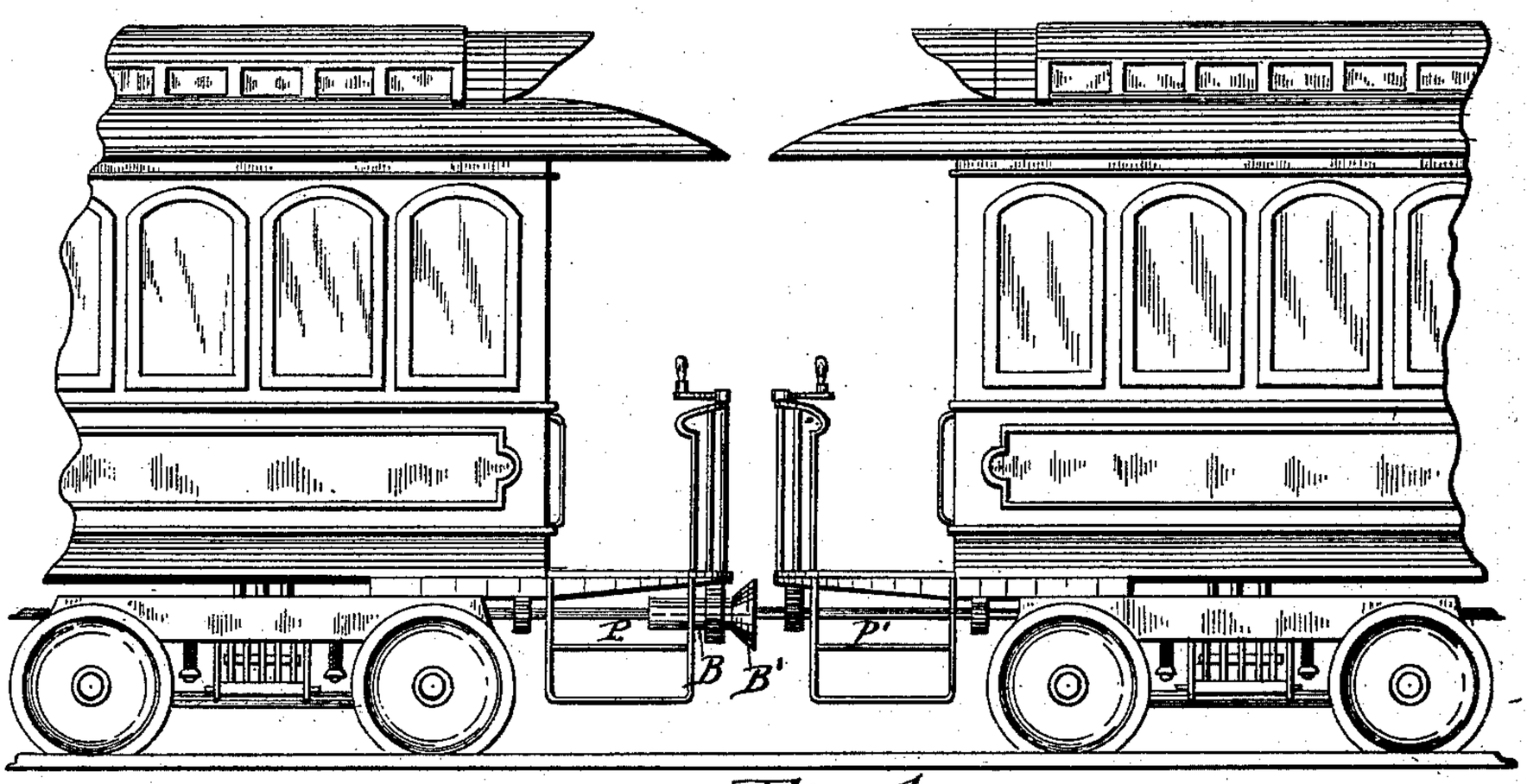


Fig. 1

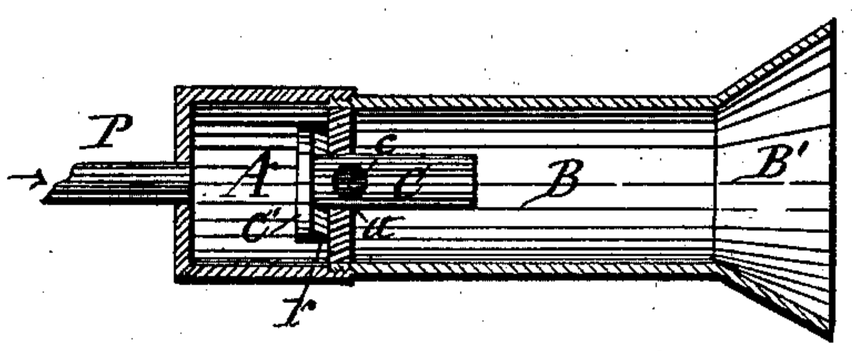
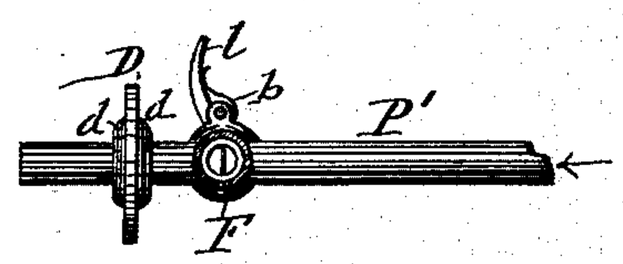


Fig. 3



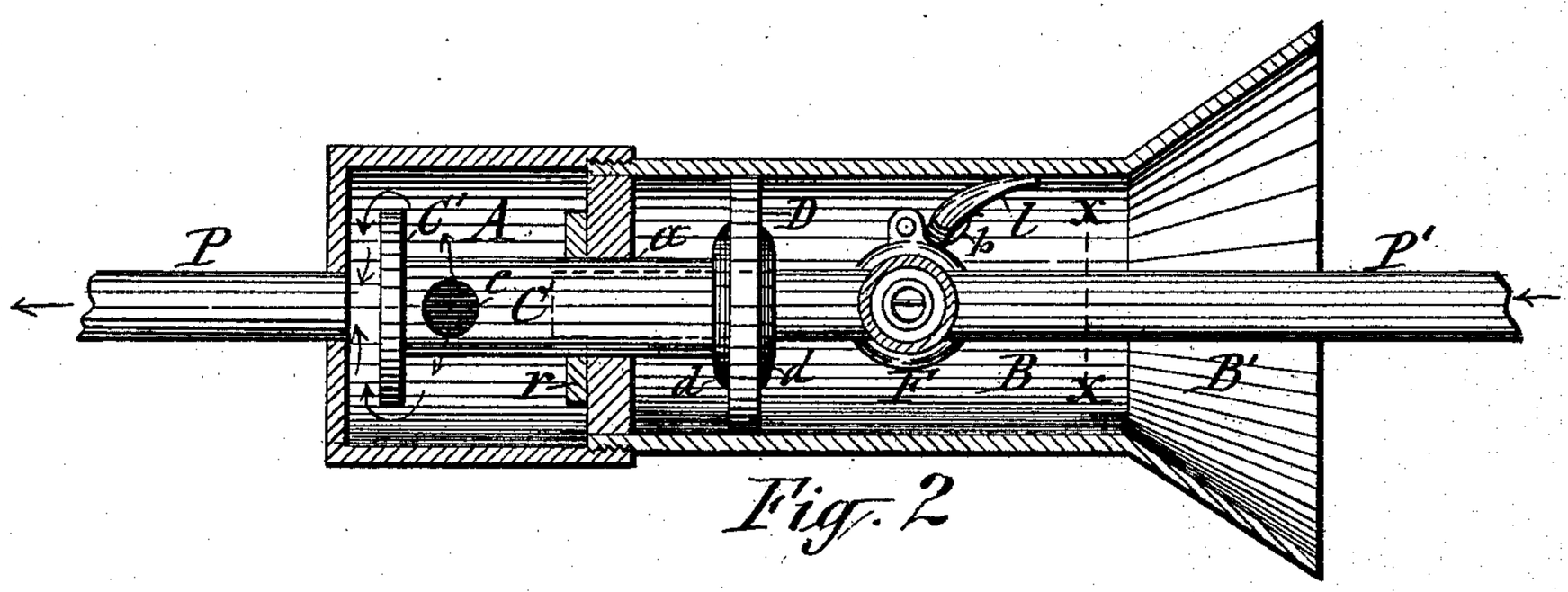
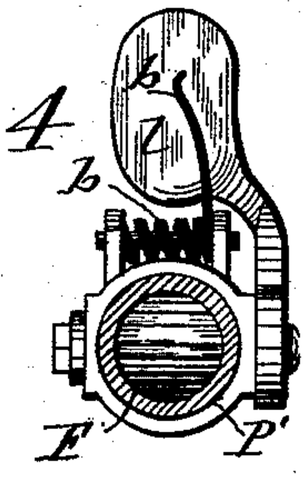


Fig. 2

Fig. 4



WITNESSES:

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INVENTOR

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BY

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ATTORNEYS

(No Model.) 2 Sheets—Sheet 2.

E. U. SCOVILLE.

PIPE COUPLING.

No. 410,032. Patented Aug. 27, 1889.

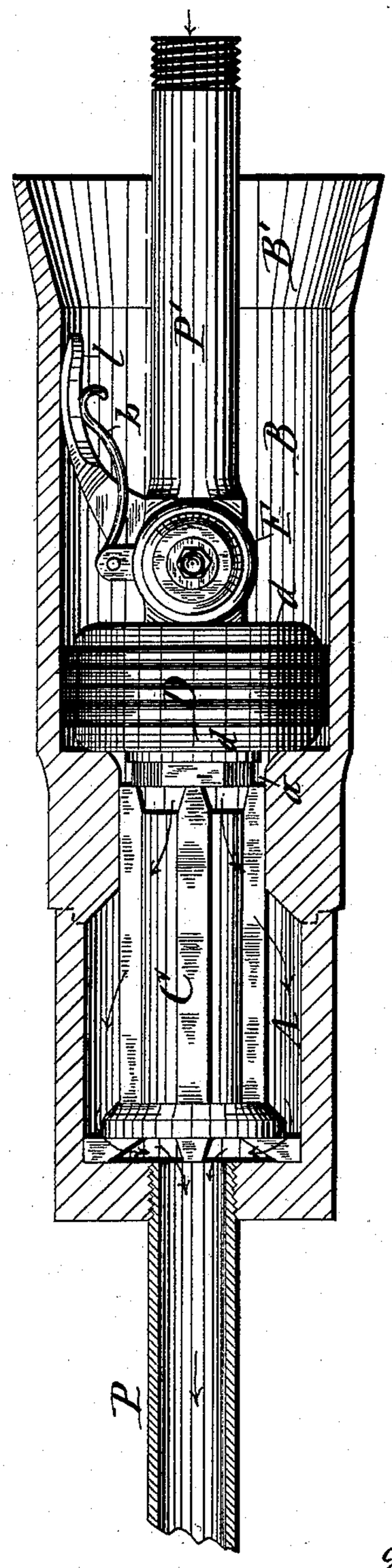

Fig. 5

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UNITED STATES PATENT OFFICE.

ELIJAH U. SCOVILLE, OF MANLIUS, NEW YORK.

PIPE-COUPLING.

SPECIFICATION forming part of Letters Patent No. 410,032, dated August 27, 1889.

Application filed February 13, 1889. Serial No. 299,709. (No model.)

To all whom it may concern:

Be it known that I, ELIJAH U. SCOVILLE, of Manlius, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Pipe-Couplings, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

The object of this invention is to facilitate the coupling of pipes while charged with steam or fluid or gas, and more specially the coupling of the steam-pipes between railroad-cars; and to that end my invention consists in a novel construction and combination of parts, as hereinafter fully described, and set forth in the claims.

In the annexed drawings, Figure 1 is a side view of the adjacent ends of two cars equipped with my improved pipe-coupling. Fig. 2 is an enlarged longitudinal sectional view of said coupling. Fig. 3 is a longitudinal sectional view of said coupling on a reduced scale, and showing the pipes disconnected from each other. Fig. 4 is a transverse section on line *x x*, Fig. 2; and Fig. 5 is a longitudinal section of a modification of my improved pipe-coupling.

Similar letters of reference indicate corresponding parts.

P and P′ represent the two pipes to be coupled. To the end of the pipe P, I attach a case A, preferably at the center of one end of the latter. The opposite end of said case is provided with a port *a*, also preferably in the center of said end, and from this end extends rigidly a tubular guide B, which is axially in line with the port *a*, and terminates with a flaring mouth B′.

In the case A is arranged a suitable inwardly-opening check-valve C, the form of which is susceptible of many modifications. Two well-adapted forms are illustrated in Figs. 2 and 5 of the drawings.

The valve shown in Fig. 2 of the drawings consists of a tubular stem sliding in the port *a* and having its outer end open and the opposite end provided with a cap C′, and the side of said tube provided with a port *c*. When the two members of the pipe-coupling are separated from each other, as shown in Fig. 3 of the drawings, the steam from the pipe P, pressing against the cap C′, forces the valve toward the opposite end of the case A until the aforesaid cap rests against the inner side of said end of the case, and the port *c* is thus closed, so as to prevent the steam from escaping from the pipe P.

The valve C shown in Fig. 5 of the drawings is of the type designated "puppet-valve." To the coupling end of the pipe P′ is attached a collar D, which is fitted steam-tight to the interior of the tubular guide B, and at opposite sides of said collar are packing-rings *d d*, attached to the pipe P′. When the valve C is of the form shown in Fig. 2 of the drawings, I make the tubular stem of the valve of a diameter to allow the end of the pipe P′ to enter said stem, and I set the collar D and packings *d d* back from the end of the pipe P′ sufficiently for the same purpose.

In coupling the two pipes P P′ the end of the pipe P′ is inserted into the guide B, the flaring mouth B′ of which facilitates the insertion, and the collar D, when entered into the guide B, supports the end of the pipe P′ and guides the same into the tubular stem of the valve C. The packing *d* on the side of the collar D facing the chamber A strikes the end of the tubular valve-stem and causes the valve to be pushed inward, and thus expose the port *c*, so as to allow the steam to pass from the pipe P′ through the tubular valve-stem, and from thence through the port *c* into the chamber A, and thence into the pipe P, as indicated by arrows in Fig. 2 of the drawings.

A packing-ring *r*, secured to the end of the case A and surrounding the port *a*, renders the joint around the exterior of the valve-stem steam-tight.

In order to cause the pipe P′ to be automatically closed in the withdrawal of the same from the tubular guide B, I connect to the said pipe a suitable valve or stop-cock F, which is provided with a lever *l* for opening and closing it. Said lever is of such a length as to cause it to engage the interior of the guide B and become turned thereby, so as to open the valve when inserted in said guide, as shown in Figs. 2 and 5 of the drawings.

A suitable spring *b*, connected at one end to the exterior of the valve and pressing with the opposite end against the back of the lever *l*, causes the valve to be automatically closed so soon as the pipe P′ is withdrawn from the

guide B sufficiently to relieve the lever *l* from the pressure of said guide, as shown in Fig. 3 of the drawings, and thus the valve is held normally closed by the force of the spring *b*.

What I claim as my invention is—

1. The combination, with the pipes P P′, of the case A, attached at one end to the pipe P and provided at the opposite end with the port *a* and with the inward-opening valve C′, the tubular guide B, extended from the case at the side containing the port and provided with the flaring mouth B′, the collar D, attached to the pipe P′, and the packing *d*, secured to said pipe at the side of the aforesaid collar, as and for the purpose set forth.

2. The combination, with the pipes P P′, of the case A, attached at one end to the pipe P and provided at the opposite end with the port *a*, the inward-opening valve C in said case, the tubular guide B, extending from the chamber axially in line with the port *a*, and provided with the flaring mouth B′, the collar D, attached to the pipe P′, packings *d d* at opposite sides of said collar, the valve F, connected to the pipe P′ and having the lever *l*, engaging the interior of the guide B, and turned thereby to open the valve, and the spring *b*, holding the valve normally closed, substantially as described and shown.

In testimony whereof I have hereunto signed my name this 6th day of February, 1889.

ELIJAH U. SCOVILLE. [L. S.]

Witnesses:

C. H. DUELL,
H. M. SEAMANS.