(No Model.)

F. R. BISCHOFF & J. C. BAIRD.

COUPLING FOR TRAIN PIPES.

No. 546,877. Patented Sept. 24, 1895.

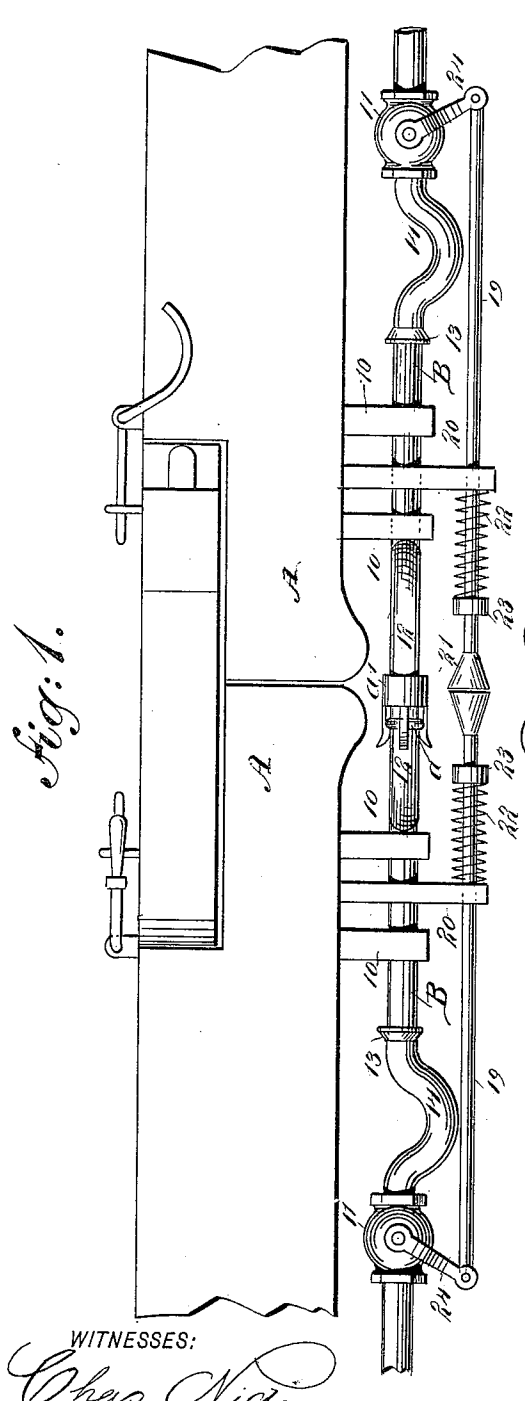

Fig. 1.

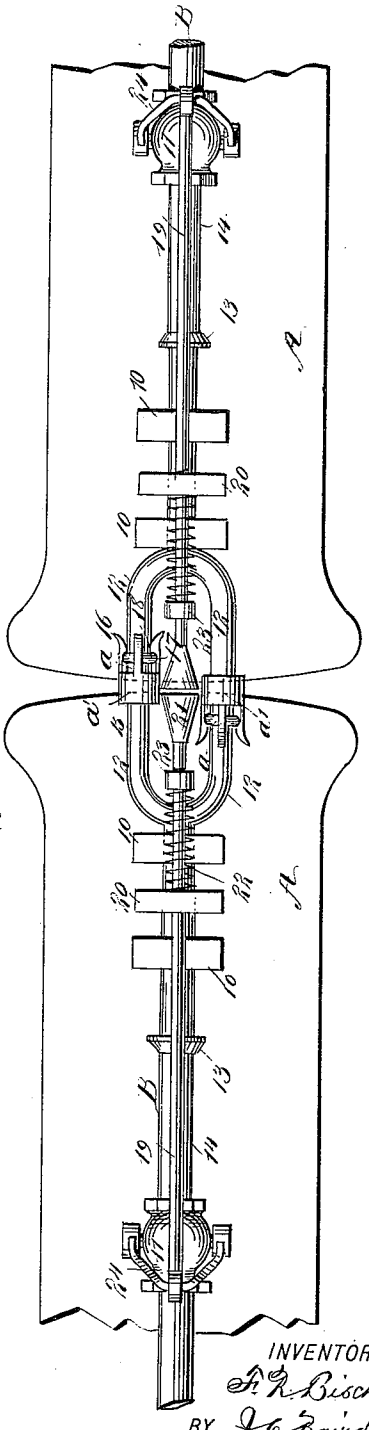

Fig. 2.

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UNITED STATES PATENT OFFICE.

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COUPLING FOR TRAIN-PIPES.

SPECIFICATION forming part of Letters Patent No. 546,877, dated September 24, 1895.

Application filed January 9, 1894. Renewed March 4, 1895. Serial No. 540,426. (No model.)

To all whom it may concern:

Be it known that we, FRANK R. BISCHOFF, of New Castle, in the county of Weston, and JOHN C. BAIRD, of Cheyenne, in the county of Laramie, State of Wyoming, have invented a new and Improved Coupling for Train Air-Pipes, of which the following is a full, clear, and exact description.

The invention is an improvement in the class of clutch-couplings for train-pipes which are adapted to engage and disengage automatically.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in both views.

Figure 1 is a side elevation of coupled draw-heads, and likewise a side elevation of a train air-pipe coupler in coupled position supported beneath the draw-heads; and Fig. 2 is a bottom plan view of the train air-pipe couplers and of the draw-heads supporting them.

The draw-heads A may be of any approved construction, but those shown in the drawings have been made the subject-matter for a separate application, filed of even date herewith.

The train air-pipe B is supported beneath the draw-head by means of suitable hangers 10, placed at proper intervals apart, and the valve 11 of the pipe is located at any convenient point near the end of the pipe, and each end of the pipe is provided with a forked or U-shaped extremity 12, as is best shown in Fig. 2. One of the hangers, the forward one, is located immediately back of the forked extremity 12, whereby the inward movement of the pipe is limited by the fork contacting with the hanger. One of the inner or intermediate hangers 10 is adapted to be engaged upon its inner or rear side by a collar 13, formed upon the pipe, as illustrated in Fig. 1, and the said collar serves to limit the outward movement of the pipe. Between the collar 10 and the valve 11 a flexible section of pipe 14 is located, and the said flexible section is more or less bowed, as is illustrated in the drawings, the flexible section permitting an outward and backward movement of the forked extremities of the pipe. One member of the forked extremity 12 of the pipe is provided with a male section *a* of a coupler, while the opposite member carries a female section *a'*. The female section of the coupler consists of a ring-like body 15, from one end of which a series of spring-prongs 16 are projected. The inner surfaces of the outer ends of the prongs are upwardly curved, as illustrated in Fig. 2, and immediately back of what may be termed the "curved" head of each prong a recess 17 is made in the inner face of the prong, as is likewise shown in Fig. 2. The male section of the coupler at its outer extremity is adapted to enter the body portion 15 of the female section, and back of the said outer extremity of the male section a collar or rib 18 is formed, and when the outer extremity of the male section enters the body portion of the female section the rib 18 will have entered between the prongs 16 of the female section and will have become seated in the recesses 17 of the prongs. In this manner a quick, sure, and strong coupling is obtained, and since the ends of the train-pipe are forked, one member carrying the female and the other the male section of the coupler, a tight and positive interlocking engagement between the opposing sections of opposing couplers is sure to take place.

When the cars are uncoupled, the train-pipes of the opposing cars will separate readily, the ribs 18 of the male sections of the coupler leaving the prongs of the female sections. In such case the forks 12 will be drawn outward until the collars 13 come in contact with the stops 10, when the couplings part, leaving the forks projecting beyond the ends of the draw-heads, and in position for re-engagement. As before intimated, the flexible sections 14 permit this movement.

A rod 19 is supported by any desired number of hangers 20, beneath the forward portion of each end of the train-pipe. Each rod 19 is provided at its outer extremity with a head 21, and a spring 22 is coiled around the rod, having bearing against the forward hanger

20, and a collar 23, located upon the rod near its head; and the rear end of each rod 19 is connected with a train-pipe valve 11 through the medium of a yoke 24 or the equivalent thereof.

By the above-described arrangement of the valve-rod it is less liable to be displaced or broken by contact with other objects, and the hanger which supports it also serves to support the train-pipe B.

When a car carrying the train-pipe is not coupled with another car, the spring 22 will force the valve-rod 19 outward to such an extent as to close the valve with which it is connected; but when the train-pipes of two cars are coupled together the heads 21 of the valve-rods meet and said rods are forced rearward, compressing the spring 22 and opening the valves 11 in the pipes. In this manner it will be observed that the valves are automatically opened and closed when a coupling between train-pipes is effected or a disconnection made.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

The combination with a drawhead, of the rigid and forked train-pipe section, having a collar and spring, clutch prongs on its respective forks, and a stop-collar near its rear end, to limit its outward movement, rigid hangers pendent from the drawhead and one of them arranged in rear of said stop collar, a flexible section connected with said rigid section, a valve located in rear of such flexible section and having a pendent yoke, the valve push-rod arranged in the aforesaid hangers, beneath the rigid train-pipe section, and a spring and collar on said rod, all as shown and described, to operate as specified.

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