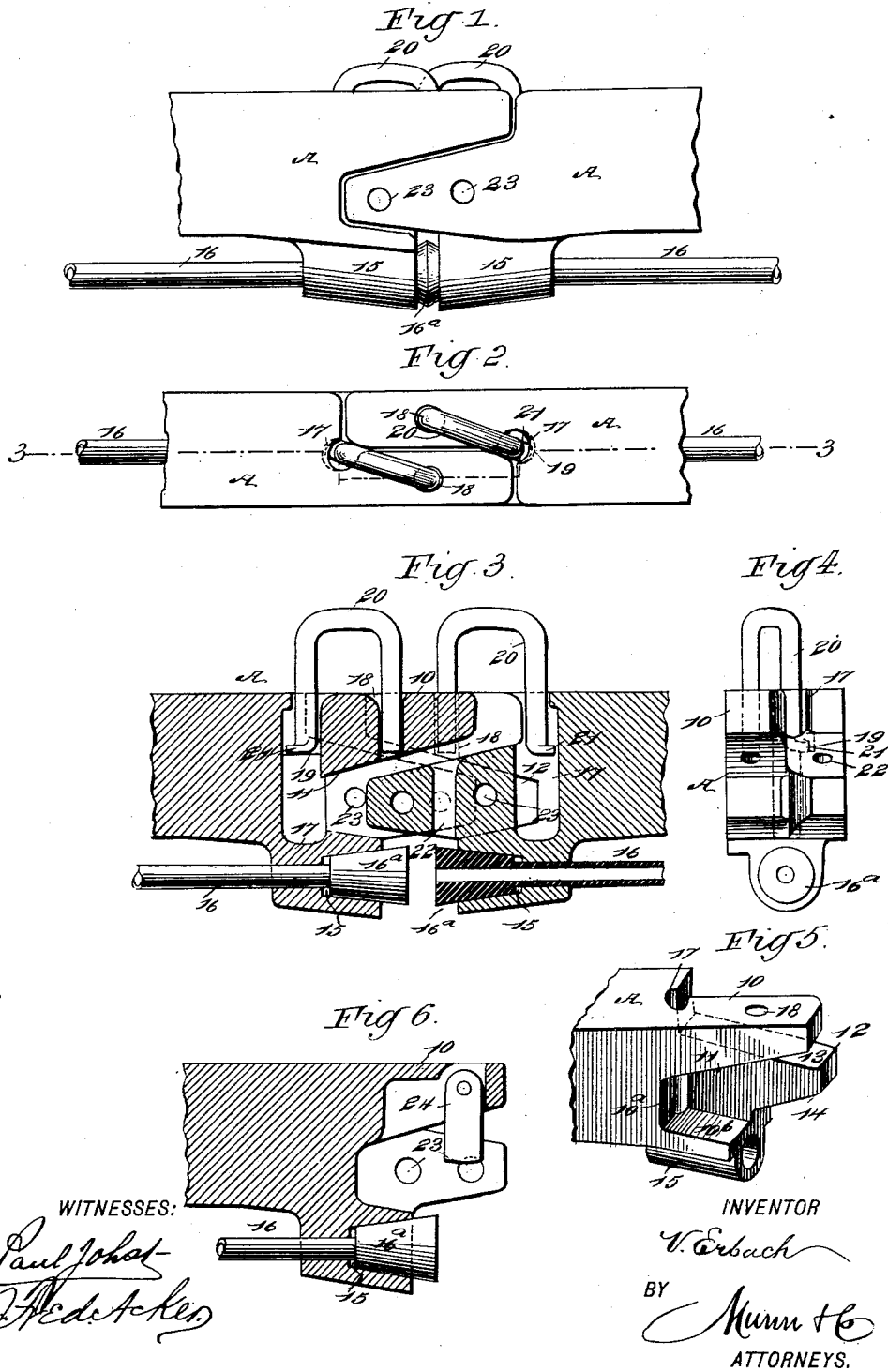


(No Model.)

V. ERBACH.
CAR COUPLING.

No. 541,432.

Patented June 18, 1895.



UNITED STATES PATENT OFFICE.

VALENTINE ERBACH, OF SCRANTON, PENNSYLVANIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 541,432, dated June 18, 1895.

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To all whom it may concern:

Be it known that I, VALENTINE ERBACH, of Scranton, in the county of Lackawanna and State of Pennsylvania, have invented a new and Improved Car-Coupling, of which the following is a full, clear, and exact description.

My invention relates to an improvement in car couplers, and it has for its object to provide a coupling of the pin type, so constructed that when opposing drawheads contact they will be automatically and positively guided to a coupling position, and whereby further coupling pins carried one by each of the couplers will be automatically brought to securing position, effectually connecting the two drawheads.

Another object of the invention, and the prime object thereof, is to provide a means whereby when the drawheads are brought together and coupled, any desired number of pipes, adapted for example to convey steam or compressed air, will be simultaneously and automatically coupled, completing a chain of pipes from one end of a train to the other.

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 claims.

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 all the views.

Figure 1 is a side elevation of the improved coupling in coupling position. Fig. 2 is a plan view of the couplers shown in Fig. 1. Fig. 3 is a vertical central section taken through opposing draw-heads, essentially on the line 3 3 of Fig. 1, illustrating the two draw-heads in the act of being coupled. Fig. 4 is a front elevation of one of the draw-heads. Fig. 5 is a perspective view of the forward or outer end of the improved draw-head, and Fig. 6 is a vertical central section through a slightly-modified form of the coupler.

In carrying out the invention, the draw-head A is provided at the top at one side with a forwardly projecting nose 10, the width of the said nose being substantially about one-half the width of the drawhead at the top; and the under face or side of the said nose is inclined in an upward and forward direction,

as shown at 11 in Figs. 3 and 5. A second nose 12, is formed at the opposite side of the drawhead, and extends forward, having its upper face more or less below the plane of the lower face on the upper nose 10. The lower nose 12 is provided with an upper face 13, which is downwardly and forwardly beveled or inclined, while the forward end of the said lower nose at the bottom is more or less upwardly inclined, as shown at 14 in the drawings. The upper nose 10, at its outer side, is preferably made flush with one outer side of the drawhead, and a recess 10^a is formed below the upper nose, the bottom wall 10^b of which recess is inclined in a forward and downward direction, while at the bottom portion of the drawhead proper, which may or may not be inclined in a downward and forward direction, one or more sockets 15 are located, and each socket is adapted to receive an end of a pipe 16, to afford a conductor for compressed air, steam, or other liquid vapor, or gas.

The socket 15, as shown in Fig. 3, is made in two diameters, its largest diameter being at its forward or outer end, and this larger diameter is made more or less conical, as shown in Fig. 3, to receive a head 16^a of the pipe, correspondingly shaped upon its exterior, the said head being of flexible material and made to extend a predetermined distance beyond the front or outer end of the socket 15.

Where the upper nose 10 connects with the body of the drawhead, and at the inner face of the said nose, a vertical link opening 17 is made, which may or may not extend entirely through the drawhead; and diagonally opposite the link opening 17, another link opening 18, substantially parallel therewith, is made in the upper nose. The link opening 17, however, is provided at a predetermined point below its upper end with a shoulder or platform 19, shown in Fig. 3 and in dotted lines in Fig. 4. The openings 17 and 18 are adapted to receive the members of an inverted U-shaped link 20, the member of the link entering the opening 17 being provided with a foot 21, adapted, when the link is in an upper position to temporarily rest on the said shoulder 19 and maintain the link in that position, as shown clearly in Figs. 3 and 4.

A third link opening 22, is made in the lower nose 12, as shown in Fig. 4. When the links in both drawheads are in the elevated position shown in Fig. 3, and the drawheads are brought together, the upper nose of each drawhead will strike the member of the link in the opposing drawhead provided with the foot 21, and will throw said foot from the step or shoulder 19, causing the link in each drawhead to drop, one member of each link passing down to the bottom of the opening 17, while the other member will pass through the bottom of the opening 18 in the upper nose of one drawhead, and into the opening 22 in the lower nose of the opposing drawhead. As the two drawheads are brought together to effect a coupling, the outer ends of the heads 16^a of the pipes 16 will be brought together, as shown in Fig. 1, and compressed, forming an air-tight or steam-tight joint, and enabling whatever material designed to be conducted by the pipes to pass without leakage from one to the other.

Openings 23, are made in the sides of the lower nose in order that pins may be passed through them to effect a coupling of two drawheads in the event any accident should happen to the U-links 20.

In Fig. 6 I have shown a slight modification of the coupler, in which a gravity latch 24 is substituted for the U-link; and when this latch is employed the openings 22 in the lower nose of the coupler will be shaped to receive the latch, the latch being pivoted in a suitable recess formed in the upper nose.

A coupling of this kind is simple, durable and accurate, since no matter whether the cars to be coupled are on a curve, or standing at more or less of an angle to one another, the drawheads will be guided to place the moment that their members are brought in the slightest contact; and furthermore, any desired number of pipes may be carried by the cars and automatically coupled simultaneously with a coupling of the drawheads.

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

1. In a car coupling a drawhead having at its sides noses arranged one below the other and provided with oppositely inclined upper and lower faces and parallel sides, and having perforations formed vertically through them, and a gravity link arranged in the perforation in the upper nose, substantially as set forth.

2. In a car coupling, a drawhead having at each side a nose, one of said noses being arranged at a lower elevation than the other and being provided with oppositely beveled upper and lower faces, and the other nose being provided with a beveled under surface, each of said noses having a vertical recess or perforation formed in it, a gravity link arranged in the recess in the upper nose, said drawhead having formed at and projecting from the central portion of its under side a socket, said socket being formed in two portions of different diameter, of which the outer is the larger and a pipe held in said socket and provided with a head of yielding material arranged in and projecting from the outer larger portion of said socket, substantially as set forth.

3. In a car coupling, the combination of a drawhead having at opposite sides noses at different elevations, and being provided with a vertical link opening located at the rear of said noses and partially in each nose, each nose being provided with a vertical link opening located at its central portion, and a link having vertical arms arranged one in the rear link recess and the other in the link recess in the upper nose, substantially as set forth.

4. In a car coupling, the combination of a drawhead having at opposite sides noses at different elevations, each having a vertical link opening formed through it, an offset located on the coupling, and a link mounted in the link opening of the upper nose and provided with a foot adapted to be supported on the offset in position to be engaged by the coupling in the other car, substantially as set forth.

5. In a car coupler, a drawhead provided with a nose at each side in different horizontal planes, opposing faces of the said noses being inclined in opposite directions, each nose having produced therein a link opening, a third link opening being produced in the drawhead back of and between the two noses, the latter opening having an offset therein, and a substantially staple-shaped link entering the link opening in the body of the coupling and the opening in the uppermost nose, the said link being adapted to temporarily rest when in an elevated position upon the offset in the body opening of the drawhead, as and for the purpose specified.

VALENTINE ERBACH.

Witnesses:

CHAS. MCMEANS,
WALTER BRIGGS.