J. HOUGH & W. L. TURNER.

TRAIN PIPE COUPLING.

APPLICATION FILED JUNE 11, 1909.

952,905.

Patented Mar. 22, 1910.

2 SHEETS—SHEET 1.

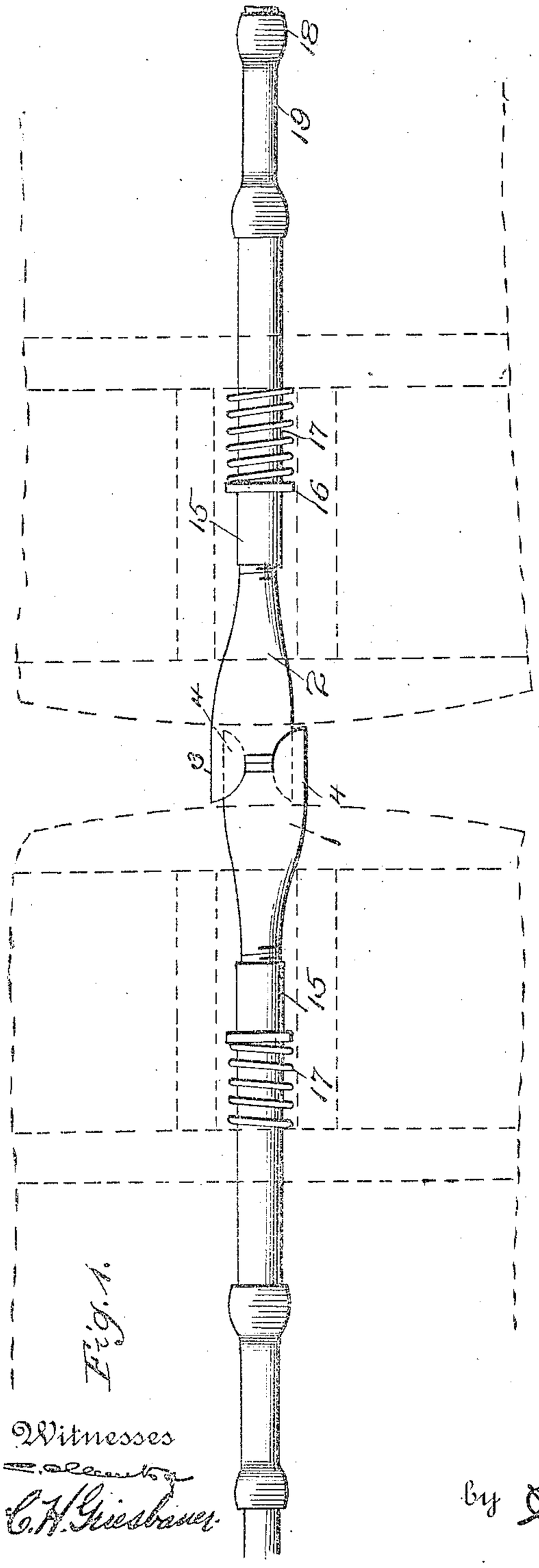

Fig. 1.

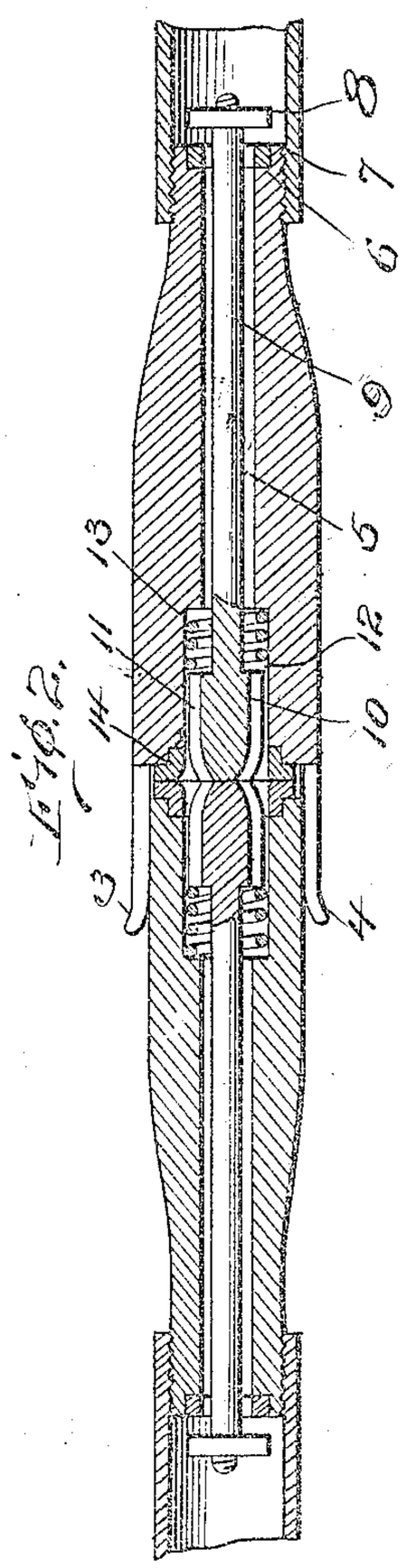

Fig. 2.

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2 SHEETS—SHEET 2.

Fig. 3.

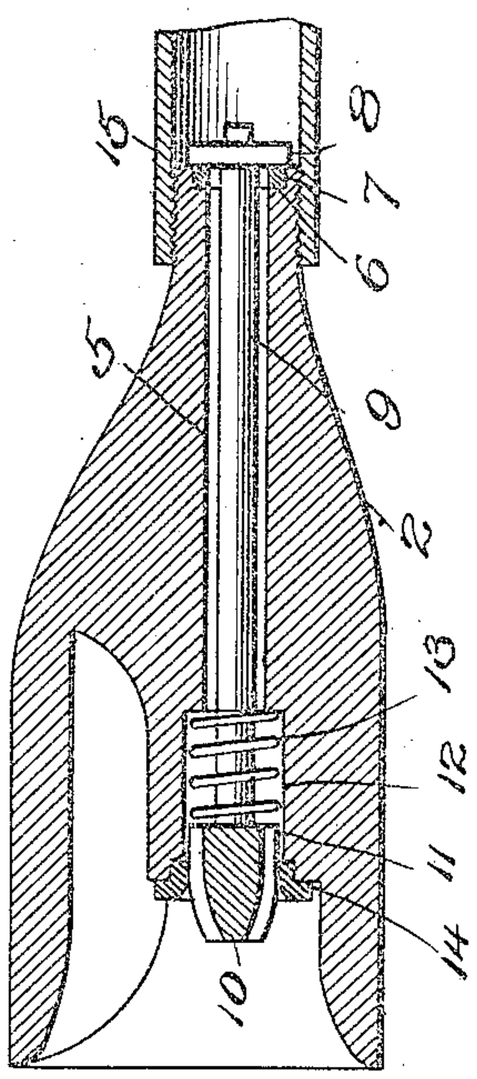


Fig. 5.

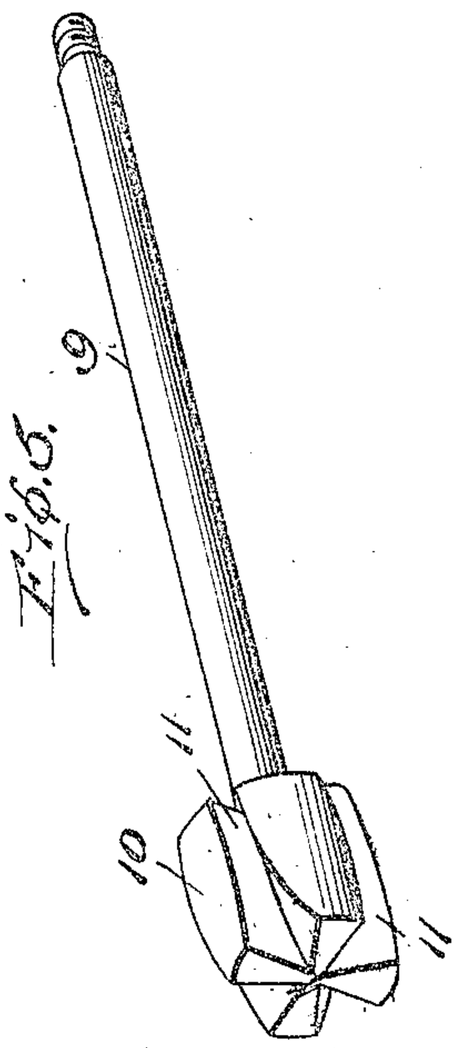
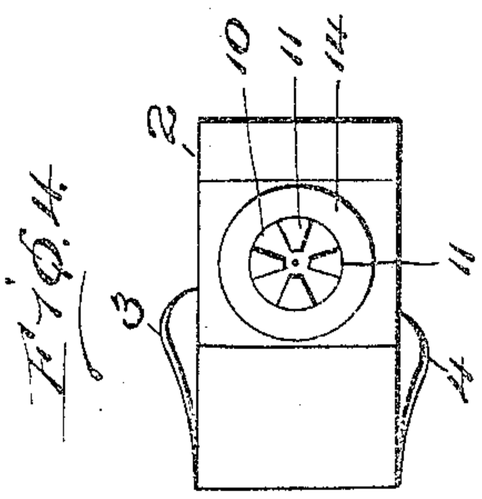


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

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TRAIN-PIPE COUPLING.

952,905. Specification of Letters Patent. Patented Mar. 22, 1910.

Application filed June 11, 1909. Serial No. 501,570.

To all whom it may concern:

Be it known that we, JOSEPH HOUGH, a citizen of the United States, residing at Swayzee, in the county of Grant and State of Indiana, and WILLIAM L. TURNER, a citizen of the United States, residing at Sims, in the county of Grant and State of Indiana, have invented certain new and useful Improvements in Train-Pipe Couplings; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in train pipe couplings.

The object of the invention is to provide a train pipe coupling which will automatically couple and open the valves therein when the cars are coupled, thereby obviating the necessity of any one entering between the cars to connect the train pipe or to open the valves in the train pipe couplings.

With this and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts, as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings: Figure 1, is a horizontal sectional view of a portion of two cars, showing the application and arrangement of the trainpipe and couplings thereon. Fig. 2, is a central longitudinal sectional view of the coupling, showing the coupling heads in operative engagement and the valves therein in open position. Fig. 3, is a horizontal section of one of the coupling heads with the valve therein closed as when the heads are uncoupled. Fig. 4, is an outer end view of one of the coupling heads; and, Fig. 5, is a detail perspective view of one of the valves of the couplings, showing its operating stem and head.

As shown in the drawings the invention consists of a pair of coupling heads 1 and 2, each of which is provided with interlocking jaw members 3 and 4, which, when brought together will engage each other and form an interlocking connection between the coupling heads as shown. The outer ends of the jaws 3 and 4 are preferably curved or beveled on their inner edges to facilitate the engagement of the heads.

Each of the heads 1 and 2 is provided with a longitudinal disposed bore or passage 5, which communicates at the inner end of the head with a valve seat 6. The valve 6, is preferably provided with a packing ring or washer 7, with which is adapted to be engaged a valve 8, which is adapted to open and close the bore or passage through the head. The valve 8 is provided with an operating stem 9, which extends through the bore or passage 5, and is provided on its outer end with an enlarged head 10, having formed therein a series of longitudinal passages 11, to permit the passage of air past the head when the valve is in an open position. The head 10, is arranged in a recess or enlarged portion 12, formed at the outer end of the bore or passage 5, and between said head and the inner end of the recess 12, is arranged a coil spring 13, the pressure of which is exerted to normally close the valve 8 and to hold the same in closed position. Around the outer edge of the recess 12, and the adjacent end of the head is arranged a packing ring or gasket 14. When the heads 1 and 2 are brought together in coupled position, the packing ring or gaskets 14 will be forcibly engaged to form a fluid-tight connection between the heads.

On the valved ends of the coupling heads 1 and 2 are screwed the outer ends of short sections 15, said sections being slidably mounted in the end cross sills of the car and on said sections, at a suitable distance from the end of the cars, are arranged stop flanges 16, between which and the adjacent side of the car sills are arranged coil springs 17, the pressure of which is normally exerted to force the coupling heads outwardly, so that when the coupling heads are brought together they will be held in forcible engagement. The inner ends of the sections 15, are connected with the train pipe 18, of the cars by short flexible tubes 19, whereby the outer sections 15, of the pipe and the coupling heads will be permitted to slide inwardly or outwardly when the heads are coupled and uncoupled.

When the coupling heads are brought together into operative engagement, the outer ends of the heads 10, on the stems 9, of the valves 8, will be engaged and will force each other back in the recesses 12, thereby opening the valves and permitting the air to pass from the train pipe of one car to the train pipe of the adjoining car. It will thus

be seen that when two cars are brought together into coupled position that the coupling heads of the train pipes thereon will be automatically engaged and the valves therein automatically opened.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention as defined in the appended claims.

Having thus described our invention, what we claim is:

1. In a train pipe coupling, a pair of interlocking coupling heads, each provided with a recess in its outer end and a longitudinal passage extending from the inner end of said recess throughout its body, valves to close the inner ends of the longitudinal passages, valve stems connected with said valves and extending through said passages and recesses, operating heads at the outer ends of said stems slidable in said recesses, and coil springs disposed around said valve stems between the inner ends of said operating heads and the inner ends of the recesses to hold the valves closed.

2. In a train pipe coupling, a pair of interlocking coupling heads, each provided with a recess in its outer end and a longitudinal passage extending from the inner end of said recess throughout its body, valves to close the inner ends of the longitudinal passages, valve stems connected with said valves and extending through said passages and recesses, operating heads at the outer ends of said stems slidable in said recesses, coil springs disposed around said valve stems between the inner ends of said operating heads and the inner ends of the recesses to hold the valves closed, tubular extensions connected with the inner ends of the coupling heads, and flexible tubes between said extensions and the train pipe.

3. In a train pipe coupling, a pair of interlocking coupling heads, each provided with a recess in its outer end and a longitudinal passage extending from the inner end of said recess throughout its body, valves to close the inner ends of the longitudinal passages in the coupling heads, valve stems connected with said valves and extending through said passages and recesses, operating heads provided with longitudinal passages at the outer ends of said stems and slidable in said recesses, springs disposed around said stems between the inner ends of said heads and the inner ends of said recesses to normally hold the valves closed, and packing rings at the outer ends of said recesses and inclosing said operating heads, the outer ends of said operating heads normally projecting beyond the recesses in the coupling heads and adapted to abut and force the valves open when the cars are coupled together.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

JOSEPH HOUGH.
WILLIAM L. TURNER

Witnesses:
FRANK D. BROWN,
A. O. WATTS.