

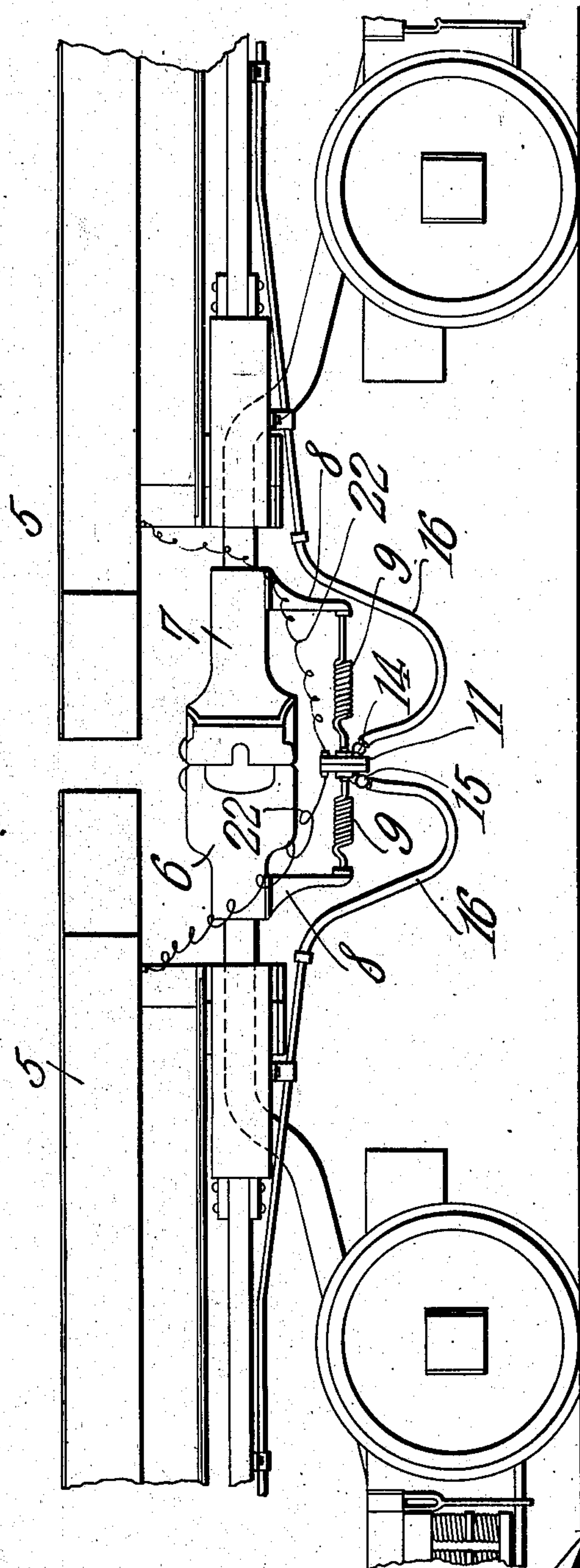
900,132.

N. TOY.
AUTOMATIC AIR HOSE COUPLING.
APPLICATION FILED APR. 7, 1908.

Patented Oct. 6, 1908.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 2.

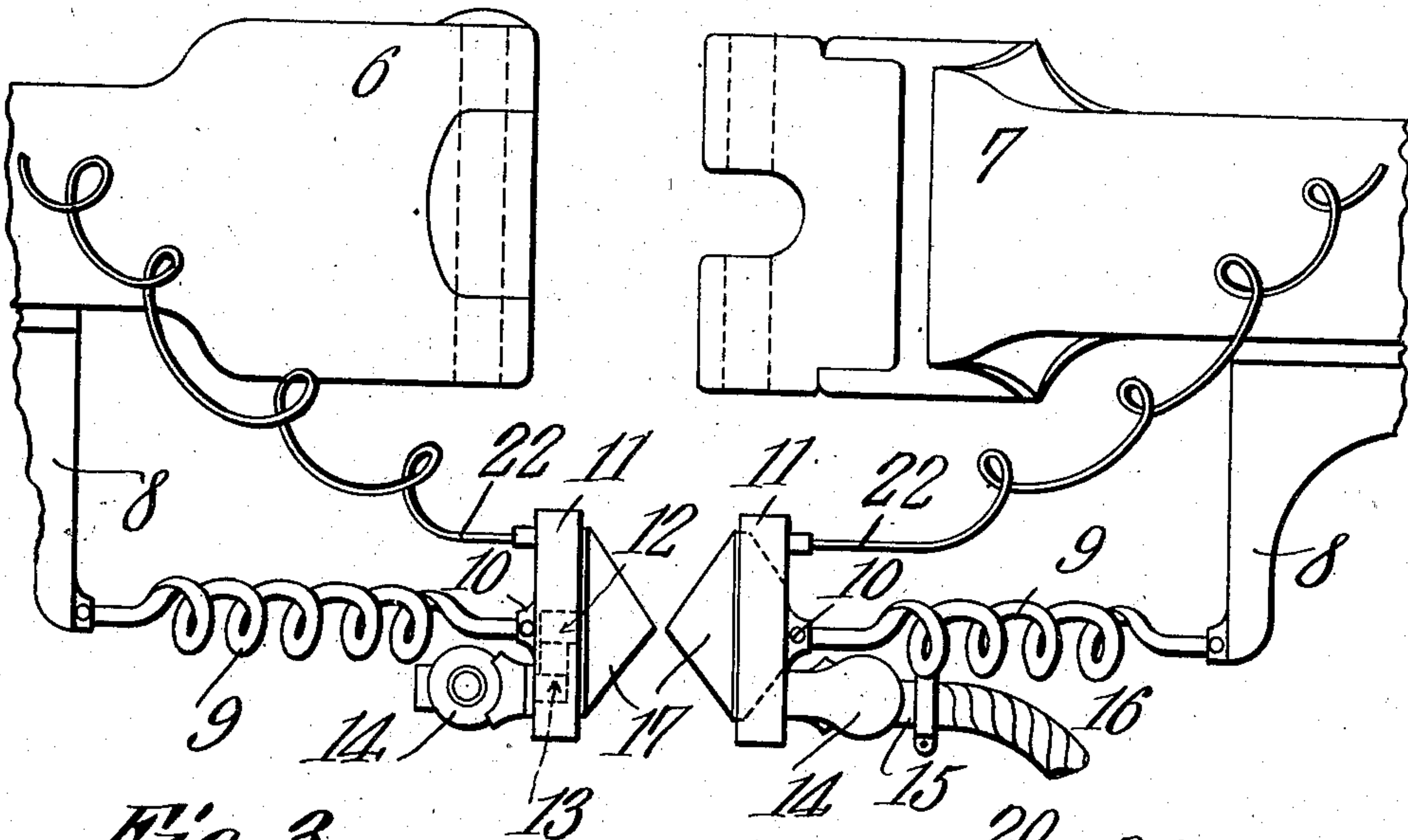


Fig. 3.

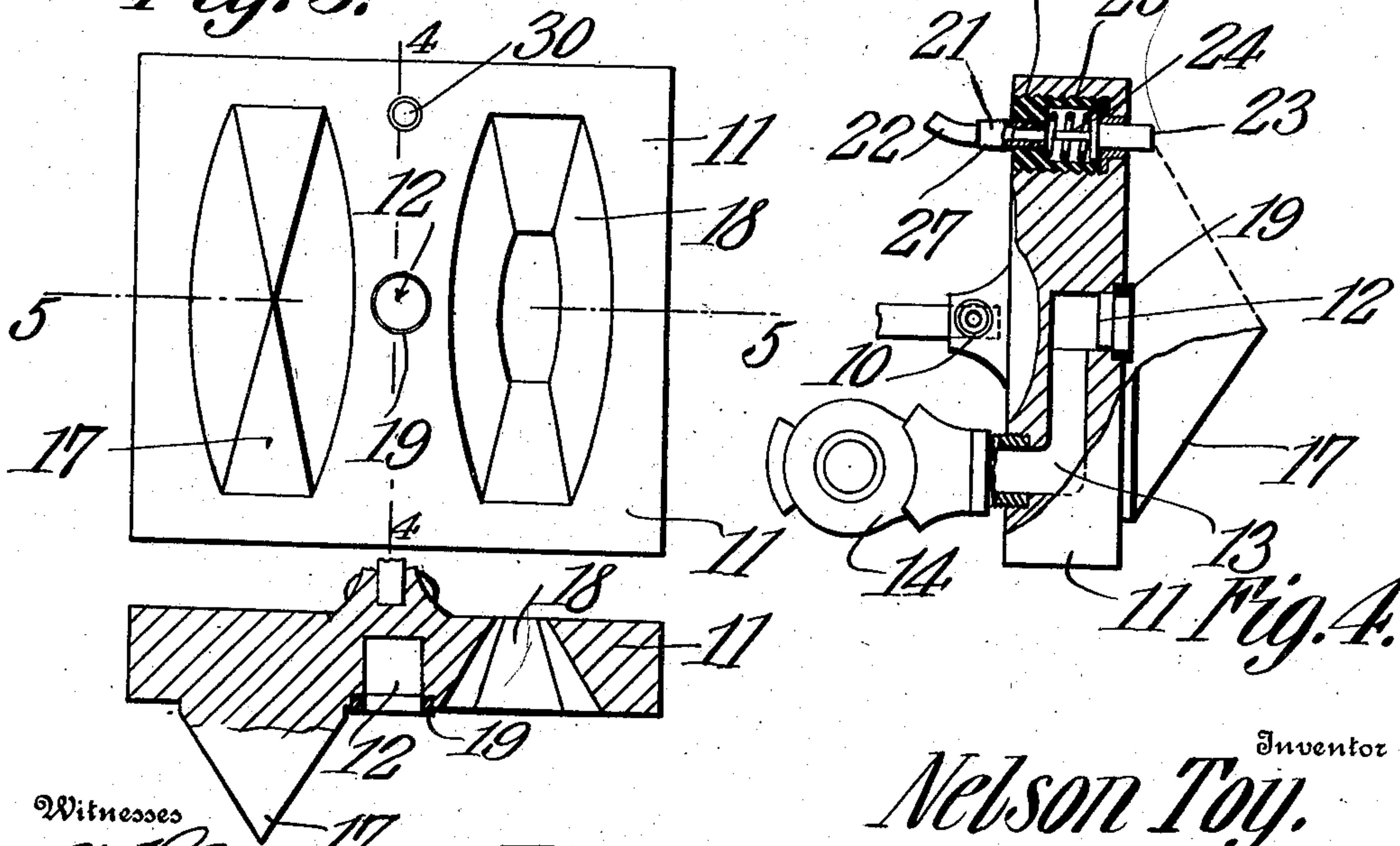


Fig. 4.

Witnesses

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Fig. 5.

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UNITED STATES PATENT OFFICE.

NELSON TOY, OF WEIR, KANSAS.

AUTOMATIC AIR-HOSE COUPLING.

No. 900,132.

Specification of Letters Patent.

Patented Oct. 6, 1908.

Application filed April 7, 1908. Serial No. 425,722.

To all whom it may concern:

Be it known that I, NELSON TOY, a citizen of the United States, residing at Weir city, in the county of Cherokee and State of Kansas, have invented a new and useful Automatic Air-Hose Coupler, of which the following is a specification.

This invention relates to automatic train pipe couplers and has for its object to provide a strong, durable and thoroughly efficient device of this character for automatically connecting the train pipes of adjacent cars when said cars are coupled.

A further object of the invention is to provide a coupling head having means for attachment to the usual hose coupling so that the device may be used on freight or passenger cars without the necessity of making any change in the construction of either the car or train pipe.

A further object is to provide improved means for guiding the coupling heads as the cars come together and means for yieldably supporting said heads in operative position below the platform of the cars.

A further object is to provide means carried by the coupling heads for connecting the electric conductors of adjacent cars so that telegraphic or telephonic communication may be established between the several cars of the train.

A still further object of the invention is generally to improve this class of devices so as to increase their utility, durability and efficiency.

Further objects and advantages will appear in the following description, it being understood that various changes in form, proportions and minor details of construction may be resorted to within the scope of the appended claims.

In the accompanying drawings forming a part of this specification: Figure 1 is a side elevation of an automatic train pipe coupler constructed in accordance with my invention showing the same in operative or coupled position. Fig. 2 is an enlarged side elevation showing the heads in position to be coupled. Fig. 3 is a plan view of one of the coupling heads. Fig. 4 is a vertical sectional view taken on the line 4—4 of Fig. 3. Fig. 5 is a transverse sectional view taken on the line 5—5 of Fig. 3.

Similar numerals of reference indicate cor-

responding parts in all of the figures of the drawings.

The improved train pipe coupling forming the subject matter of the present invention may be used on freight cars, passenger cars and other rail-way rolling stock and by way of illustration is shown attached to a freight car of the ordinary construction in which 5 designates the platform of the car and 6 the draft head or coupling, preferably of the Janney type and adapted to engage the mating coupling 7 on the adjacent car, as shown.

As the couplings on both cars are similar in construction, a detailed description of one of said couplings will suffice.

Depending from the draft coupling 6 at the reduced end thereof is an arm or bracket 8 to the free end of which is rigidly secured in any suitable manner one end of a heavy coiled spring 9, the opposite end of which is seated in a recessed extension 10 on the adjacent fluid pressure coupling head 11. The coupling head 11 is preferably rectangular in shape, as shown, and is provided with a centrally disposed opening 12 having a passage 13 communicating therewith and opening through the rear face of the coupling head. Threaded in the walls of the passage 13 is one of the members 14 of a hose coupling of the ordinary construction, said member being adapted to engage a mating member 15 secured to the free end of the train pipe 16.

Extending laterally from the face of the coupling head 11 is a pyramidal shaped projection 17 adapted to enter a correspondingly shaped recess 18 formed in the head of a mating coupling when said heads are united, there being a rubber gasket 19 surrounding the opening 12 so as to prevent leakage of fluid when the heads are coupled.

Attention is here called to the fact that the springs 9 support the coupling heads 11 in proper position beneath the draft devices 6 and 7, said springs serving to receive the impact of the coupling heads and also serving to maintain the gaskets 19 in contact with each other and thus effectually prevent leakage of the operating fluid. It will also be noted that by making the couplings 14 and 15 of the usual type the train pipe of one car may be connected with the train pipe of a mating car when said mating car is not equipped with a coupling head constructed in accordance with this invention.

As a means for establishing telegraphic and telephonic communication between the several cars of a train, each head is provided with a socket having an insulating sleeve or
5 bushing 20 threaded therein and pierced at one end by a metallic sleeve 21 to which is secured the adjacent terminal of the electric conductor 22, the latter being extended beneath the car in the usual manner, as shown.
10 Slidably mounted within the sleeve 20 is a contact pin 23 having a reduced extension 24 adapted to contact with the metallic sleeve 21 when the cars are coupled thereby to complete the circuit. Interposed between
15 the rear end of the sleeve 20 and an annular collar on the contact pin 23 is a coiled spring 25 which serves to normally and yieldably support the free end of the contact pin in position to be engaged by the contact pin on
20 the coupling head of a mating car. It will thus be seen that when the cars are coupled the projection 17 on one of the coupling heads will enter the socket 18 in the coupling head of the adjacent car and in doing so will
25 press the gaskets 19 in contact with each other so as to permit the flow of fluid from the train pipe of one car to the train pipe of the next car.

As the cars are coupled the contact pin 23
30 on one coupling head will engage the contact pin on the mating head and automatically move the extensions 25 of both pins in engagement with the sleeves 21 so as to complete the circuit and permit telephonic communication between the several cars of the
35 train. When the cars are uncoupled the spring 25 will automatically project the free ends of the contact pins 23 beyond the adjacent faces of the coupling heads and in position to again close the circuit when the cars
40 are coupled.

While it is preferred to form each coupling head with the passage 13 extending vertically from the opening 12 for connection with the
45 coupling 14 it is obvious that the coupling may be connected directly with the opening 12 without departing from the spirit of the invention.

From the foregoing description it is
50 thought that the construction and operation of the device will be readily understood by those skilled in the art and further description thereof is deemed unnecessary.

Having thus described the invention what is claimed is:

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1. The combination with a car including a train pipe, a bracket depending from the car, a spring having one end thereof secured to the bracket, a main coupling head secured to the opposite end of the spring and provided
60 with an auxiliary coupling head for connection with the train pipe, and a pyramidal shaped projection carried by the main coupling head and adapted to enter a correspondingly shaped recess formed in an adjacent
65 main coupling head when said heads are united.

2. The combination with a car including a train pipe, a bracket depending from the car, a coupling head provided with a fluid pas-
70 sage for connection with the train pipe, there being a socket formed in the rear face of the coupling head, a coiled spring secured to the bracket and seated in said socket, and a projection extending laterally from the face of
75 the coupling head and adapted to enter a correspondingly shaped recess formed in a mating coupling head when said heads are coupled.

3. The combination with a car including a
80 train pipe, a bracket depending from the car, a coiled spring carried by the bracket, a main coupling head secured to the coiled spring and provided with a fluid passage opening through the rear of the coupling head, an
85 auxiliary coupling head secured to the rear face of the main coupling head at the mouth of said passage for engagement with the train pipe, a gasket countersunk in the front face of the main coupling head and surrounding the walls of said passage, there being a
90 recess piercing the main coupling head on one side of the gasket and having its walls converging towards the rear face of said head, and a pyramidal shaped projection dis-
95 posed in spaced relation to the recess in said head and adapted to enter the recess in a mating main coupling head when said coupling heads are brought together.

In testimony that I claim the foregoing as
100 my own, I have hereto affixed my signature in the presence of two witnesses.

NELSON TOY.

Witnesses:

A. W. RAY,
FRANK WHITE.