No. 682,882. Patented Sept. 17, 1901.

O. A. NESS.

AIR BRAKE COUPLING.

(Application filed Jan. 11, 1901.)

(No Model.) 2 Sheets—Sheet 1.

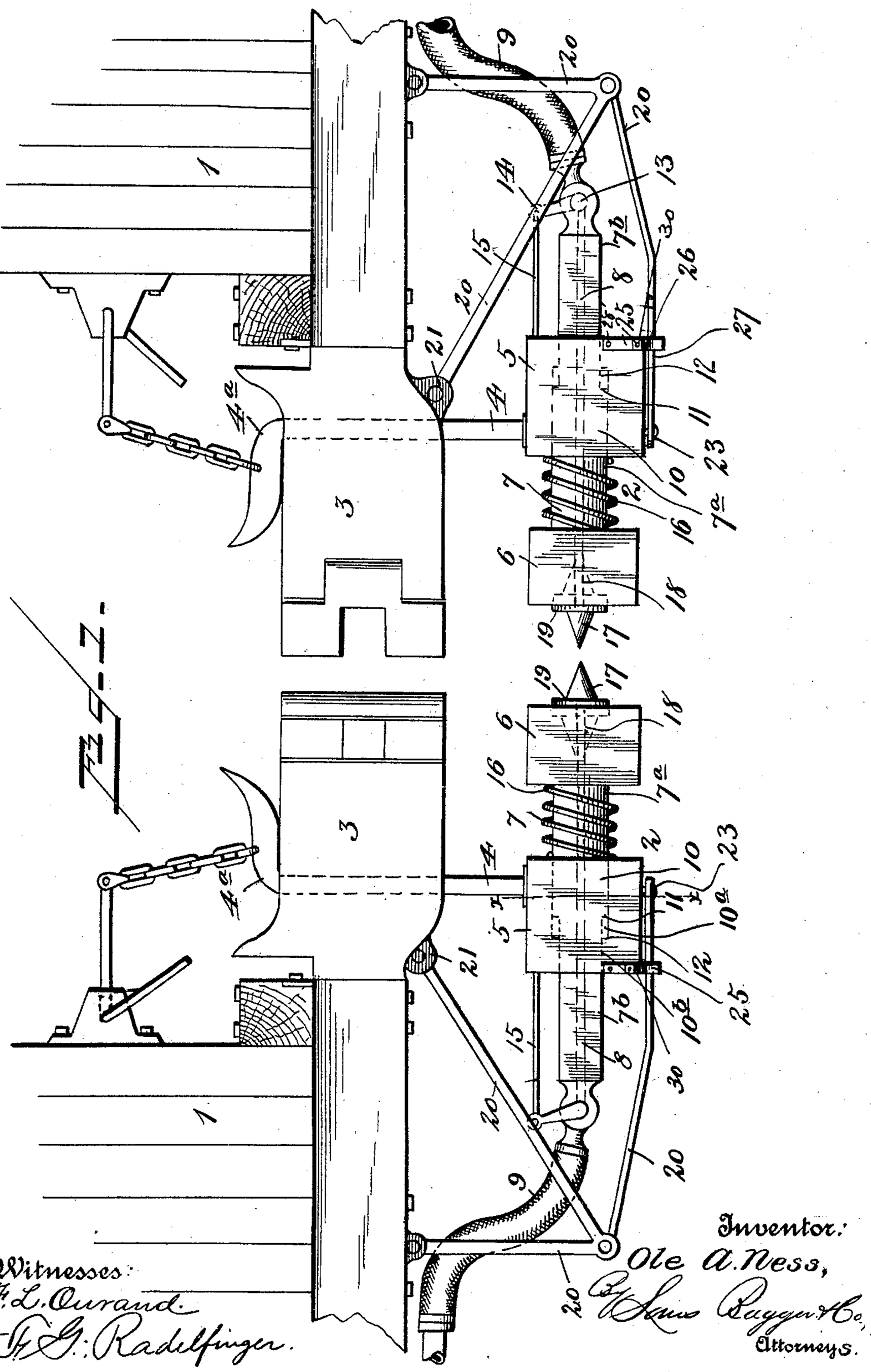

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Fig. 2.

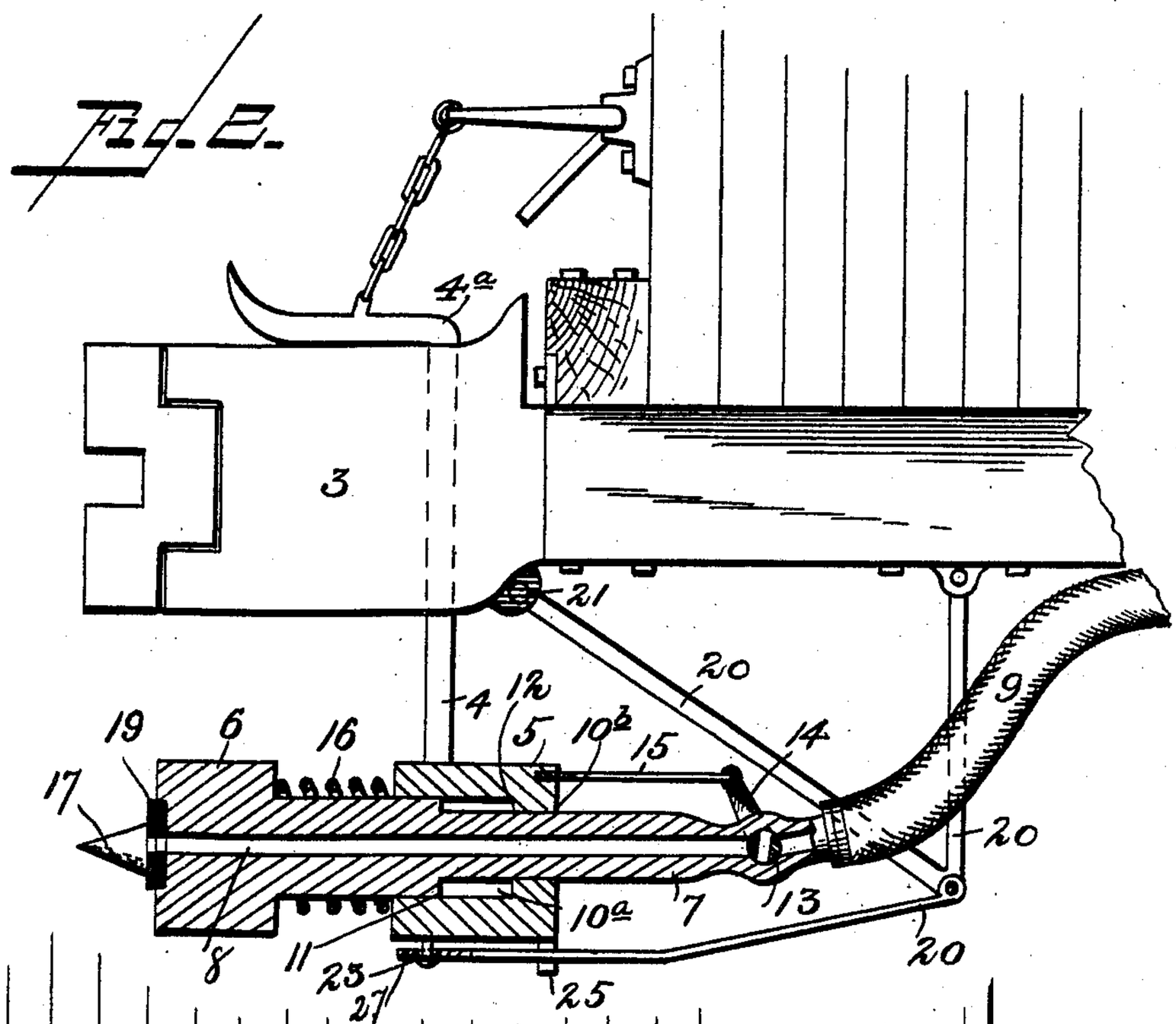


Fig. 3.

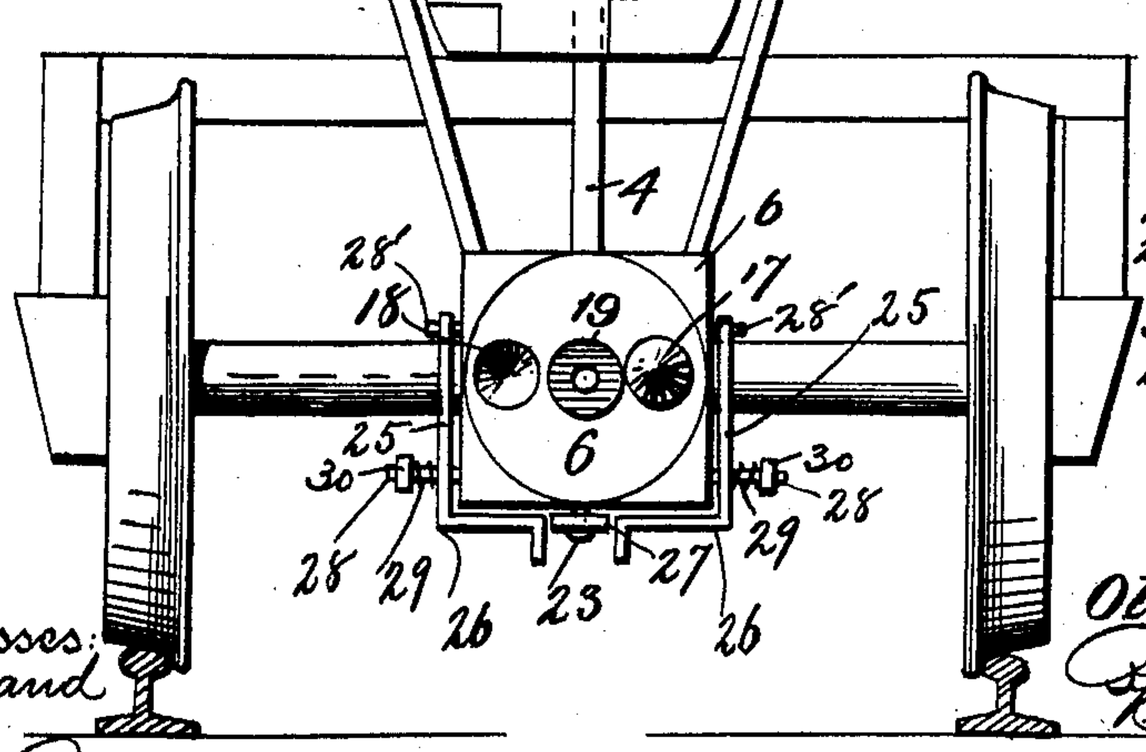
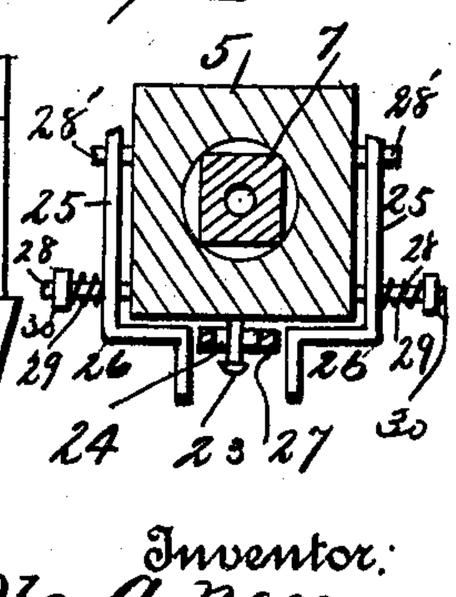


Fig. 4.



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UNITED STATES PATENT OFFICE.

OLE ANDREW NESS, OF ZUMBROTA, MINNESOTA.

AIR-BRAKE COUPLING.

SPECIFICATION forming part of Letters Patent No. 682,882, dated September 17, 1901.

Application filed January 11, 1901. Serial No. 42,907. (No model.)

To all whom it may concern:

Be it known that I, OLE ANDREW NESS, a citizen of the United States, residing at Zumbrota, in the county of Goodhue and State of Minnesota, have invented new and useful Improvements in Air-Brake Couplings, of which the following is a specification.

My invention relates to air-brake couplings; and the object of the same is to produce a device of this character which will be simple in construction and efficient in operation, one which will not be injured by the cars pulling apart, but at the same time will be air-tight and perfectly automatic and not requiring to be coupled by hand.

With this end in view I have designed the simple and novel construction which is fully described in this specification and claimed, and illustrated in the accompanying drawings, forming a part thereof, in which—

Figure 1 is a side elevation of my complete device attached to two cars, which are shown in fragment. Fig. 2 is a longitudinal section of one member of the coupling. Fig. 3 is a front elevation of the same. Fig. 4 is a transverse vertical section on the line *x x*, Fig. 1.

Like numerals of reference designate like parts in the different views of the drawings.

The two members of my coupling are counterparts of one another. Therefore the detailed description will be confined to one. The numeral 1 designates cars each equipped with a member 2 of my coupling. These cars have an ordinary form of coupling 3, which provides supporting means for the members 2, which are connected thereto by a hanger-arm 4. The arm 4 is bent over at 4^a to engage the coupling 3 and extends down and is rigidly attached to a frame or sleeve 5, which supports the members 2. Each member of the coupler consists of an apertured head 6, fitted on the end of a shank 7, comprising a large cylinder 7^a and a smaller squared portion 7^b, both traversed by a bore 8, which establishes communication between the head and a hose-pipe 9. The aperture 10 in the sleeve 5 is made of two sections 10^a and 10^b to correspond with the contour of the shank 7, thereby leaving it free to slide until shoulders 11 and 12 contact. A valve 13, which has a handle 14, is seated in the rear of the shank 7 and is connected by a rod 15 with the sleeve 5. By this arrangement the valve is automatically opened and closed by the bumping together or pulling apart of the cars 1 and the air turned off or on, as it requires. To hold the shoulders 11 and 12 normally out of contact, and thus permit the heads to move backward several inches when the cars bump together, a spiral spring 16 is mounted on the shank 7, with its ends bearing against the sleeve 5 and the head 6. Air-tight connection is made between the heads 6 by means of a conical projection 17 on each of the heads, which fits a conical recess 18 on the opposite head, and rubber gaskets 19, seated in the outer faces and surrounding the mouths of the bores 8. The conical projections 17, in combination with the corresponding recesses, form guides, and thus permit the coupling to be made by bumping the cars together.

In order to make the mounting of the coupler more secure, and thereby obviate the danger of the breaking of the arm 4, truss-braces 20 are provided, which braces are connected to the coupling 3 at 21 and to the sleeve 5 by means of a stud 23, engaging a slot 24. Arms 25 are secured one to each side of the sleeve by pins 28′, are bent at right angles at 26, and embrace the end 27 of the brace. Pins 28 are footed in the side of the sleeve 5 and project through the arms 25 and spiral springs 29, surrounding them, which springs bear against nuts 30 at one end and against the arms 25 at the other. By this combination latitude is given for a sidewise movement of the heads 6 in rounding a curve.

The act of uniting the two members 2 together is performed simultaneously with the coupling of the cars, which action will cause the heads 6 to contact and the cones to enter the recesses, the springs to retract until the shoulders 11 and 12 abut, and the valve 13 to be opened through the agency of the rod 15.

I do not wish to be limited as to details of construction, as these may be modified in many particulars without departing from the spirit of my invention.

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

In a coupling member, the combination, of a sleeve rigidly supported, a longitudinally-apertured shank slidingly mounted in said

sleeve, stops to limit the rearward movement of said shank, an apertured head formed integral with said shank, a spring surrounding said shank and bearing at one end against said sleeve and at the other end against said head, a valve mounted in the said aperture in said shank and arranged to close it, and a rod connecting said sleeve and said valve, guides formed on said head, and a washer seated in said head and surrounding the outer end of the said aperture therein.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

OLE ANDREW NESS.

Witnesses:
J. H. STEUERSEN,
E. F. DAVIS.