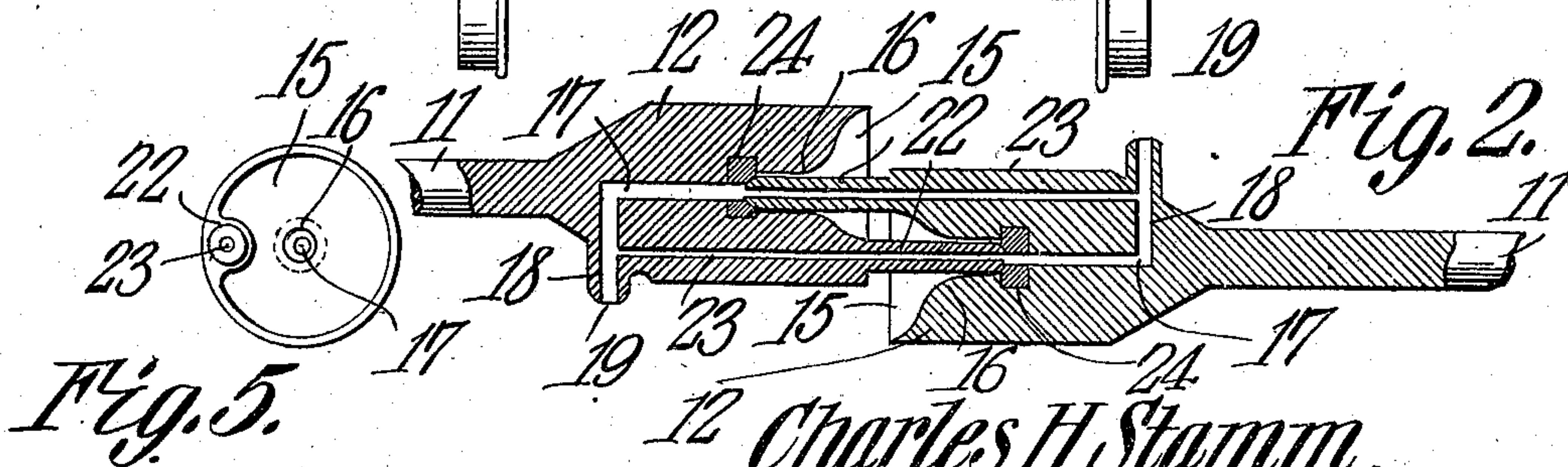
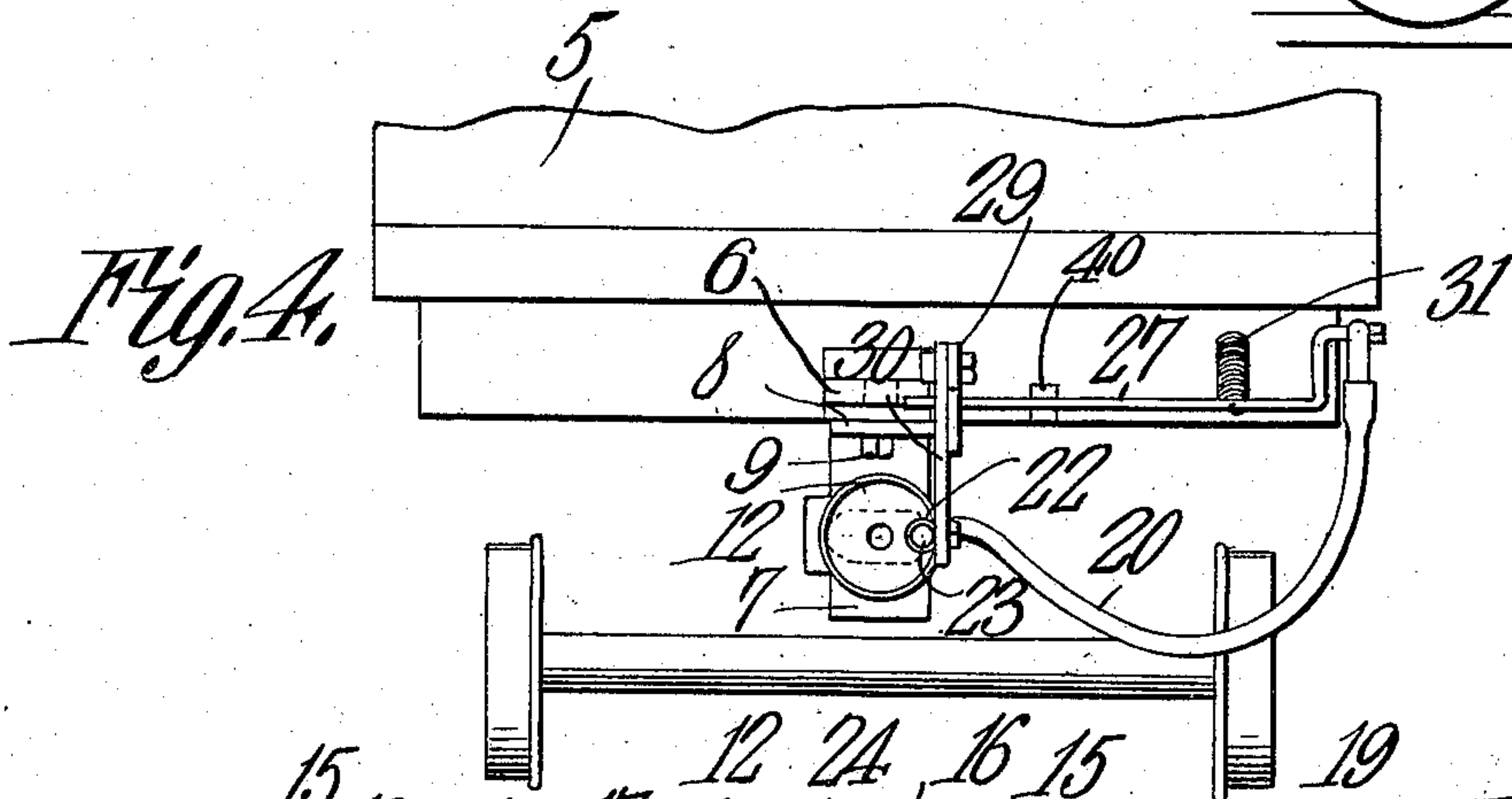
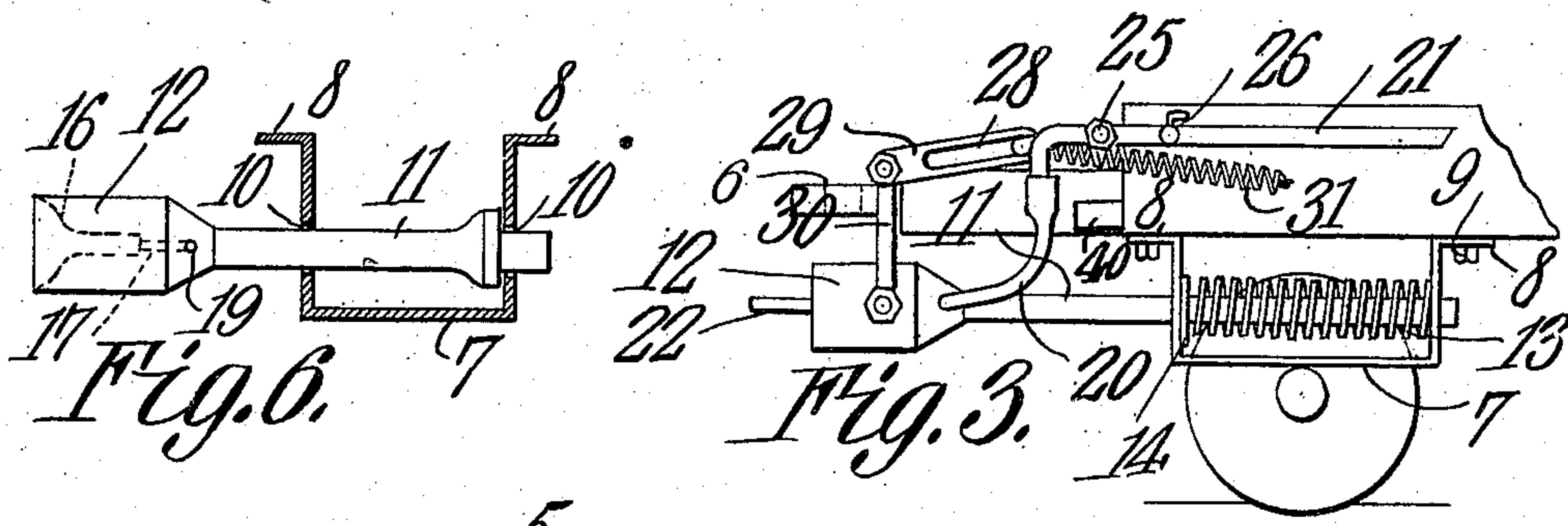
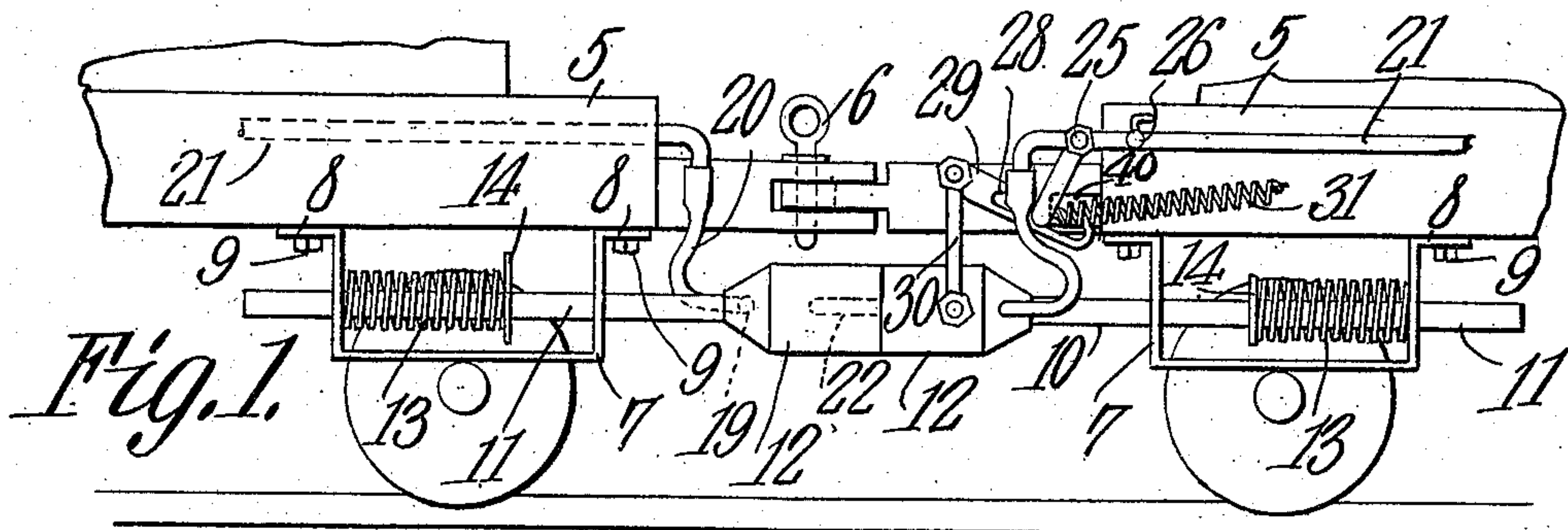


No. 881,632.

PATENTED MAR. 10, 1908.

C. H. STAMM.
AUTOMATIC TRAIN PIPE COUPLING.

APPLICATION FILED APR. 20, 1907.



WITNESSES:

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AUTOMATIC TRAIN-PIPE COUPLING.

No. 881,632.

Specification of Letters Patent.

Patented March 10, 1908.

Application filed April 20, 1907. Serial No. 369,310.

To all whom it may concern:

Be it known that I, CHARLES H. STAMM, a citizen of the United States, residing at Kokomo, in the county of Howard and State of Indiana, have invented a new and useful Automatic Train-Pipe Coupler, of which the following is a specification.

This invention relates to air-brake couplings for passenger cars, freight cars and other rail-way rolling stock and has for its object to provide improved means for automatically coupling the air-brake connections of adjacent cars when the latter come together and for automatically cutting off the flow of air when the cars are uncoupled.

A further object of the invention is to provide an air-brake coupling which may be used in connection with passenger or freight cars without the necessity of making any material alteration in the construction of the same and which will permit the coupling of the air-brake connections of adjacent cars when the latter are standing on curves or sidings.

A still further object of the invention is to generally 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 air-brake coupling constructed in accordance with my invention showing the coupling heads in operative or coupled position. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a side elevation of one of the coupling heads showing the same in inoperative position. Fig. 4 is a front elevation of Fig. 2. Fig. 5 is an end view of one of the coupling heads. Fig. 6 is a side elevation showing the form of coupling used on a locomotive or tender.

Similar numerals of reference indicate corresponding parts in all of the figures of the drawings.

The improved air-brake coupling forming the subject matter of the present invention is especially designed for use on passenger cars, freight cars and other railway rolling stock and by way of illustration is shown attached

to a car of the ordinary construction in which 5 designates the cars connected by a coupling 6 of any approved or preferred form.

Secured to the bed of the car 5 is a depending bracket 7 preferably angular in shape and provided with laterally extending attaching lugs 8 which are secured to the car by bolts or similar fastening devices 9.

The opposite ends of the bracket 7 are provided with alined openings 10 in which is mounted for longitudinal movement a draw-bar 11 one end of which terminates in a coupling head 12. The coupling head 12 is normally supported in extended position by means of a coiled spring 13 one end of which bears against the adjacent end of the bracket 7 while the opposite end thereof engages a sleeve or collar 14 secured to the draw-bar 11, as shown.

One of the openings 10, preferably the forward opening, is slightly elongated so as to permit a limited lateral movement of the draw-bar and coupling head when coupling cars on sidings or curves.

The coupling head 12 is provided with a dish or concave face 15 pierced by a longitudinal socket or guiding recess 16 which latter communicates with an interior chamber or compartment 17 formed in the body of the coupling head, as shown. Communicating with the rear portion of the chamber 17 is a fluid passage 18 which opens through one side of the coupling head and is provided with a terminal nipple 19 for connection with a flexible hose section 20. The hose section 20 is connected with the usual train pipe 21 which latter extends the entire length of the car for attachment to a similar hose section on a coupling at the opposite end of the car.

One side of the coupling head 12 is formed with a longitudinal extension 22 adapted to enter the guide recess or socket 16 in an adjacent coupling head when two of said cars are coupled, thereby to permit the air to flow through the passage 18 and chamber 17 of one coupling into the longitudinal passage 23 of the extension 22 of the mating coupling and thence off through the passage 18 of the latter coupling to the train pipe thus establishing a source of communication between the train pipes of adjacent cars.

Seated in the chamber 17 of the coupling head is a gasket 24 preferably formed of rubber or similar material which bears against the end of the adjacent extensions 22 so as to

form an air tight joint between the coupling head of one car and the extension of the coupling of an adjacent car.

Arranged in the train pipe 21 is a main valve 25 for controlling the flow of air from the train pipe of one car to the train pipe of an adjacent car, there being an auxiliary valve 26 spaced from the main valve 25 for the purpose of controlling the flow of air through the train pipe when the cars are coupled or should it for any reason be found desirable to entirely cut off the flow of air to the rear car without the necessity of detaching the coupling heads.

As a means for automatically actuating the main valve 25, the latter is provided with a laterally extending rod or arm 27 which extends through the elongated slot 28 of a link 29. The link 29 is pivotally connected with a standard 30 secured to and extending vertically from one side of the coupling head 12 and which serves to hold the main valve 25 in closed position when the cars are uncoupled.

Secured to the arm or rod 27 is one end of a coiled spring 31 the opposite end of which is secured in any suitable manner to the adjacent end of the car so that when the pressure exerted by the link 29 is released the spring will automatically move the valve to open position and permit the flow of air through the train pipe.

It will thus be seen that when the coupling heads are brought together in the act of coupling the cars the extension 22 of one coupling head will enter the socket 16 of the coupling head of an adjacent car so as to connect the train pipes of both cars. As the coupling heads come together the impact of the cars will force the coupling heads longitudinally of the cars against the tension of the springs 13 and thus cause the link 29 to slide freely over the arm or extension 27 of the main valve thereby permitting the spring 31 to move the valve to the open position shown in Fig. 1 of the drawings.

When the cars are uncoupled the spring 31 will automatically move the coupling heads 12 to extended or inoperative position and through the medium of the link 29 move the main valve to closed position as best shown in Fig. 3 of the drawings.

A yieldable bumper preferably in the form of a rubber disk or block 40 is preferably secured to the rear end of the car to receive the impact of the valve arm when the latter is moved to open position.

In Fig. 6 of the drawings there is illustrated a coupling head especially designed for use on locomotives and coal tenders. In this form of the coupler the coiled spring 13 is dispensed with, the spring of the coupler of the adjacent car being deemed sufficient to receive and absorb the impact when coupling the locomotive to the car.

From the foregoing description it is 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:

1. The combination with a coupling head having a socket formed therein and provided with a tubular extension adapted to engage the socket of a mating head when two of said couplings are united, a fluid conducting pipe operatively connected with the coupling head, a valve for controlling the flow of fluid from the pipe to the coupling head and provided with a laterally extending arm, a standard secured to the coupling head, and a link having one end thereof pivotally connected with the standard and its opposite end formed with an elongated slot for the reception of the free end of the valve arm.

2. The combination with a coupling head having a concave face and provided with an interior chamber, there being a socket formed in the coupling head and communicating with the chamber, a tubular extension secured to one side of the coupling head and adapted to engage the socket of an adjacent coupling when two of said coupling heads are united, a train pipe operatively connected with the chamber and the coupling head, a valve mounted in the train pipe for controlling the flow of fluid from the train pipe to the chamber, a standard secured to the coupling head, a link pivoted to the upper end of the standard and operatively connected with the valve for moving the latter to open position when the adjacent coupling heads are united, and a spring for automatically moving the valve to closed position when the coupling heads are detached.

3. The combination with a car, of a bracket secured to the bottom of the car and provided with aligned openings, a draw bar mounted for lateral movement in the openings of the bracket and provided with a terminal coupling head, a spring interposed between the bracket and draw bar for yieldably supporting the coupling head in extended position, a fluid conducting pipe operatively connected with the coupling head, a main valve for controlling the flow of fluid from the conducting pipe to the coupling head and provided with a laterally extending arm, a standard secured to the coupling head, a link pivotally connected with the upper end of the standard and having an elongated slot formed therein for the reception of the free end of the valve arm for moving the valve to open position when a longitudinal pressure is exerted on the coupling head, a spring having one end thereof secured to the arm and its opposite

end fastened to the car for automatically
moving the valve to closed position when
the pressure on the coupling head is removed,
and a buffer secured to the end of the car and
5 arranged in the path of movement of the
valve arm.

In testimony that I claim the foregoing as

my own, I have hereto affixed my signature
in the presence of two witnesses.

CHAS. H. STAMM.

Witnesses:

E. E. SPRINGER,
WM. A. MARSH.