

(No Model.)

G. A. KLAHR, J. A. PETTY & M. H. FOY.  
COMBINED CAR AND AIR BRAKE COUPLING.

No. 504,222.

Patented Aug. 29, 1893.

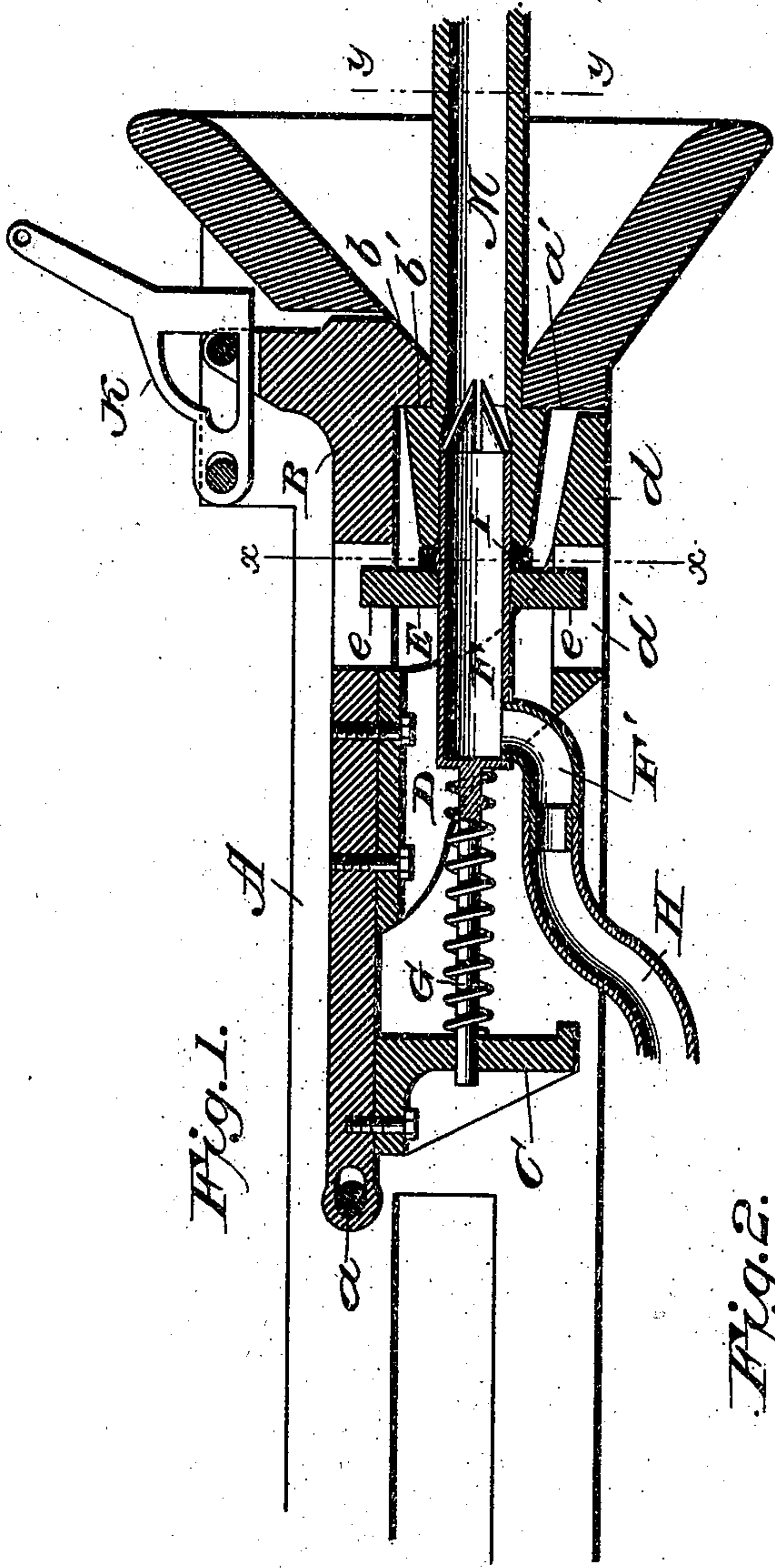


Fig. 1.

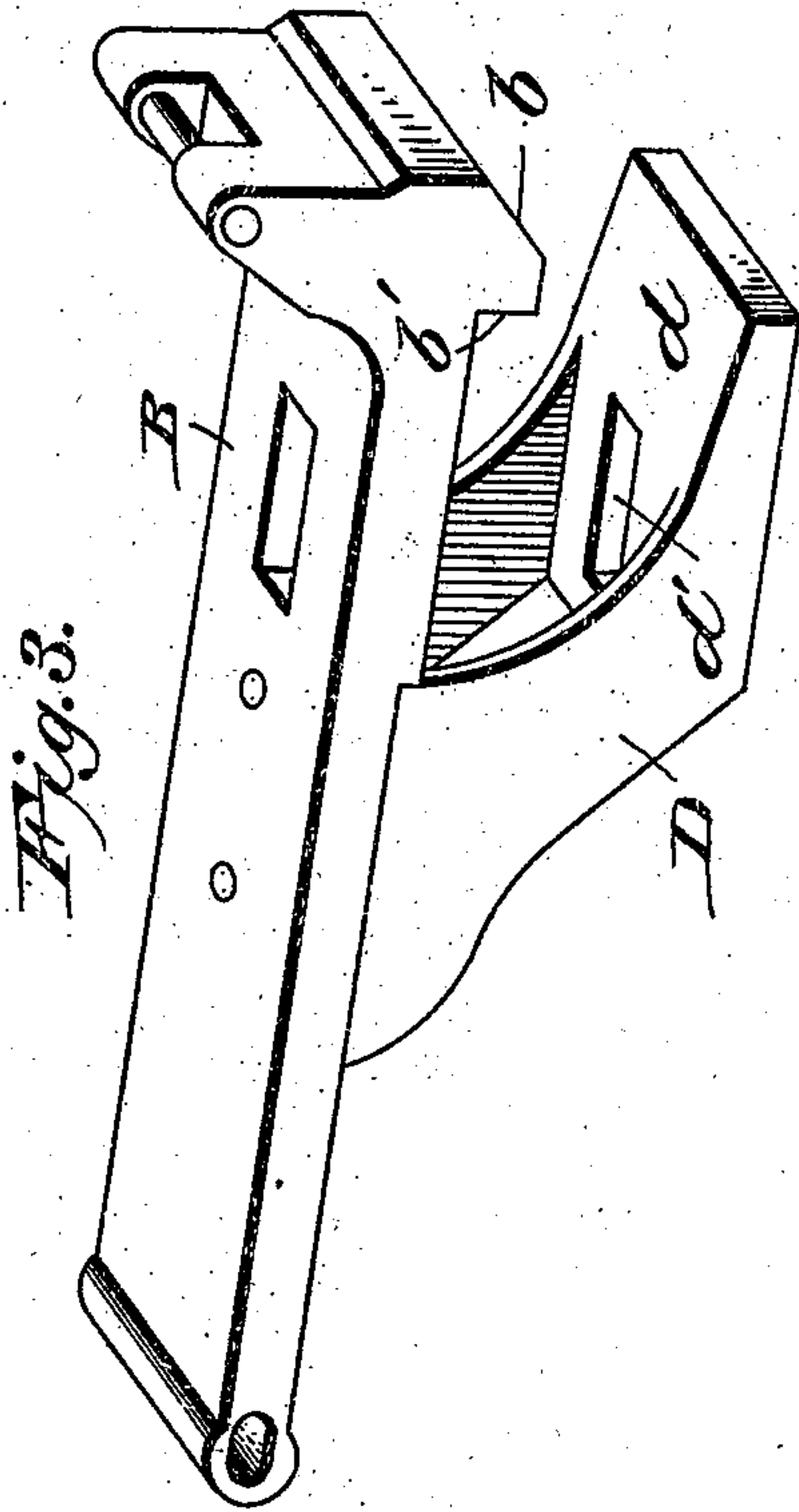


Fig. 3.

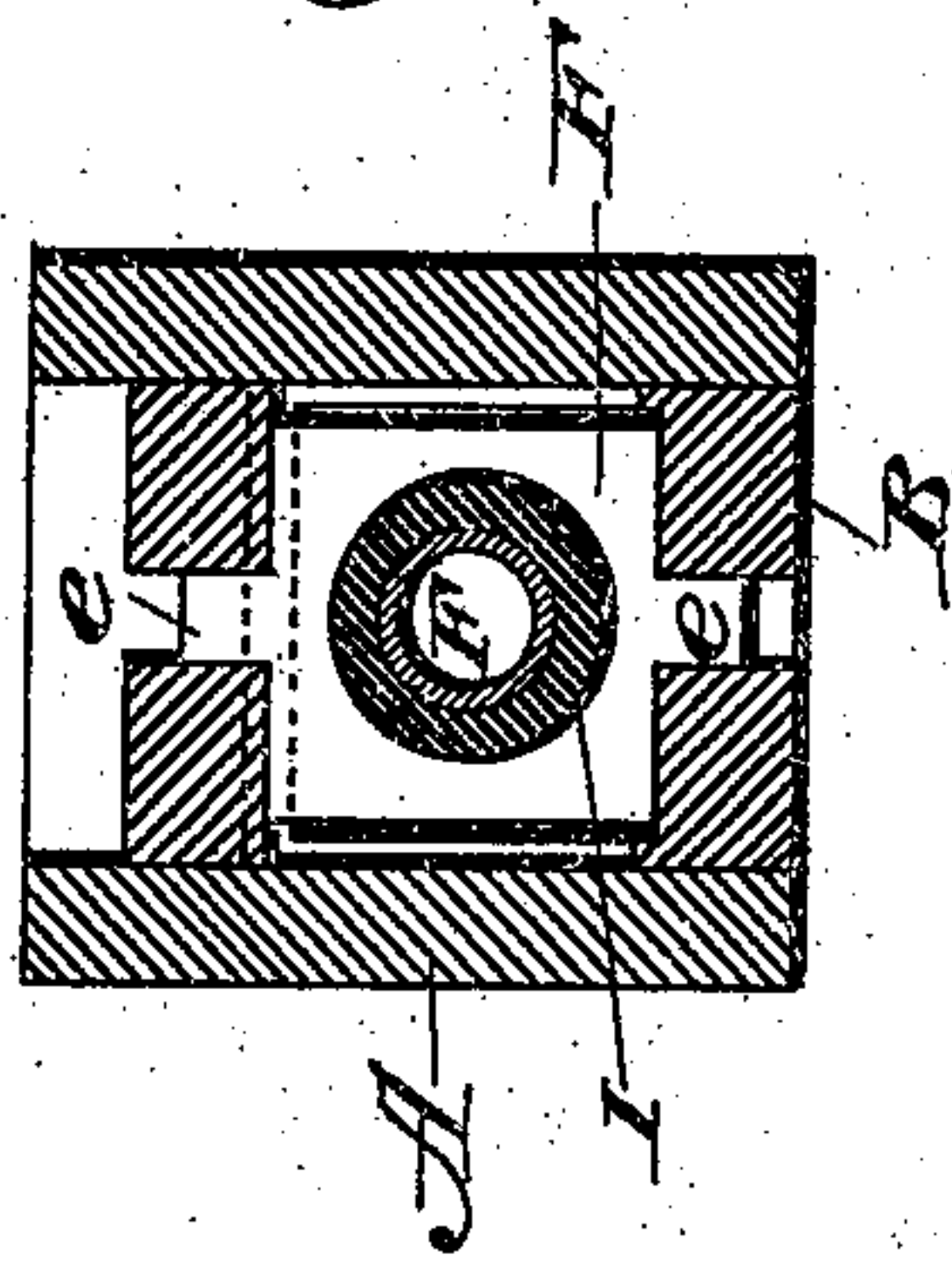


Fig. 2.

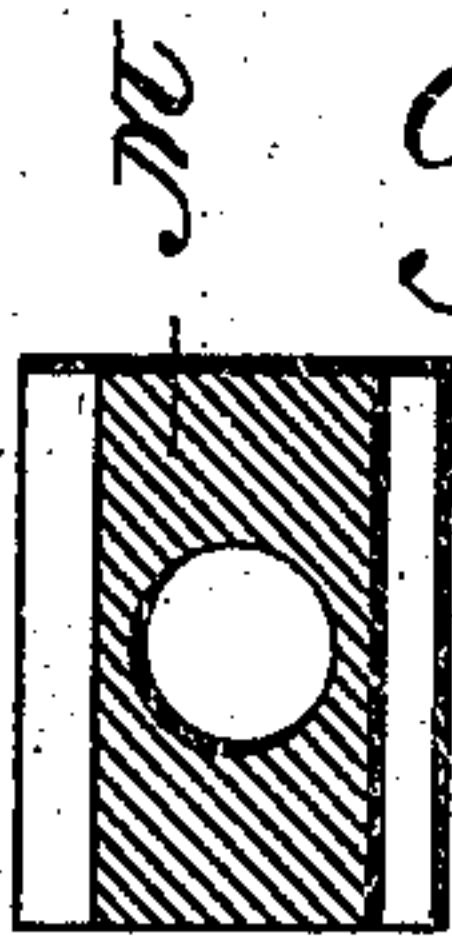


Fig. 4.

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# UNITED STATES PATENT OFFICE.

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## COMBINED CAR AND AIR-BRAKE COUPLING.

SPECIFICATION forming part of Letters Patent No. 504,222, dated August 29, 1893.

Application filed May 4, 1893. Serial No. 473,010. (No model.)

*To all whom it may concern:*

Be it known that we, GEORGE A. KLAHR, JACOB A. PETTY, and MARTIN H. FOY, citizens of the United States of America, residing at Sycamore, in the county of Wyandot and State of Ohio, have invented certain new and useful Improvements in a Combined Car and Air-Brake Coupling; and we do hereby 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in couplings for cars and air-brakes, the object of which is to provide means whereby when two cars which are similarly equipped come together the air-brake connections and the draw-heads will be automatically coupled.

The invention consists in the construction and combination of the parts, as will be hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a longitudinal sectional view. Fig. 2 is a vertical section on the line  $x-x$  of Fig. 1. Fig. 3 is a perspective view of the latch, and Fig. 4 is a sectional view of the coupling-bar, on the line  $y-y$  of Fig. 1.

A designates the draw-head, which is attached to the car in the usual manner and is provided with a flared opening or mouth serving as a guide for the coupling means. The upper part of the draw-head is cut away to receive a latch B, which is pivoted, at its rear end, to the draw-head by a bolt  $a$ , and at its forward end this latch is inclined, at  $b$ , to correspond with the inclination of the mouth of the draw-head, and in rear of said inclined portion is a shoulder  $b'$ , a corresponding shoulder,  $a'$ , being formed on the draw-head.

D designates a lift for the coupling-bar, which consists of an upper portion through which the bolts pass for securing the same to the latch and downwardly and forwardly extending side members connecting with a base  $d$  which extends to the shoulder  $a'$  of the draw-head. The lower portion of the lift is

provided with an aperture  $d'$ , and a corresponding aperture extends through the latch, these apertures receiving the projections  $e e$  on the guide-plate E, this guide-plate supporting the air-brake connections, as will be hereinafter described.

F designates a section of pipe or tubing, the forward end of which is drawn to a cone, or has attached thereto a conical cap, with an opening for the passage of air or other fluid which is used for actuating the brakes. The rear end of this pipe extends between the depending members of the lift and is provided with a rearwardly extending bar G which extends through the hanger C and is encircled by a spiral spring serving to keep the air-pipe connection normally projected. Near the rear end of the pipe section is attached a hollow elbow,  $F'$ , to which the flexible air-pipe or hose H is connected in any suitable manner, and to said pipe section is also rigidly attached the supporting or guide-plate E, which bears against the base portion of the lift D and against the under side of the latch to support the forward end of the air-pipe connection. A rubber collar or packing, I, encircles the pipe section and forms a cushion against which the coupling-bar strikes.

The latch is operated by a lever K, which is pivoted to the upper part of the draw-head and is provided with a recess in which a pin or roller carried by the latch bears, and this lever may be connected with mechanism for operating the same either from the top of the car or sides thereof.

M designates the coupling-bar, which is hollow and the ends thereof enlarged to provide end openings of increased diameter and shoulders with which the draw-heads and latches carried thereby engage to couple the cars.

In practice the air pipes are provided with the usual cut-off valves.

In operation it will be noted that the coupling is done automatically, the coupling-bar being supported in a horizontal position by one of the draw-heads, so that when the cars come together the coupling-bar will be guided into the other draw-head and the enlarged end portion of said coupling-bar will encircle the pipe or tube which is connected with the air pipe so as to force the same rearwardly,



and as the coupling-bar enters the draw-head it will raise the latch and complete the coupling. The pipe connection F when forced rearward will compress the spring so that it  
5 will hold the packing against the end of the coupling-bar and provide an air-tight joint.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

10 1. In a combined car and fluid pressure brake coupling, a hollow coupling-bar having shouldered ends, and end openings of increased diameter of a draw-head having means for engagement with the shouldered ends of  
15 the coupling-bar, and a movable pipe carried by the draw-head, one end of which is slitted and tapered so as to enter the coupling-bar, substantially as shown, and for the purpose set forth.

20 2. In a combined car and air-brake coupling, a draw-head carrying a pivoted latch to which is attached a movable pipe spring actuated in one direction, said pipe being in communication with the pipes of the air-brake  
25 mechanism, of a hollow coupling-bar constructed for engagement with the draw-head the pivoted latch and end of the pipe, substantially as shown.

3. In a combined car and air-brake coupling, a draw-head constructed substantially  
30 as shown, a latch constituting a part of the draw-head, said latch having a depending and forwardly extending support for a part of the air-brake mechanism, the forward end of the support lying in the path of the coupling-bar so that the coupling-bar will be de-  
35 tached from the draw-head when the latch is elevated.

4. In combination with a draw-head constructed substantially as shown and provided  
40 with a latch, means for supporting a pipe F carried by the latch, a plate carried by the pipe F, said plate having projections which enter apertures as shown, a washer located on the pipe against the plate, and a spring for  
45 holding the pipe F normally projected, for the purpose set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

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Witnesses:

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