

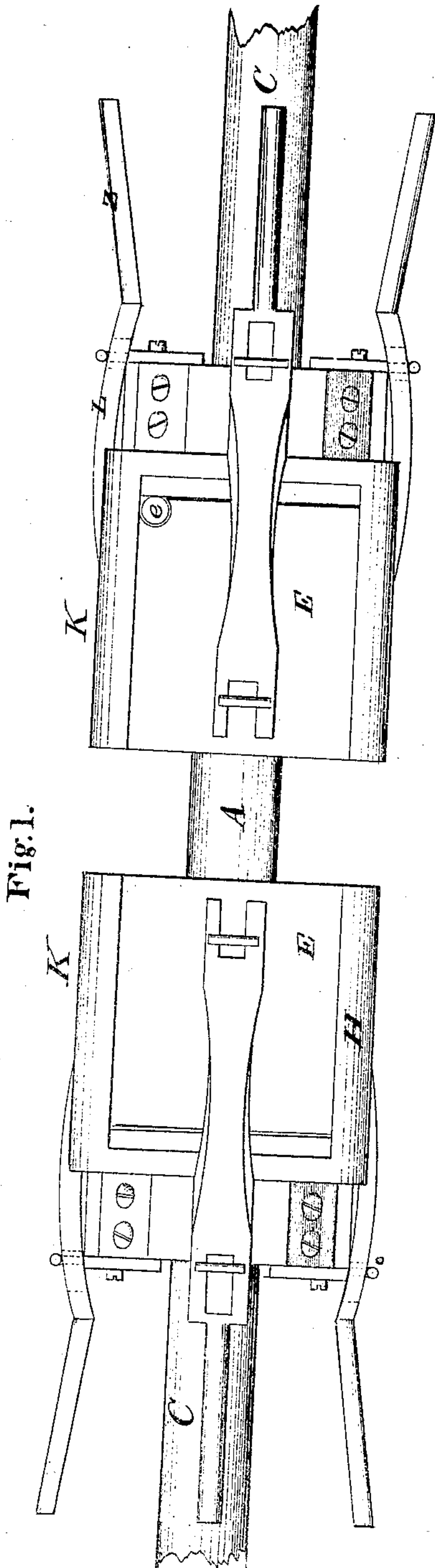
*F. R. Hunt,*

*3. Sheets. Sheet 1.*

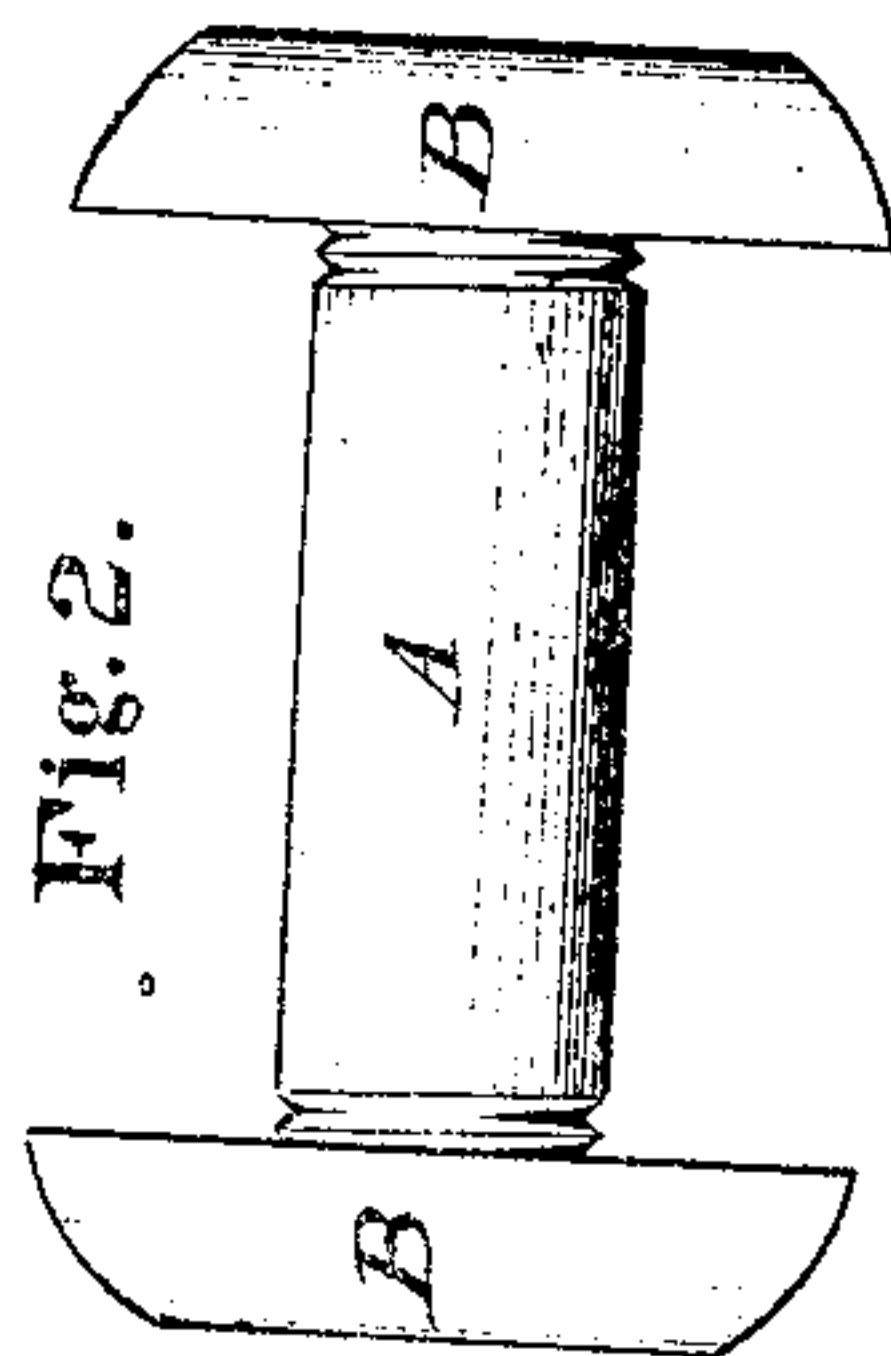
*Pipe Coupling.*

*No. 100,896.*

*Patented Mar. 15. 1870.*



*Fig. 1.*



*Fig. 2.*

*Witnesses.*

*Villette Anderson.*

*Chas. Kemper.*

*Inventor.*

*F. R. Hunt.*

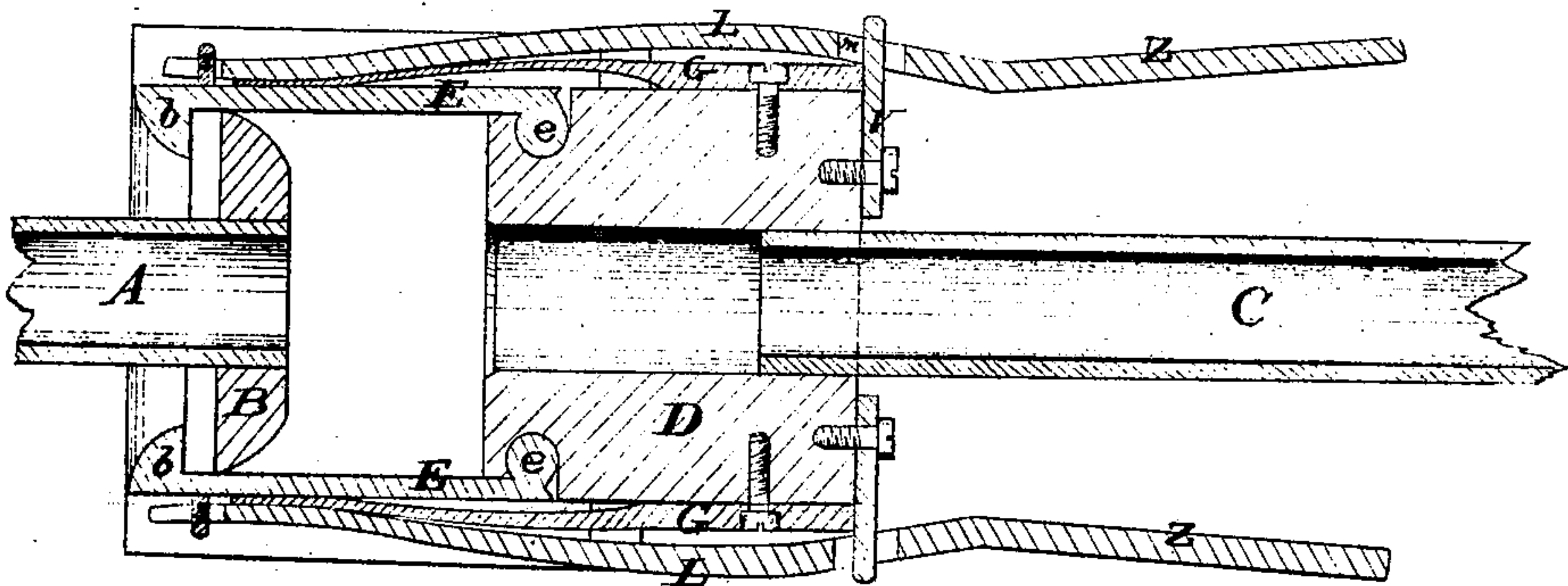
*Chipman & Hosmer & Co.*

*Attorneys.*

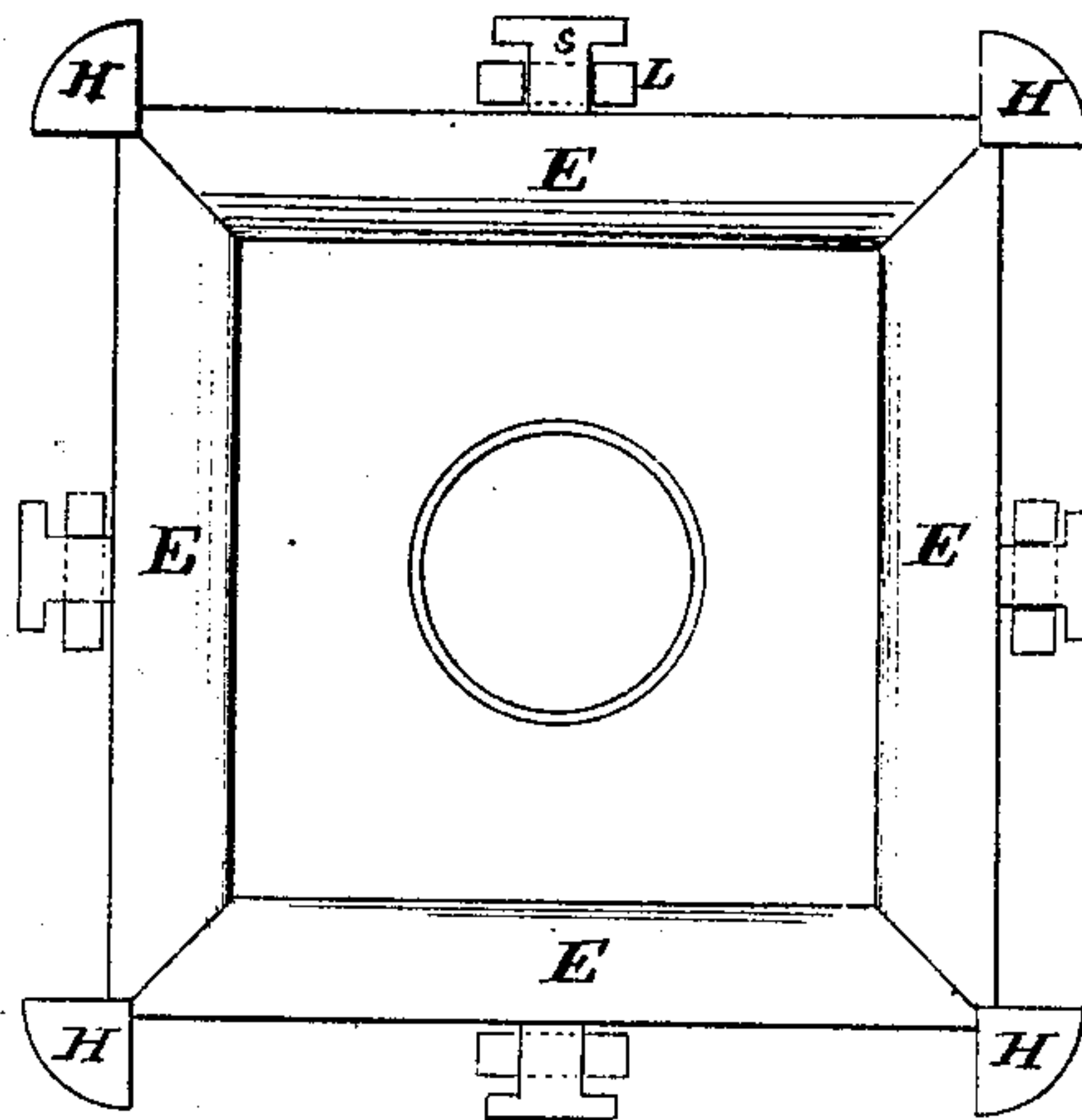
3. Sheets. Sheet 2.

*F. R. Hunt,*  
*Pipe Coupling.*  
*No. 100,896.*      *Patented Mar. 15. 1870.*

**Fig. 3.**



**Fig. 4.**



*Witnesses.*  
*Villek Anderson.*  
*Chas. Kenyon.*

*Inventor.*  
*F. R. Hunt*  
*Chipman & Co.*  
*Attorneys*

F. R. Hunt,

Pipe Coupling.

No. 100896.

Patented Mar. 15. 1870.

Fig. 5.

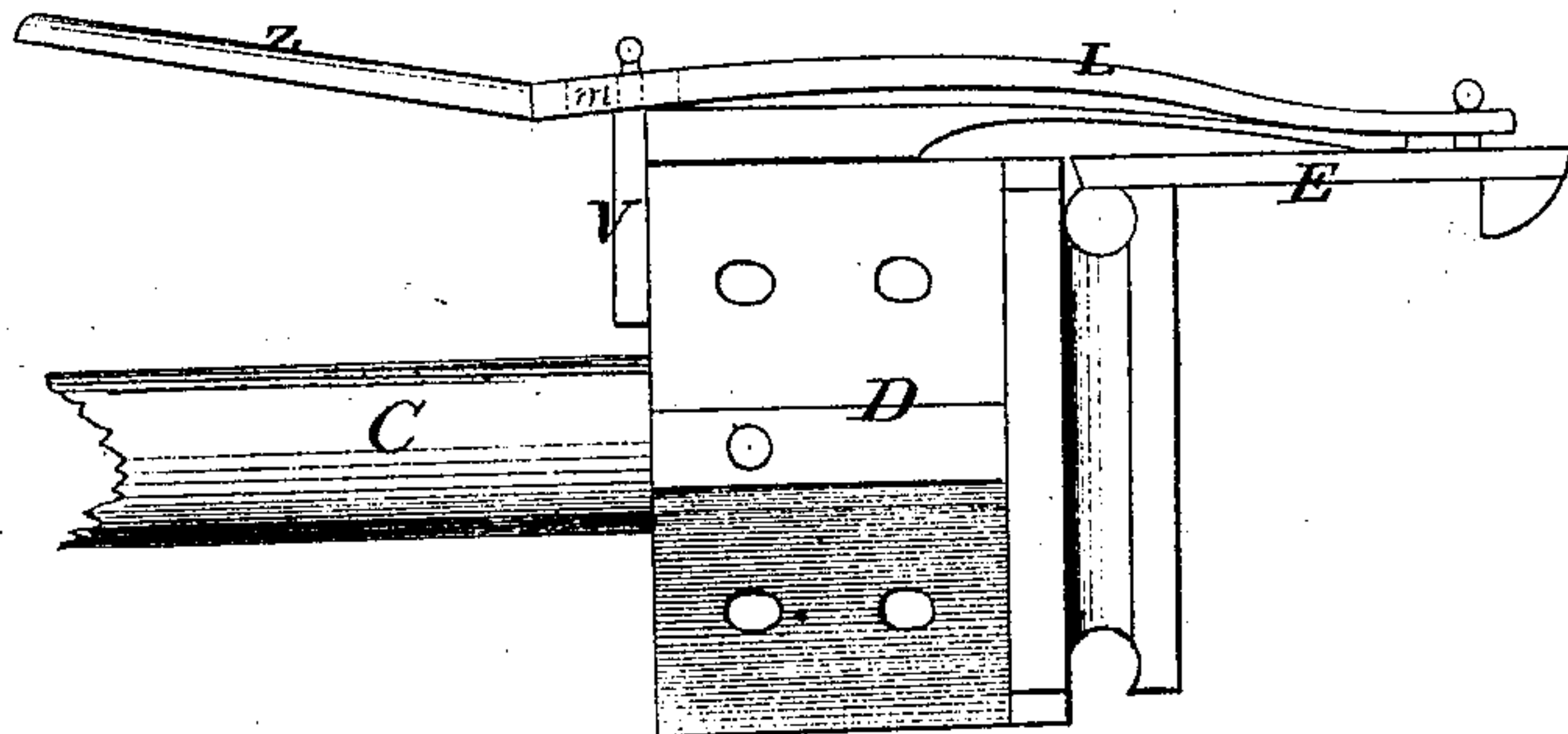


Fig. 6.

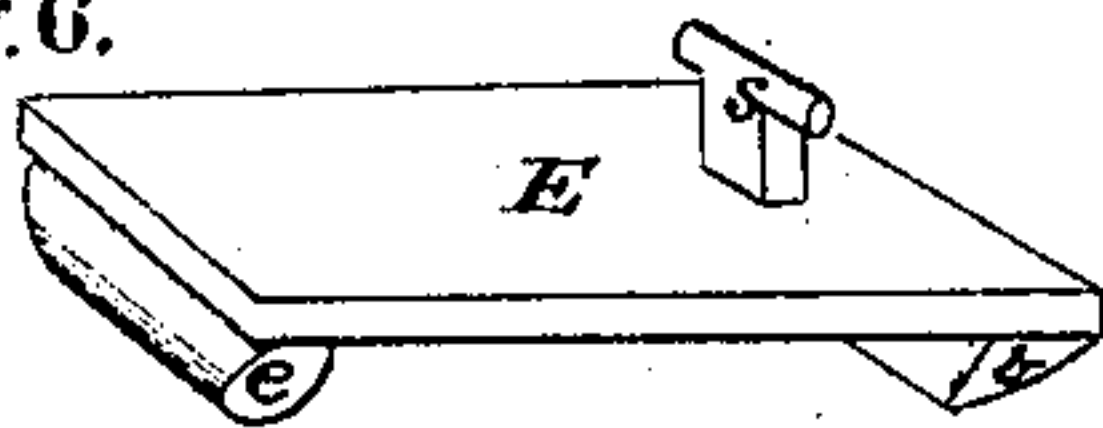


Fig. 7.

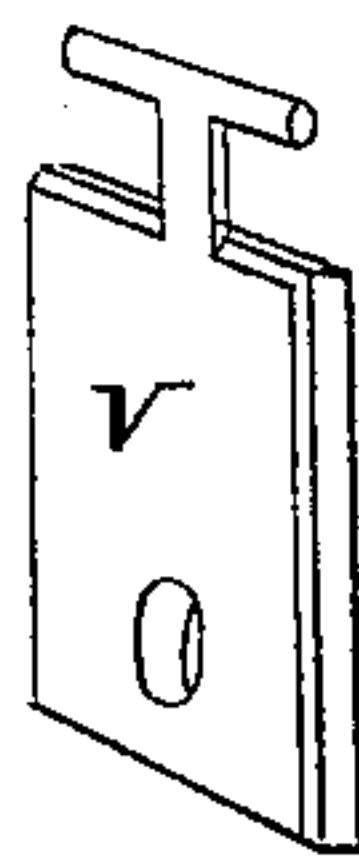


Fig. 8.

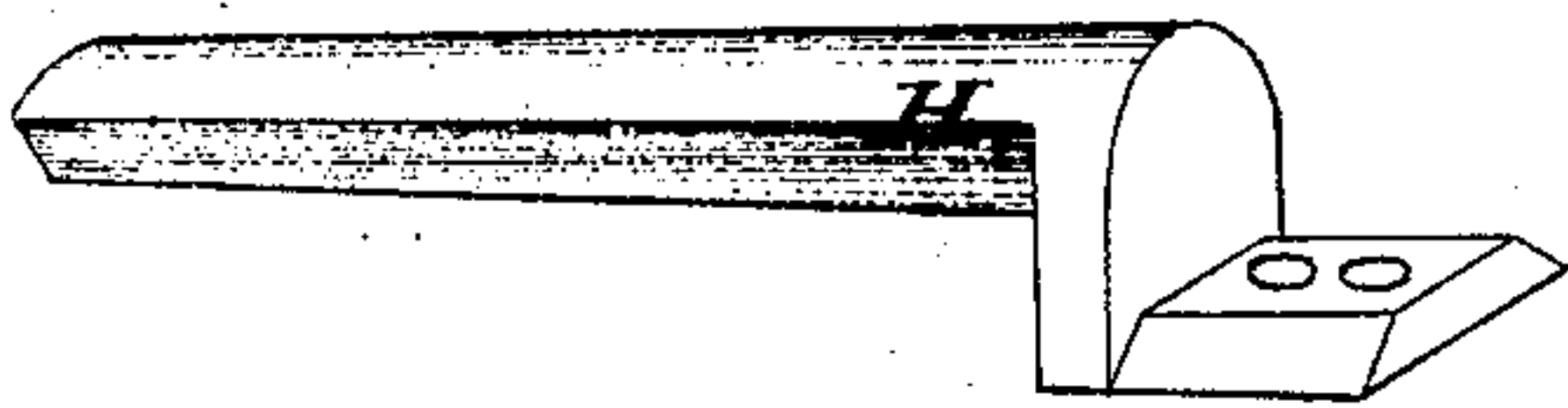


Fig. 10.

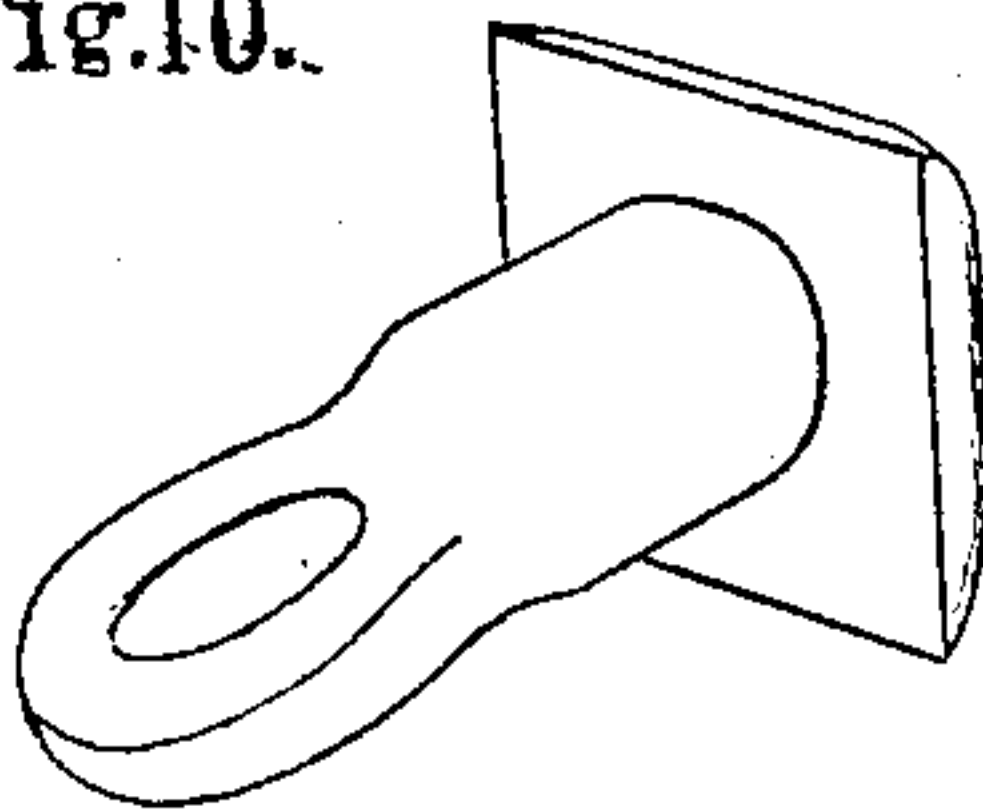
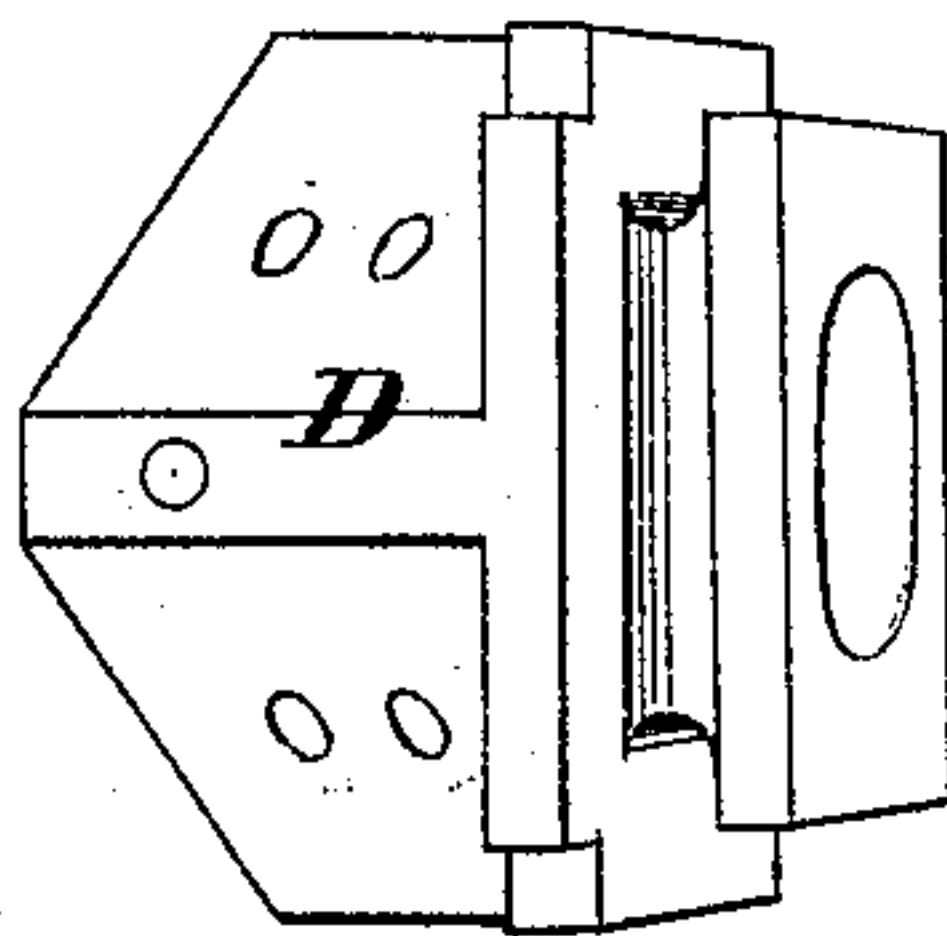


Fig. 9.



Witnesses.

Villette Anderson.  
Chas. Kenyon.

Inventor.

F. R. Hunt  
Chipman Hosmer & Co.  
Attorneys.



# United States Patent Office.

FREDERIC R. HUNT, OF LEAVENWORTH, KANSAS.

Letters Patent No. 100,896, dated March 15, 1870.

## IMPROVEMENT IN PIPE-COUPLING FOR HEATING AND VENTILATING RAILROAD CARS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, FREDERIC R. HUNT, of Leavenworth, in the county of Leavenworth, and State of Kansas, have invented a new and valuable Improvement in Apparatus for Heating and Cooling Trains of Cars; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a top view of my tubular coupling and draw-heads.

Figure 2 is a view of the coupling-pipe.

Figure 3 is a vertical longitudinal section.

Figure 4 is an end view of the draw-head.

Figures 5, 6, 7, 8, 9, and 10 are details.

My invention relates to means for heating and cooling trains of railway cars, and consists, chiefly, in the construction and novel arrangement of devices whereby the couplings of the cars are made to serve as the connecting-pipes for the passage of the hot or cold air from car to car.

The letter A of the drawings designates my tubular coupling, provided at each end with a nut or collar, B, beveled or rounded in such a manner as to admit of its free passage between the flanged ends of the catch-plates of the draw-head K.

C designates the air-pipe placed under the floor of the car, and connecting the draw-heads at each end thereof. This pipe is arranged to branch at the king-bolt, and, if thought advisable, the branches may be continued on each side of the car, until they are united beyond the king-bolt at the other end.

D represents the head or block to which the end of the pipe is secured, and which serves as the body of the draw-head.

E E represent the catch-plates, hinged by means of the cylindrical flanges *e e* to the rectangular grooved neck *a* of the head D.

Flanges *b b* are also formed at their forward or free end, and beveled to admit the coupling easily.

After the flanged end of the coupling-pipe has entered, the catch-plates, actuated by the springs G G, will close around it, and hold it securely.

The springs G G are fastened to the head D, and arranged to bear upon the catch-plates in the manner shown.

When it is desired to uncouple the cars, the arms Z Z of the levers L L are drawn together by means of a sliding ring, or other suitable device, and the

catch-plates thereby forced apart to allow the coupling-pipe to escape.

These levers have forked ends arranged to bear under the T-shaped projections S S formed on the catch-plates, and are secured to the head-block by means of the slots *m* and fulcrum-plates V.

In order to render the draw-head effective in the transmission of air-currents the corner-pieces H H are necessary. These corner pieces are secured to suitable seats in the head-block, and extending forward serve as guides to the catch-plates, and as wedges or packing to prevent the escape of air between the adjacent edges of these plates.

The operation of my invention may thus be described:

When the current of air is created by the blower at the front of the locomotive, it will pass back under the tender and through the coupling-pipe into the pipe under the first car, into which it may be admitted by suitable registers. Thence the current passes to the next car, through the coupling-tube between the two, and in a similar manner throughout the train. Thus whole trains of passenger-cars may be heated or cooled in an agreeable manner, and without danger.

Freight trains may be warmed conveniently in this way, and thus adapted for the conveyance of produce, &c., in the coldest weather, without danger of freezing.

Suitable valves are designed to be placed in the pipes, at a point between the king-bolt and draw-head, in order that when necessary the current of air may be cut off at any point.

In order to provide a means for connecting with cars having the ordinary draw-head, a modification of my coupling is made by fashioning one end thereof into a loop or eye through which the coupling-pin may be passed.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The coupling-pipe A, for connecting the cars of a railway-train, and at the same time serving as a conduit for currents of air from car to car, as specified.

2. In combination with the coupling-pipe A, the air-tight tubular draw-head K, when arranged to operate substantially as and for the purposes specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

F. R. HUNT.

Witnesses:

E. W. ANDERSON,  
A. M. STOUT, JR.