

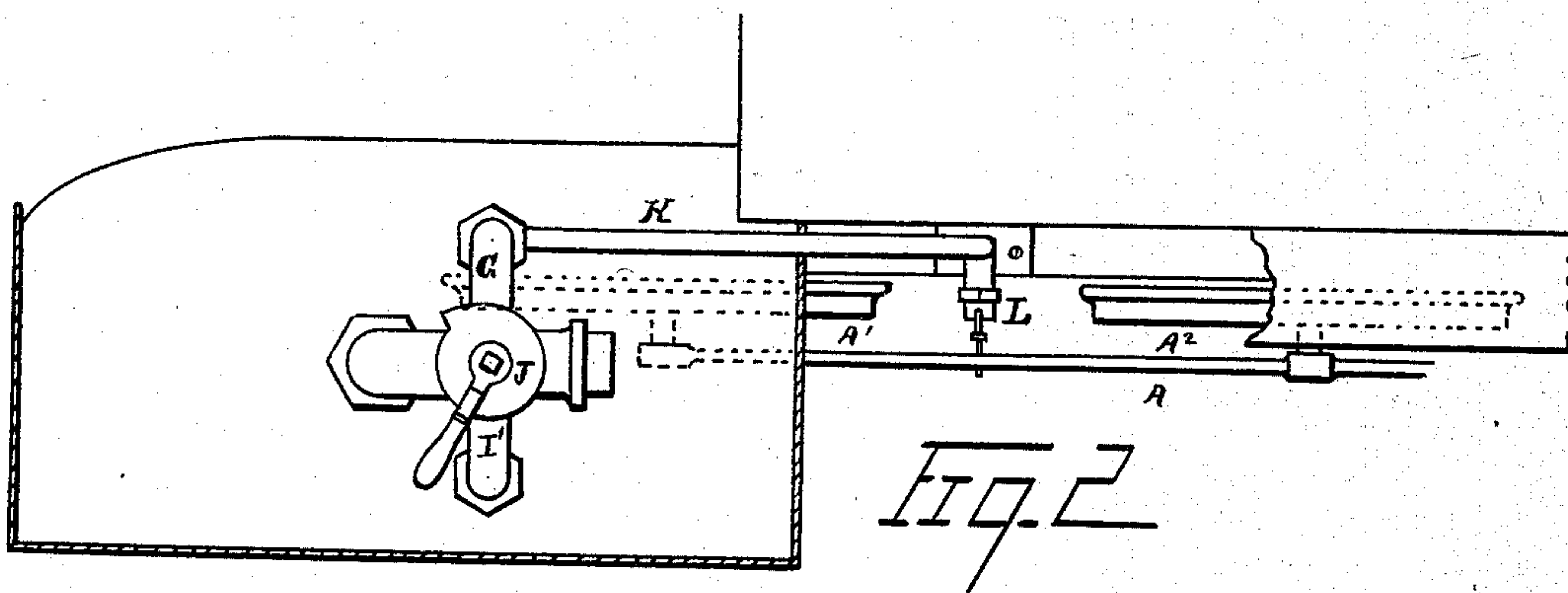
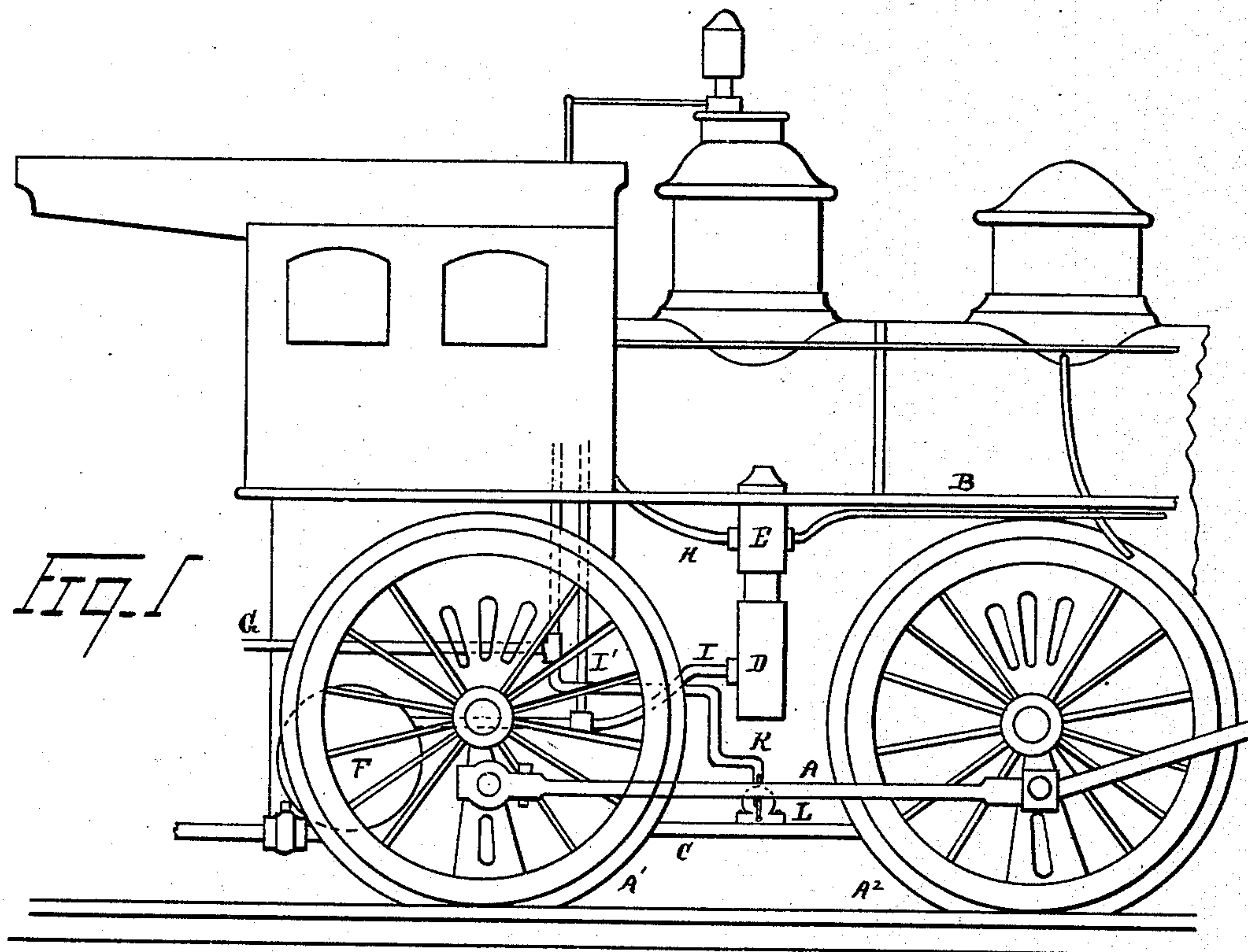
(No Model.)

2 Sheets—Sheet 1.

W. RYMER.
AIR BRAKE ATTACHMENT.

No. 416,953.

Patented Dec. 10, 1889.



Witnesses
John Schuman
Ned M. Low

Inventor.
William Rymer
By his Attorney
Newell S. Wright.

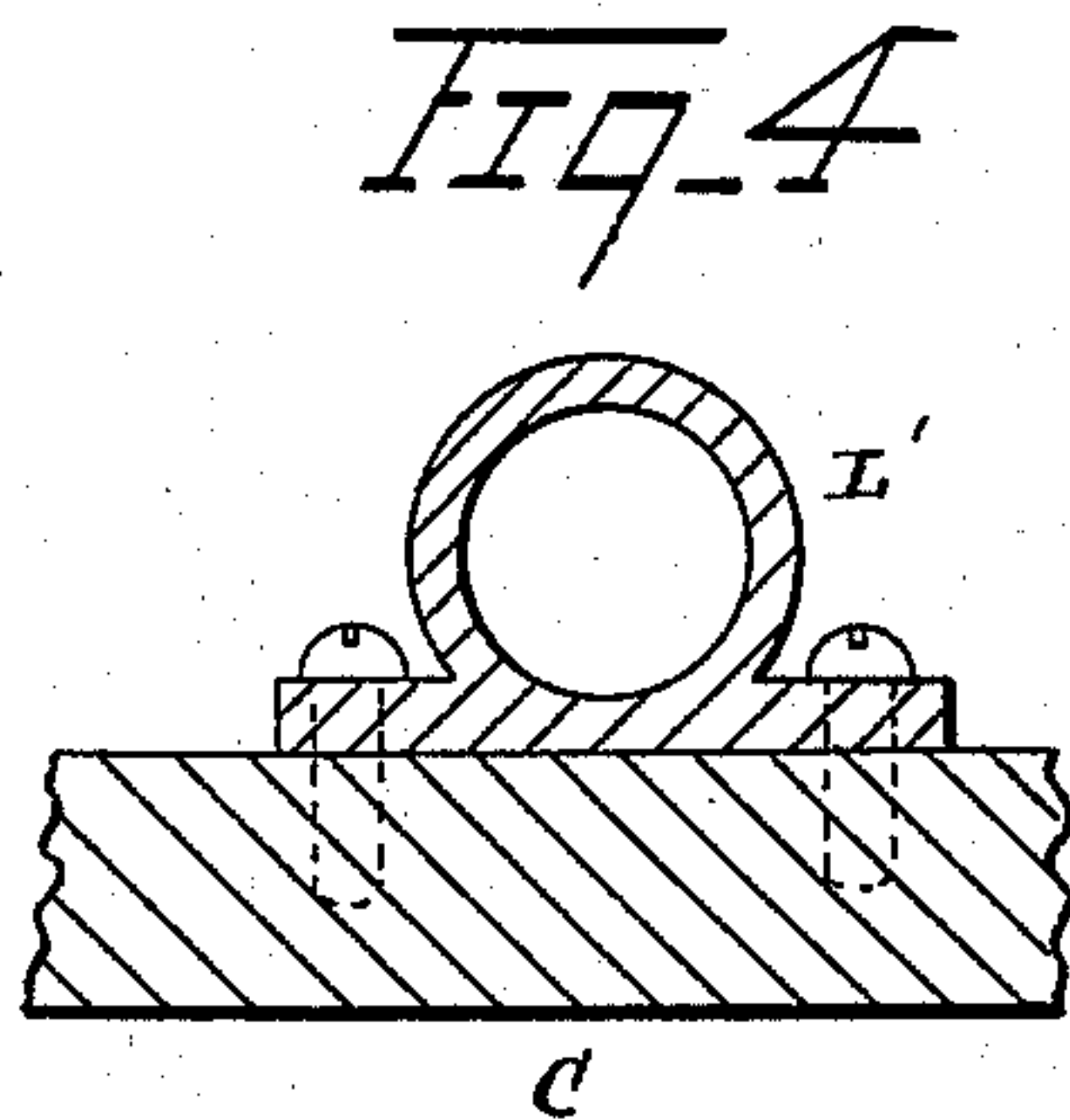
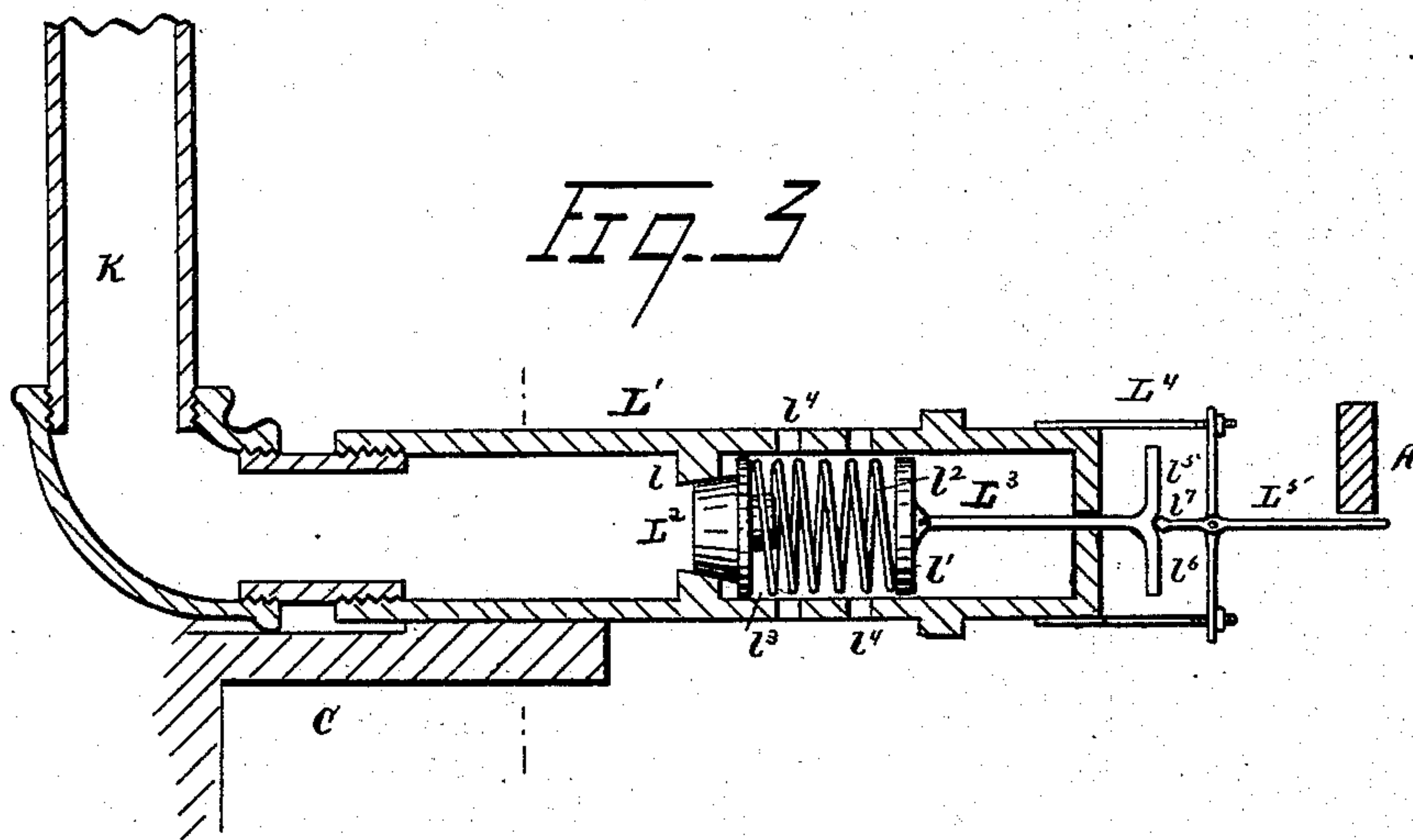
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2 Sheets—Sheet 2.

W. RYMER.
AIR BRAKE ATTACHMENT.

No. 416,953.

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Witnesses
John Schuman.
Alfred M. Low

Inventor
William Rymer
By his Attorney
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UNITED STATES PATENT OFFICE.

WILLIAM RYMER, OF DETROIT, MICHIGAN, ASSIGNOR OF ONE-HALF TO
JOHN LOTHIAN, OF SAME PLACE.

AIR-BRAKE ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 416,953, dated December 10, 1889.

Application filed April 12, 1889. Serial No. 306,997. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM RYMER, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in an Air-Brake Attachment; and I declare the following to be a full, clear, and exact description of the same, 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, which form a part of this specification.

My invention relates to a new and useful air-brake attachment for locomotives; and it consists of the devices and appliances hereinafter specified, and pointed out in the claims, and more particularly illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a portion of a locomotive. Fig. 2 is a diagram top plan. Fig. 3 is an enlarged vertical section of an improved valve embodied in my invention. Fig. 4 is a cross-section of the same.

The liability of the breaking of the connecting-rods on the drivers of locomotives and of the tires on said drivers is well known, imperiling the life of the engineer and great danger to the train and passengers.

The purpose of my invention is to provide mechanism for automatically applying the air-brakes on the occurrence of any such an accident as that referred to—obviously a matter of great importance, to diminish the liability of resulting disaster to the least possible degree by setting the brakes and stopping the train in the quickest possible time.

I carry out my invention as follows:

A is the connecting-rod uniting the drivers A' A² of the locomotive.

B is the running-board.

C is the lower frame of the locomotive.

D is the ordinary air-pump. E is the engine for operating said pump.

F is the usual compressed-air reservoir. (Shown in dotted lines.)

G is the ordinary train-pipe, running to the auxiliary reservoirs and brake-cylinders beneath the various cars.

H is a steam-pipe communicating with the engine E.

I is a pipe connecting the air-pump D and compressed-air reservoir F.

J is the usual engineer's brake-valve for controlling communication to the train-pipes.

The parts above described may be of the ordinary construction and arrangement.

It is well understood that with the Westinghouse air-brake now in common use the brakes are applied by opening the train-pipe to the atmosphere, and thereby relieving the pressure therein. To this end my invention contemplates the provision of an additional valve for opening the train-pipe to the atmosphere in case of an accident such as I have above described, said valve suitably located with reference to the connecting-rod and the drivers and the communication of said valve with the train-pipe G, as by a connecting-pipe K, said communication being made with the train-pipe at any desired point. To this end, L denotes my improved valve attachment, which may be located on the lower frame C of the locomotive or otherwise properly supported adjacent to the connecting-rod between the drivers or adjacent thereto. The valve herewith shown consists of a valve-case L', communicating with the train-pipe, as through the connecting-pipe K, and provided with a valve-seat l. L² is a valve to control communication through said seat. L³ is a valve stem or rod provided with a head l', between which and the valve L², I interpose, preferably, a spring l². The valve-chamber l³ is provided with apertures l⁴ through the case L'. The valve stem or rod L³ is extended through the end of the casing, and preferably terminates in arms l⁵ l⁶.

Upon the valve-casing I have shown a frame-work L⁴, supporting a lever L⁵, pivotally or otherwise properly engaged therewith, the inner end of said lever engaging the stem or rod L³, which may be formed with a seat l⁷ to more securely hold the lever L⁵ in its normal position, at which time the lever has, as shown, a direct pressure upon the valve, holding it securely closed. The opposite end of said lever is extended, as shown in Fig. 3, beneath the connecting-rod A in such a manner and in such a position that should the connecting-rod break it would cer-

tainly strike the lever and instantly trip it to throw it to one side, out of line with the valve-stem, when obviously the air-pressure in the pipe K, bearing upon the valve, would at once throw open the valve, allowing the pressure in the train-pipe to escape, thereby applying the brakes in the usual manner. The valve L as so located and arranged would also be most certainly tripped should the tire of either of the adjacent drivers break and spread, thereby setting the brakes also. The lever L³, if thrown in either direction, will allow the valve to open.

I would have it clearly understood that I do not limit myself to the particular construction of the valve L herein shown and described, as I contemplate the employment of any valve suited for the purpose as coming within the scope of my invention.

The valve is readily adjusted into proper position. Its operation is entirely independent of the engineer, while he is left at the same time to operate the brakes in the usual manner.

The valve is simple, not liable to get out of order, and provides a safety attachment of great importance.

The pipe I may tap the pipe I', affording communication from the compressed-air reservoir to the engineer's brake-valve.

What I claim as my invention is—

1. The combination, with a locomotive provided with an air-brake train-pipe, of a valve located adjacent to the connecting-rod of the locomotive and in such relation to the connecting-rod and the tires of the drivers that

it will be operated by either the rod or tires when broken, said valve communicating with said train-pipe, substantially as and in the manner described.

2. The combination, with a locomotive provided with an air-brake train-pipe, of a valve located adjacent to a connecting-rod of the locomotive and in such relation to the connecting-rod and the tires of the drivers that it will be operated by either the rod or tires when broken, said valve communicating with said train-pipe and provided with a tripping-lever, substantially as set forth.

3. The combination, with a locomotive provided with an air-brake train-pipe, of a valve-case, a valve-seat, an open valve-chamber, a valve, and a tripping-lever to control said valve, the valve being in such relation to the connecting-rod and the tires of the driver that it will be operated by either the rod or tires when broken, substantially as set forth.

4. The combination, with a locomotive provided with an air-brake train-pipe, of a valve located adjacent to a connecting-rod of the locomotive and in such relation to the connecting-rod and the tires of the drivers that it will be operated by either the rod or tires when broken, a pipe connecting said valve with the train-pipe, and means for controlling said valve, substantially as set forth.

In testimony whereof I sign this specification in the presence of two witnesses.

WILLIAM RYMER.

Witnesses:

N. S. WRIGHT,
JOHN SCHUMAN.