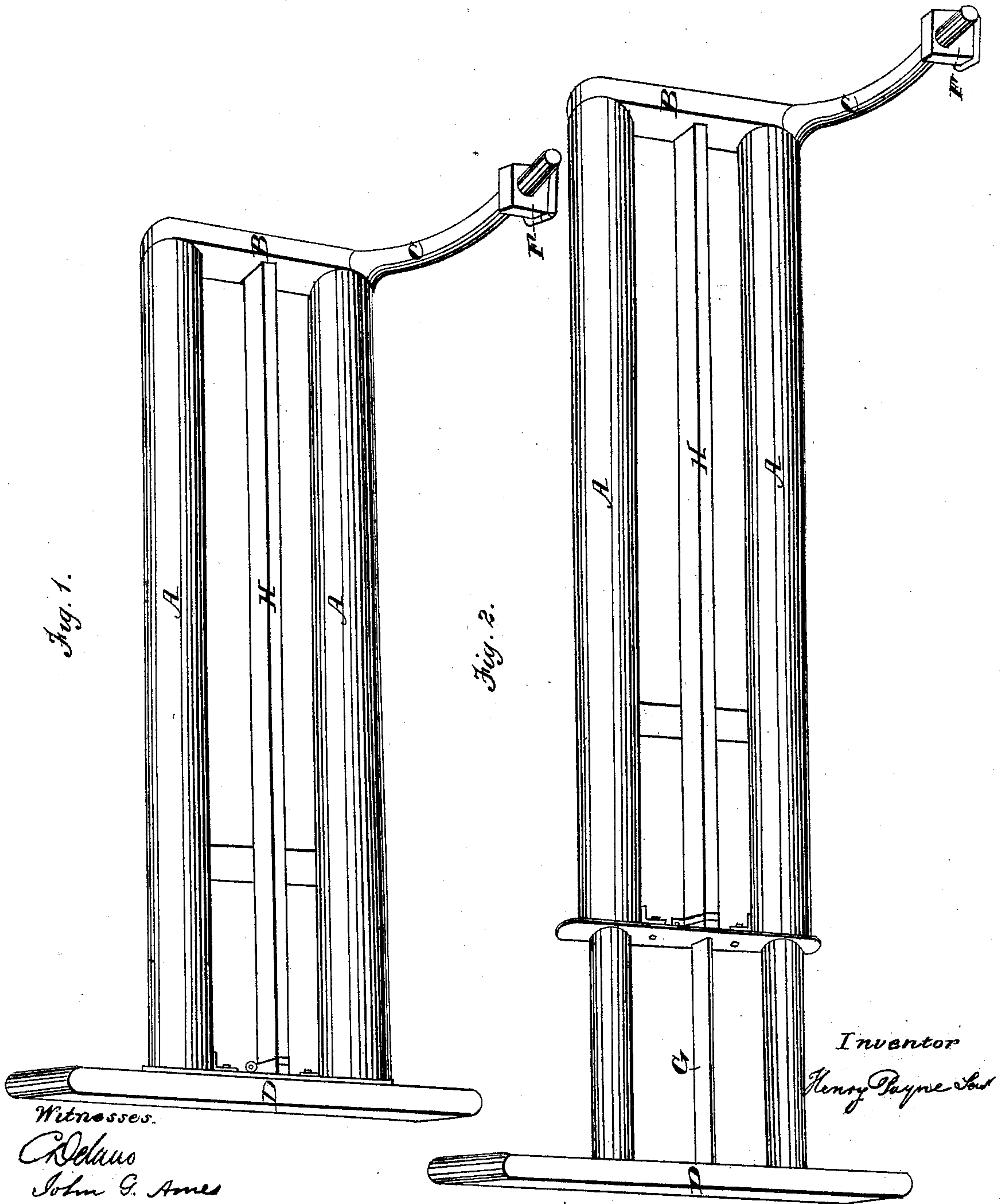


H PAYNE, Sr.
Car Bumper.

No. 61,354.

Patented Jan. 22, 1867.



United States Patent Office.

HENRY PAYNE, SR., OF MOUNT VERNON, OHIO.

Letters Patent No. 61,354, dated January 22, 1867.

IMPROVED DEVICE FOR PREVENTING COLLISIONS OF LOCOMOTIVES.

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, HENRY PAYNE, of the town of Mount Vernon, in the county of Knox, in the State of Ohio, have invented a new and improved Mode of Preventing the Collision of Locomotive Engines on railroads; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in placing one or more cylindrical or other shaped tubes under the round part or body of the boiler, and connected with the same by a steam pipe, so that when there is danger of collision the steam may be let into it or them from the boiler, and propel forward a shaft or shafts (one in each tube) to meet the opposing object, and thus prevent the collision of the locomotive with the object opposing, or very much diminish its force.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

I place two (more or less) cylindrical tubes, marked A, under the body of the boiler, and fasten them securely to the same, in a horizontal direction or position, and paralld with the boiler. The hinder or posterior end of each is inserted and fixed in a steam-chamber, marked B, which is connected with the boiler by a steam pipe, marked C. The tubes are nearly as long as the body of the boiler, and of any size that may be judged best for the purpose intended. Each tube has a shaft in it, one end of which is packed to fit the tube, that the steam when let into the tube may act against it as upon a piston in a steam-cylinder. The other end of each shaft is inserted and fixed in a cross-beam marked D, which extends across the front of the boiler and of each cylinder. The cross-beam D is prevented from swagging when projected, by means of the sliding-bar G, which slides in the tube H, and has a friction-roller at the end of it; a friction-roller is also placed at the outer end of the tube for the bar C to slide on.

Figure 1 shows the tubes with the shafts in them.

Figure 2, with the shafts partly projected.

The steam pipe marked C has a valve in the steam chest, marked F, for letting the steam from the boiler into the tubes when needed; it may also be used to shut off communication between the tubes and the boiler, so-as to confine the steam in the tubes when thus let in, and so increase the resistance of the same; or it may be left open to allow the steam to return into the boiler when pressed by an opposing force. If the valve continue open so as to allow the steam to return into the boiler when pressed by an opposing force, the pressure of the steam against the end of the shaft in the tube will be the same as that in the boiler, say 100 pounds per square inch; but if the valve be closed when the tubes are filled with steam, the resistance to the shaft, when the opposing object strikes it, will be much increased—say at the beginning of the stroke of the shaft 100 pounds; when forced half way in, 200 pounds per square inch; when three-fourths of the way in it will be 400 pounds per square inch, and increase at the same rate as the shaft advances.

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

The affixing to locomotive boilers one or more tubes, in such a manner as herein described, as that by letting steam into them from the boiler, a shaft will be driven or forced forward from each tube to meet any opposing object, and thus prevent collision of the locomotive with the object opposing, or much diminish its force.

HENRY PAYNE, SR.

Witnesses:

C. DELANO,

JOHN G. AMES.