

(No Model.)

E. P. SARTELL.

CAR HEATER.

No. 396,000.

Patented Jan. 8, 1889.

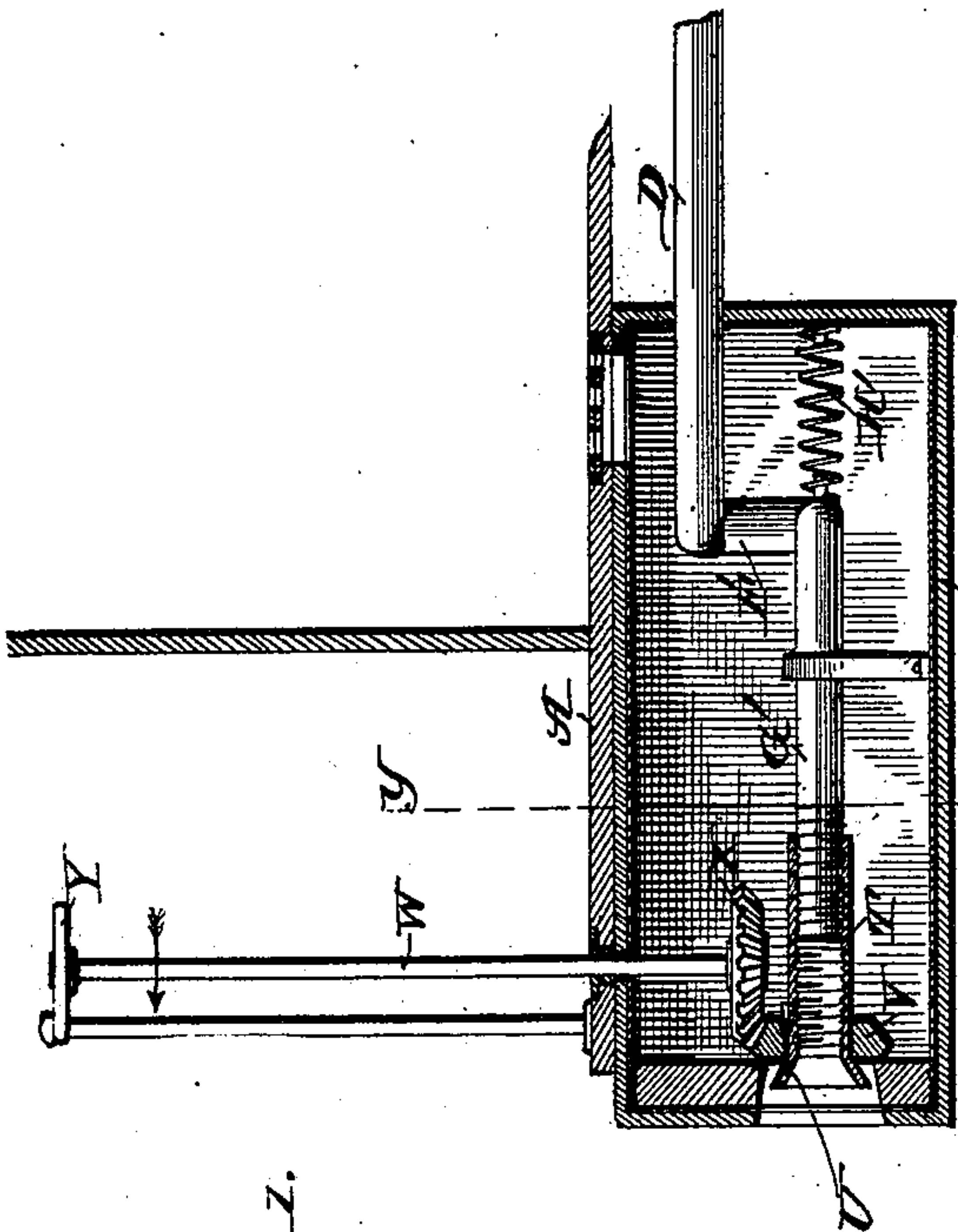


Fig. 1.

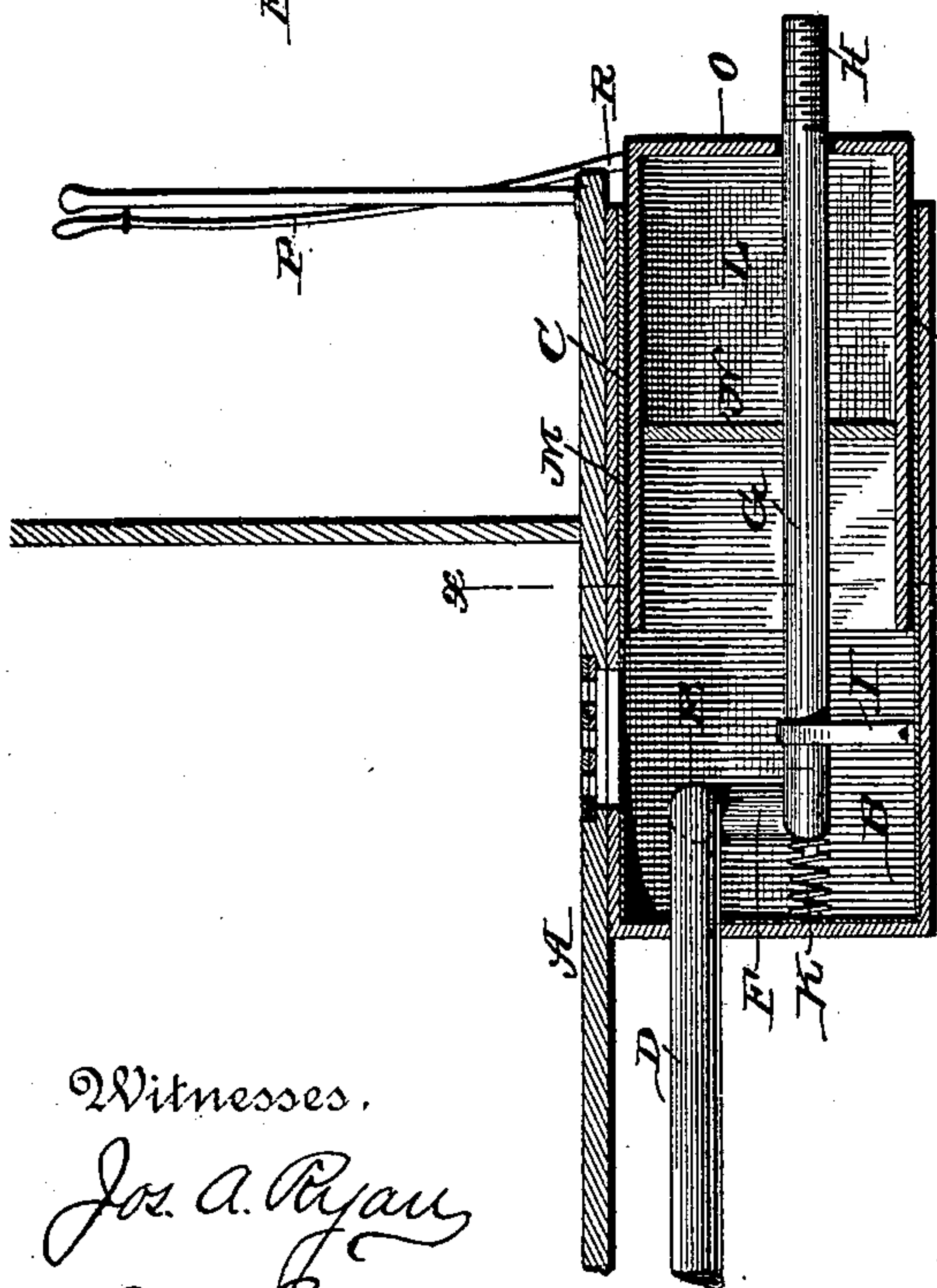


Fig. 2.

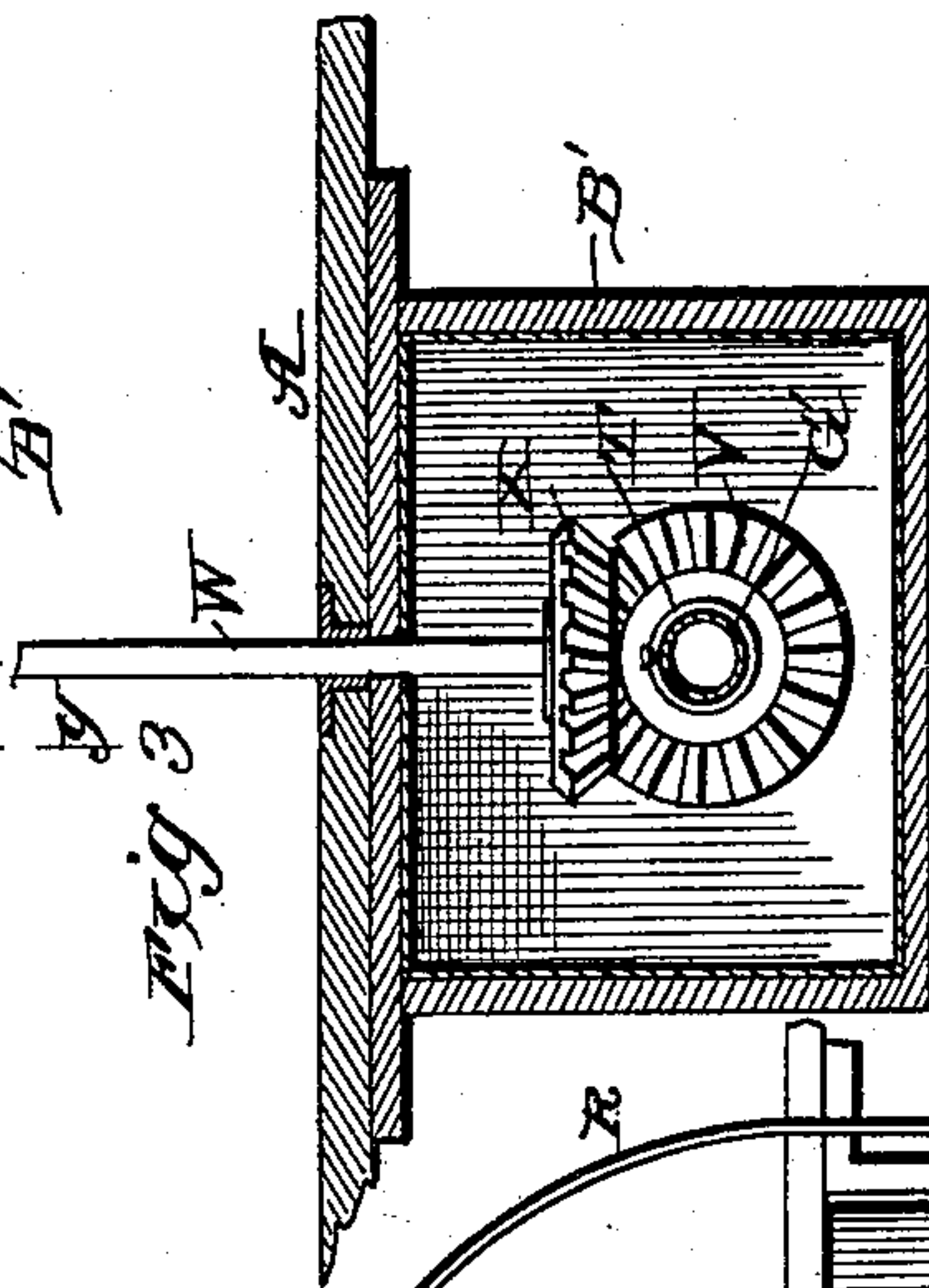
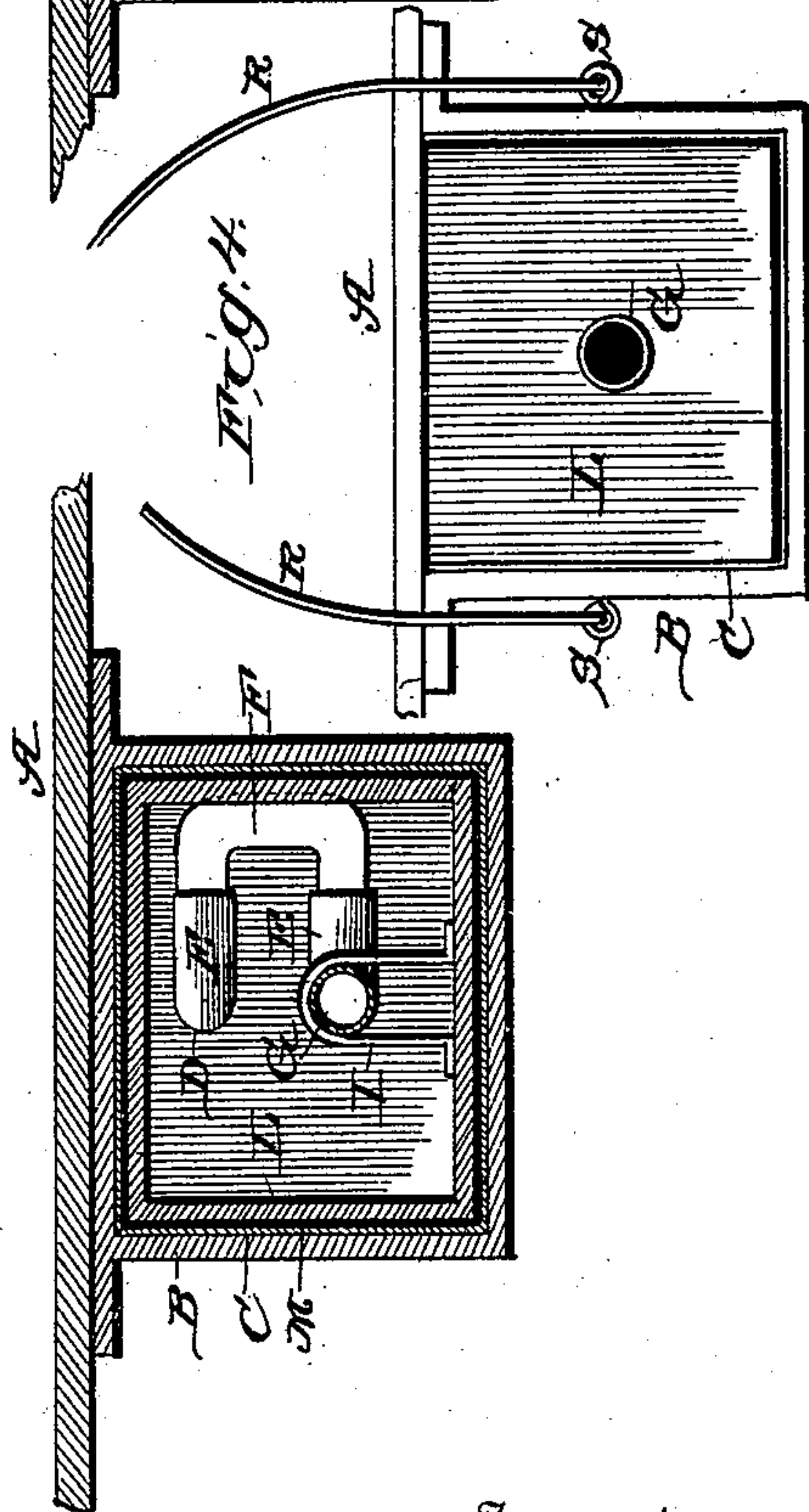


Fig. 3.



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EGBERT PERRY SARTELL, OF ST. CLOUD, MINNESOTA.

CAR-HEATER.

SPECIFICATION forming part of Letters Patent No. 396,000, dated January 8, 1889.

Application filed July 8, 1887. Serial No. 243,781. (No model.)

To all whom it may concern:

Be it known that I, EGBERT PERRY SARTELL, a citizen of the United States, residing at St. Cloud, in the county of Stearns and State of Minnesota, have invented a new and useful Improvement in Car-Heaters, of which the following is a specification.

My invention relates to an improvement in car-heaters; and it consists in the peculiar construction and combination of devices that will be more fully set forth hereinafter, and particularly pointed out in the claims.

Figure 1 is a vertical longitudinal sectional view of parts of two railway-cars provided with my improved heating apparatus. Fig. 2 is a vertical transverse view of the same taken on the line *xx* of Fig. 1. Fig. 3 is a similar view taken on the line *yy* of Fig. 1. Fig. 4 is a front view of the chest B.

A represents the platforms of two railway-cars.

B represents a chest or box, which is preferably made of wood and is secured under one of the said platforms and has its outer end open, as shown. The inner side of the chest is lined with sheet-zinc C.

D represents a steam-pipe, which extends under each car and enters one end of each chest and has its inner end bent at right angles, as at E, to form a sleeve.

F represents a U-shaped coupling, which has one of its arms secured in the sleeve E by a ground joint, and thereby the said coupling is adapted to turn.

G represents a pipe, which extends longitudinally through the chest B, and has its inner end bent at right angles and connected to the lower arm of the coupling F by a ground joint, and thereby the said coupling serves to flexibly connect the pipe G to the pipe D, and permits the former to be moved longitudinally without affecting the latter. The outer end of the pipe G projects a suitable distance beyond the outer open end of the chest B, and is provided with an exterior screw-thread, H, as shown. The pipe G is guided in its longitudinal movement by a bridge or keeper, I.

K represents a coiled extensile spring, which is located between the inner end of the pipe G and the opposing end of the chest B,

the said coiled spring serving to normally keep the outer end of the pipe G projected beyond the outer end of the chest.

L represents the longitudinally-movable chest, which has its inner end open and its outer end closed and fits in the open end of chest B. A suitable packing, M, of cloth or other material, is placed on the outer side of the chest L and forms a tight joint between the latter and the chest B, and thereby prevents the escape of heat from the said chest. The chest L is divided near its center by a vertical partition, N, which is provided with an opening through which the pipe G extends, and the said pipe also extends through a similar opening in the closed front end of chest L. The front end of the said chest L is covered with packing material O.

P represents a hand-lever, which is fulcrumed to the platform of the car above the open end of chest B, and is provided with downward-extending diverging arms R, which are connected to eyes or keepers S on opposite sides of the outer end of the chest L. By means of this hand-lever the chest L may be moved longitudinally in the chest B, and either extended from the open end of the latter or withdrawn into the same, as will be readily understood.

To the under side of the platform A is secured a chest, B', which is similar in construction to the chest B, with the exception that it has its front end closed. A pipe, D', enters the inner end of the chest B' and is coupled to the longitudinal movable pipe G' in the said chest by means of a U-shaped coupling, F', as in the previous instance.

H' represents a coiled extensile spring which bears between the inner end of the pipe G' and the inner side of the chest B'. The pipe G' extends only through a portion of the length of chest B', and has its outer end provided with a screw-thread, as shown.

T represents a hollow cylindrical sleeve, which is provided with an internal screw-thread and is coupled to the threaded extremity of the pipe G', and extends therefrom through an opening in the front end of the chest B'. The outer end of the said sleeve is provided with an enlarged annular head, U

U, which is adapted to rotate in the opening in the front end of the chest B and to move longitudinally therein. This head has a flared central opening in its outer side adapted to direct the end of the pipe G into the outer threaded end of the sleeve T when the cars come together.

V represents a miter gear-wheel, which is feathered or splined on the sleeve T, and bears against the inner side of the front end of chest B'. A vertical shaft, W, is journaled in the platform A', and extends downward from the same. To the lower end of the said shaft is rigidly secured a miter gear-wheel, X, which meshes with the wheel V. To the upper end of this shaft is attached a hand wheel or crank, Y, by means of which the shaft may be rotated by a person standing on the platform A'.

The operation of my invention is as follows: When the cars come together, a person stationed on the platform A' grasps the lever P and operates the same to cause the chest L to be moved forward in the chest B, and thereby bear against the opposing front end of the chest B'. Owing to the packing with which the chest L is provided, an air-tight joint is formed between the latter and the chest B'. The springs which bear against the inner ends of the pipes G and G' cause the threaded end of the pipe G to enter the internally-threaded outer end of the sleeve T when the cars come together, and the operator stationed on the platform A' turns the shaft W, and thereby causes the miter-wheel X to rotate and impart a similar movement to the sleeve T, thereby causing the latter to move forward on the threaded extremity of the pipe G', and become screwed onto the threaded extremity of the pipe G, thus effecting a steam-tight coupling between the said pipes. Steam from the locomotive is forced through the pipes G and G' and heats the air confined in the chests B and B' by radiation, as will be very readily understood. On the upper sides of said chests are registers Z, which communicate with the interiors of the cars, and when

the said registers are open the heated air from the chests B and B' is caused to enter the cars.

From the foregoing it will be understood that the source of heat is entirely outside of the cars, so that in event of a railroad accident the cars will not take fire and be consumed. The longitudinally-movable chest L in the open end of chest B, by forming a tight connection with the opposing end of chest B', confines the heat in the said chest and causes only a minimum area of surface to be exposed to the air.

In order to uncouple the heating devices when it becomes necessary to detach the cars, it is only necessary to turn the shaft W in a reverse direction from that indicated by the arrow in Fig. 1, and thereby cause the sleeve to be unscrewed from the pipe G.

Having thus described my invention, I claim—

1. The combination, in railway-car heaters, of the cars provided with the chests B and B', one of the said chests having its outer end open and provided with the longitudinally-movable chest L in the said open end, the steam-pipes extending through said chests, and the coupling to connect the opposing ends of the steam-pipes when the cars come together, substantially as described.

2. The combination, of the cars having the chests B and B' on their opposing ends, the outer end of the chest B' being closed and the outer end of the chest B being open, the longitudinally-movable chest L, arranged in the open end of chest B and adapted to be projected therefrom, and the lever connected to the chest L and adapted to move the same longitudinally, for the purpose set forth, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

EGBERT PERRY SARTELL.

Witnesses:

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