

continues during the entire run, while the heating apparatus in itself is automatic in so far that it requires very little attention during the run it is absolutely necessary to be continually opening and closing the ventilators in an attempt to control the temperature of the car, and whether this is done properly or not depends upon the varying judgment of trainmen to what is, in their opinion, the correct amount of ventilation for the different classes of cars.

To those of us who have to provide the necessary fuel for heating our homes, we would not, I am sure, consider it good practice nor would we be altogether pleased to learn that it was the common practice when the house became too warm, to open wide the doors and windows, but naturally it would be expected that we should check the furnace to reduce the heat and save fuel. The question then arises why is this not done with the heating apparatus in passenger cars? As we are all well aware it has been claimed that when a car becomes too warm with a system of water circulation having its steam attachment working on the gravity system, the proper method of operation is to close the supply valve in heater room, thereby cutting off the admission of steam. This practice from a theoretical standpoint is quite proper, but in the practical operation of such a system this is very seldom, if ever done, for the very apparent reason that if all the condensation were not blown out of steam jackets or steam coils and it drained to the traps in a very cool condition there is always a liability of freezing. Then again if the supply valve is not absolutely tight, as is very frequently the case, the small amount of steam thus admitted quickly condenses and reaches the trap in a very cool condition and this is another of the causes for the trap freezing. When the trap has become frozen from any one of the several causes, it is absolutely necessary, owing to the construction of the apparatus working on the gravity system, to stop the train and make the outside application of heat to the frozen part by means of the steam hose, torch, fusee or shovel full of burning waste. This practice which is the only available means with a system of this kind, is frequently the direct cause of serious delays as well as considerable expense when repairs are made necessary.

The amount of steam being used and the drain on the locomotive is practically the same in moderate weather as in extremely cold weather. In extreme weather almost all the heat developed is needed to maintain a comfortable degree of heat in the car and it is well known that but a few of the ventilators are opened and which admit of an abundant supply of fresh air to keep the atmosphere inside the car sweet and pure; while in milder weather there is being supplied the same head of steam from the locomotive and the adjustment of the automatic