

**ABRIDGEMENTS OF THE UNITED
STATES PATENTS PERTAINING TO
CONTINUOUS CAR HEATING
THAT
EXPIRED PRIOR TO MAY 1, 1888**

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Abridgements of the United States Patents Pertaining to Continuous Car Heating That Expired
Prior to May 1, 1888 by George P. Whittlesey

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GEORGE P. WHITTLESEY

**ABRIDGEMENTS OF THE UNITED
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CONTINUOUS CAR HEATING
THAT
EXPIRED PRIOR TO MAY 1, 1888**

ABRIDGEMENTS
OF THE
UNITED STATES PATENTS
PERTAINING TO
CONTINUOUS CAR HEATING

THAT EXPIRED PRIOR TO MAY 1, 1888,

TOGETHER WITH CLASSIFIED LISTS OF ALL THE UNITED
STATES PATENTS RELATING TO CAR HEATING, AND
SOME ANALOGOUS PATENTS GRANTED
PRIOR TO MAY 1, 1888.

COMPILED FROM THE RECORDS OF THE
UNITED STATES PATENT OFFICE

BY
GEORGE P. WHITTLESEY,

LATE ASSISTANT EXAMINER, UNITED STATES PATENT OFFICE.

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1888.

PREFACE.

The subject of Car Heating is at present exciting widespread attention. New modes of continuous heating, and new methods of lessening the danger from fire in case of accident, are being devised and tested.

It is thought that a brief description of the systems of continuous heating covered by United States patents whose terms have expired, and that have, therefore, become public property, open to everybody, will not only be interesting, but of real service to railroad officers and inventors. Persons who are arranging systems of continuous heating will find in these abridgements what ideas and details of construction they can safely use without infringing existing patents.

In addition to the abridgements, there are given numerical and alphabetical lists showing the inventor's name, the number, and the date of every patent granted prior to May 1, 1888, relating to car heating. Classified lists are also given which will be useful to persons who desire to get copies of all the patents covering certain kinds of car heaters. Following some of these lists will be found references to patents in other classes for analogous devices.

The numbers of the patents that expired prior to May 1, 1888, are printed in **full faced type**.

The Patent Office divides car heaters into three classes only, viz.: Car heaters; car heaters, pendent; car heaters, steam. The superiority of the classification adopted in this book will be apparent upon inspection.

The same patent will frequently be found in several of these lists. This is because it contains several modifications, or is of such a character that it falls naturally under any one of three or four headings, and is therefore listed

under all of them in order that each list may be as complete as possible.

Every precaution has been taken to make these lists full and accurate. The sub-classes in the Patent Office classification that have been examined are as follows: Car heaters; Cars heaters, steam; Car heaters, pendent; Car ventilation; Fire engines, stationary; Fire engines, chemical; Freight cars; Furnace-feeding, air; House ventilation; Lamp stoves; Passenger cars; Pipe couplings, detachable; Pipe couplings, valved; Safety cars; Sleeping cars; Spark conductors; Steam heaters; Steam and air brakes. There may be a few patents buried in other sub-classes that have not been examined; but it is certain that they are very few. It is quite possible, however, that some mistakes have crept in, and the author will regard it as a favor if persons who discover an error or an omission will kindly inform him of the fact. Whatever measure of accuracy has been attained is due in part to the courtesy of Examiner Steward in allowing access to the full and complete files of drawings in his Division.

With the hope that the book may prove of value to railway men, inventors, patent lawyers, and others interested, it is submitted to the unerring verdict of the public.

GEO. P. WHITTLESSEY.

WASHINGTON, D.C., May 1, 1888.

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Explanation—Independent heaters are those that heat a single car. Continuous heaters heat several cars from one source of heat. Valved couplings contain a valve that closes automatically when the parts of the coupling are separated. Auxiliary heaters have a heater in reserve to be used in case of emergency. Secondary heaters use an intermediate heat conducting medium between the primary source of heat (such as a steam pipe) and the air in the car.

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CLASSIFIED LISTS, AS FOLLOWS:

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COPIES OF PATENTS.

A printed copy of the specification and drawing of any patent issued since September 30, 1862, will be sent to any address for twenty-five cents. A copy of the drawing of any patent prior to that date can be furnished, but the specification will have to be copied in manuscript at a charge of ten cents per one hundred words.

In lots of ten or more, printed copies will be furnished at fifteen cents each.

Be sure to give the number of the patent correctly.

Orders sent to Whittlesey & Wright, patent lawyers, Washington, D. C., will be promptly attended to.

