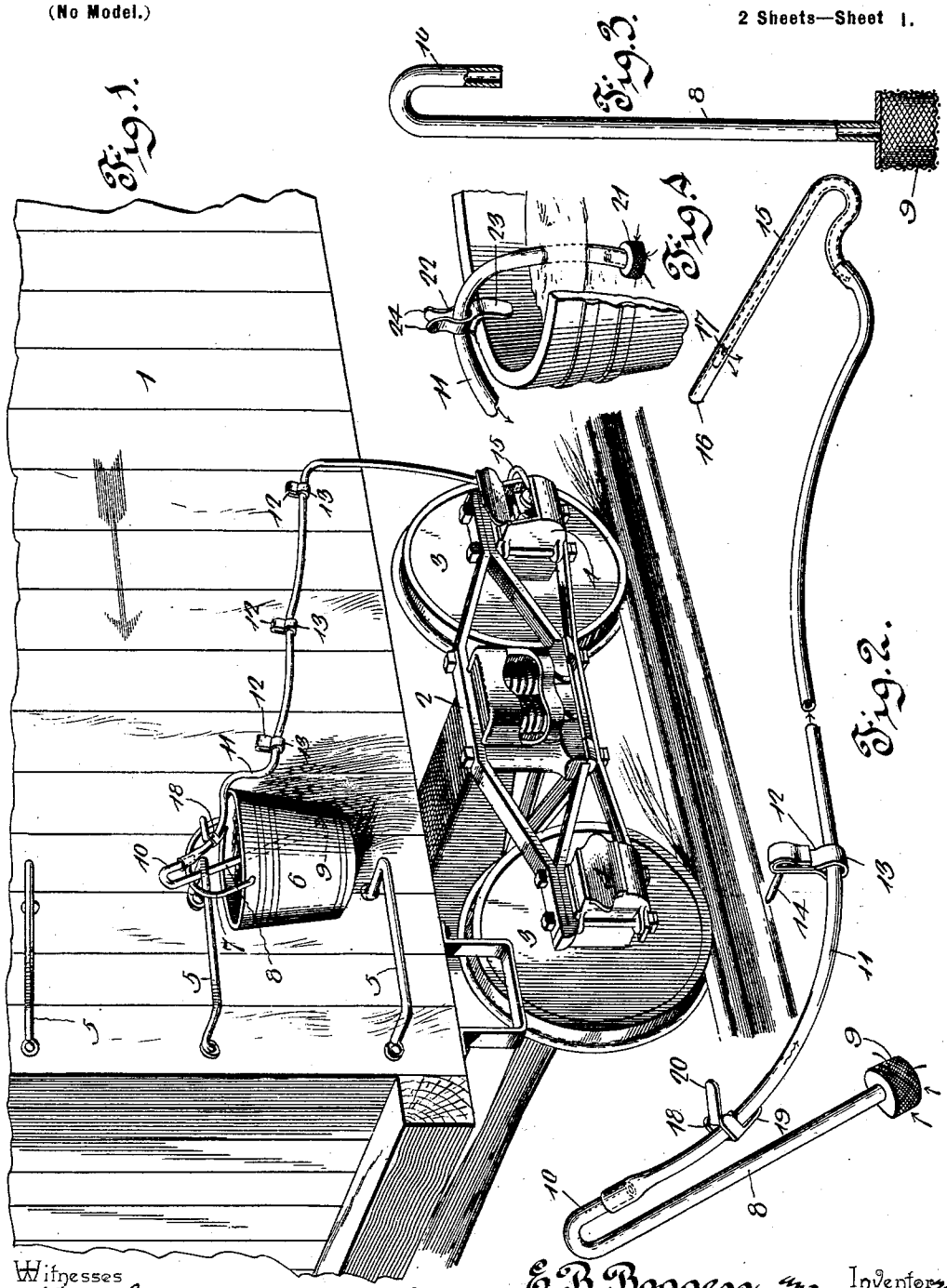
No. 653,899. Patented July 17, 1900.

E. B. BOGGESS & G. D. HUTCHISON.

HOT BOX COOLER.

(Application filed Nov. 6, 1899.)

(No Model.) 2 Sheets—Sheet 1.



Witnesses
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Chas. S. Hyer

E. B. Boggess and Inventors.
By their Attorneys,
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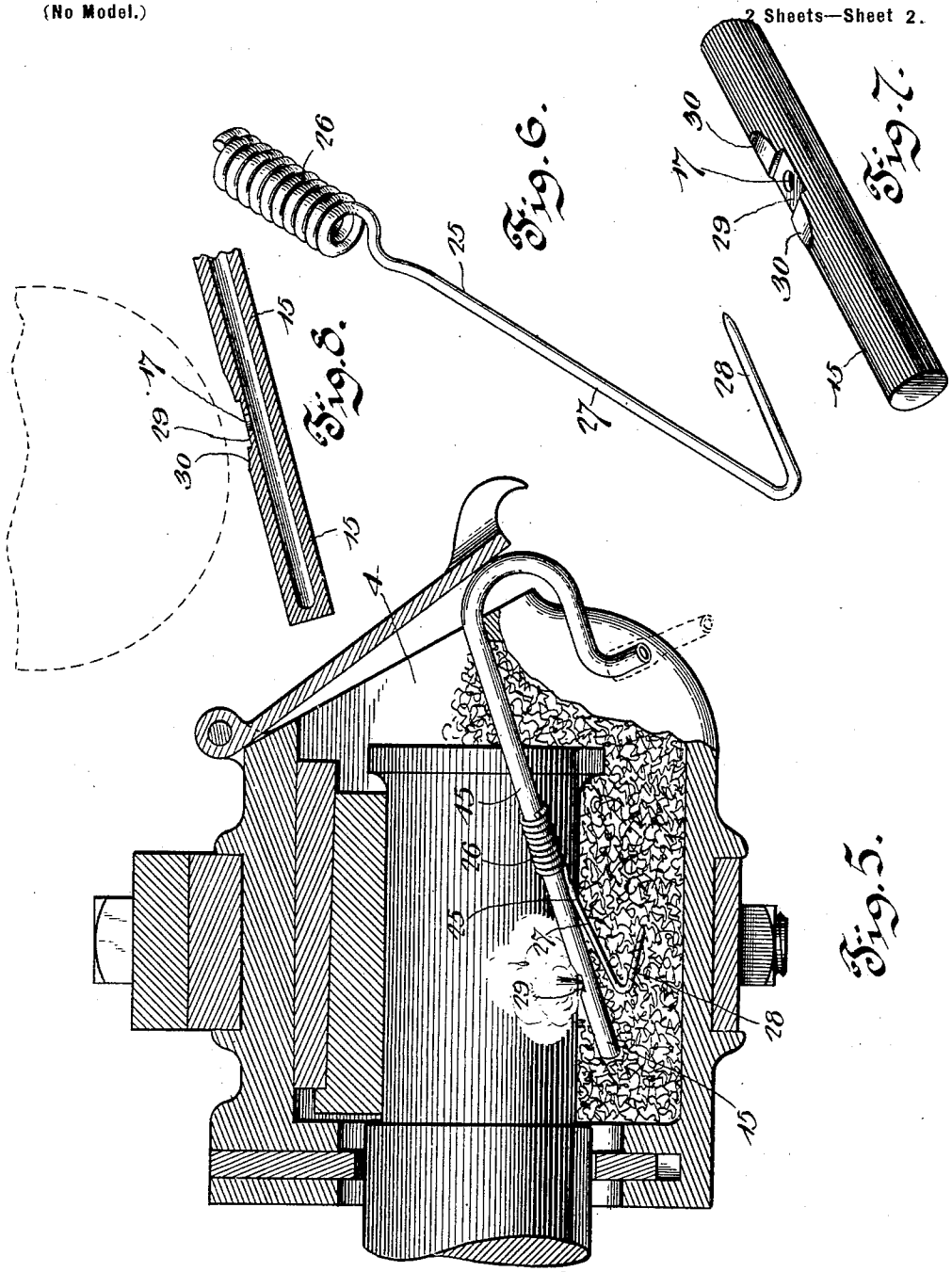


Fig. 6.

Fig. 7.

Fig. 5.

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UNITED STATES PATENT OFFICE.

ERNEST B. BOGGESS AND GEORGE D. HUTCHISON, OF FORT MADISON, IOWA.

HOT-BOX COOLER.

SPECIFICATION forming part of Letters Patent No. 653,899, dated July 17, 1900.

Application filed November 6, 1899. Serial No. 736,017. (No model.)

To all whom it may concern:

Be it known that we, ERNEST B. BOGGESS and GEORGE D. HUTCHISON, citizens of the United States, residing at Fort Madison, in the county of Lee and State of Iowa, have invented a new and useful Hot-Box Cooler, of which the following is a specification.

This invention relates to hot-box coolers particularly adapted for use in connection with railroad-cars; and the object in view is to provide a simple, effective, and compact means for cooling a heated journal and to gradually and regularly feed a small quantity of water to the heated journal in an automatic manner and avoid the serious consequences arising from a sudden drenching, and, furthermore, facilitate the attainment of the desired result without requiring the use of complex and cumbersome devices.

Other objects and advantages will be disclosed in the subjoined description and the novel features set forth in the claims, embodiments of the invention being illustrated in the accompanying drawings, wherein similar reference characters are employed to indicate corresponding parts in the several views, and in which—

Figure 1 is a perspective view of a portion of a car, showing the improved device applied in operative position thereon. Fig. 2 is a detail perspective view of the improved device shown broken through in part. Fig. 3 is a detail sectional elevation of a siphon member of the improved device. Fig. 4 is a detail perspective view, broken away, showing a change in the arrangement of the device. Fig. 5 is an enlarged sectional view of a car-axle box and a portion of the journal, showing a holding attachment for the feeder. Fig. 6 is a detail perspective view of the holding device. Fig. 7 is a perspective view of a portion of the feeder. Fig. 8 is a sectional view of a part of the feeder and the journal in dotted lines to illustrate the application of the feeder.

The numeral 1 designates a car of any form, and for the purpose of illustration a part of a box-car is shown, having a truck 2, including axles and journals, in connection with wheels 3, and supplied with boxes 4. In the form of car shown ladder-irons 5 are secured to one side adjacent one end for an obvious use, and the features of construction thus far referred to constitute no part of the invention.

The attachment includes a pail or bucket 6, having a bail 7, and a siphon member 8, provided with a strainer 9 and having attached to its short leg 10 one end of a flexible pipe or tube 11, which is held against the opposite side portion of the car by metallic-strap clips 12. The clips 12 are preferably formed of double metallic straps having loops 13 at their lower ends, through which the pipe or tube 11 freely passes, and at their upper portions receive a fastening device 14, such as a nail or screw, and over the heads of which the upper extremities of the said clips are turned down, as clearly shown in Fig. 2. The number of clips 12 that will be used will depend entirely upon the position of the pail or bucket 6 and the length of pipe or tube required. The extremity of the pipe or tube 11 which is opposite that connected to the siphon member 8 drops from the car-body when the device is applied and connected to the open end of a crooked rigid feeder 15, of tubular form and preferably constructed from a length of pipe which has one end 16 sealed and provided adjacent said sealed end with a feed-aperture 17. The end of the pipe or tube 11 applied to the feeder is fitted over the crooked portion, and said feeder is bent or crooked in the manner shown for convenience in application to one side wall of the car-axle box, as clearly shown in Fig. 1. To hold the pail or bucket 6 on the car, as shown by Fig. 1, several different means could be employed; but to obviate the use of additional devices a necessary part of the attachment is utilized. The bail 7 of the bucket or pail is thrown up over one corner of one of the irons 5, the siphon member being slipped down between the bail and the said corner of the ladder-iron to secure the pail or bucket with sufficient firmness to resist displacement.

When the member 8 is arranged to serve as a holding means for the pail or bucket, as set forth, the short end 10 is turned out in the direction that the pipe or tube runs over the side of the car in order to avoid a twist or

short bend in said pipe or tube, that would have a tendency to obstruct the automatic flow of the water therethrough.

When the improved attachment is used in connection with a passenger-coach or flat-car, the pail or bucket is deposited on one of the end platforms and the siphon member 8 inserted loosely in the same. The pipe or tube 11 will also be applied in the most convenient manner when the attachment is used on a passenger-coach or flat-car and avoid interference with the practical operation of the siphon and parts coacting therewith. The strainer 9 at the bottom of the member 8 prevents the passage of sediment or other matter held in circulation in the water into the pipe or tube 11, and the deposit of grit or other deleterious material on the journal is thus obviated. To stop the flow of water through the pipe or tube 11 at any time before the contents of the pail or bucket have been exhausted, a cut-off clamp 18 is mounted on the said pipe or tube and includes a bracing member 19, having a clamping-lever 20 pivotally mounted therein and whereby the adjacent part of the said pipe or tube may be collapsed or pressed together or readily released to assume a normal condition.

In the operation of the device thus far described (and as a matter of convenient illustration the arrangement shown by Fig. 1 will be referred to) the pail or bucket is secured in place on the ladder-iron, being first filled with water. The pipe or tube 11 is also connected up to the side of the car and attached to the short end 10 of the siphon member 8. To start the flow of water through the pipe or tube 11, a moderate suction force is applied to the feed-aperture 17 of the feeder 15, and when it is apparent that a regular feed of the water will ensue, said feeder is inserted in the axle-box below the usual brass and under the heated journal. The feeder will be held in immovable position by snugly fitting over the side wall of the axle-box, and this application can be attained through the crooked construction of the said feeder. It is preferred that the feed-aperture 17 be located adjacent the central part of the journal, so that the water will feed gradually against the said journal and slowly reduce the temperature and so continue to operate until the journal is cool. At any time during this operation, if the journal becomes cool before the contents of the pail or bucket are exhausted, the clamp will be closed to shut off the flow by compression of the pipe or tube 11, and should it be necessary to subsequently start the flow of water through the pipe or tube the release or opening of the said clamp will clear the pipe.

In Fig. 4 a slight modification in the arrangement of the parts is shown, and in this instance the siphon member is dispensed with. One end of the pipe or tube 11 is made to serve a similar purpose by being thrown over the side of the bucket and caused to depend into the latter and has thereon a strainer 21, similar to that attached to the said siphon member. The pipe or tube is retained by a clamp 22 in proper siphoning position relatively to the pail or bucket in the changed arrangement, and this form of the attachment is particularly well adapted for service on passenger-coaches or flat or other cars having a rest or platform. The clamp 22 comprises a lower supporting-yoke 23, which is slipped over the edge of the pail or bucket and has projecting upwardly therefrom a pair of clamping-jaws 24, with the opening between them in a plane at right angles to that of the yoke. These jaws 24 do not press on the pipe or tube 11 sufficiently hard to obstruct its operation, and in this form of attachment the feeder 15 will be used, as before indicated.

The construction shown by Fig. 5 is substantially similar to that heretofore described, with the exception that the feeder 15 is supplied with a holding attachment 25, consisting of coiled securing members 26, having an arm 27, terminating in a hook 28. The member 26 is adjustably fitted on the feeder and has a frictional bite owing to the coiled construction, and in the use of the feeder having this attachment the said feeder is pushed into the waste, as shown, under the brass and journal and cools the latter at the location of greatest heat. The feeder in this instance is held by the hook 28, which is caught in the waste, and accidental displacement of the feeder is prevented. The opening 17 in this feeder, as well as in the similar device shown by Fig. 2, exits into a recess 29, and adjacent opposite end walls of the said recess the metal of the feeder is cut away to form concave seats 30, adapted to be brought to bear against the journal and also tend to keep the opening 17 free from clogging or closure by the surrounding waste. The holding attachment can be adjusted at will to accommodate various contingencies, and in any event said holding attachment will be maintained in its adjusted position.

When not in use, the attachment in either form can be easily detached and the parts disconnected for compact storage at any place desired, and the pail or bucket used for the purpose may be either that usually carried on the engine or locomotive or a fire-bucket of a passenger-coach.

The entire device will be under the control of the trainmen and in view of its simplicity will not require an expert or skilled knowledge to operatively apply the same.

Changes in the proportions, size, and minor details of construction may be resorted to without departing in the least from the spirit of the invention or sacrificing any of the advantages thereof.

Having thus described the invention, what is claimed as new is—

1. In a device of the character set forth, the combination with a water-supply, and a siphon member placed in said supply, of a flexible pipe or tube connected to said siphon member, a feeder having a crook at one end attached to the opposite extremity of the flexible pipe or tube, and a straight member in a plane at a right angle to the direction of the said pipe or tube and provided with a closed end and a single opening in the body at a distance from the said closed end to give a sidewise water-feed, the said member being adapted for disposition adjacent the journal of the car-axle, and means on the said flexible pipe or tube for compressing the latter and stopping the flow of water therethrough.

2. In a device of the character set forth, the combination with a flexible tube or pipe having means at one end for automatically supplying the same with water of a feeder having a crook at one end for attachment to the tube or pipe and an opposite closed end, and also having a single outlet-opening in the body thereof at a distance from the closed end to give egress to the water in a plane at right angles to the direction of the feeder, the body of the feeder being in a plane at a right angle to the pipe or tube, and the crook of the feeder serving to hold the latter in connected relation to the car-axle box.

3. In a device of the character set forth, the combination of a pipe or tube having automatically-operating water-supplying means at one end, and a feeder at the opposite end of said pipe or tube, said feeder having its free extremity closed and provided with a single opening in the body thereof at a distance from the said closed extremity to thereby discharge the water in a plane at right angles to the direction of the feeder, the body of the feeder at the point where the opening therein is located being recessed and also formed with oppositely-extending concaved seats for the close application of the feeder to the car-axle journal and to prevent clogging of the opening.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

ERNEST B. BOGGESS.
GEORGE D. HUTCHISON.

Witnesses:
GEO. G. HAESSIG,
FRANK WESTERHOFF.