

G. W. SAMSON.

Car Heater.

No. 32,813.

Patented July 16, 1861.

Fig. 1.

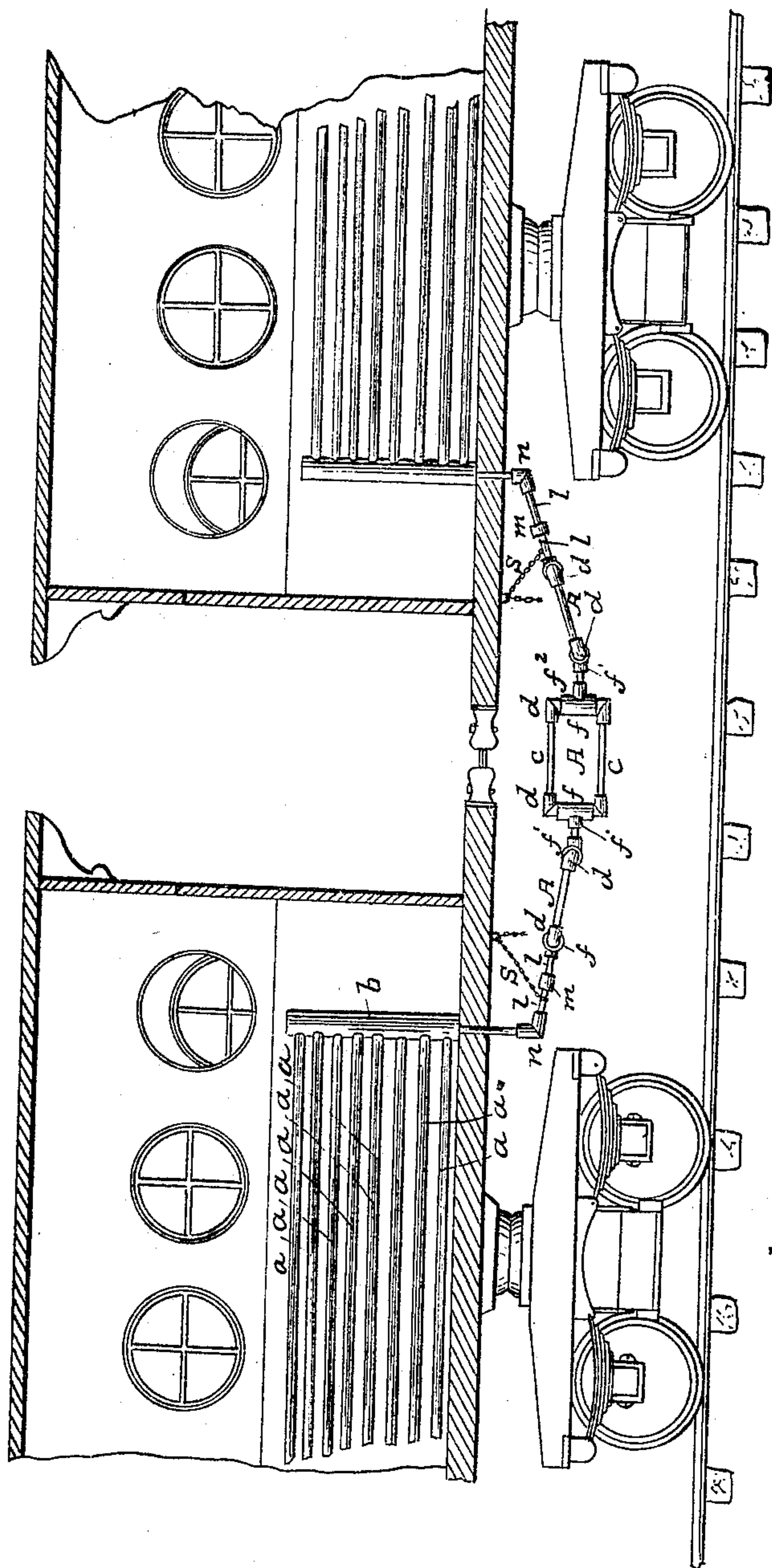
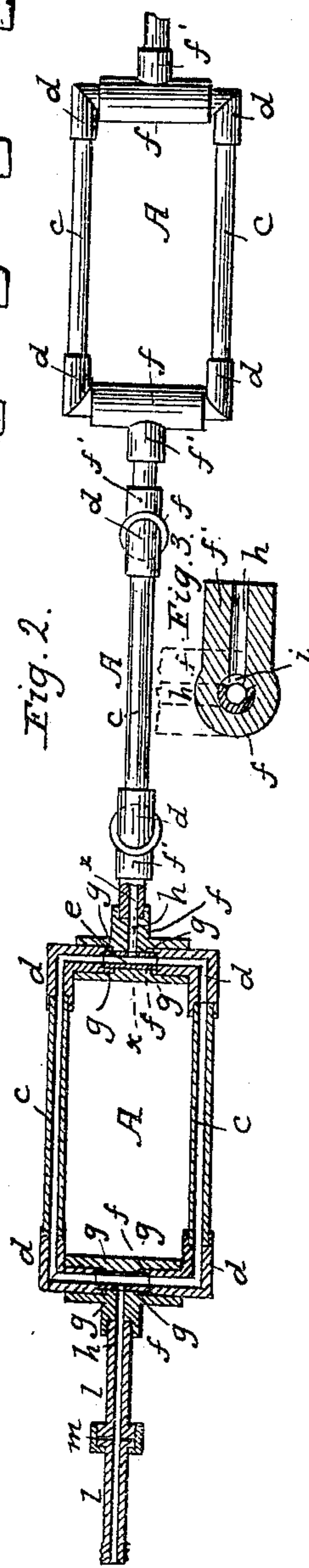


Fig. 2.



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# UNITED STATES PATENT OFFICE.

GEO. W. SAMSON, OF WASHINGTON, DISTRICT OF COLUMBIA.

## APPARATUS FOR HEATING RAILROAD-CARS WITH STEAM.

Specification of Letters Patent No. 32,843, dated July 16, 1861.

*To all whom it may concern:*

Be it known that I, GEORGE W. SAMSON, of Washington, in the District of Columbia, have invented a new and useful Improvement in Apparatus for Heating Railroad-Cars by Steam; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1, is a vertical longitudinal section of a rail car with my improved apparatus applied to it. Fig. 2, is a view of the apparatus detached and partly in section and partly in elevation. Fig. 3, is sectional view in the line *xx* of Fig. 2.

Similar letters of reference in each of the several figures indicate corresponding parts.

The object of my invention is to render practicable the heating of a train of cars which are in motion, with steam from the locomotive.

My improvement consists in connecting the heating pipes of one car with those of another car, by means of a series of hollow links which are united together by means of vertically and horizontally arranged T-shaped hollow sleeves—said links and sleeves being so constructed as to allow of a communication from one link to another being maintained whatever may be the deflection of the coupling in a vertical or lateral direction while the cars are connected together.

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

In carrying out my invention I contemplate using the ordinary steam heaters, consisting of a series of horizontal pipes *a, a*, and vertical manifolds *b, b*, and to arrange the same against the sides of the car. Other descriptions of heaters however, may be found more practicable, therefore I leave the construction and arrangement of the heaters to the judgment of those skilled in that particular branch of business. I also contemplate having the receiving end of the first link of the coupling to connect with the exhaust of the locomotive, but as this may be accomplished in any of the well-known methods of making steam connections I do not deem it essential to give a description of this part of the apparatus.

A, A, A, in the accompanying drawings represent three tubular links united to-

gether. Each of these links is formed by employing two longitudinal sections of pipe *c, c*, four hollow elbows *d, d, d, d*, two short transverse sections of pipe *e, e*, and two T shaped tubular sleeves *f, f*, the said parts being securely held together by screw threads in the manner shown by the drawings. The sleeves *f, f*, which are fitted loosely around the inner ends of the elbows *d, d, d, d*, and the short sections of pipe *e, e*, are constructed with seats or shoulders so as to support packing rings *g, g*. They also have through their nozzles *f', f'*, steam passages *h, h*, corresponding to and communicating with steam passages *i, i*, of the short sections of pipe *e, e*, as shown. The turning sleeve of one link is connected to that of another by means of a screw thread on the outer circumference of the nozzle of one sleeve screwing into a female screw thread on the inner circumference of the nozzle of the other link. Before connecting the links together they are so disposed that the sleeves alternately occupy a horizontal or vertical position. The turning sleeves of several links being thus connected together, sections of pipe *l*, jointed together as shown at *m*, so as to be readily disconnected, are screwed into the nozzles of the first and last links as shown. The coupling being now completed may be applied as shown in Fig. 1, of the drawings where elbows *n, n*, are adopted as the means for effecting the connection between the coupling and the heating pipes.

From the foregoing description and an inspection of the accompanying drawings it will be readily understood that the couplings, by reason of the joints between the links running, alternately, in horizontal and vertical directions, accommodate themselves to the varying movements of each of the cars. Also that the steam passages of the links remain open to a greater or less extent while the cars are jumping up and down or back and forth, owing to the passages thereof being of greater area than the passages of the sleeves. It should however, be stated here that by disconnecting the coupling from the heater pipes of one car and turning up pipe *l*, to a position at right angles to the links, the flow of steam will be cut off entirely.

In practicing with the improvement the engineer or brakeman must, whenever the disconnection of one car from another is



necessary, first unscrew the nut *m*, and throw up the pipe *l*, to a position at right angles to the coupling links. This done the coupling pin of the ordinary link may be withdrawn.

Suitable cocks may be applied to the manifold heads for the purpose of controlling the flow of steam and regulating the temperature in the cars.

At the point where the connection to the exhaust is made a two or three way cock may be provided for the purpose of controlling the exhaust—that is if it is desired not to pass the steam to the heaters it may be discharged into the tender tank or the open air.

In order to support the link couplings when disconnections are made, chains *s*, *s*, or other means for the purpose, may be provided under the platforms.

It will be understood that a link coupling of the character described is to be placed between every pair of cars and between the first car and the tender—also between the tender and locomotive.

With my invention I think a considerable saving in fuel will be effected; that the very desirable end, of warming cars, in motion, with moist heat will be attained,—and such a distribution of the heat, throughout the car, effected that every passenger and each portion of each passenger's person, especially the feet, will receive an equable heat. The danger from the use of stoves, in cases of accident, will also be avoided.

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

1. The employment of link couplings embodying the principle of operation herein set forth for connecting the heaters of two or more cars, and also for connecting said heaters with the exhaust of the locomotive substantially as described.

2. The link couplings, constructed substantially as herein described.

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Witnesses:

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