

E. A. C. FOX.

Apparatus for Conveying Smoke and Sparks from
Locomotives.

No. 150,015.

Patented April 21, 1874.

Fig. 1.

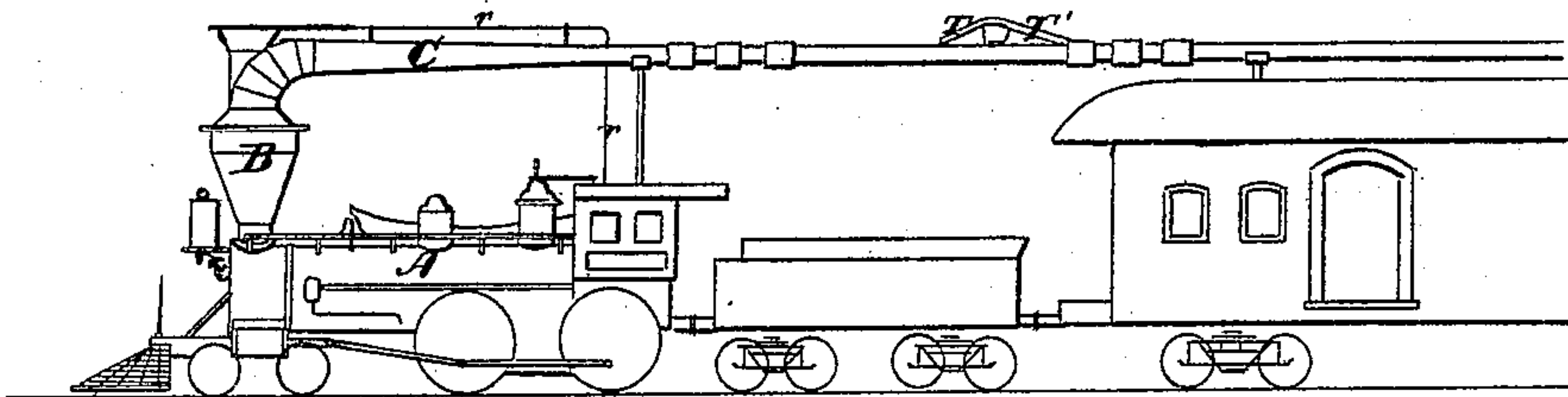


Fig. 2.

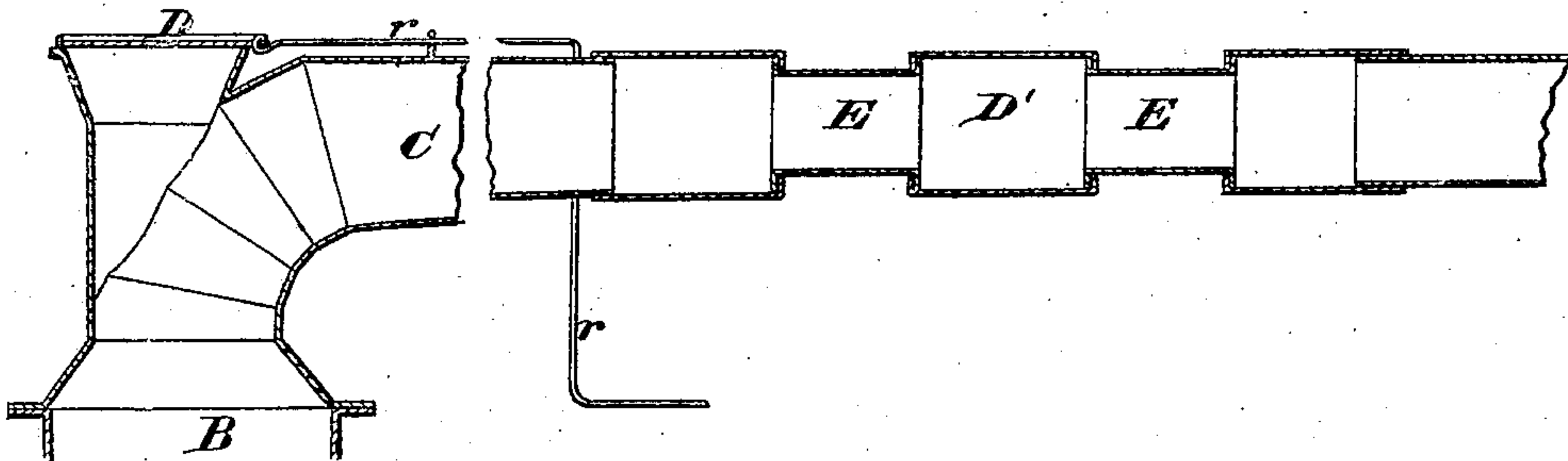


Fig. 3.

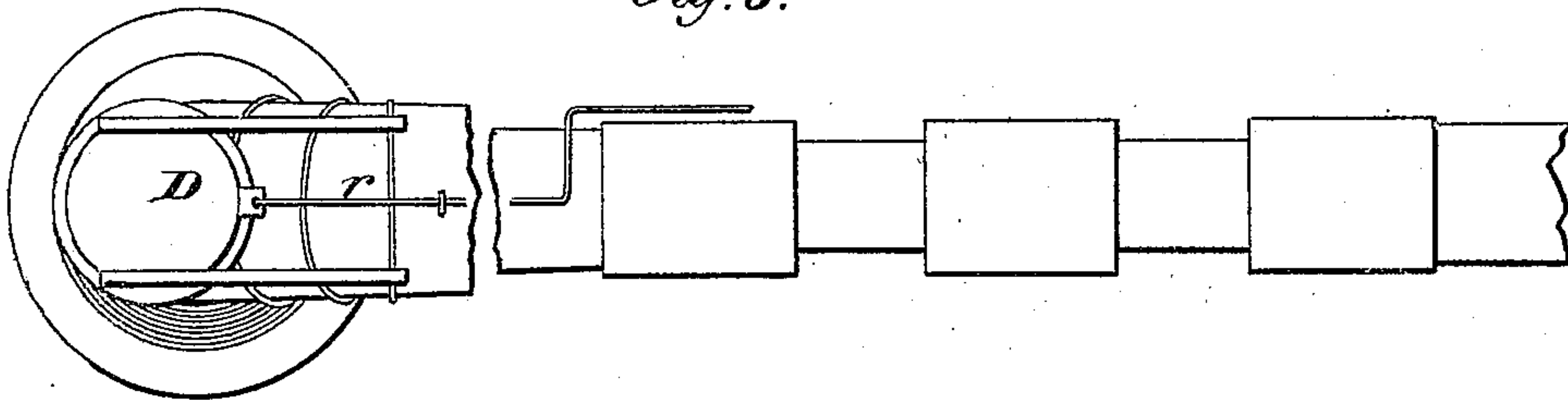
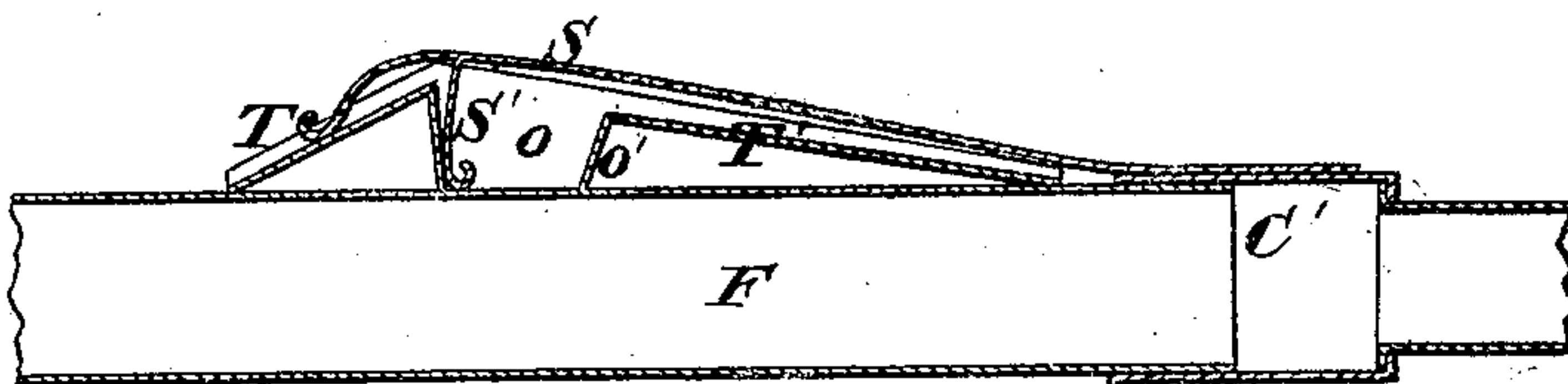


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

ERNST A. C. FOX, OF FREDERICK CITY, MARYLAND.

IMPROVEMENT IN APPARATUS FOR CONVEYING SMOKE AND SPARKS FROM LOCOMOTIVES.

Specification forming part of Letters Patent No. **150,015**, dated April 21, 1874; application filed March 21, 1874.

To all whom it may concern:

Be it known that I, ERNST A. C. FOX, of Frederick City, in the county of Frederick and State of Maryland, have invented certain new and Improved Apparatus for Conveying Smoke and Sparks from Locomotives; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings forming part of this specification, in which—

Figure 1 is a side elevation of a locomotive and a car with my improved smoke and spark conveyer attached thereto. Fig. 2 is a longitudinal vertical section through the smoke stack and conveyer. Fig. 3 is a top view of the same; and Fig. 4 is a longitudinal vertical section through the flexible conveyer, showing the spring-connection of the parts of the conveyer between two of the cars, which connection renders the parts of the conveyer detachable when a car becomes uncoupled.

Similar letters of reference in the accompanying drawings denote the same parts.

This invention relates to that class of smoke-conductors for railroad-trains in which a conveyer composed of sections of tubing united by flexible connections is employed, extending from the smoke-stack to the rear end of the train, and conveying the smoke, cinders, &c., away without annoyance to the passengers; and to this end my invention consists in the employment of a spring fastening connection or joint applied to the sections of the conveyer between each car and the one following it, by means of which the sections of the conveyer between the cars will be held together under ordinary circumstances, but will become detached should a car become uncoupled, or any extraordinary strain be made on the sections of the conveyer, my construction thus enabling me to prevent breakage of the conveyer, particularly at the flexible connections of the sections, should a car become uncoupled, or any extraordinary strain be brought upon the conveyer.

In the accompanying drawings, A is a locomotive attached to a train of cars, to the

smoke-stack B of which is attached the conveyer C, opening into the stack, and thence passing to the tops of the cars, and to the rear end of the train. The conveyer is made flexible or jointed, as shown at D E, Fig. 2, to allow it to bend and yield, and prevent strain in passing around curves and over ascents or descents in the road. To the top of the smoke-stack a sliding valve, D, is applied, to which a rod, *r*, is attached, which extends down to the side of the locomotive or cars, so as readily to be opened or closed.

When the cars are not in motion the valve is opened, so as to allow the products of combustion to pass up directly through the smoke-stack; but when the cars are in motion the slide-valve D is closed, thus increasing the draft in the conductor, which conveys the products of combustion to the rear end of the train, where they are discharged.

In the ordinary construction of flexible conveyers of the class I have described, if a car becomes uncoupled the sole connection of the car uncoupled and those in rear of it with the cars in front of the uncoupled one is the conveyer, which is exceedingly liable to be broken from the strain brought to bear upon it under such circumstances.

To obviate this defect is one of the objects of my invention, which consists in connecting the sections of the conveyer between the cars by a detachable joint, which I will now proceed to describe.

F (see Fig. 4) is a section of the conveyer, to the rear end of which, and between the cars, the section C' is applied, the latter fitting over the section F. S is a bent spring, securely attached at its lower end to the section C', the upper part of the spring resting in an inclined trough, T. S' is an arm attached to the under side of the spring S, and projecting into the hollow socket or receptacle *o*, the rear end *o'* of which is inclined, to allow the projecting arm S' to ride over it when a strain is brought upon the section C' of the conveyer.

From this construction, it will be seen that

should any great strain be brought upon the section C', such as would arise from the uncoupling of a car, the bent spring would be drawn from its bearings on the troughs T T', and the projecting arm S' drawn from its seat o, thus rendering the sections between the cars readily detachable, and preventing breakage of the parts.

Having thus described my invention, what I claim is—

The section C', provided with a bent spring, S, having an arm, S', in combination with the section F, troughs T T', and seat o, substantially as described, and for the purpose set forth.

ERNST A. C. FOX.

Witnesses:

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