

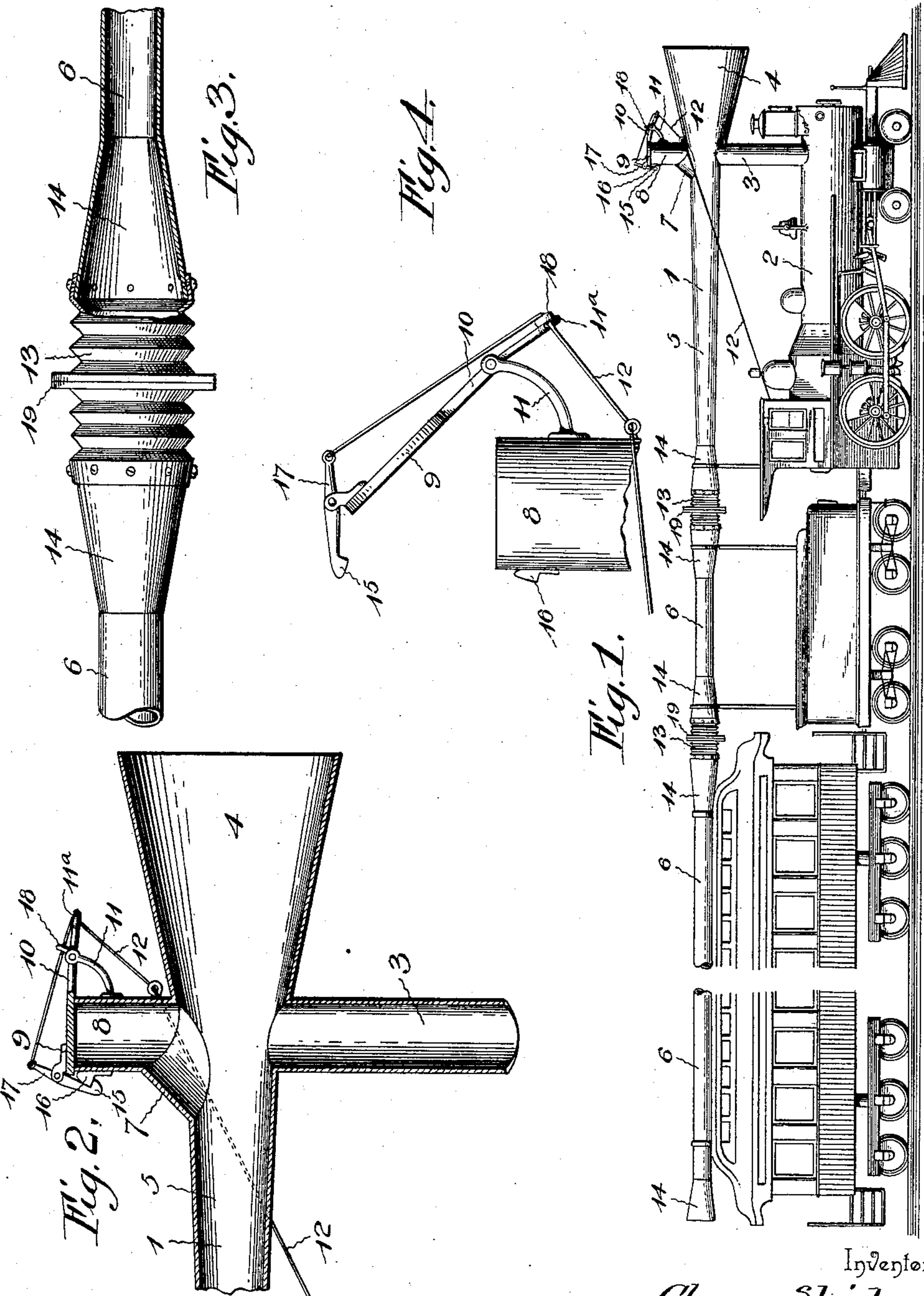
No. 606,770.

Patented July 5, 1898.

C. SLEISTER.
SPARK CONDUCTOR.

(Application filed Dec. 16, 1897.)

(No Model.)



Inventor
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Witnesses
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UNITED STATES PATENT OFFICE.

CLARENCE SLEISTER, OF PEORIA, ILLINOIS.

SPARK-CONDUCTOR.

SPECIFICATION forming part of Letters Patent No. 606,770, dated July 5, 1898.

Application filed December 16, 1897. Serial No. 662,214. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE SLEISTER, a citizen of the United States, residing at Peoria, in the county of Peoria and State of Illinois, have invented a new and useful Spark-Conductor, of which the following is a specification.

The invention relates to improvements in spark-conductors.

10 The object of the present invention is to improve the construction of spark-conductors and to provide a simple and effective one adapted to be readily applied to a train of cars and capable of conducting smoke and other
15 products of combustion from the smoke-stack to the rear of the train.

20 A further object of the invention is to provide a smoke-conductor which will permit a straight draft through the smoke-stack when desired and in which the conduit will not be constricted when a train is rounding a curve.

25 The invention consists in the construction and novel combination and arrangement of parts, as hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

30 In the drawings, Figure 1 is a side elevation of a portion of a train provided with a spark-conductor constructed in accordance with this invention. Fig. 2 is an enlarged sectional view of the front portion of the spark-conductor. Fig. 3 is a detail view, partly in section, illustrating the construction of the flexible connection between the
35 pipe-sections. Fig. 4 is a detail view showing the cap or valve raised.

Like numerals of reference designate corresponding parts in the several figures of the drawings.

40 1 designates the front section of the spark-conductor, and this front section 1, which is disposed over a locomotive 2, is provided with a depending vertical tube 3, adapted to fit over a smoke-stack and designed to be firmly
45 clamped on the same, whereby the section 1 is connected with the locomotive without interfering with the usual construction thereof. The section 1 is provided with a flaring funnel-shaped mouth 4, extending outward in
50 advance of the depending vertical tube 3 and

adapted through the movement of the train to conduct air into the device and produce a strong draft through the same.

A tapering tube 5 extends rearward from the central portion of the section 1 along the top of the locomotive at a sufficient elevation to be in alinement with pipe-sections 6, which are suitably supported upon the tender of the locomotive and the cars of the train. The bottom portion of the front end of the tapering tube 5 connects directly with the upper end of the vertical tube 3, and the upper portion of the tube 5 is connected by an inclined wall 7 with a smoke-receiving hood 8, which is disposed directly above the depending vertical tube 3 in position to receive smoke ascending the said tube 3 and prevent such smoke from passing out through the flaring mouth or funnel 4 when there is no draft through the spark-conductor. As soon as there is a draft induced through the spark-conductor by the motion of the train any smoke collecting in the hood 8 is drawn therefrom, the inclined wall 7, which extends downward and rearward from the hood, facilitating such action. The inclined wall 7 extends to a point above the lower end of the front wall of the hood 8, so that it is impossible for smoke to be confined within the hood by the draft through the conductor.

80 The hood 8, which is tubular, is disposed directly above the tube 3 and is normally closed by a hinged cap or valve 9, provided with a forwardly-extending arm 10, which is pivoted between its ends to a bracket 11. The bracket 11 is mounted on the front of the hood 8, as clearly shown in Fig. 2 of the accompanying drawings, and the outer end of the arm 11 is provided with an opening 11^a, through which passes a cord or rope 12, designed to extend to the cab of the locomotive to enable the engineer or fireman to open the cap or valve and provide a straight draft for the locomotive when starting a fire.

95 In order to prevent the cap or valve from being blown open by the exhaust of the locomotive, it is provided with a catch 15, pivotally mounted on and depending from the free edge of the cap or valve and provided at its lower end with a tooth adapted to engage au- 100

tomatically a corresponding tooth or keeper 16 of the hood. The shank or body of the catch 15 is pivoted between its ends to form a lever, and the upwardly-extending portion 5 17 has the cord or rope 12 attached to it. The cord or rope 12 has a limited movement independent of the cap or valve in order to disengage the catch before lifting the same, and a stop 18 is secured to the cord or rope at a point between the arm 10 and the catch 15. 10 When the cord or rope is pulled, the catch is first disengaged from the keeper 16, and the stop 18 then engages the arm 10 to raise the cap or valve. The weight of the cap or valve 15 and the catch are sufficient to turn the parts to their closed position when the cord or rope is released.

The ends of the pipe-section 6 and the rear terminal of the tube 5 are flared or funnel-shaped, and the adjacent ends of the sections are coupled by flexible bellows-shaped connections 13, which, together with the flared or funnel-shaped ends 14, prevent the spark-conductor from being constricted by being 25 bent when a train is rounding a curve. The bellows-shaped flexible connections are constructed of fireproof material and are adapted to act in the capacity of spark-extinguishers, the live sparks being partly arrested and 30 extinguished through contact with the folds of the flexible connections.

The inner ends of the flexible bellows-shaped connections are bolted or otherwise secured to the funnel-shaped portion 14, and 35 their outer ends, which are adapted to abut when cars are coupled, are provided with circular face plates or rings 19, which form a spark and smoke proof connection. The folds of the bellows-shaped connections are supported by suitable springs, which cause the 40 face-plates 19 to engage each other yieldingly.

It will be seen that the invention possesses the following advantages: The spark-conductor is simple and comparatively inexpensive 45 in construction and may be readily applied to a train without necessitating any change in the construction of a locomotive, as the tube 3 is adapted to fit over the smoke-stack. The pipe-sections of the spark-conductor are 50 in the same horizontal plane, so that there is no obstruction to the free draft or blast of air from one end of a train to the other, and the capacity of the pipe-sections is not diminished when a train is rounding a curve. 55 The device is adapted to provide a straight draft for a locomotive when desired, and the smoke-receiving hood is adapted to prevent smoke from issuing through the mouth or funnel 4 when a train is not in motion. The 60 flexible bellows-shaped couplings are automatic in their operation, the face-plates being adapted to engage each other when cars

are coupled and separate when cars are uncoupled without any manipulation by hand.

Changes in the form, proportion, and minor 65 details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

What I claim is—

1. In a spark-conductor, the combination 70 of a vertical tube designed to be connected with a locomotive, a flaring mouth or funnel extending forward from the mouth of the tube, a rearwardly-extending tube connected with the vertical tube and disposed opposite 75 the flaring mouth or funnel, and a vertical hood located directly above the vertical tube and provided with a cap, the rear wall of the hood terminating short of the front wall, and being provided with the inclined portions 7 80 connected with the rearwardly-extending tube and extending downward and rearward from a point above the lower edge of the front wall of the hood, substantially as and for the purpose described. 85

2. In a spark-conductor, the combination of two pipe-sections having their adjacent ends flared or funnel-shaped to increase the diameter of the conductor, and the flexible bellows-shaped connections secured to the 90 flaring or funnel-shaped ends of the pipe-sections, substantially as described.

3. In a device of the class described, the combination of a tube, a hinged cap or valve provided with an arm pivoted between its 95 ends, a catch mounted at the free edge of the cap or valve and adapted to engage the tube, and a cord or rope secured to the catch and connected with the arm, said cord or rope having a limited movement independent of 100 the arm, whereby the catch is released before the cap or valve is raised, substantially as described.

4. In a device of the class described, the combination of a tube, a hinged cap or valve 105 provided with an arm pivoted between its ends and having an opening in its outer portion, a catch pivoted between its ends at the free edge of the cap or valve and having its lower portion adapted to engage the tube, and 110 a cord or rope passing through the opening of said arm and connected with the upper portion of the catch, said cord or rope being provided between the arm and the catch with a stop adapted to engage the former, substan- 115 tially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

CLARENCE SLEISTER.

Witnesses:

WILLIAM J. WULSTEIN,
M. N. GISH.