

K. L. COMES.

FIRE LIGHTING ATTACHMENT FOR STEAM FIRE ENGINES.

No. 476,249.

Patented June 7, 1892.

Fig. 1.

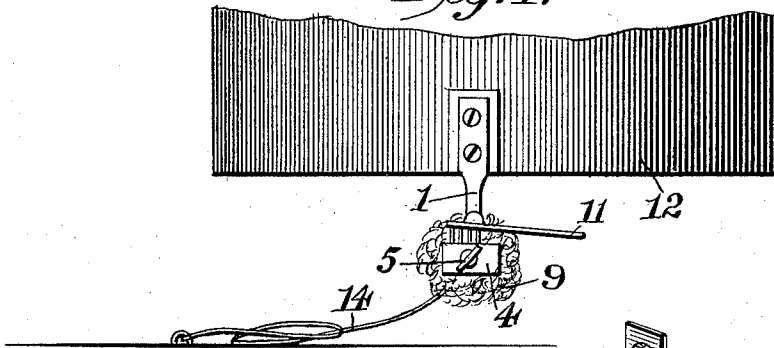


Fig. 2.

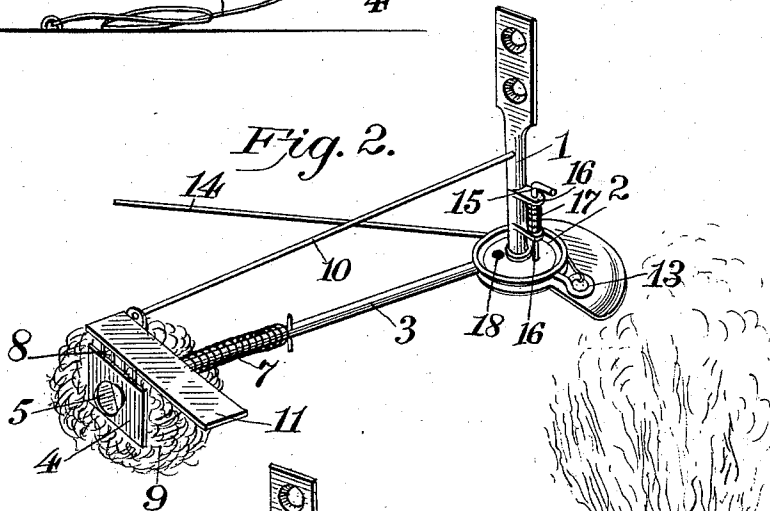


Fig. 3.

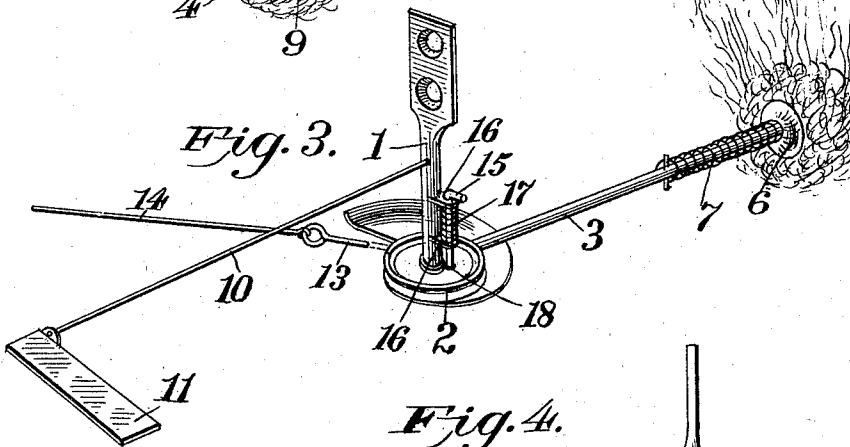
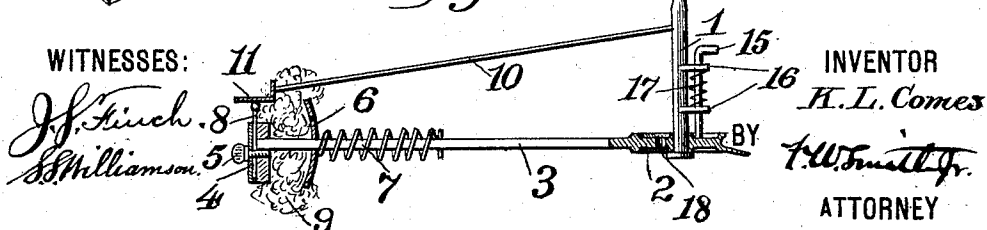


Fig. 4.

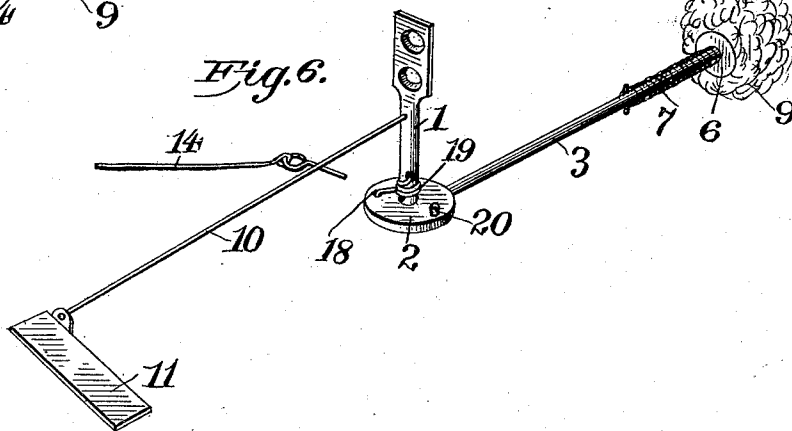
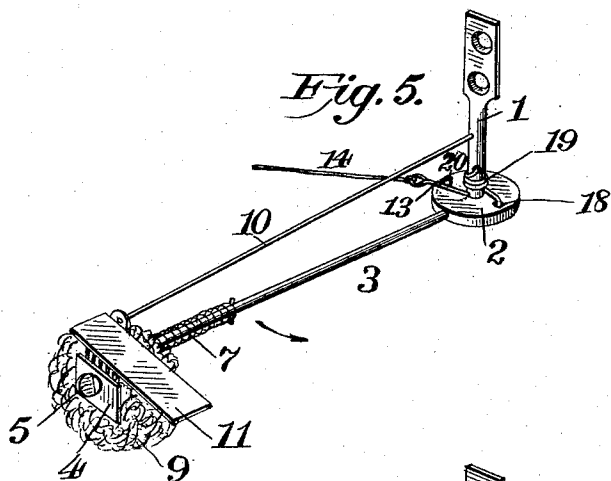


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WITNESSES:

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INVENTOR

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BY

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UNITED STATES PATENT OFFICE.

KEROS LESTER COMES, OF DANBURY, CONNECTICUT, ASSIGNOR TO THE
COMES AUTOMATIC STEAMER LIGHTER COMPANY, OF SAME PLACE.

FIRE-LIGHTING ATTACHMENT FOR STEAM FIRE-ENGINES.

SPECIFICATION forming part of Letters Patent No. 476,249, dated June 7, 1892.

Application filed December 26, 1891. Serial No. 416,177. (No model.)

To all whom it may concern:

Be it known that I, KEROS LESTER COMES, a citizen of the United States, residing at Danbury, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Fire-Lighting Attachments for Steam Fire-Engines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain new and useful improvements in devices for lighting fires in steam fire-engines, and has for its object to insure the lighting of such fires automatically during the time when the engine is leaving the engine-house.

Prior to my invention it has been the custom to light fires by chemicals which have been automatically controlled or by electrically-operated devices; but neither of these ways are desirable, owing to the uncertainty which attends chemical or electrical contrivances.

My improvement is mechanical, is positive in its action, and will be best understood from the following description, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation showing my improvement applied to the side of an engine fire-box; Fig. 2, a detail perspective of my invention, the parts being in normal or closed position; Fig. 3, a detail perspective of my invention, the parts being shown in distended position; Fig. 4, a sectional elevation of my improvement. Figs. 5 and 6 are views similar to Figs. 2 and 3, but showing the lighter-bar provided with an auxiliary spring device to throw said bar into position beneath the grate.

Similar numbers denote like parts in the several figures.

1 is a spindle, to the bottom of which is swiveled a plate 2. Extending from this plate is a rod 3, having mounted on its outer end an ordinary clamp 4, operated by a set-screw 5.

6 is a presser-plate supported on the rod 3 and having a free movement thereon longitudinal thereof.

7 is a coil-spring around said rod and having a constant bearing against said plate.

8 represents matches secured within the clamp 4, with their heads uppermost and in the same horizontal plane.

9 represents material (such as cotton waste) packed around the rod between the clamp and the plate 6 and held in this position by the action of the spring 7.

10 is a rod extending from the spindle 1 and having at its extremity a scratcher-plate 11, which normally rests against the heads of the matches.

The spindle 1 may be secured to any convenient part of a steam fire-engine. In some engines I would prefer to secure said spindle to the brake-rod, in others I would clamp it to the steam-pipes at the side of the fire-box, while, as shown at Fig. 1, it might be secured to the side of the fire-box 12. It is immaterial, however, how and where my device is applied, as long as the lighter-bar is capable of swinging beneath the grate.

13 is a pin, which is inserted within a hole in the side of the plate 2 and is readily detachable therefrom. 14 is a cord or chain, whose ends are secured, respectively, to said pin and to the floor of the engine-house.

The operation of my improvement is as follows: As the engine leaves its house the chain 14 will be drawn taut, and the continued travel of the engine will cause the plate 2 and rod 3 to be revolved by reason of the strain on said chain, thereby dragging the matches across the scratcher, igniting the waste, which has previously been saturated with some inflammable liquid, and swinging the burning waste beneath the grate. In order to prevent the rod 3 from accidentally swinging back from beneath the grate before a fire in the latter has been properly ignited, a bolt 15 is socketed within lugs 16, extending from the spindle 1, and a coil-spring 17 is placed around said bolt and adapted in the usual manner to force the bolt normally down against the plate 2, and a perforation 18 is made in said plate, with which perforation the bolt engages when the rod 3 has swung beneath the grate, as shown at Fig. 2. When the rod has been swung in this position, as hereinbefore set forth, the pin will be pulled out of the plate, as shown at Fig. 3.

If desired, a coil-spring 19 may be opera-

tively connected to the spindle and plate to serve as an auxiliary means for swinging the rod, or said spring may be strong enough to operate said rod independent of any other devices, in which latter instance I would secure a stop 20 to the plate and would detachably insert the pin within the spindle, so that the rod would be kept in normal position by the abutment of the pin against the stop 20, as shown at Fig. 5, and when the pin was withdrawn in the manner above set forth the spring 19 would cause the rod to be swung from beneath the scratcher, as shown at Fig. 6. I do not, therefore, wish to be limited to any particular means for swinging said rod, the gist of my invention residing in the structure of my lighting device and not in the employment of any special force for operating the same.

If desired, the device may be operated manually by the driver or engineer; but I prefer to rely upon the means shown and described for this purpose, since the device is thereby rendered perfectly automatic.

I claim—

1. In a device for lighting fires in steam fire-engines, the combination of a spindle adapted to be secured to the engine, a plate swiveled to said spindle, a rod extending from said plate and carrying matches and inflammable material arranged in close proximity to each other, a rod extended from said spindle and having at its extremity a scratcher-plate which rests normally against the heads of said matches, and means for revolving said plate, whereby the inflammable material is ignited and swung beneath the grate of the engine, substantially as shown and described.

2. In a device of the character described, the combination of a stationary scratcher-plate, a rod capable of swinging and carrying inflammable material and matches, the heads of the latter being normally in frictional contact with said scratcher-plate, and means for swinging said rod, whereby said material is ignited and carried beneath the grate of the engine, substantially as set forth.

3. The combination of the spindle secured to the engine, the scratcher-plate rigid with said spindle, the plate swiveled to said spindle, the rod extended from said plate and carrying inflammable material and matches, which latter are normally in frictional contact with the scratcher-plate, the pin detachably secured in the edge of said plate, and the chain whose ends are secured, respectively, to said pin and to the floor of the engine-house, whereby when the engine is drawn from its house the inflammable material will be ignited and swing beneath the grate of the engine and the pin will be withdrawn from the plate, substantially as set forth.

4. The rod 3, having at its extremity a clamp 4 for the matches and provided with a spring-actuated presser-plate 6, whereby inflammable material may be retained in close proximity to the matches, in combination with a stationary scratcher-plate and means for swinging said rod from beneath the latter, substantially as shown and set forth.

In testimony whereof I affix my signature in presence of two witnesses.

KEROS LESTER COMES.

Witnesses:

ERNEST N. BEACH,
H. C. HODDINOTT.