

W. A. Devon.

Gib.

N^o 71,145.

Patented Nov. 19, 1867.

Fig. 1.

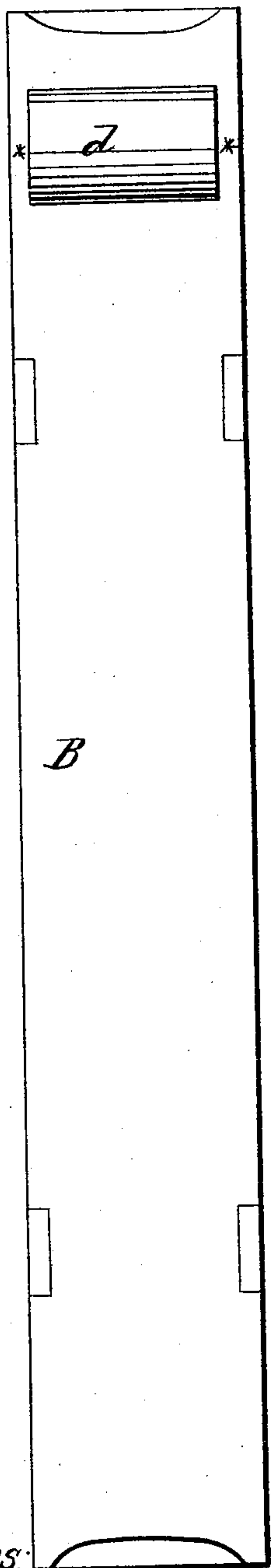


Fig. 2.

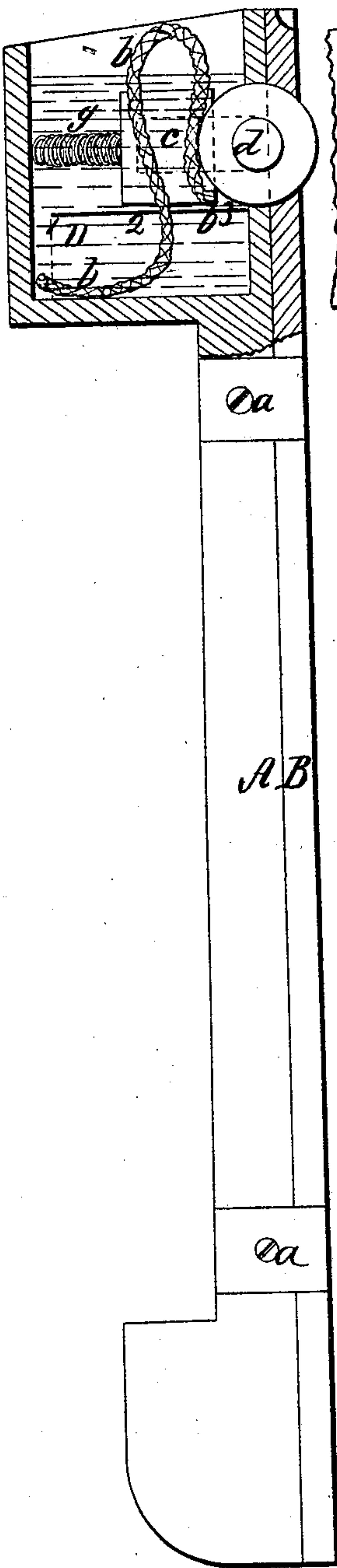
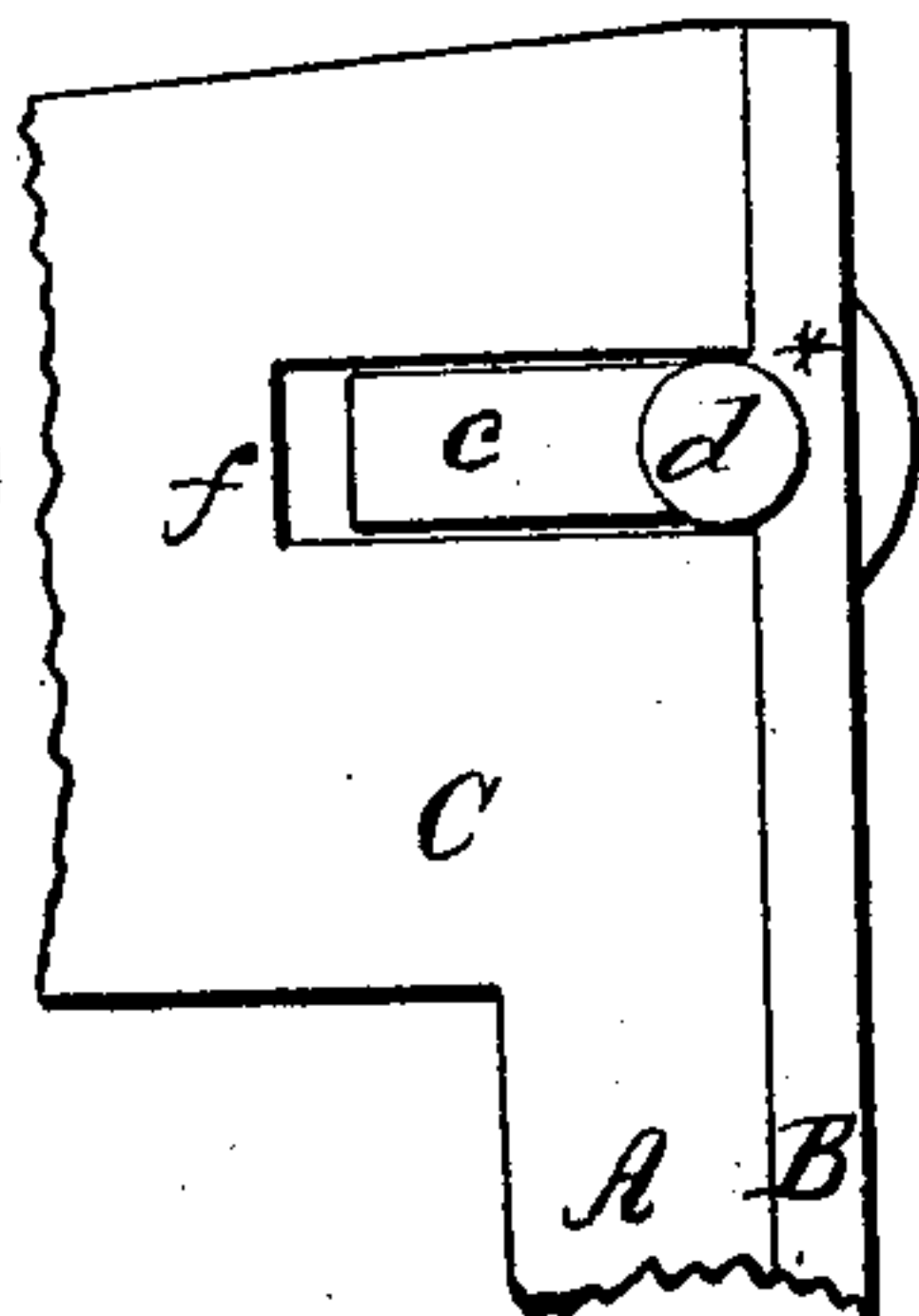


Fig. 3.



Witnesses,

Solomon De Waller
Per 1st & 2nd

Inventor;

Wm A Devon

United States Patent Office.

WILLIAM A. DEVON, OF PORT RICHMOND, NEW YORK.

Letters Patent No. 71,145, dated November 19, 1867.

IMPROVEMENT IN SELF-LUBRICATING GIB.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, WILLIAM A. DEVON, of Port Richmond, Richmond county, and State of New York, have invented a new and improved Gib and Self-Oiler for the Slides of Steam Engines; 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, making a portion of this specification, in which—

Figure 1 is a front view of the friction-plate and lubricating-roller of my improved gib.

Figure 2 is a side view of the same, showing the gib and friction-plate, with an open section of the oil-cup with its internal mechanism.

Figure 3 is a side view of the same, showing the external appearance of the self-oiler with its slot and slides.

Similar letters of reference indicate corresponding parts in all the figures.

This invention is designed as an improvement on steam-engine gibs and oilers, to lessen the expense for gibs and oils, and to lighten the labor, and prevent the decks and surrounding parts from being soiled by the superabundance of black oil with which they are now drenched. Hitherto the gibs have been made of one piece of metal, which is soon worn down one-third of its thickness by the friction on the slides, when it has to be removed and replaced by a new one, for, if retained in use after this, it is apt to break, causing no small amount of danger and delay. This invention obviates these difficulties by supplying a cheaper, safer, and better gib than that now in use.

I make it in two parts, the gib of iron, with a friction-plate of brass, which is dove-tailed and screwed on to the gib. When the friction-plate has been worn down, the screws are removed and a new friction-plate supplied, thus saving a great expense in waste metal. The invention further consists in a certain novel device for oiling the slides. In the old method the head of the gib is cast hollow, with an opening in front facing the slide. The hollow or cup is filled with oil every three or four hours, the oil being conveyed to the slide by means of a wick, which is inserted in the opening in the face of the gib. The result is that the oil is fed in such quantities that it cannot be used, and at every stroke of the piston it is swept over the hurricane deck in an inky shower, or down upon the cylinder and surrounding parts of the machinery, making it an impossibility to keep those parts clean.

The object of this invention is to overcome the defects, and while lubricating the slides in a perfect manner, to do it with the least possible waste of oil. The top of the gib is hollow, with an opening in front, from which projects a metal roller, the ends of which bear upon a slotted slide, which moves back and forth by means of two spiral springs which press the roller outward against the slides of the engine, while they yield to the pressure of the slides, and allow the roller to fall back within the cup until it is flush with the friction-plate, thus revolving under any circumstances in its passage up and down the slides. Fastened by hooks to the bottom of the cup, and carried over a wire at the top, is a piece of wick, the free end of which hangs against the back of the roller. This wick conveys the oil from the cup to the roller, which in turn conveys it to the slide, while any spare oil that may be gathered by the gib in the upward stroke runs down to the roller, and by this means is used over and over again instead of being scattered all around.

To enable others to understand the nature and construction of my invention, I will proceed to describe it with reference to the drawings.

This gib is divided into two separate sections, marked respectively A and B, as shown in fig. 2. A is the gib, which is made of malleable iron or any suitable metal, while the friction-plate B is made of brass. The said sections A and B are joined together and held in their place by four slots and slides, and screws on each side, as shown at *a a*. B, in fig. 1, shows a front view of the friction-plate of the gib, with the lubricating-roller *d* as it bears upon the slide of the engine through the opening left in the friction-plate for that purpose. C, in fig. 3, is a side view of the oil-cup or head of gib A, with its slot *f* and slide *e*, which likewise forms the bearing for the journal of the lubricating-roller *d*. The slot is made a little longer than the slide, so as to permit of the latter's working back and forth, as the gib bears off or on the slide of the engine, while the sections of the friction-plate, marked thus, * * *, in figs. 1 and 3, serve to keep the roller *d* in its proper position in front of the friction-plate. D, in fig. 2, shows an open section of the oil-cup, with the internal mechanism of the self-oiling device. D is a hollow box cast in the gib A. C is an internal view of one of the slides, which works back and

forth in the slot *f*, as shown in fig. 3, and forms the bearings for the journal of the roller *d*, as already specified. The dotted lines in *c* show the groove which works in the slot *f*, while the lapped edges prevent the slides from falling outward, while both slides are held in position by a connecting wire, which extends from the one to the other, thus fixing them securely in their position. *g* shows one of the spiral springs which are attached to the back of the slide *c*, and bears against the back of the hollow space or cup *D*. These springs constantly press the roller *d* out toward the slide of the engine, while they yield sufficient to allow the outer edge of the roller to be pressed back till such times as it is flush with the outer edge of the friction-plate *B*, thus causing the roller to revolve, whether the engine-slide presses close on the gib or otherwise. *b b b* is a piece of flat wick, which is fastened to the bottom of the oil-cup by hooks or any suitable device. It then passes over a wire on the top of the cup while the free end of the wick hangs down against the roller *d*. The oil is then put in from the top of the cup, and is conveyed by the wick to the roller, which revolves against it. The roller in turn conveys the oil to the slides of the engine in just such quantity as is required to lessen the friction without any undue waste, while the oil which gathers on to the head of the gib, in its upward stroke, filters down to the roller, and by this means is made to do service until it is all exhausted.

The only alteration required to make this invention serviceable for horizontal engines is to partition off the space marked 1, 2, and 3, in the open section of the cup *D*, in fig. 2, as a reservoir for the oil. A self-oiler on this principle may be made independent of the gib, and attached to the jaws of the cross-head.

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

1. A gib, constructed in two parts, as shown by *A B*, and fastened, as seen at *a a*, or their equivalents, substantially as herein set forth.
2. The self-oiling device, as shown in *D* and *C*, with the roller *d* and slot *f* and slides *c*, the spring *g*, in connection with the wick *b b b*, or their equivalents, substantially as and for the purpose herein set forth.

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Witnesses:

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