S. S. HURLBURT.

Wagon-Brake Lever.

No. 107,914. Patented Oct. 4, 1870.

Fig. 1.

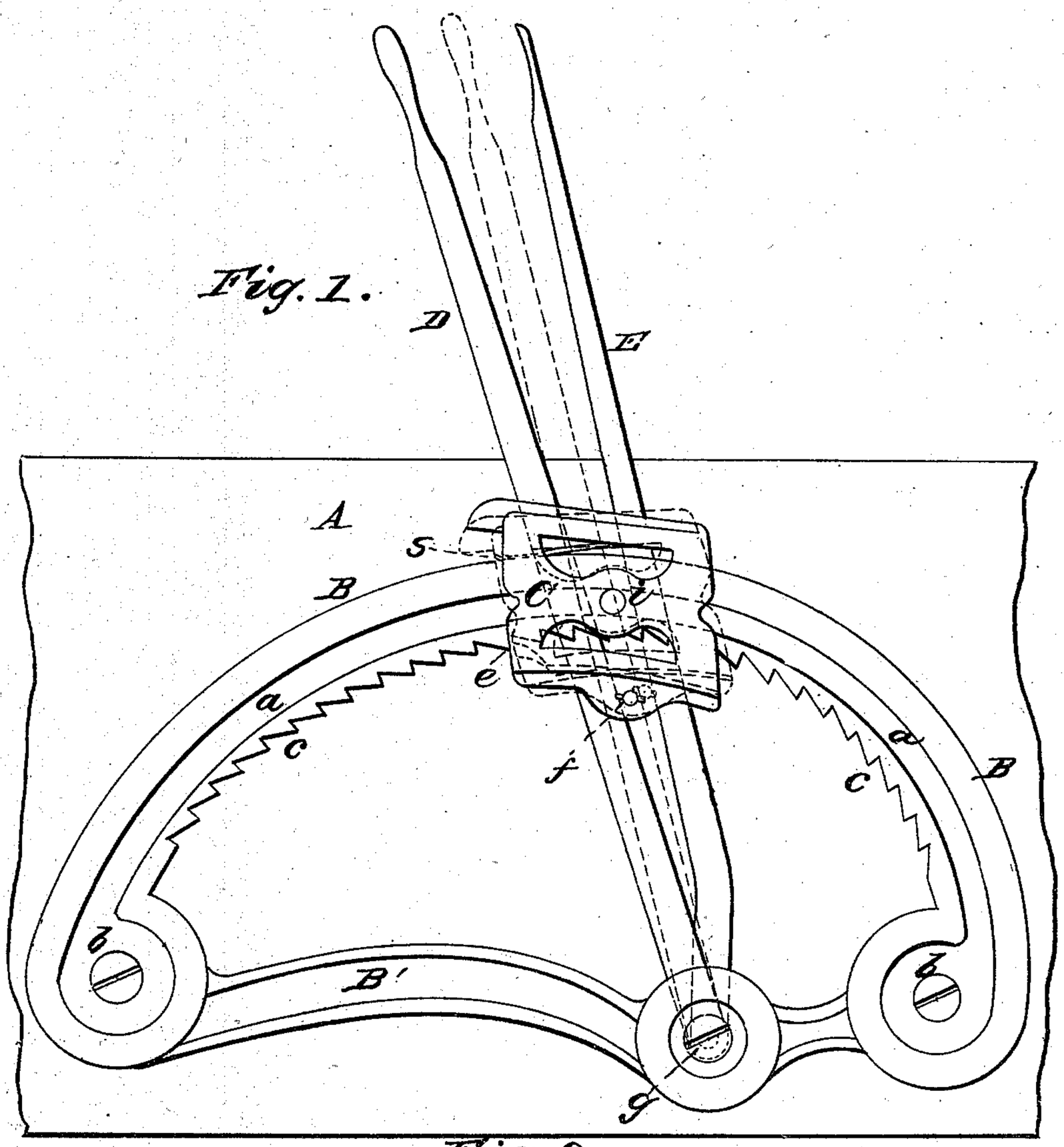
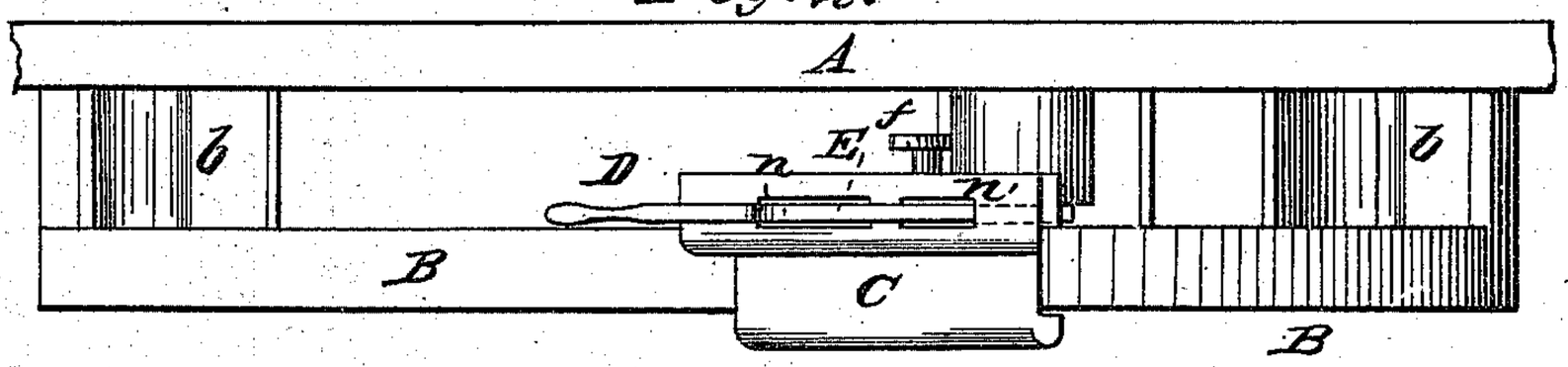


Fig. 2.



Witnesses:
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Inventor.
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UNITED STATES PATENT OFFICE.

SIDNEY S. HURLBUT, OF CORDOVA, ILLINOIS.

IMPROVEMENT IN WAGON-LOCKS.

Specification forming part of Letters Patent No. **107,914**, dated October 4, 1870.

To all whom it may concern:

Be it known that I, SIDNEY S. HURLBUT, of Cordova, in the county of Rock Island and State of Illinois, have invented a new and Improved Device for Operating Wagon-Locks; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, making part of this specification, in which—

Figure 1 is a side view of the improved device. Fig. 2 is a top view of the same.

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

This invention relates to certain novel improvements on devices for locking and unlocking wagon-brakes, wherein the brake-rod is attached to a spring-pawl block, which is guided by a toothed segment and actuates by means of hand-levers, as will be hereinafter explained.

To enable others skilled in the art to understand my invention, I will explain its construction and operation.

In the accompanying drawing, A represents a portion of the side board of a wagon-box, to which is securely fastened, by bolts *b b* and *g*, a segment, B. This segment is preferably made of the form shown in the drawing, Fig. 1—that is to say, of a convolute form, and, of course, eccentric to the fulcrum-bolt *g*—for a reason which will be hereinafter explained.

I do not, however, confine myself to this form of segment, as it may be part of a circle concentric to the fulcrum-bolt *g*.

The lower ends of the segment B are connected together by a cross-piece, B′, and at those points on the back of the segment through which the bolts *b b* and *g* pass bosses are formed, for the purpose of setting the segment off free from the side of the box A except at said points. Into the face of the segment B a groove, *a*, is made, and on the bottom edge of this segment ratchet-teeth *c* are formed. The upper edge of the segment is smooth.

C is what I denominate a "spring-pawl box." It embraces the upper and lower edges and front side of the segment B, and receives, through its top and bottom portions, two levers, D and E, which are both connected to and vibrate about the fulcrum-bolt *g*. This bolt thus serves not only as a means for securing the segment to the wagon-box A, but it also serves as the fulcrum for both levers, D and E. These levers pass up through oblong slots *n n′* made through the spring-pawl box, and are of sufficient length to be convenient to the hand of the driver sitting upon the box. At *i* a round pin passes into the groove *a*, and serves as a guide and fulcrum-pin for the spring-pawl box C; and through the lower portion of this box C, beneath the segment, is a pin, *f*, having a head on that end next the wagon-box A, which pin divides levers D E and receives on it an eye which is formed on the brake-rod.

At *e* a tooth is formed on the lower portion of the spring-pawl block C, which tooth is held up in contact with the teeth *c* on segment B by means of a spring, *s*, and when so held will operate as a pawl or lock. The spring not only forcibly holds the tooth or pawl *e* in contact with the ratchet-teeth *c*, but the operation of this spring *s* on the block C is to force the pin *f* against the lever D below the segment B, and to force the rear end of slot *n′* against the lever E above the said segment, thus spreading the levers apart. Now, when lever D is pressed forward it will tilt block C in such manner as to allow this block to be moved forward on its segment, and when the upper ends of the two levers D and E are grasped in the hand and brought together the block C will be tilted about its fulcrum-pin *i′*, as indicated by dotted lines, Fig. 1, thereby releasing the pawl or tooth *e* from the ratchet-teeth *c*, and allowing the block C to be moved either forward or backward on its segment B.

The eccentric grooved segment B has this advantage over a concentric segment: When the brake-shoe is at its greatest distance from the wheel the block C will be at its greatest distance from the fulcrum *g*. It then has a long leverage, while there is very little power required, allowing the brake-shoe to be moved quickly to the straining-point. The strain on the lever is intended to commence when the end of the brake-rod is about five and one-half inches from the fulcrum *g*, and as the levers are moved forward the distance is being constantly lessened. To obtain the same sweep with a concentric segment, it would require to be so large that its strength would be greatly impaired.

I have described the lock as being especially

applicable for wagon-brakes; but it may be applied to various other purposes where a variable leverage and a positive lock which can be released at pleasure are desired.

I do not claim as my invention anything shown and described in the Letters Patent of L. W. Carkhuff, granted on the 1st day of September, 1868, and numbered 81,750.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The toothed eccentric segment B, in combination with a sliding spring-pawl block, C, and levers for moving the latter, substantially as described.

2. The spring-pawl block C, constructed and applied substantially as described.

3. The fulcrum guide-pin *i* and the pin *f*, applied to the tilting spring-pawl block C and the levers D E, substantially as described.

4. The springs applied to the pivotal block C and segment B so as to operate on said block, and also on the levers D E, substantially as described.

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Witnesses:

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