No. 826,455. PATENTED JULY 17, 1906.

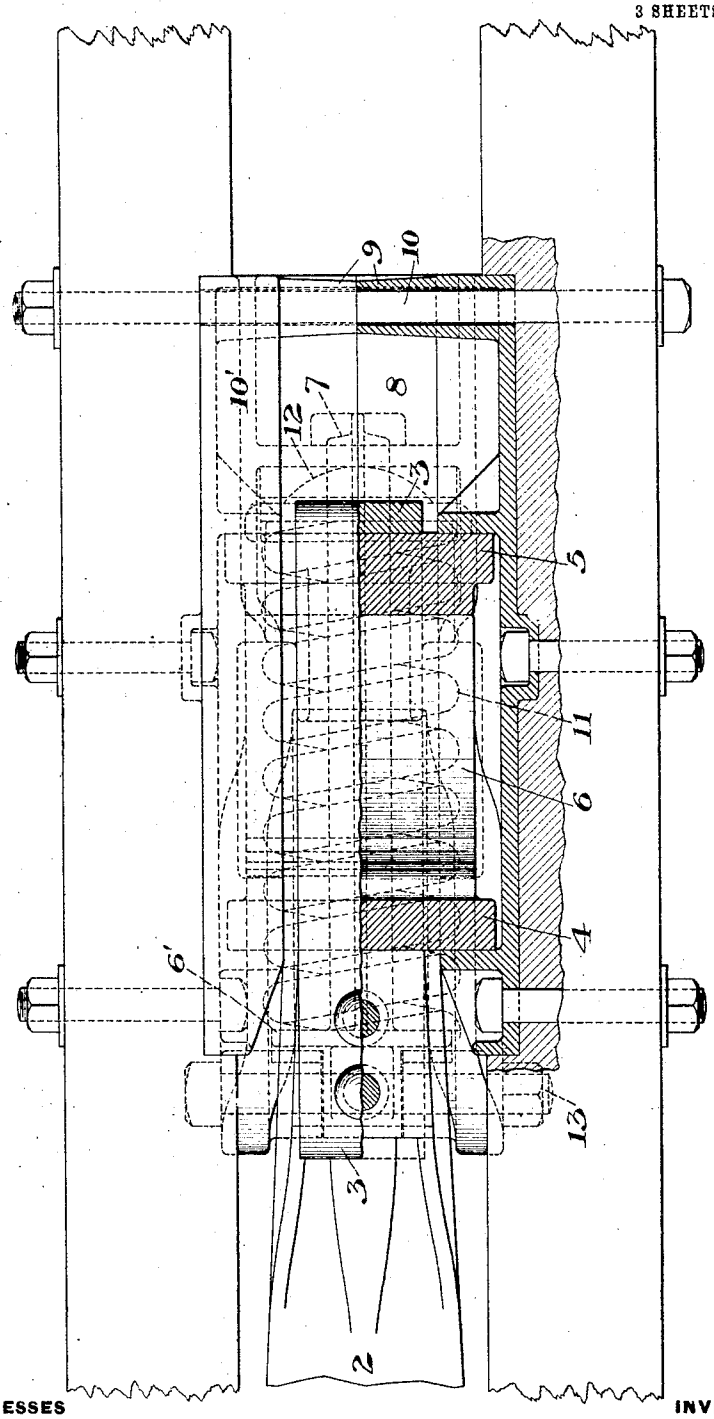
C. A. TOWER.

DRAFT RIGGING.

APPLICATION FILED JUNE 24, 1905.

3 SHEETS—SHEET 1.

Fig. 1.



WITNESSES

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R. A. Balderson.

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3 SHEETS—SHEET 2.

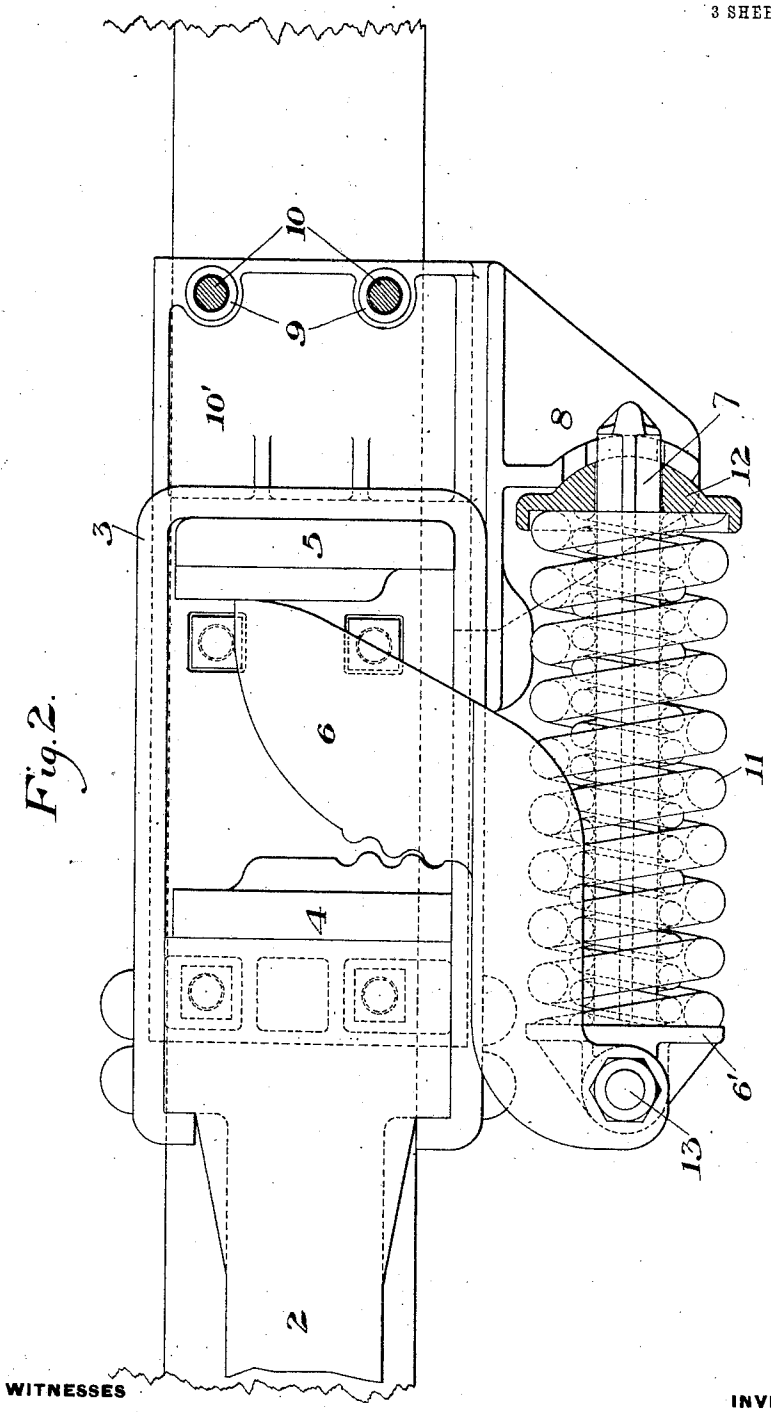

Fig. 2.

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3 SHEETS—SHEET 3.

Fig. 4.

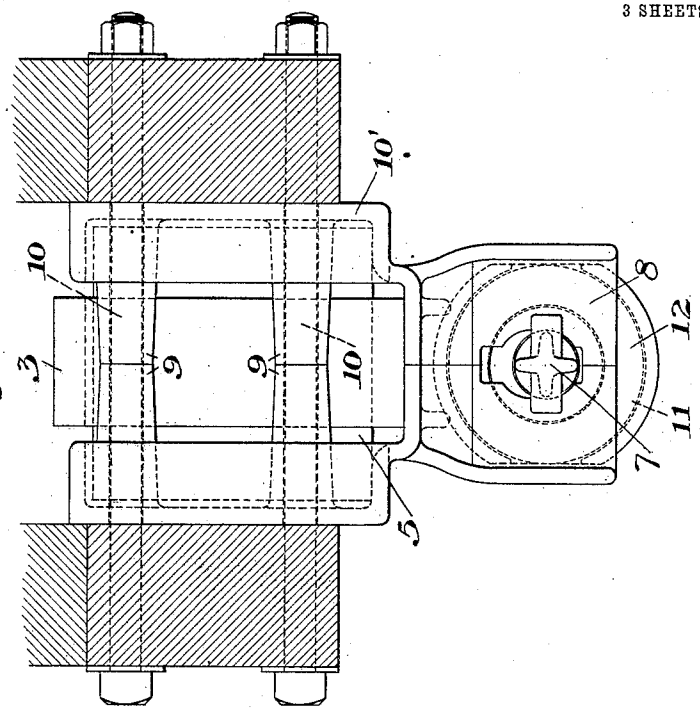
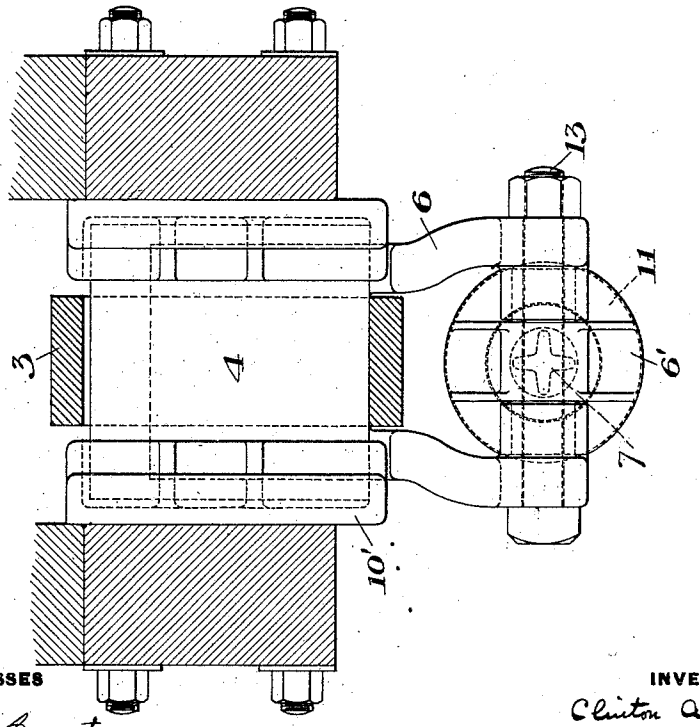


Fig. 3.



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UNITED STATES PATENT OFFICE.

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DRAFT-RIGGING.

No. 826,455. Specification of Letters Patent. Patented July 17, 1906.

Application filed June 24, 1905. Serial No. 266,703.

To all whom it may concern:

Be it known that I, CLINTON A. TOWER, of Cleveland, Cuyahoga county, Ohio, have invented a new and useful Draft-Rigging, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a plan view of my draft-rigging, partly in section. Fig. 2 is a side elevation, partly broken away. Fig. 3 is a front vertical sectional view, and Fig. 4 is a rear view.

In the drawings, 2 represents the draw-bar, 3 is a yoke which extends rearwardly therefrom, and 4 5 are followers held, respectively, on opposite sides by means of the usual stops on the draft-timbers, which may be applied in the way in which stops are ordinarily applied to the followers of draft-riggings. The front follower 4 has preferably on its face a corrugated or toothed surface adapted to engage with a correspondingly-shaped surface on a lever 6, which has rocking bearings at diagonally opposite places on the followers, the bearing on the follower 4 being preferably a toothed bearing, as shown, and the bearing on the rear follower 5 being preferably a plain bearing of the back of the lever against the follower. The lever is forked or slotted, so as to pass the yoke 3, from which it extends outwardly and preferably vertically downward beyond the line of the draw-bar. The lever extends forwardly at the portion which is outside of the yoke and has a spring-rod 7 passing rearwardly through a stop 8, which extends downwardly from the case 10', which is bolted to the draft-timbers, as shown, and preferably is made in sections, which are separated between the draft-timbers by stop portions 9, through which bolts 10 pass. A spring 11 is interposed between a shoulder 6' at the end of the lever and the stop 8, a curved or rocking bearing-piece 12 being interposed between the end of the spring and the stop and being fitted on the spring-rod 7 with an enlarged hole, so as to permit a slight rocking adjustment. The spring-rod 7 is pivotally connected to the end of the lever by a horizontal pivot-pin 13.

As shown in the drawings; I employ two coil-springs interposed between the lever 6 and the stop 8 and set one within the other; but the springs may be arranged in tandem or otherwise, as desired.

When the draw-bar is subjected to a buffing stress, it will move the follower 4 rearwardly and acting on the lever 6 will cause it to rock on its rear bearing against the follower 5 and also on the corrugated bearing against the follower 4 and will cause its outer end to move rearwardly and to compress the spring against the stop 8, the bearing of the lever against the follower 5 in this operation acting as the fulcrum and the bearing against the follower 4 acting as the point of application of the power. As the follower 4 moves inwardly its point of contact with the lever will correspondingly shift upwardly toward the fulcrum, and the point of contact of the lever with the rear follower will shift downwardly. This increases the length of the long arm of the lever and shortens the short arm, and the differential action of the lever thus produced increases the effective resistance of the spring as the buffing increases in force. During the buffing action the follower 5 is held by its stops and affords the necessary resistance to the lever. When a pulling stress is applied to the draw-bar, the yoke 3 will draw the follower 5 forwardly and the follower 4 will be held by its stops, and a like action will take place with reference to the shifting of the points of contact, the contact of the lever against the rear follower moving downwardly and its point of contact against the front follower moving upwardly, so that the effective resistance of the spring is increased as the pulling force is increased. The construction is such, as will be seen, that more power is required to compress the spring during buffing than during pulling. The pivotal connection of the rod 7 and the rocking bearing of the part 12 against the stop 8 enable the parts to adjust themselves in every position which they assume.

The advantages of my invention will be appreciated by those skilled in the art. It is simple and effective and takes up so little room that it can readily be applied to use in all cases where draft-riggings of the kind now commonly employed are applicable.

The invention may be modified in many ways without departing from the definition thereof as stated in the claims, since

What I claim is—

1. A draft-rigging having a lever and a spring interposed between the lever and a fixed stop, said lever having opposite bear-

ings against movable portions of the draft-rigging and adapted to compress the spring both in buffing and in draft; substantially as described.

2. A draft-rigging having a lever and a spring interposed between the lever and a fixed stop, said lever projecting outwardly beyond the line of the draw-bar having opposite bearings against movable portions of the draft-rigging and adapted to compress the spring both in buffing and in draft; substantially as described.

3. A draft-rigging having a lever, a fixed stop, and a spring interposed between said lever and stop, said lever being adapted to compress the spring by movement in one direction both in buffing and in draft; substantially as described.

4. A draft-rigging having a differential lever and a spring interposed between the lever and a stop, said lever projecting outwardly beyond the line of the draw-bar and bearing at diagonally opposite points against the respective followers; substantially as described.

5. A draft-rigging having a differential lever and a spring interposed between the lever and a stop, said lever projecting outwardly beyond the line of the draw-bar and bearing at diagonally opposite points against the respective followers, whereby when the lever is rocked the points of bearing will relatively approach; substantially as described.

6. A draft-rigging having followers, a lever interposed between them and projecting outside the line of the draw-bar, a spring bearing at one end against the lever and at the other end against a stop, one of the bearings of the lever with the followers being toothed; substantially as described.

7. A draft-rigging having a projecting lever, and a spring interposed between the lever and a stop, said spring having a rocking bearing on said stop; substantially as described.

8. A draft-rigging having a projecting lever, and a spring interposed between the lever and a stop, said spring having a rocking bearing on said stop and having a pin which is pivotally mounted; substantially as described.

9. A draft-rigging having a lever, a fixed stop projecting below the draft-timbers, and a spring interposed between said lever and stop, said lever being adapted to compress the spring by movement in one direction both in buffing and in draft; substantially as described.

10. A draft-rigging having a lever and a spring, said spring having a bearing at one end against a fixed stop, projecting from a case interposed between the draft-timbers; substantially as described.

11. A draft-rigging having a projecting lever and a pin pivotally connected to the end of the lever, a spring on the pin and a stop for the spring; substantially as described.

12. A draft-rigging having a lever which projects outwardly from beyond the line of the draw-bar, and thence longitudinally, and a spring on which the lever acts; substantially as described.

13. A draft-rigging having a differential lever adapted to act both in buffing and in draft and a spring interposed between the lever and a stop; substantially as described.

In testimony whereof I have hereunto set my hand.

CLINTON A. TOWER.

Witnesses:
HENRY F. POPE,
HARRY E. ORR.