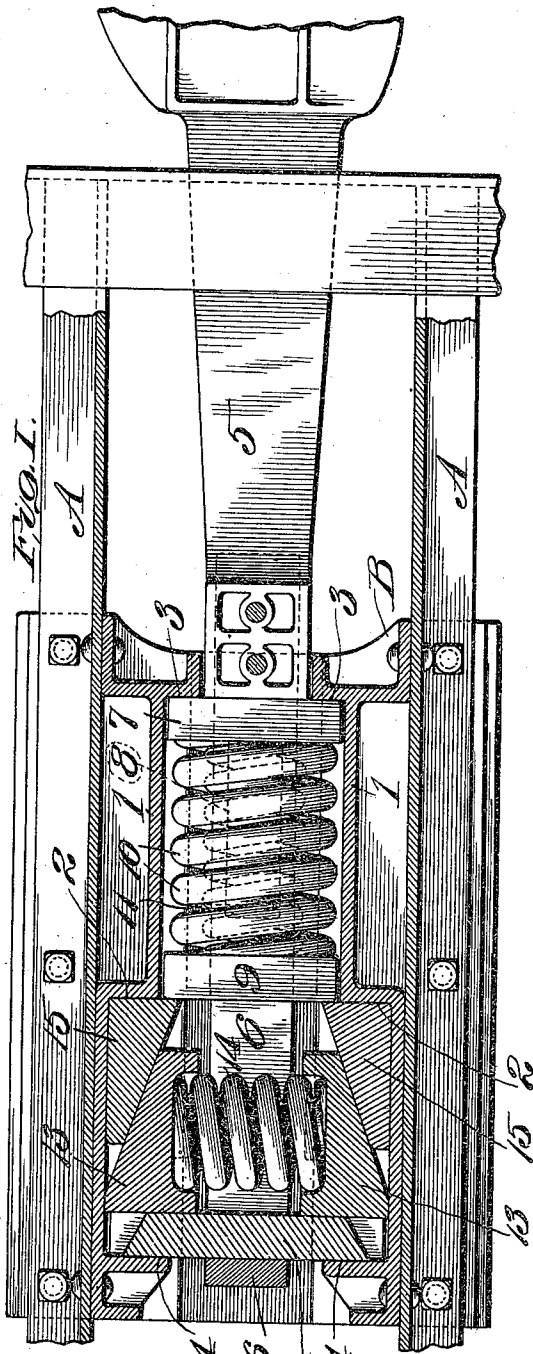


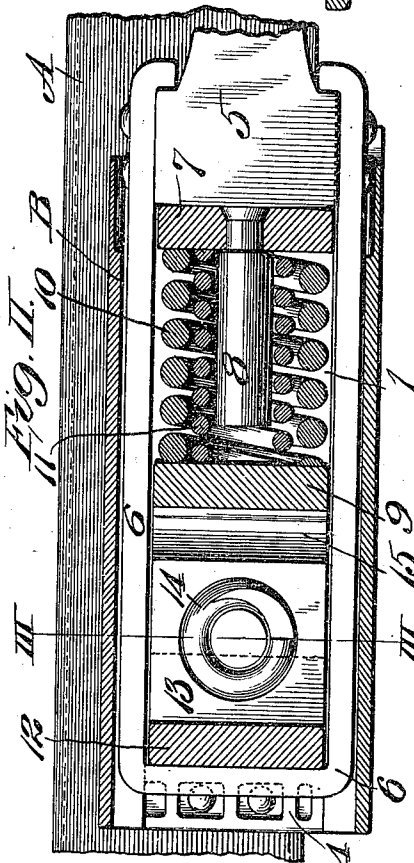
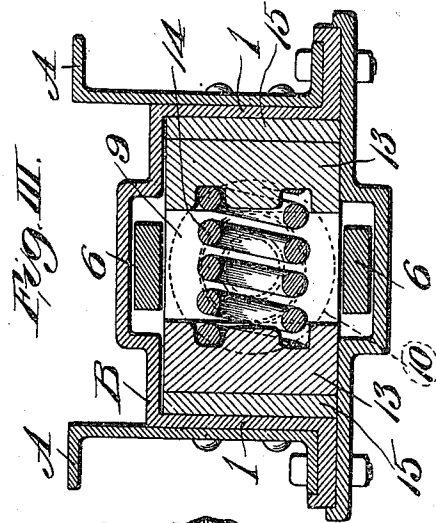
W. D. LOWRY.
 COMBINED FRICTION AND SPRING DRAFT RIGGING.
 APPLICATION FILED JULY 10, 1908.

964,173.

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UNITED STATES PATENT OFFICE.

WILLIAM D. LOWRY, OF ST. LOUIS, MISSOURI.

COMBINED FRICTION AND SPRING-DRAFT RIGGING.

964,173.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM D. LOWRY, a citizen of the United States of America, residing in the city of St. Louis and State of Missouri, have invented certain new and useful Improvements in Combined Friction and Spring-Draft Riggings, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to a draft rigging for railway cars and it has for its object the construction of a draft rigging whereby the initial portion of the shock or strain in the draft upon cars may be taken by friction elements and the remaining portion of the strain be taken by a draft and buffer spring which is more elastic or yielding than the friction elements.

Another object of my invention is to provide a draft rigging in which the draft and buffer spring takes the initial portion of the buffing shock or stress and the remaining portion of such shock or stress is received by the friction elements that offer greater resistance than the draft and buffer spring.

By a construction of the description recited, I provide a rigging that when in service as a draft appliance for a railway car is less elastic and not as susceptible of stretching as the ordinary types of draft riggings, thereby making it possible to start a train of cars with less expenditure of power on the part of the locomotive. The construction also provides for the draft and buffer spring acting initially in buffing to cushion the buffing shock after which the shock, if greater than that the spring is susceptible of taking, is transmitted to the friction elements.

Figure I is a longitudinal horizontal section taken through my draft rigging. Fig. II is a vertical longitudinal section through the rigging. Fig. III is a cross section taken on line III—III, Fig. II.

In the accompanying drawings: A designates members of the underframe of a railway car, for instance, the center sills.

B is a cheek plate supported by the frame members A and by which the movable parts of my rigging are supported. The cheek plate B is provided with side members 1 more widely apart at their rear ends than at their forward ends and provided with abutments 2, see Fig. I. At the front end

of the cheek plate B are abutments 3 and at the rear end of said bearer and facing the abutments 2 are abutments 4.

5 designates a draw bar having its inner end loosely fitted in the forward end of the cheek plate B and adapted to move between the abutments 3. This draw bar is provided with a yoke 6 that extends rearwardly through the cheek plate and is adapted to play between the rear abutments 4.

7 is a forward follower located within the yoke 6 at the rear end of the draw bar and 8 is a lug carried by said follower.

9 is a rear follower located within the yoke 6 and opposing the forward follower 7 and the lug carried thereby. Between the followers 7 and 9 is a draft and buffer spring 10 and also preferably an auxiliary draft and buffer spring 11.

12 designates a follower within the draw bar yoke and resting against the rear end of said yoke, this follower being normally in the use of the rigging in the position against the rear abutments 4 of the bearer B.

13 are inner tapered friction blocks that rest at their rear ends against the follower 12 and between which is a spreader spring 14 that serves to hold said friction blocks spread from each other.

15 are outer tapered friction blocks which are positioned against the intermediate abutments 2 of the cheek plate B and rest against the side members of said bearer back of the abutments and are in contact with the inner friction blocks 13. The outer friction blocks extend inwardly beyond the inner faces of the side members of the cheek plate and are engaged by the rear follower 9 against which the draft and buffer spring 10 bears.

The operation of my draft rigging in the practical use is as follows: When the draw bar 5 is subjected to draft in the starting of a train of cars, the yoke of said draw bar, by pressing at its rear end against the follower 12, acts to impart forward movement to said follower and the follower in turn acts to drive the inner friction blocks 13 forwardly in frictional contact with the outer friction blocks 15 so that said frictionally engaged members will take the shock or strain incident to the draft and without the draft and buffer spring 10 being affected at such time. The friction elements just referred to are capable of offering greater resistance in the draft action

than the draft and buffer spring and consequently they do not yield to the extent that the draft and buffer spring would, although such elements yield sufficiently to cushion the shock incident to the draft. It will therefore be seen that, due to the greater resistance offered by the frictional elements, a more positive or less stretching draft action is obtained in starting a car in motion, which makes it easier for the locomotive to start the car and possible for the locomotive to give the desired action with less energy. If the friction elements do not afford sufficient resistance to take the entire shock of the draft, due, for instance to the cars of a train being heavily loaded, the inner friction blocks 13 continue to move forwardly until they strike against the rear follower 9 and cause said follower to act against the draft and buffer spring with the result of bringing said spring into action as an additional shock receiving member.

In buffing actions the draft and buffer spring, which affords less resistance than the friction elements of the rigging, takes the force of the shock of buffing, initially, thereby affording easy cushioning action when one car is moved toward another, and if the buffing shock is slight the entire shock is taken by said spring, due to the friction elements offering greater resistance than the spring. If the buffing shock is sufficient to cause compression of the draft and buffer spring, the lug 8 carried by the forward follower 7 moves into engagement with the rear follower 9 and said rear follower is therefore pressed rearwardly by said lug in engagement with the outer friction blocks 15, causing said friction blocks to act against the inner friction blocks in order that the friction elements may act as shock receiving members.

Claims:

1. In a draft rigging, the combination of

a support having an abutment, a draw bar, a friction element adapted to rest against said abutment, a second friction element movable in contact with said first named friction element and operable by said draw bar, and a draft and buffer spring adapted to be acted upon by said movable friction element after the latter has yieldingly resisted the draft movement of said draw bar, substantially as set forth.

2. In a draft rigging, the combination of a support having stationary abutments, a draw bar, a pair of frictional elements adapted to rest against said abutments, a second pair of friction elements movable in contact with said first named friction elements and operable by said draw bar, and a draft and buffer spring adapted to be acted upon by said movable friction elements after they have yieldingly resisted the draft movement of said draw bar, substantially as set forth.

3. In a draft rigging, the combination of a support having a stationary abutment, a draw bar, a friction element having its forward end resting against said abutment, a second friction element movable in contact with said first named friction element and operable by said draw bar, forward and intermediate followers within said support, a draft and buffer spring interposed between said forward and intermediate followers; said intermediate follower being adapted to be acted upon in the forward movement of the draw bar by said movable friction element to cause it to act upon said spring after the friction elements have yieldingly resisted the movement of said draw bar, substantially as set forth.

WM. D. LOWRY.

In the presence of—

H. G. COOK,
BLANCHE HOGAN.