(No Model.) 2 Sheets—Sheet 1.

A. J. SHAW.

DRAW GEAR FOR RAILWAY CARS.

No. 512,756. Patented Jan. 16, 1894.

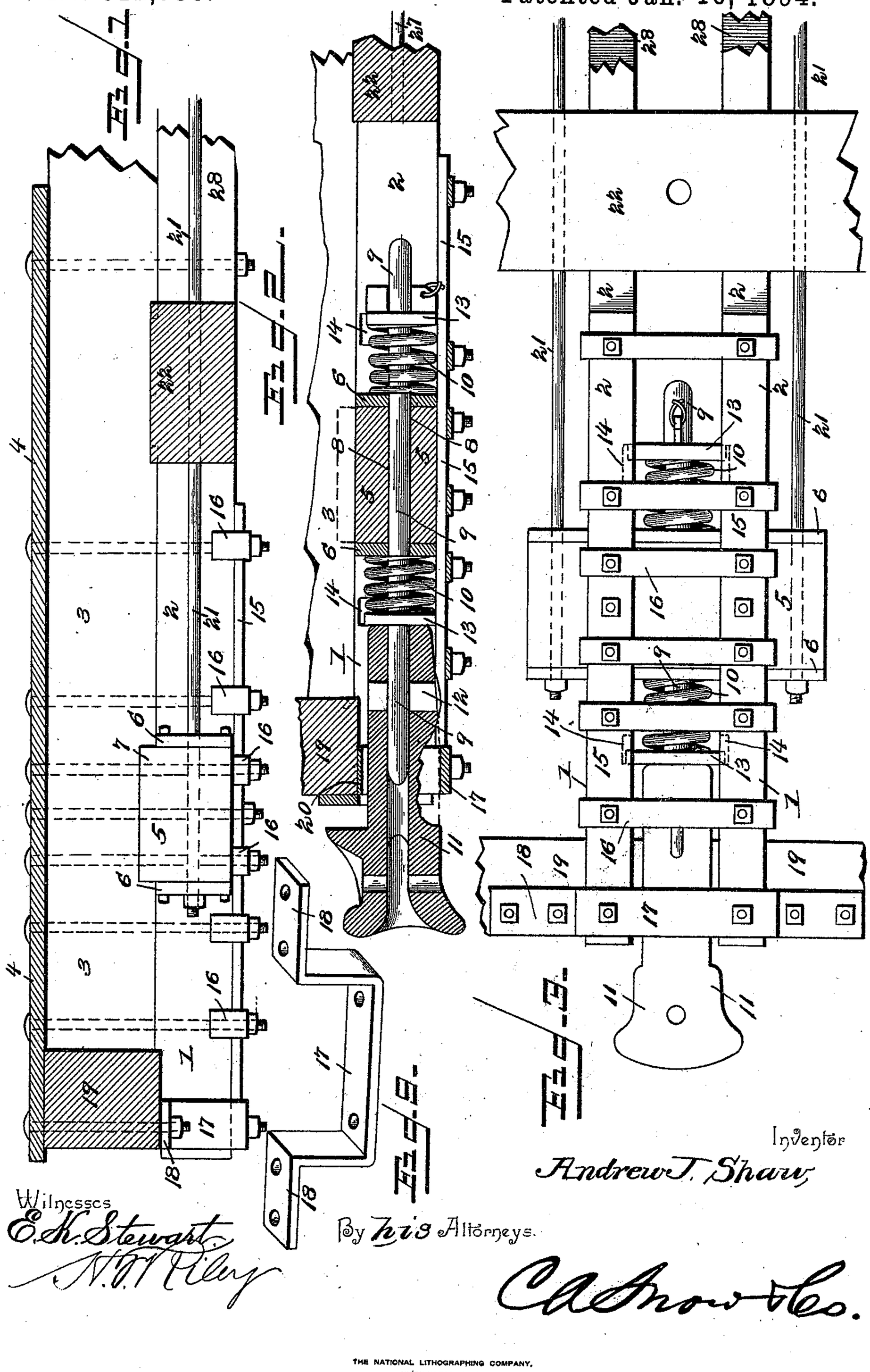

Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Witnesses
E. K. Stewart.
N. T. Riley

Inventor
Andrew J. Shaw,
By his Attorneys.
C. A. Snow & Co.

THE NATIONAL LITHOGRAPHING COMPANY,
WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet 2.

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Fig. 5.

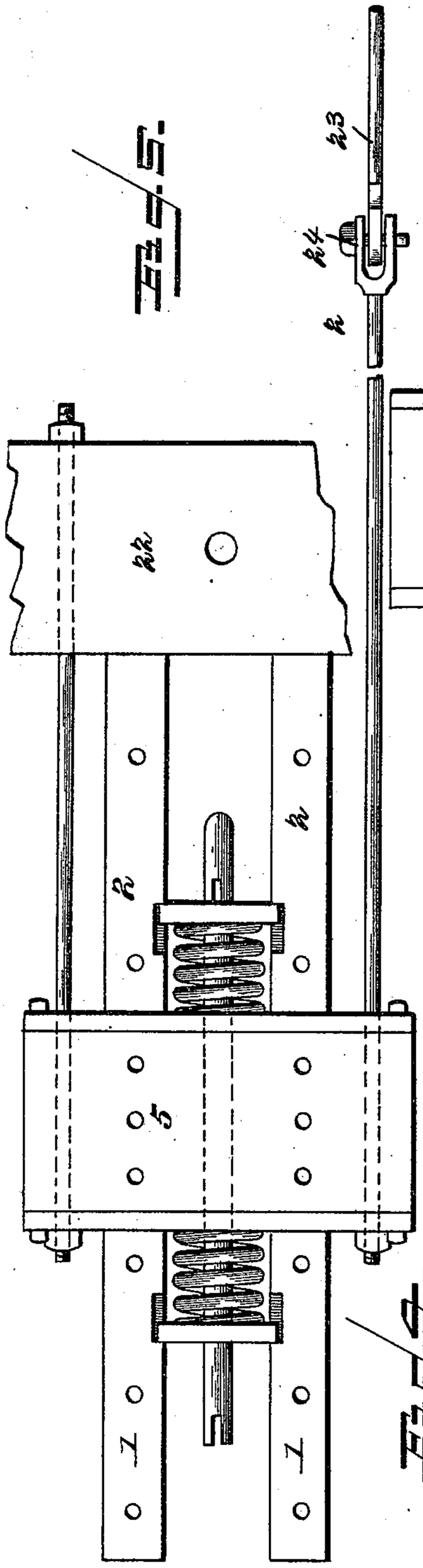

Fig. 6.

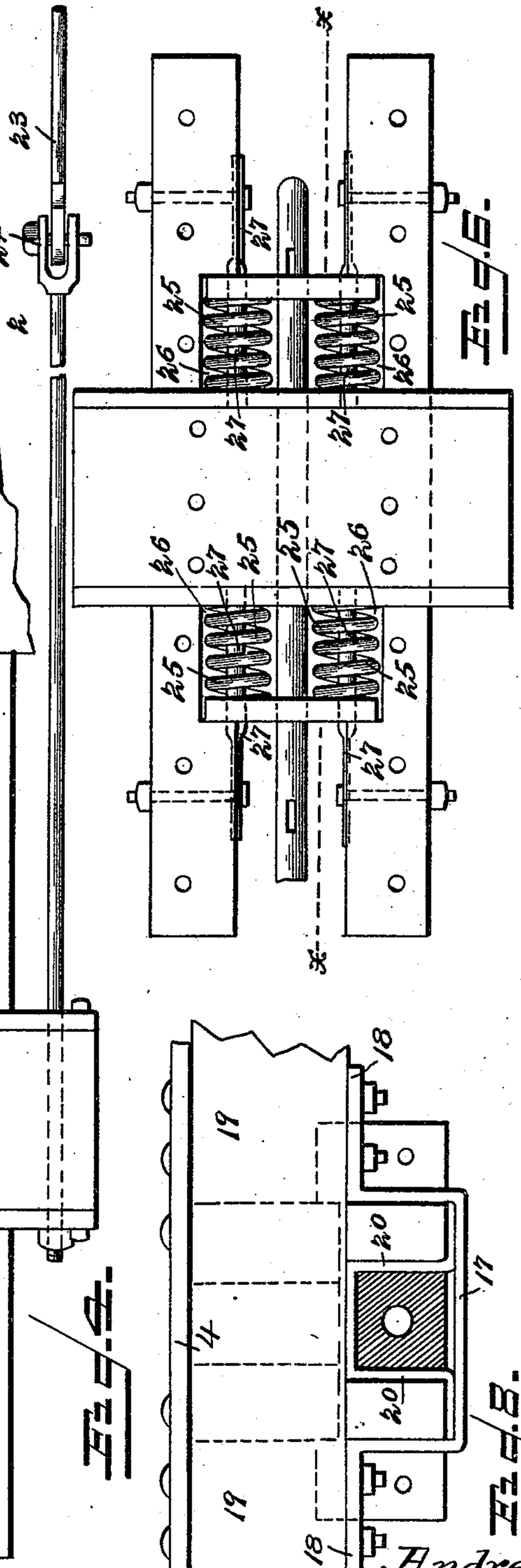

Fig. 7.

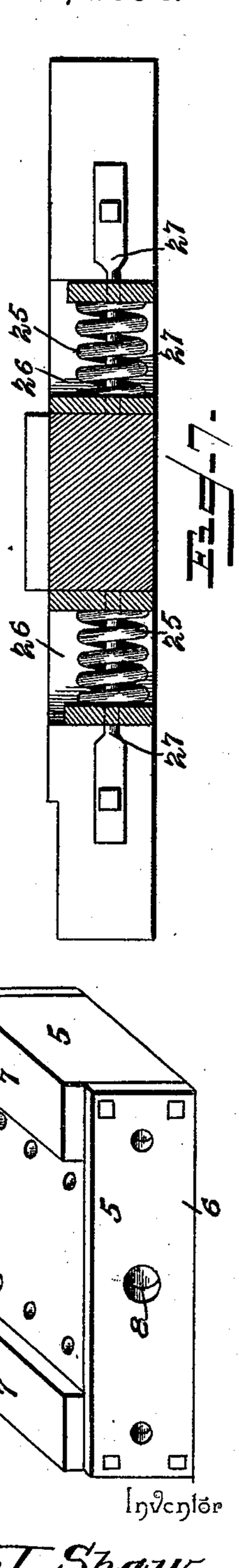

Fig. 4.

Fig. 8.

Witnesses
E. K. Stewart.
N. G. Riley

Inventor
Andrew J. Shaw,
By his Attorneys.
C. A. Snow & Co.

THE NATIONAL LITHOGRAPHING COMPANY,
WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ANDREW J. SHAW, OF CONNELLSVILLE, ASSIGNOR OF ONE-HALF TO JOSEPH H. SHAW AND THOMAS LINDSAY, OF GLENWOOD, PENNSYLVANIA.

DRAW-GEAR FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 512,756, dated January 16, 1894.

Application filed June 23, 1893. Serial No. 478,644. (No model.)

To all whom it may concern:

Be it known that I, ANDREW J. SHAW, a citizen of the United States, residing at Connellsville, in the county of Fayette and State of Pennsylvania, have invented a new and useful Draw-Gear for Railway-Cars, of which the following is a specification.

The invention relates to improvements in draw-gear for railway cars.

The object of the present invention is to improve the construction of the buffer and draw-gear of railway cars, and to enable them to readily withstand hard jamming and severe drawing strains without injury.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings and pointed out in the claims hereto appended.

In the drawings:—Figure 1 is a longitudinal sectional view of a portion of a car the draft gear being shown in elevation. Fig. 2 is a similar view, the section being taken longitudinally of the draw-head, the draw-bar and buffer springs being shown in elevation. Fig. 3 is a reverse plan view. Fig. 4 is a front elevation partly in section. Fig. 5 is a reverse plan view, showing tie rods constructed differently from those shown in the preceding figures. Fig. 6 is a similar view showing buffer springs arranged differently from the preceding figures. Fig. 7 is a longitudinal sectional view on line *x*—*x* of Fig. 6. Fig. 8 is a detail perspective view of the transverse block. Fig. 9 is a similar view of the main yoke.

Like numerals of reference indicate corresponding parts in all the figures of the drawings.

1 and 2 designate parallel longitudinally disposed draw timbers secured to the center sills 3 of a car 4, and arranged in front and rear of a transverse block 5, which is also secured to the center sills 3 of the car. The transverse block 5 may be constructed of any suitable material, but as illustrated in the accompanying drawings it consists of a block of wood provided at front and rear with metal strengthening plates 6, and having its upper face centrally recessed to form projecting ribs 7, which are arranged at the outer sides of the center sills 3. The strengthening plates 6 and the block 5 are provided with a central longitudinal opening 8 to receive a draw-bar 9, which is cushioned by buffer springs 10 arranged in advance and in rear of the transverse block 5. The draw-bar has a draw-head 11 secured to its front end by a key 12, and it has mounted on it follower plates 13 located adjacent to the outer extremities of the buffer springs, and having their ends arranged in recesses 14 of the draw timbers 1 and 2. The draw timbers have stretcher plates 15 secured to their lower faces and disposed longitudinally of them and are connected by transversely disposed tie plates 16 arranged at intervals.

Any construction of draw-head may be employed and arranged in the space between the front draw timbers 1, and the latter are supported by a depending rectangular main yoke 17, which is provided with securing plates or extensions 18 bolted or otherwise fastened to the end sill 19 of the car. The main yoke extends beneath the draw-head and the draw timbers 1, and up the outer faces or sides of the latter, and has secured to it a supplemental inner yoke 20, which is provided with a central rectangular portion receiving the draw-head, and which has lateral extensions arranged on the bottom portion of the main yoke. The sides of the supplemental yoke are arranged on the inner faces and bottoms of the front draw-timbers 1; and these yokes enable the car to withstand severe jamming on short curves without splitting or otherwise injuring the draw timbers, and without having the draw-head displaced.

The construction above described is arranged at each end of the car 4, only one end being shown in the drawings, and the transverse blocks of a car are connected by parallel tie-rods 21 arranged at the outer sides of the draw-timbers, and disposed longitudinally of the car, and having threaded ends arranged in openings of the transverse block 5 and secured thereto by nuts.

The tie-rods may be continuous or may terminate at a bolster 22 as shown in Fig. 5 of the accompanying drawings at one side thereof, or may be composed of two sections 23 con-

nected at their inner adjacent ends by a joint 24 or a suitable coupling, such as a turn buckle or the like. When the rods are continuous as illustrated in Figs. 1 to 3 of the accompanying drawings, they are designed to extend from one end of a car to the other and have their ends attached to the transverse blocks of the car.

In Figs. 6 and 7 is illustrated an arrangement of buffer springs different from that shown in the preceding figures. Four buffer springs 25 are employed, and are arranged in pairs in advance and in rear of the transverse block, and are partially located in recesses 26 of the draft timbers on rods 27, which serve as guides for the follower plates. This arrangement of buffer springs necessitates an increased width or size of the draw timbers, and the bars 27 have their front ends arranged in openings of the strengthening plates, and their rear ends terminating in securing plates, which are bolted to the draw-timbers.

The tie-rods may extend through, under or above the bolsters 22, and supplemental draw-timbers 28 may be employed and arranged in rear of the draw-timbers 2.

It will be seen that by the construction above described, cars are enabled to stand hard jamming and severe drawing strains, that the draw-head of cars is greatly stiffened to lessen the slack or looseness in trains, and that the construction is simple, inexpensive, strong and durable, and is adapted to be employed in connection with any construction of car coupling.

Changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

What I claim is—

1. The combination of a car, a transverse block secured to the center sills thereof and provided with an opening disposed longitudinally of the car, draw-timbers secured to the center sills of the car and arranged parallel and located in advance and in rear of the transverse block and provided with recesses at their inner opposed faces, a draw-bar arranged in the opening of the transverse block and extending forward and rearward therefrom, a draw-head attached to the front end of the draw-bar, buffer springs arranged on the draw-bar and located in advance and in rear of the transverse block, and follower plates connected with the draw-bar and arranged at the outer extremities of the buffer springs, and having their ends arranged in the recesses of the draw-timbers, substantially as described.

2. The combination of a car, a transverse block secured to the center sills thereof and projecting laterally from said sills, draw timbers arranged in advance and in rear of the transverse block, a draw-bar passing through the transverse block and extending forward and rearward therefrom, a draw-head attached to the front end of the draw-bar, follower plates connected with the draw-bar, buffer springs interposed between the transverse block and the follower plates, and longitudinally disposed tie-rods connected to the ends of the transverse block, substantially as described.

3. The combination of a car, a transverse block secured to the center sills thereof and provided on its upper face with ribs arranged at the outer sides of the center sills, said block having its ends extended beyond the sills, and tie rods connected to the extended ends of the transverse block, substantially as described.

4. The combination of a car, a transverse block secured to the center sills thereof and provided on its upper face with ribs arranged at the outer sides of the center sills, said block having its ends extended beyond the sills, draw-timbers arranged in advance and in rear of the transverse block and secured to the center sills, and tie-rods connected to the extended ends of the transverse block, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ANDREW J. SHAW.

Witnesses:
CHAS. H. WAYS,
JOHN KURTZ.