

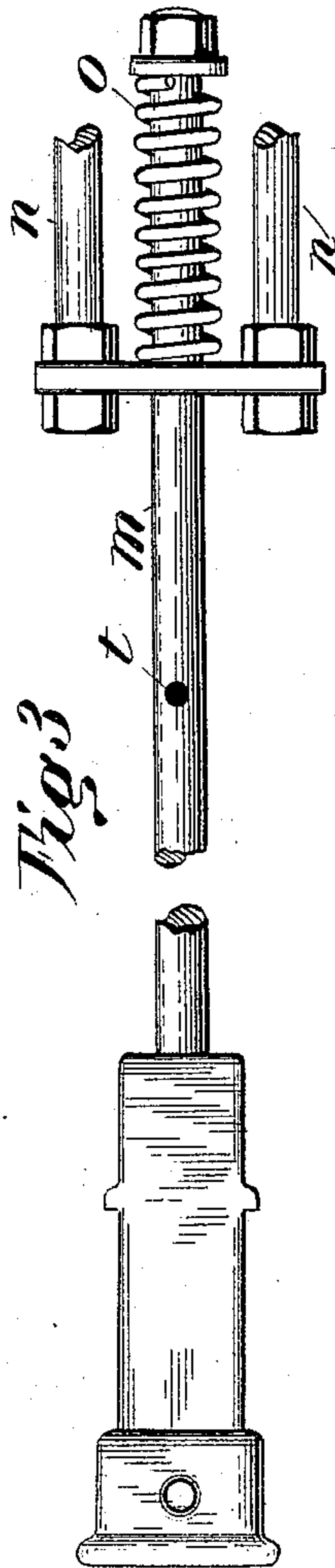
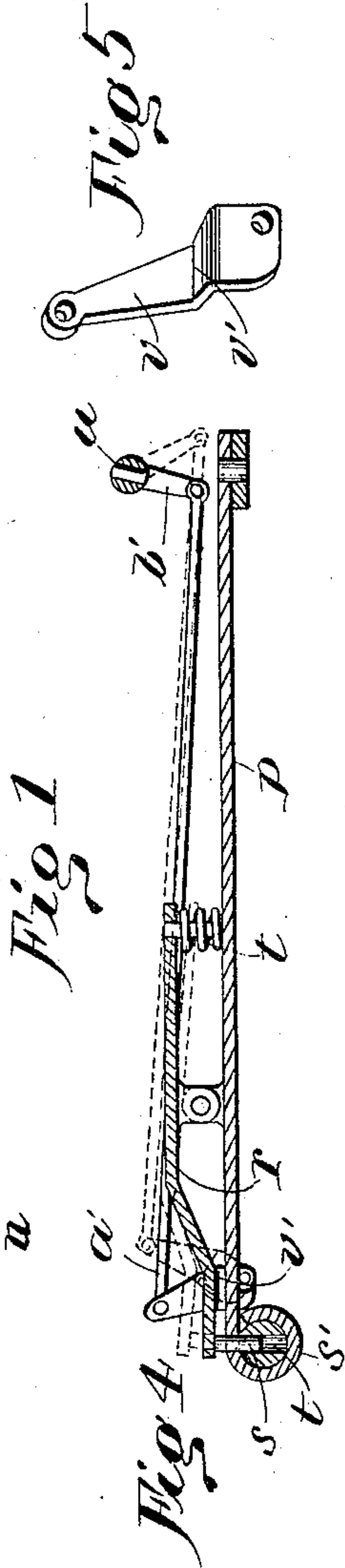
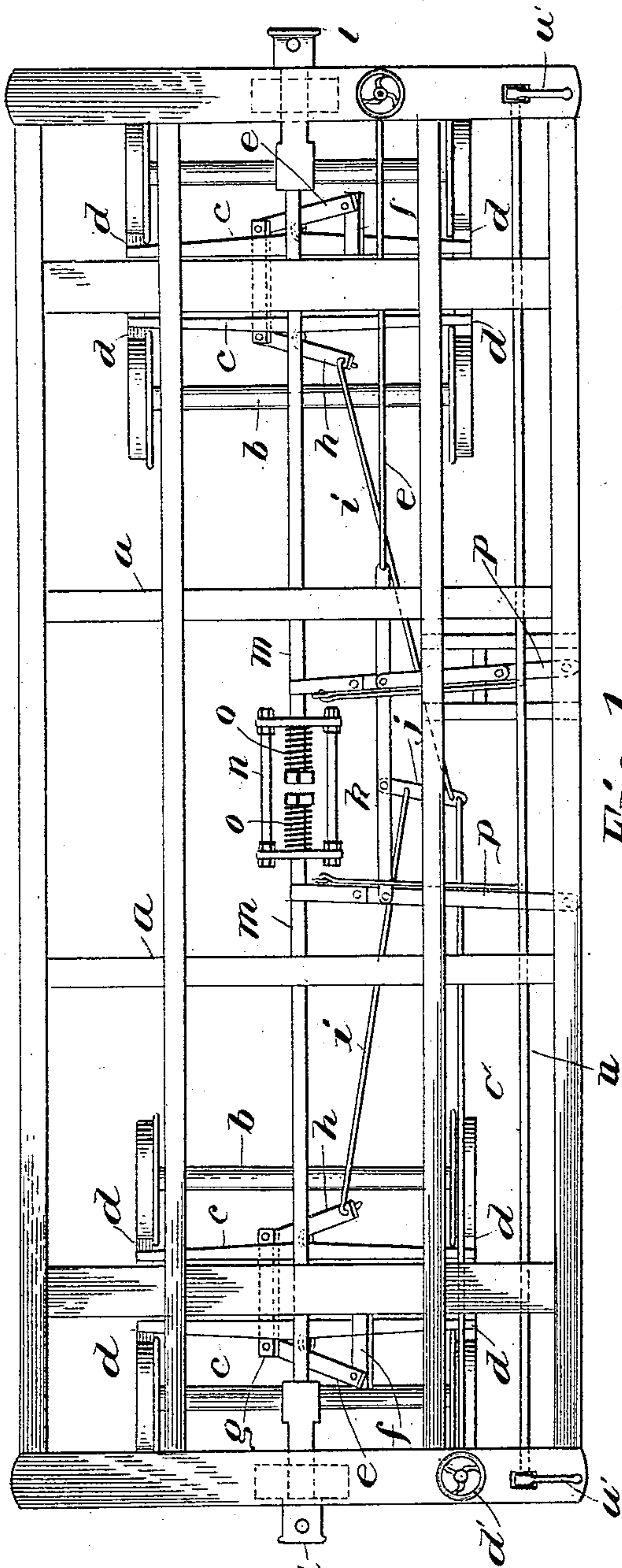
(No Model.)

2 Sheets—Sheet 1.

J. H. PFLIEGER.
CAR BRAKE.

No. 486,792.

Patented Nov. 22, 1892.



WITNESSES:

C. C. Burdine
Hubert E. Peck

INVENTOR

John H. Pflieger

BY

W. E. Deffen
ATTORNEY

(No Model.)

2 Sheets—Sheet 2.

J. H. PFLIEGER.
CAR BRAKE.

No. 486,792.

Patented Nov. 22, 1892.

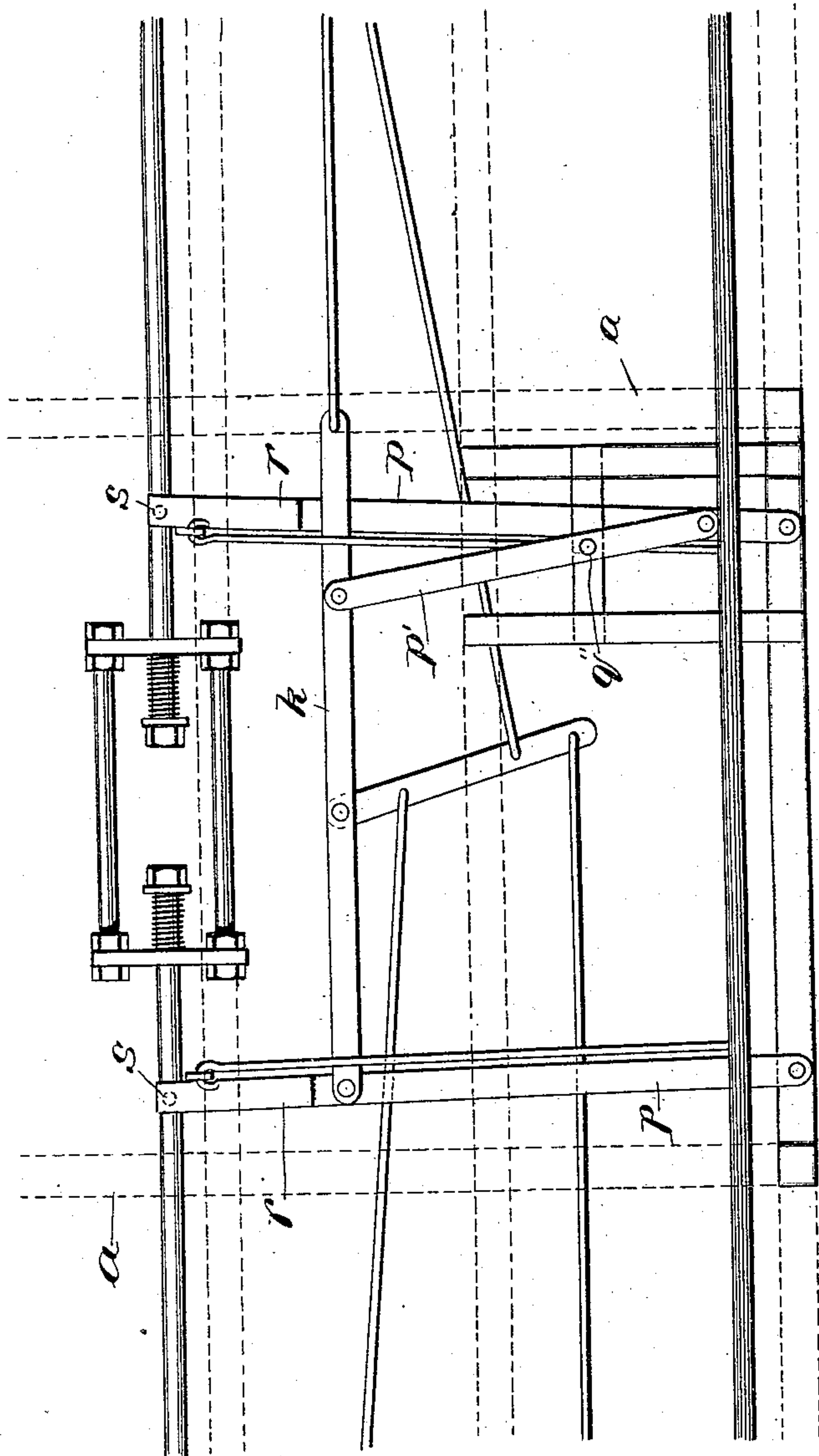


Fig. 2

Attest;
C. C. Burdine
C. M. Werle

Inventor;
John H. Pflieger
per *[Signature]*
Att.

UNITED STATES PATENT OFFICE.

JOHN H. PFLIEGER, OF JOHNSTOWN, PENNSYLVANIA.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 486,792, dated November 22, 1892.

Application filed April 25, 1892. Serial No. 430,536. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. PFLIEGER, of Johnstown, in the county of Cambria and State of Pennsylvania, have invented certain
5 new and useful Improvements in Automatic Car-Brakes; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to
10 make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

This invention relates to certain improvements in automatic car-brakes.

The object of the invention is to provide an improved automatic car-brake simple, cheap, and durable in construction, and wherein the car will be automatically braked by
20 the inertia of the train when the brakes are applied to a locomotive or when the cars bump against each other.

A further object of the invention is to provide improved means whereby the braking
25 apparatus can be thrown out of operative adjustment; and a further object is to provide suitable improvements in details of construction and arrangement of parts whereby a greatly improved and efficient automatic
30 car-brake is produced.

The invention consists in certain novel features of construction and in combinations of parts more fully described hereinafter, and particularly pointed out in the claims.

Referring to the accompanying drawings, Figure 1 is a top plan of the running-gear and floor-beams of the car. Fig. 2 is an enlarged detail plan view of a portion of the braking
40 apparatus. Fig. 3 is a detail elevation, with parts broken away, of one of the coupling-heads and extended draw bar or rod. Fig. 4 is a detail sectional view of a portion of the means for disconnecting the braking apparatus from the draw-bars. Fig. 5 is a detail
45 perspective of the cam or lever for operating the latch which holds the braking mechanism to the draw-bar.

In the drawings reference-letter *a* indicates the beams of the car.

50 *b* indicates the trucks of the car.

c indicates the brake-beams provided with the usual brake-shoes *d* to engage the peripheries of the wheels. The brake-beams are suitably supported, and are operated by levers or other suitable means, each lever *e* for
55 the outer brake-beams being hung from the bracket *f* rigidly secured to the truck, and between its ends pivoted to the brake-beam. A link *g* is pivoted to the lower end of each outer lever *e* and extends beneath the truck,
60 and at its opposite end is pivoted to the lower end of lever *h*. Each lever *h*, between its ends, is pivotally joined to the inner brake-beam of each truck and the upper end of each lever has a brake-rod *i* pivotally joined there-
65 to. Brake-rods *i* extend toward one side of the center of the car, and are pivotally joined to a horizontally-swinging lever *j*. One end of said lever *j* is pivoted to longitudinally-movable carrier or reciprocating plate or
70 rod *k*. One brake-rod *i* is pivoted to the lever *j* near its outer end. The other brake-rod *i* is preferably pivoted to lever *j* between its end and nearer the rod *k*, as shown in
75 Figs. 1 and 2. Thus it will be seen that when the rod *k* is moved toward one end of the car the lever *j* will be rocked, so as to draw both brake-rods inwardly and will thereby apply the brakes through the medium of levers *h*
80 and *e* and links *g*, as is clearly evident. When the plate or rod *k* moves in the opposite direction, the lever *j* will be swung to move brake-rods *i* outwardly in opposite directions and relieve the brakes. Suitable mechanism
85 is provided to move the rod *k* to operate the brakes.

Each coupling-head is suitably mounted to slide longitudinally of the car and is provided with stops to limit the outward and inward movement thereof. Each coupling-head has
90 a rearwardly-extending extension or extended draw-bar *m*. The two extended draw-bars *m* extend longitudinally of the car toward the center thereof and at their inner ends thereof are passed loosely through the ends of the
95 frame *n*. The ends of the draw-bars are provided with nuts or stops, and coiled expansive springs *o o* surround the ends of the draw-bars and bear against the ends of said frame
100 *n* and against said nuts and constantly tend

to force the draw-bar and coupling-heads into their normal positions. Swinging levers p are pivoted at their outer ends to the side beam or beams of the car and at their opposite ends are provided with sleeves fitting loosely on the draw-bars, the levers p being provided for each draw-bar. Each lever p is provided with a spring-catch r , pivoted thereon, and provided with a pin s , adapted to extend through an aperture in the sleeve s' of the levers and to enter an aperture t in the draw-bars, and thereby lock the lever p to the draw-bar, the pin being normally held in locking position by the spring. Suitable mechanism is provided to disconnect the braking mechanism from the coupling-heads when desired, said mechanism preferably consisting of a rock-shaft n , extending longitudinally of the car and provided with handles u' or other means for rocking the same. A lever v is pivoted at its lower end to the lower end of each lever p and is provided with a shoulder or cam v' , located beneath the free end of the catch r , so that the catch will bear on said shoulder. The upper end of this lever or cam v is connected by rod a' to the crank-arm v' , extending down from the rock-shaft u . Thus when the rock-shaft u is turned by one of the handles in one direction the lever v is thrown so that the shoulder v' raises the catch r and its pin from the aperture t , thereby allowing the draw-bar extension to slide freely back and forth through the sleeves s' of the levers p , so that they move said levers. Suitable mechanism can be provided to hold the shaft in position, disconnecting the braking mechanism from the bar, or the cam-face v' can be so arranged that it will hold the catch raised until the rock-shaft is forced in the opposite direction.

c' indicates the connection from lever j to one end of the car to the shaft provided with the hand-wheel at one end of the car, so that the brakes can be applied by hand at the end of the car. The connection e' extends to the opposite end of the car to the shaft and hand-wheel d' from the end of sliding rod k . The brakes can thus be applied by hand from either end of the car. The push-rod k is pivoted to one of the levers p between its ends, so that when the coupling-head at that end of the car is drawn out said lever p will be rocked in the direction to move the rod k , so that the brakes will be held released and when the coupling-head returns to its normal position on the action of its spring the rod k will be moved in the direction to apply the brakes. The lever p' is pivoted at one end to the rod k and at its other end is pivoted to the other lever p , near the outer end thereof, and said lever p' is fulcrumed at q^2 between its ends. By this means both the levers p will move the rods k in the same direction when the coupling-heads and their draw-bars are moved in the opposite di-

rection. The levers and brake-rods are so connected that the trucks can be swung independently without applying the brakes.

The many and great advantages of this invention are obvious, and it is evident that various changes and modifications might be made without departing from the spirit and scope of my invention. Hence I do not wish to limit myself to the precise construction herein set forth.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a car-brake, the combination of the braking mechanism, coupling mechanism between the cars, and mechanism, substantially as described, detachably connecting the coupling mechanism with the braking mechanism, so that the brakes are applied when the coupling-heads are forced in and are relieved when the coupling-heads are drawn out, and means, substantially as described, whereby the coupling and braking mechanisms are disconnected, substantially as described.

2. In a car-brake, the combination of the movable draw-bars yieldingly held in their normal positions, the swinging levers connected to be swung by said bars, the braking mechanism, a reciprocating bar connected with said levers and with the brake mechanism to operate the same from said draw-bars, substantially as described.

3. In combination, the movable draw-bars, the braking mechanism, intermediate lever connections between said draw-bars, and braking mechanism to apply or release the brakes by the movement of said bars, and means substantially as described whereby the draw-bars and braking connections can be disconnected, substantially as described.

4. In combination, the extended bars of the coupling-heads, springs to hold the same in their normal positions, levers connected to said bars to be swung thereby, means whereby the levers can be thrown in and out of operative relation with said bars, braking mechanism, and connections between said levers and said braking mechanism, substantially as described.

5. In combination, the coupling-heads having extended draw-bars, the frame at the inner ends of said bars into which said bars loosely extend, the springs therein, the levers connected to said bars to be swung thereby, the reciprocating bar connected therewith, the braking mechanism comprising brake-rods, and a lever pivoted to the said bar.

6. In combination, the movable draw-bars, the swinging levers, a catch carried by each lever to lock the same to its bar, a reciprocating bar connected with and operated by said levers, and the braking mechanism connected with and operated by said reciprocating bar.

7. In combination, the draw-bars, the brak-

ing mechanism, intermediate connections
whereby the brakes are operated from the
draw-bars, catches to normally connect said
connections to the draw-bars, and a rock-
5 shaft connected to said catches to operate the
same to release the catches, substantially as
described.

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

JOHN H. PFLIEGER.

Witnesses:

M. D. JONES,
JNO. J. DEVLIN.