(No Model.)

2 Sheets—Sheet 1.

F. W. MOLDENHAUER.

AUTOMATIC WAGON BRAKE.

No. 307,567. Patented Nov. 4, 1884.

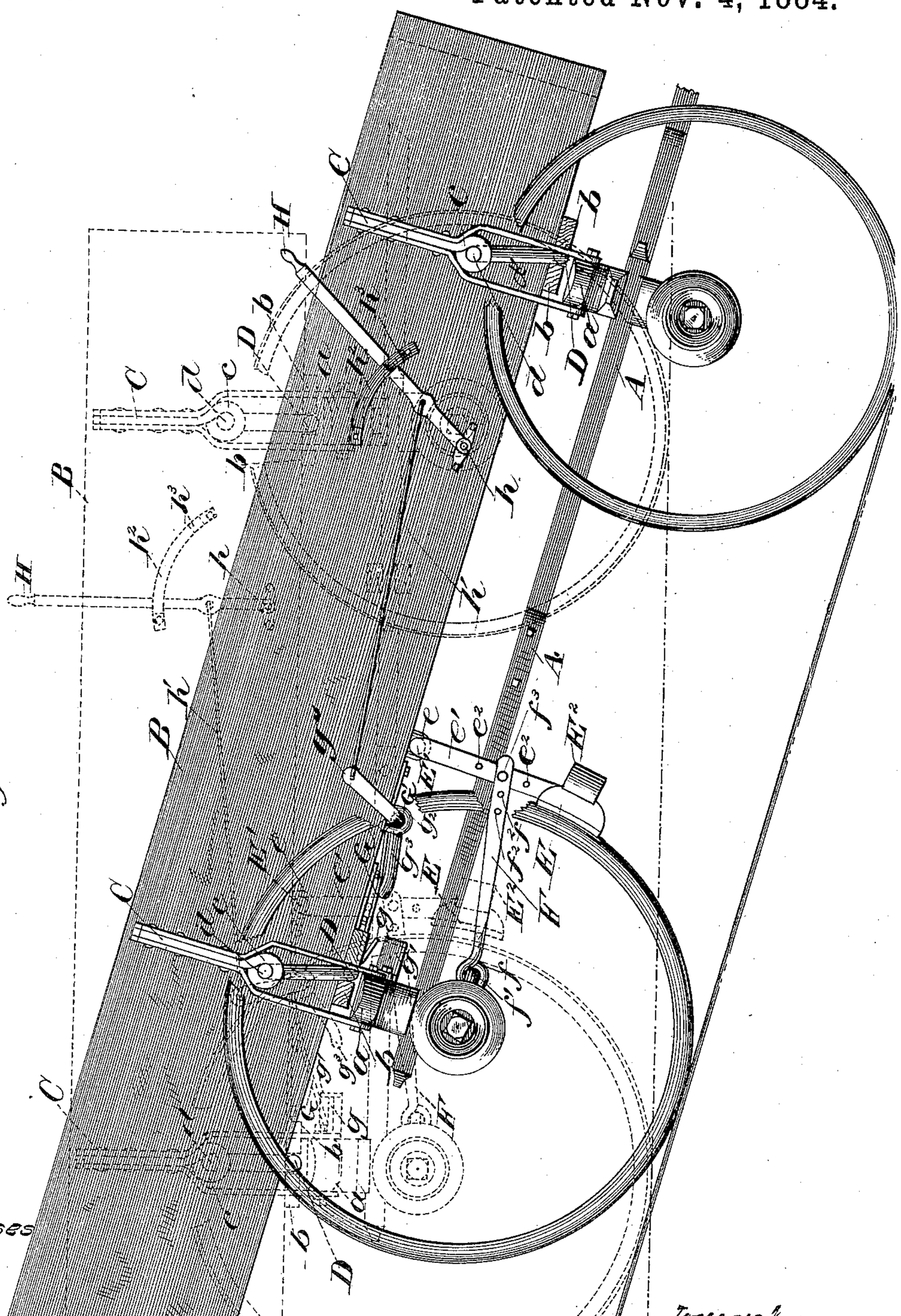


Fig. 1.

Witnesses
E. G. Adamson
R. Platz.

Inventor:
F. W. Moldenhauer
Stout & Underwood
By Attorneys.

(No Model.)

2 Sheets—Sheet 2.

F. W. MOLDENHAUER.

AUTOMATIC WAGON BRAKE.

No. 307,567. Patented Nov. 4, 1884.

Fig. 2.

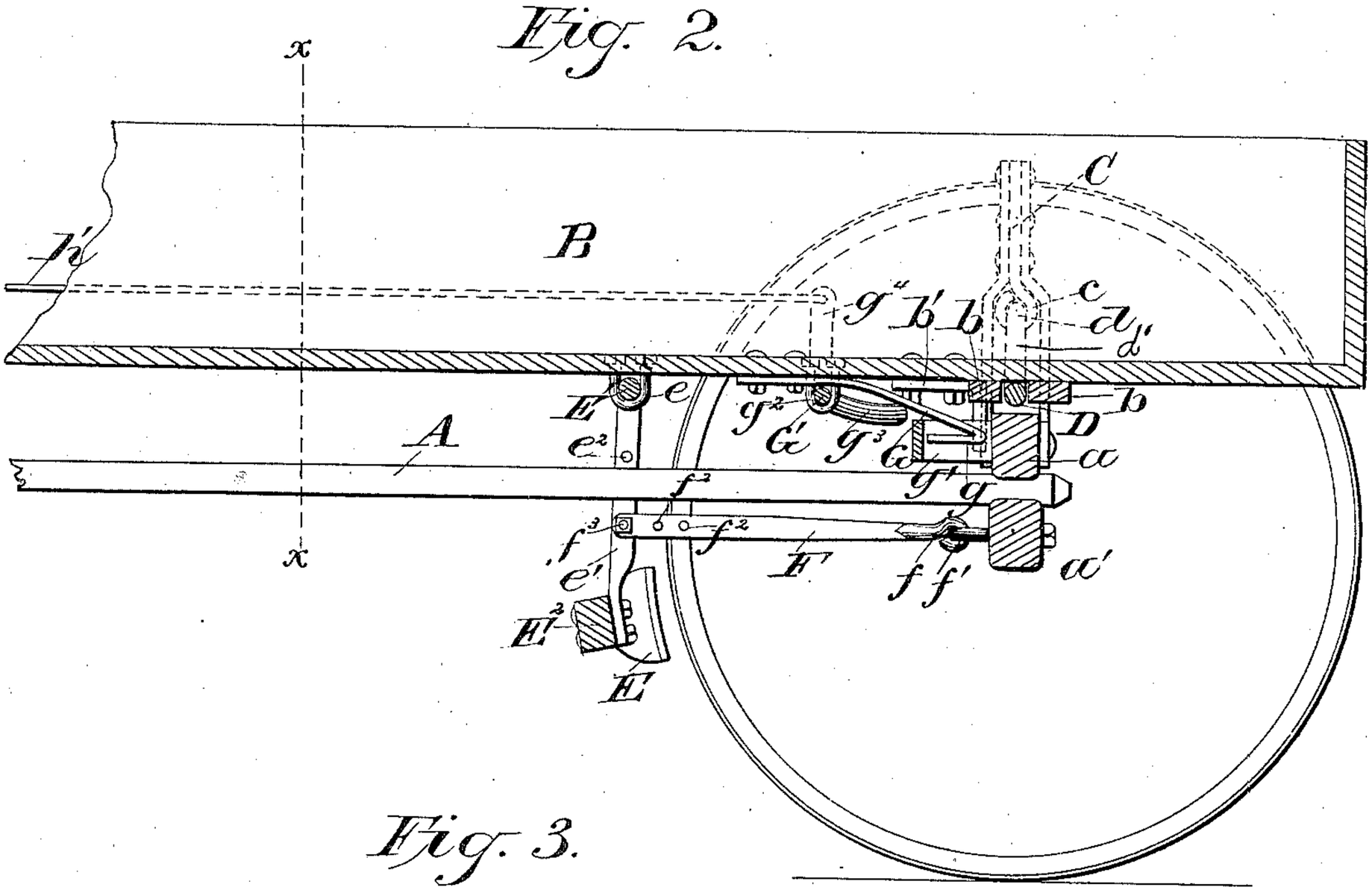


Fig. 3.

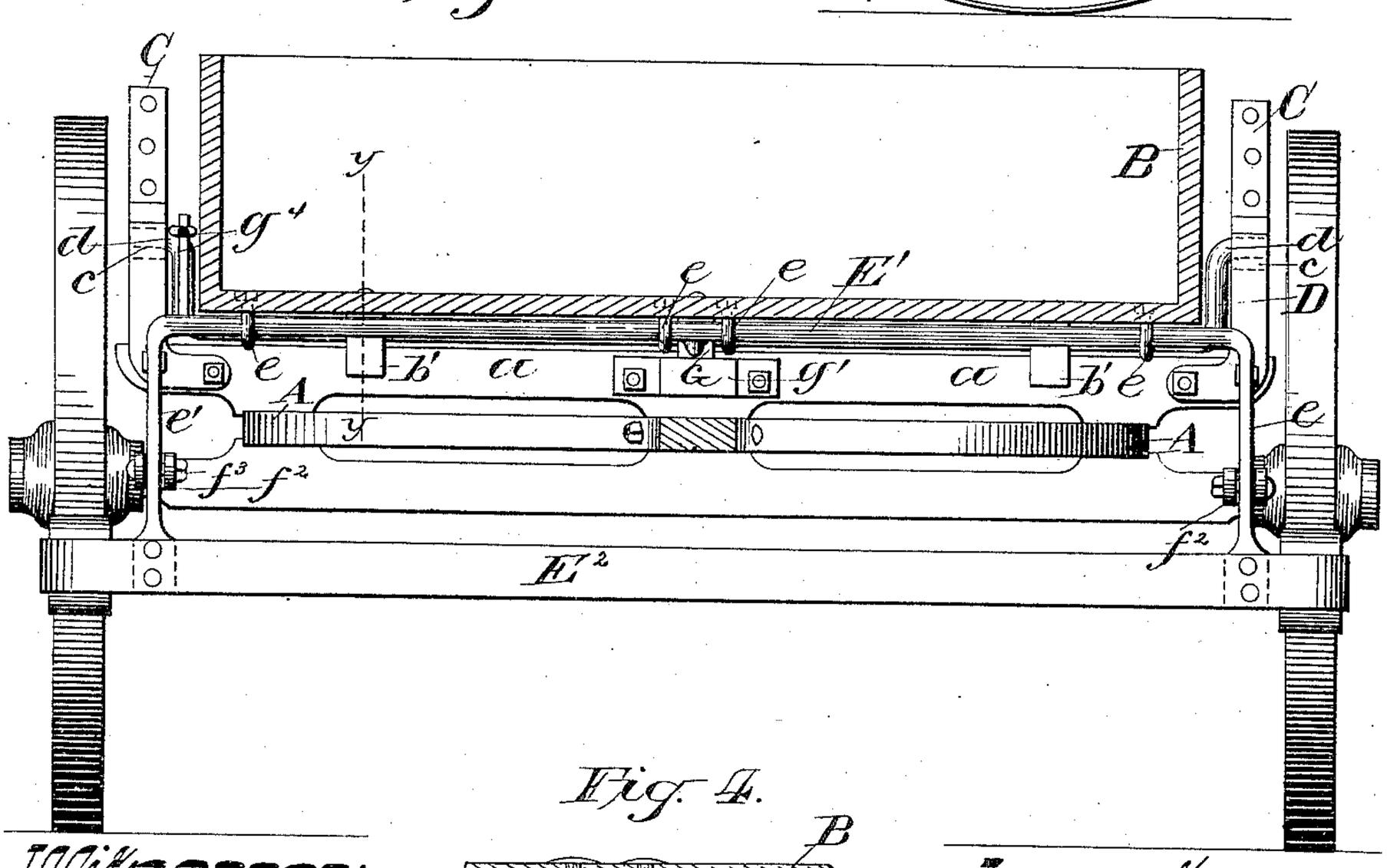
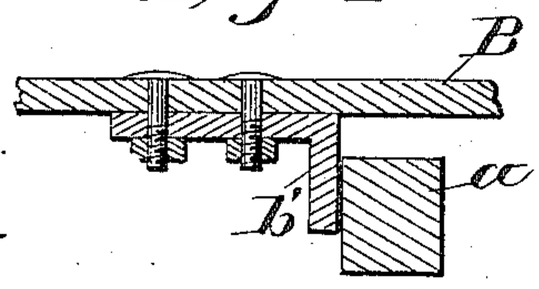


Fig. 4.



Witnesses:
E. G. Siggers
R. Platz.

Inventor:
F. W. Moldenhauer
By Stetson & Gulick
Attorneys.

UNITED STATES PATENT OFFICE.

FRIEDRICH W. MOLDENHAUER, OF ASHIPPUN, WISCONSIN.

AUTOMATIC WAGON-BRAKE.

SPECIFICATION forming part of Letters Patent No. 307,567, dated November 4, 1884.

Application filed July 15, 1884. (No model.)

To all whom it may concern:

Be it known that I, FRIEDRICH W. MOLDENHAUER, of Ashippun, in the county of Dodge, and in the State of Wisconsin, have invented certain new and useful Improvements in Automatic Wagon-Brakes; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to improvements in automatic brakes for wagons, and will be fully described hereinafter.

In the drawings, Figure 1 is a side elevation of a wagon fitted with a braking device embodying my invention. Fig. 2 is a vertical longitudinal section of the rear part of a wagon, showing the construction of the working parts of my improved brake and of its lock. Fig. 3 is a vertical cross-section of the same on line *x x* of Fig. 2, and Fig. 4 is a detail in vertical longitudinal section on line *y y* of Fig. 3.

A A indicate the wagon-frame, and B the box of the same.

C C are metallic standards, made in any suitable form, but preferably as shown in the drawings. The lower ends of these standards are firmly bolted onto the ends of the upper cross-beams, *a a*, of the wagon-frame, their upper ends extending on each side of the wagon-box, as shown. About the center of each of said standards C is formed a bearing, *c*, and in these bearings are journaled the trunnions *d d* of the cranked rod or bar D, which is thus adapted to oscillate in a segmental plane limited by the length of the cranks *d'* of the supporting-bar D.

Fastened in the under side of the wagon-box, opposite each of the cross-beams *a a*, are the bars *b b*, a sufficient space being left between them wherein the cranked bar is received. The box B is in this manner hung in the standards C C of the wagon-train, so as to be adapted to oscillate back or forth, according to the variations of the road-surface. As the brakes, however, are to be operated only when the vehicle moves downhill, I have provided against the back oscillation of the box by fastening in the under side of the said box and on each side of the center of the same the angle-iron plates *b' b'*, the outer face of the vertical portions of said plates abutting against the inner face of the rear cross-beam, *a*, of the train-frame A.

E E indicate the brakes. These are suitably attached to the ends of the cranked rod E', hinging in the bearing-staples *e e e*, fastened in the under side of the box B. The brakes are, moreover, rigidly connected by means of the cross-beam E^2. The vertical portions *e' e'* of the bar E' are flattened, and are perforated at e^2 e^2 e^2.

F is a link, one end of which is hinged in any suitable manner, as at *f*, on the inner face of the rear cross-beam, *a'*, while its opposite end is bifurcated at *f'* to receive the said vertical portions *e' e'*. Perforations f^2 f^2 in the said bifurcated end are made to coincide with either of the perforations in the vertical portions *e e* of the bar or lever E', and to receive the body of the fulcrum-bolt f^3, whereon the brakes may be adjusted as desired. As the box B moves ahead on the trunnions of the supporting-bar D, the brake lever or rod E' moves with it; but as the vertical portions of this lever are attached through the link F to the train-frame, these are swung on the fulcrum-bolt f^3 in a manner to bring the brakes in close contact with the periphery of the wheels of said train, the pressure exerted by the brakes being determined by the angle of inclination of the road and the weight of the load.

In order to prevent the wagon-box B from moving forward and bringing the brakes in action on a level whenever the wheels meet with some obstruction, I provide a suitable stop, consisting, preferably, of a spring-plate, G, fastened in the under side of the wagon-box, in the central longitudinal line of the same. A hook, *g*, is formed in the free end of said plate, and this hook, in the normal position of the spring, will coincide with and fall within a clamp, *g'*, suitably fastened on the inner face of the rear cross-beam, *a*, of the train-frame, the horizontal or lower portion of said hook abutting against the inner face of the said clamp. A lever, G', bearing in the staples g^2 g^2, suitably fastened in the under side of the said wagon-box B, is provided with an arm, g^3, projecting in line with and toward the spring portion of the stop-plate G, against the lower face of which it rests. This arm g^3 serves to raise the hooked end *g* against

the spring of the plate and clear out of the clamp g', as the lever G′ is swung on its bearings, by means of the hand-lever H, fastened at h in the side of the box B, in reach of the driver. The hand-lever is connected through a link-rod, h', to the cranked end of the lever G′, and a segmental clamp, h^2, suitably fastened in the said side of the box, embraces the lever H slightly above its fulcrum, and is provided on its inner face and close to its front end with a notch, h^3, into which the said lever H is moved by the driver when the brakes have to be applied.

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

1. In a vehicle, in combination with a wheel-train frame having swinging supports for the wagon-box, a brake-gear hinged underneath the said box and connected to the train-frame through an adjustable fulcrum-rod, whereby as the vehicle is running on a downward incline the motion of the box on its swinging supports will force the brake-shoes against the periphery of the wheels, substantially as and for the purpose set forth.

2. In a vehicle, in combination with a wheel-train frame having swinging supports for the wagon-box, and a brake-gear hinged underneath the said box, and connected to the wheel-train frame through an adjustable fulcrum-rod, the angle-iron plates b' b', fastened underneath the wagon-box, and adapted to bear the rear cross-beam, a, of the train-frame, and to prevent the rearward motion of the box on its swinging supports, substantially as set forth.

3. In a vehicle, in combination with the wheel-train frame having swinging supports for the wagon-box, and a brake-gear hinged underneath the box and connected to the wheel-train frame through an adjustable fulcrum-rod, the spring-plate G, provided with hook g, clamp g', lever G′, having arm g^3, staples g^2 g^2, hand-lever H, link-rod h', and segmental clamp h^2, provided with notch h^3, substantially as shown and described, and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

FRIEDRICH W. MOLDENHAUER.

Witnesses:
S. S. STOUT,
H. J. FORSYTHE.