

W. P. WOOD.  
Automatic Brake for Wagons.

No. 223,791.

Patented Jan. 20, 1880.

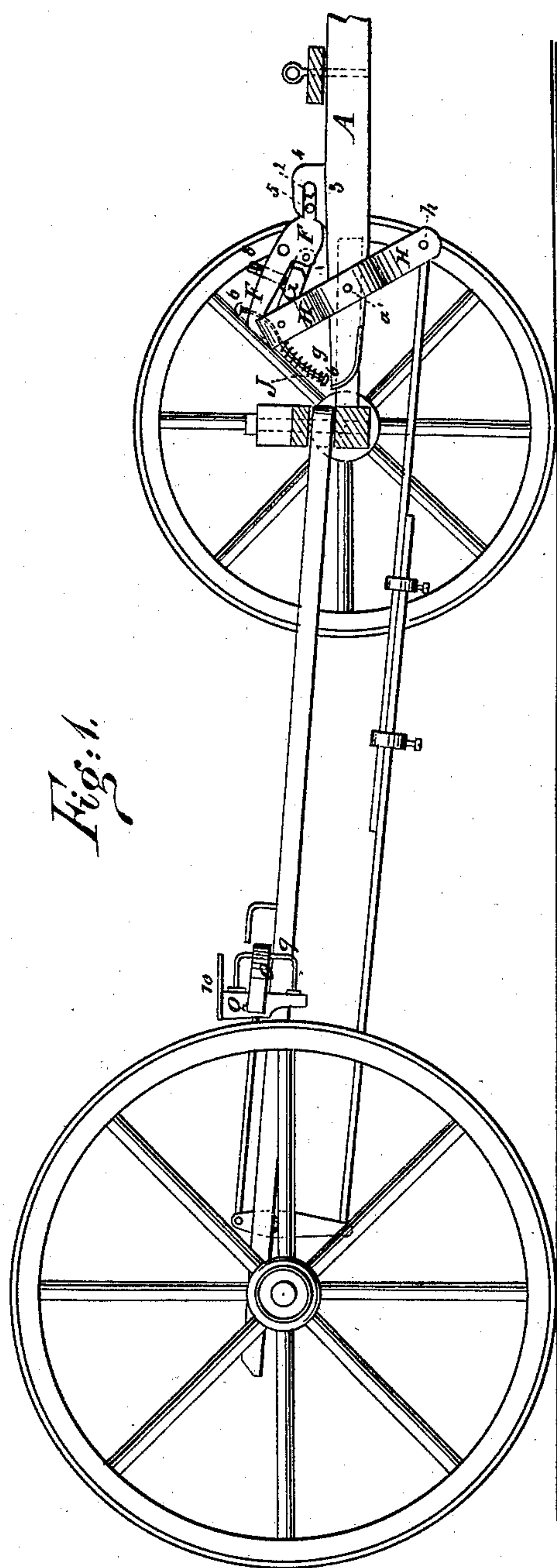


Fig. 1.

Fig. 4.

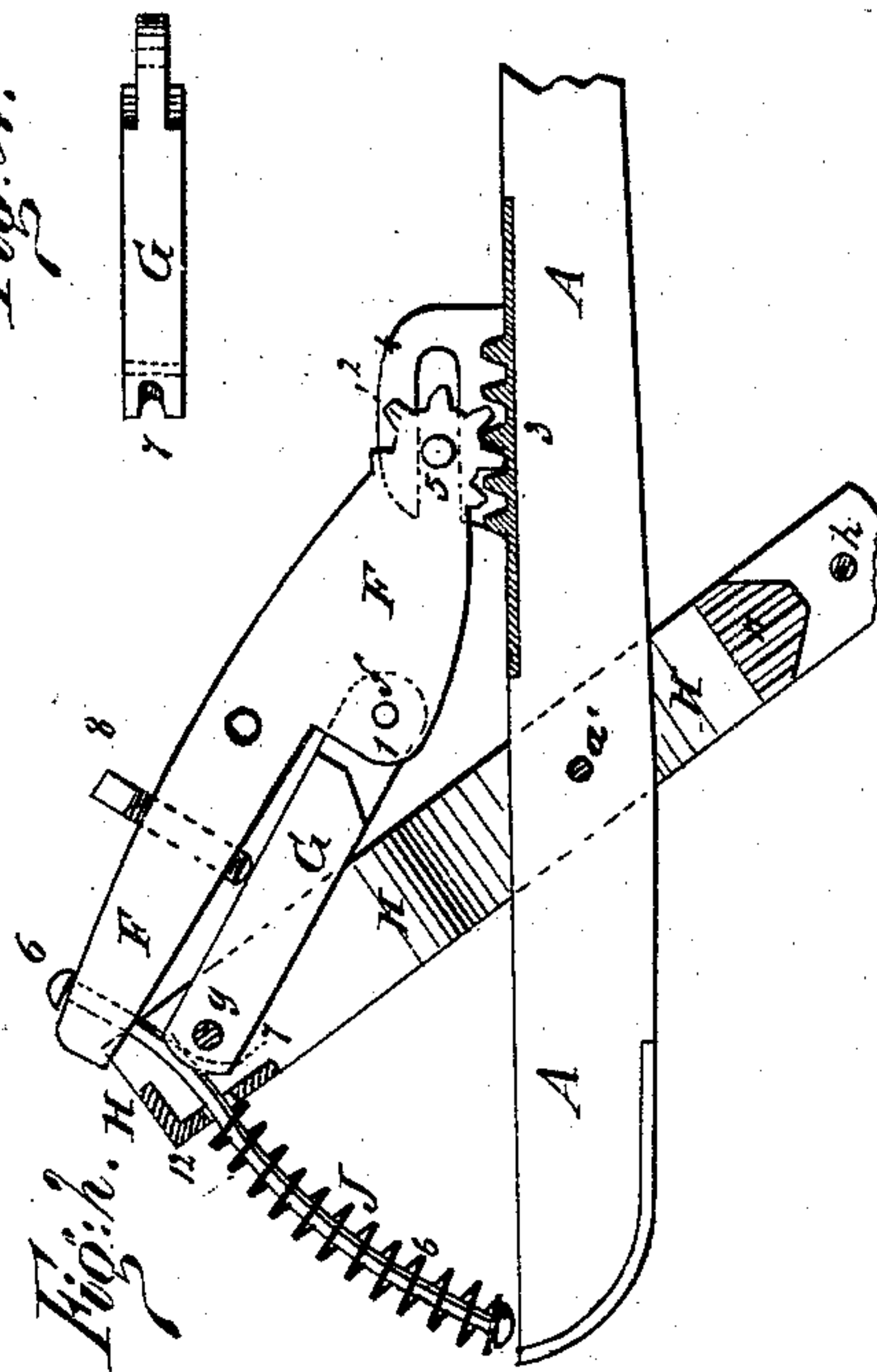


Fig. 3.

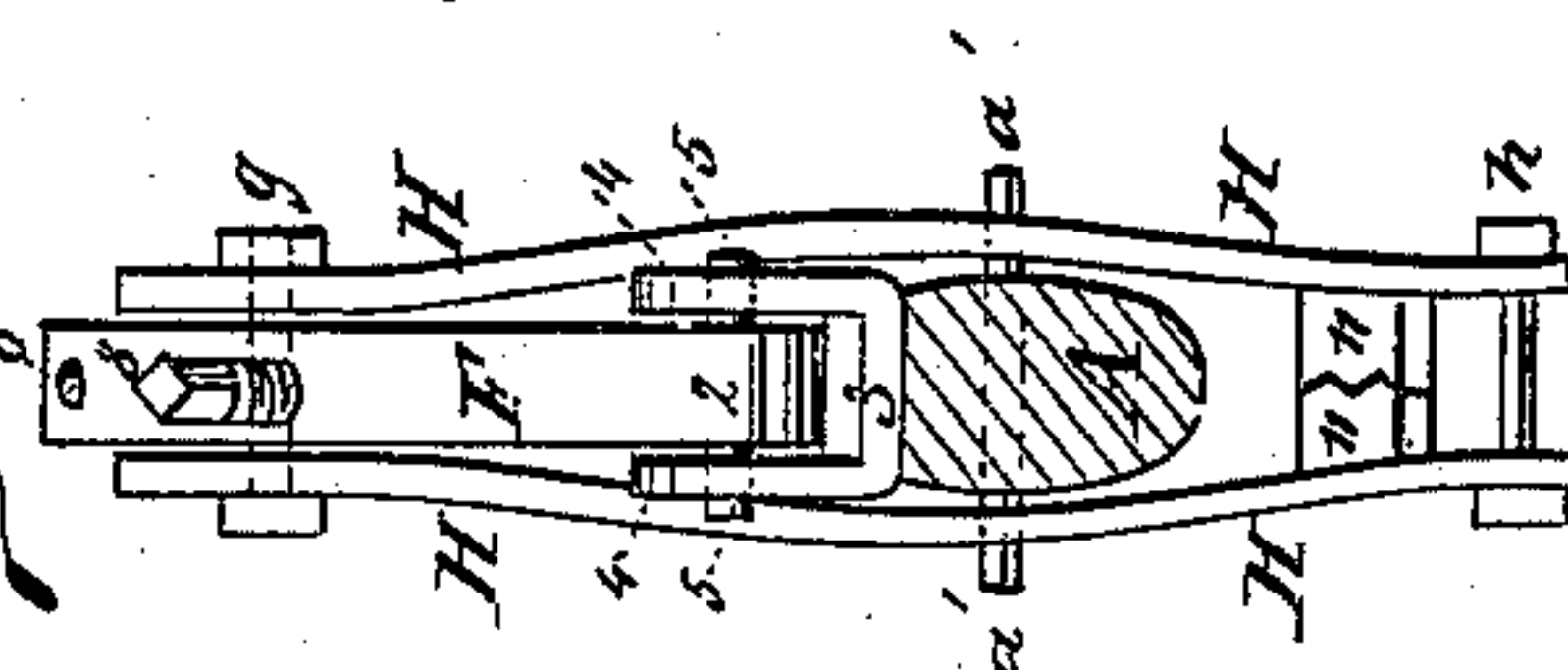


Fig. 5.

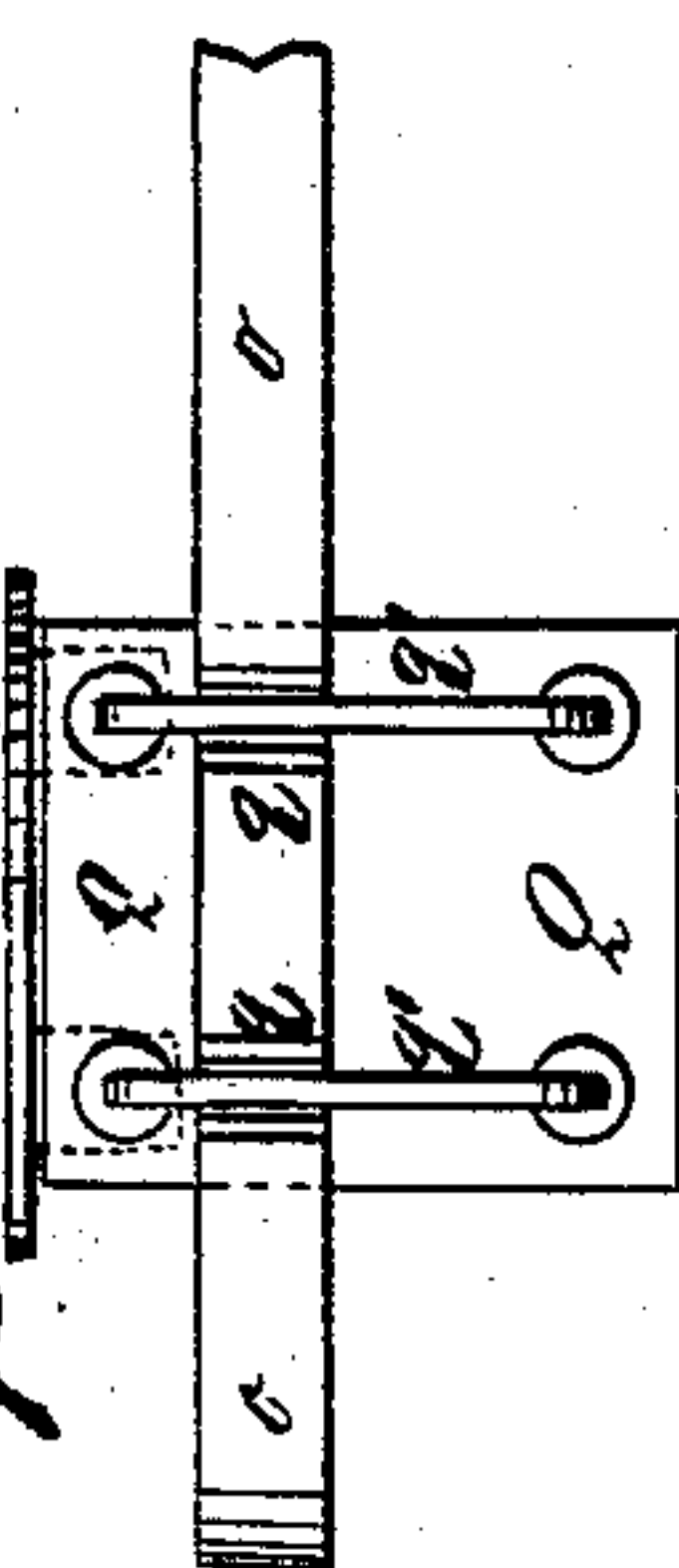


Fig. 6.

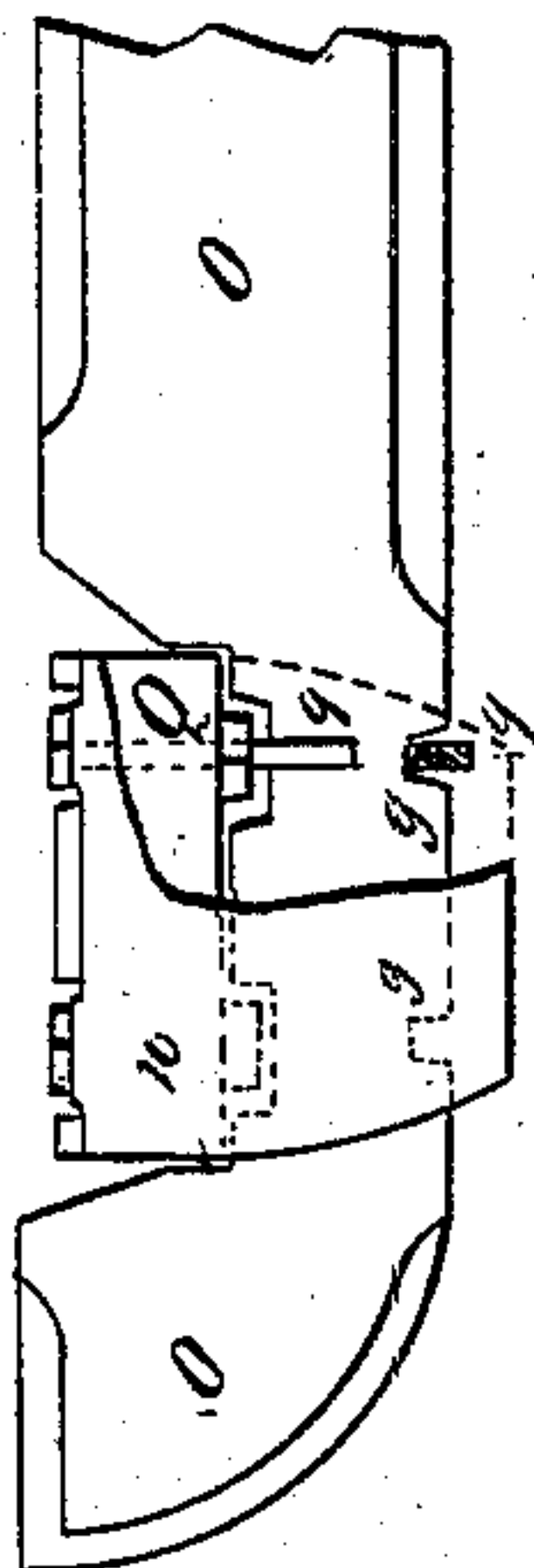
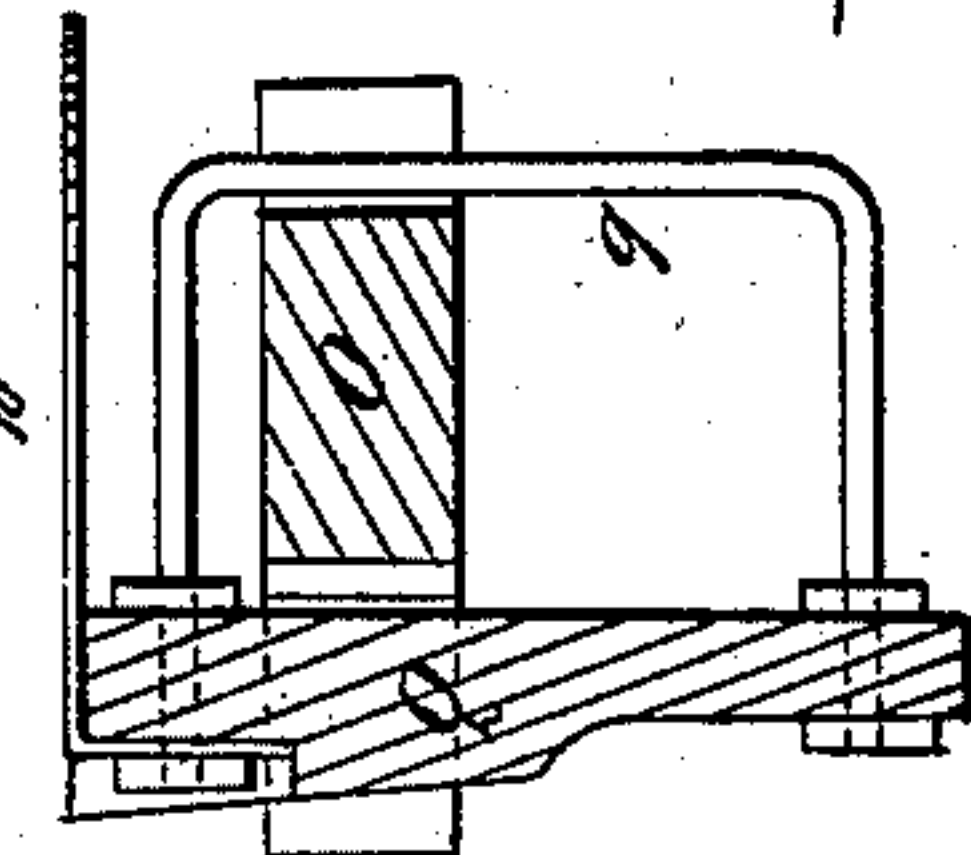


Fig. 7.



WITNESSES:

Chas. Nida  
C. Dutchick

INVENTOR:

W. P. Wood  
BY *Mumford*  
ATTORNEYS.



# UNITED STATES PATENT OFFICE.

WADE P. WOOD, OF LEON, IOWA.

## AUTOMATIC BRAKE FOR WAGONS.

SPECIFICATION forming part of Letters Patent No. 223,791, dated January 20, 1880.

Application filed June 11, 1879.

*To all whom it may concern:*

Be it known that I, WADE P. WOOD, of Leon, in the county of Decatur and State of Iowa, have invented a new and useful Improvement in Automatic Wagon-Brakes, of which the following is a specification.

Figure 1 is a side view of a wagon-gearing to which my improved brake has been applied, partly in section through the forward axle, to show the construction. Fig. 2 is a detail view of a part of the operating mechanism, enlarged and partly in section, to show the construction. Fig. 3 is a front view of the same, the tongue being shown in cross-section. Fig. 4 is a detail view of the connecting-link. Fig. 5 is a detail front view of one end of the brake-bar and its attachments. Fig. 6 is a top view of the same, partly in section, to show the construction. Fig. 7 is a detail section of the same, taken through the line *x x*, Fig. 5.

Similar letters of reference indicate corresponding parts.

The object of this invention is to improve the construction of the brake for which Letters Patent No. 206,063 were granted to me July 16, 1878, in such a way as to make it more satisfactory in use and more reliable in operation.

The invention consists in the slotted shoulder formed upon the lower part of the rear side of the forward lever, to receive and serve as a seat for the lower end of the connecting-link; in the combination of the segmental gear-wheel, the rock-bar, the slotted flanges, and the guide-pin with the lower end of the forward lever and with the tongue; in the combination of the rod with the spiral spring, the double lever, the grooved upper end of the connecting-link, and the perforated upper end of the forward lever; in the grooved projections and the notched projections formed upon the inner sides of the parts of the double lever; in the combination of the set-screw with the forward lever, the connecting-link, the double lever, the spring, and the rod.

The general construction and operation of the various parts of the brake are the same as shown and described in Letters Patent No. 206,063, and I will proceed to describe the changes of construction which I now wish to secure by new Letters Patent.

H is the lever, fulcrumed to the pin *a'*, that pivots the tongue A to the forward hounds, and the lower end of which is pivoted to the brake-rod. The lever H is made in two parts, placed upon the opposite sides of the tongue A, and secured to each other, near their upper and lower ends, by the pivot-bolts *g h*.

Upon the inner sides of the parts of the lever H, near its lower end, are formed projections 11, which are grooved upon their adjacent faces to prevent the said parts from slipping upon each other, and upon the inner sides of the upper end of the parts of the lever H are formed projections 12. The projections 11 12 hold the parts of the lever apart, so that they cannot bind upon the ends of the brake-rod and of the link G, which ends are pivoted between the said parts.

G is the short connecting bar or link, the upper end of which is inserted between the upper ends of the parts of the double lever H, and is pivoted to the said lever H by the pivot-bolt *g*. The lower end of the link G has a tenon formed upon it, which is inserted in a slot in the projecting shoulder 1, formed upon the lower part of the rear side of the lever F, where it is pivoted by the pivot pin or bolt *f*.

Upon the lower end of the lever F is formed a segmental gear-wheel, 2, the teeth of which mesh into the teeth of the short rack-bar 3, attached to the upper side of the tongue A.

Upon the side edges of the rack-bar 3 are formed upwardly-projecting flanges 4, which are slotted longitudinally from their rear ends to receive the projecting ends of the guide-pin 5, attached to the end of the said lever F at the center of the gear-wheel 2, and hold the said wheel in gear with the said rack.

To the rear side of the upper end of the lever H is attached the forward end of a spiral spring, J, through which passes a rod, 6, which has a head upon its rear end to rest against the rear end of the said spiral spring J. The rod 6 passes through notches in the adjacent edges of the projections 12, formed upon the upper end of the lever H, through a groove, 7, in the upper end of the link G, and through a hole in the upper end of the lever F, and has a head formed upon its forward end to rest against the forward side of the lever F.



With this construction, when the mechanism is operated by the rise of the tongue A, to apply the brake the spring J is compressed by the forward movement of the upper end of the lever F, so that the elasticity of the said spring may draw the parts of the said mechanism back to their proper position as soon as the said tongue is again lowered. The amount of tension or strain required in pulling the lock-lever out of position (as in crossing a ditch) is regulated by the set-screw 8, which passes through a screw-hole in the upper end of the lever F, so that its forward end may strike against the forward side of the link G, as shown in Figs. 1 and 2.

The lower part of the face of the brake-shoes Q is cut away, as shown in Fig. 7, so that there may be less friction when the said brake-shoes are raised by the rearward revolution of the wheels in backing. The forward side of the end parts of the brake-bar O have notches 9 formed in them to receive the guide-rods  $q'$ , so that the shrinking and swelling of the brake-bar O will not affect the free movement of the brake-shoes Q.

To the upper end of the brake-shoes Q is attached a horizontal or other shaped plate, 10, to serve as a mud-guard, and prevent the free movement of the said brake-shoes from being impeded by mud from the wheels.

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

1. The slotted shoulder 1, formed upon the lower part of the rear side of the lever F, to receive and serve as a seat for the lower end of the link G, substantially as herein shown and described.

2. The combination of the segmental gear-wheel 2, the rack-bar 3, the slotted flanges 4, and the guide-pin 5 with the lower end of the lever F and with the tongue A, substantially as herein shown and described.

3. The combination of the rod 6 with the spiral spring J, the lever H, the grooved upper end of the link G, and the perforated upper end of the lever F, substantially as herein shown and described.

4. The grooved projections 11 and the notched projections 12, formed upon the inner sides of the parts of the lever H, substantially as herein shown and described.

5. The combination of the set-screw 8 with the lever F, the link G, the lever H, the spring J, and the rod 6, substantially as herein shown and described.

WADE P. WOOD.

Witnesses:

Q. M. LINDSEY,  
H. A. LINDSEY.