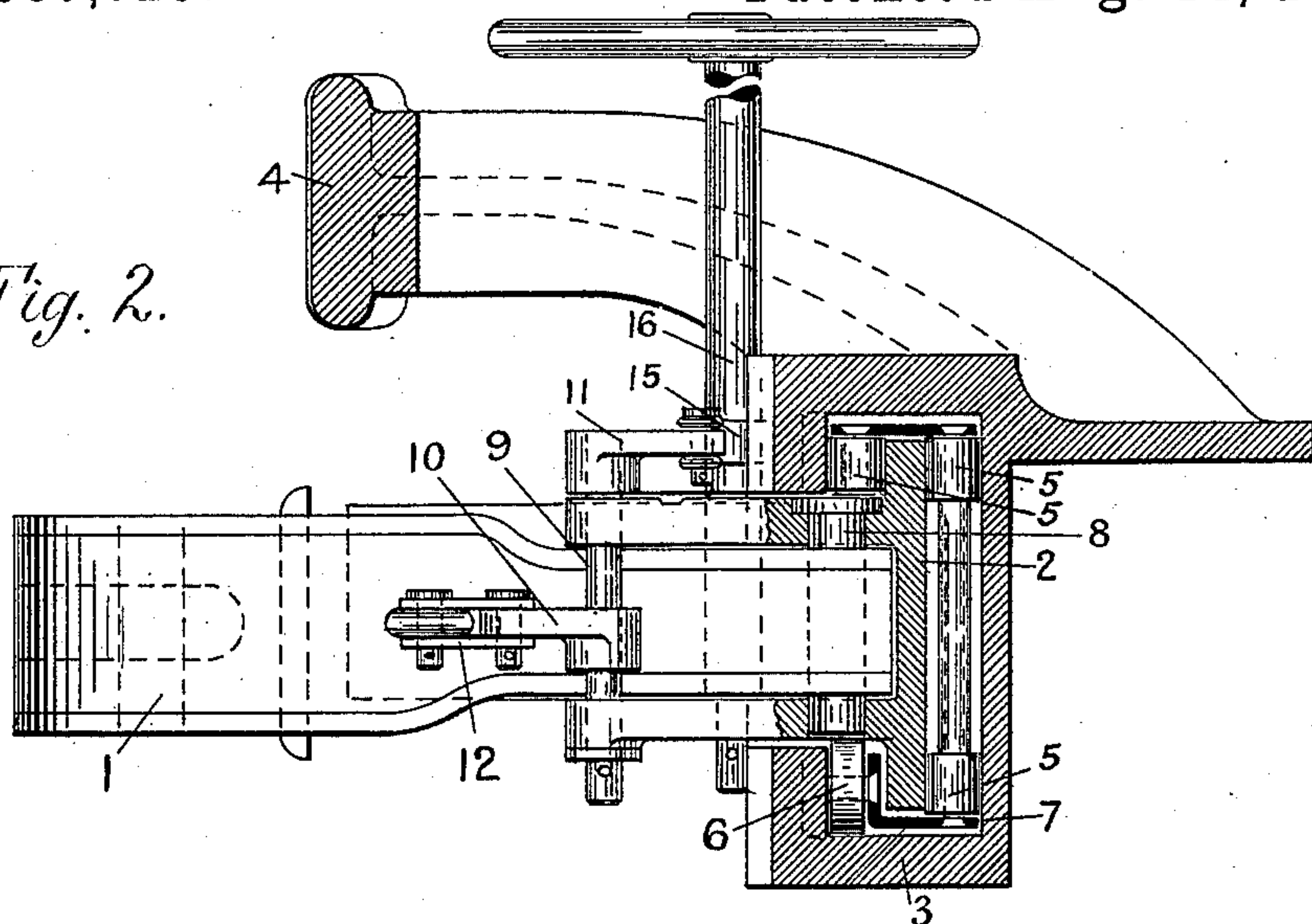


A. P. MASSEY.  
LOCOMOTIVE COUPLER.

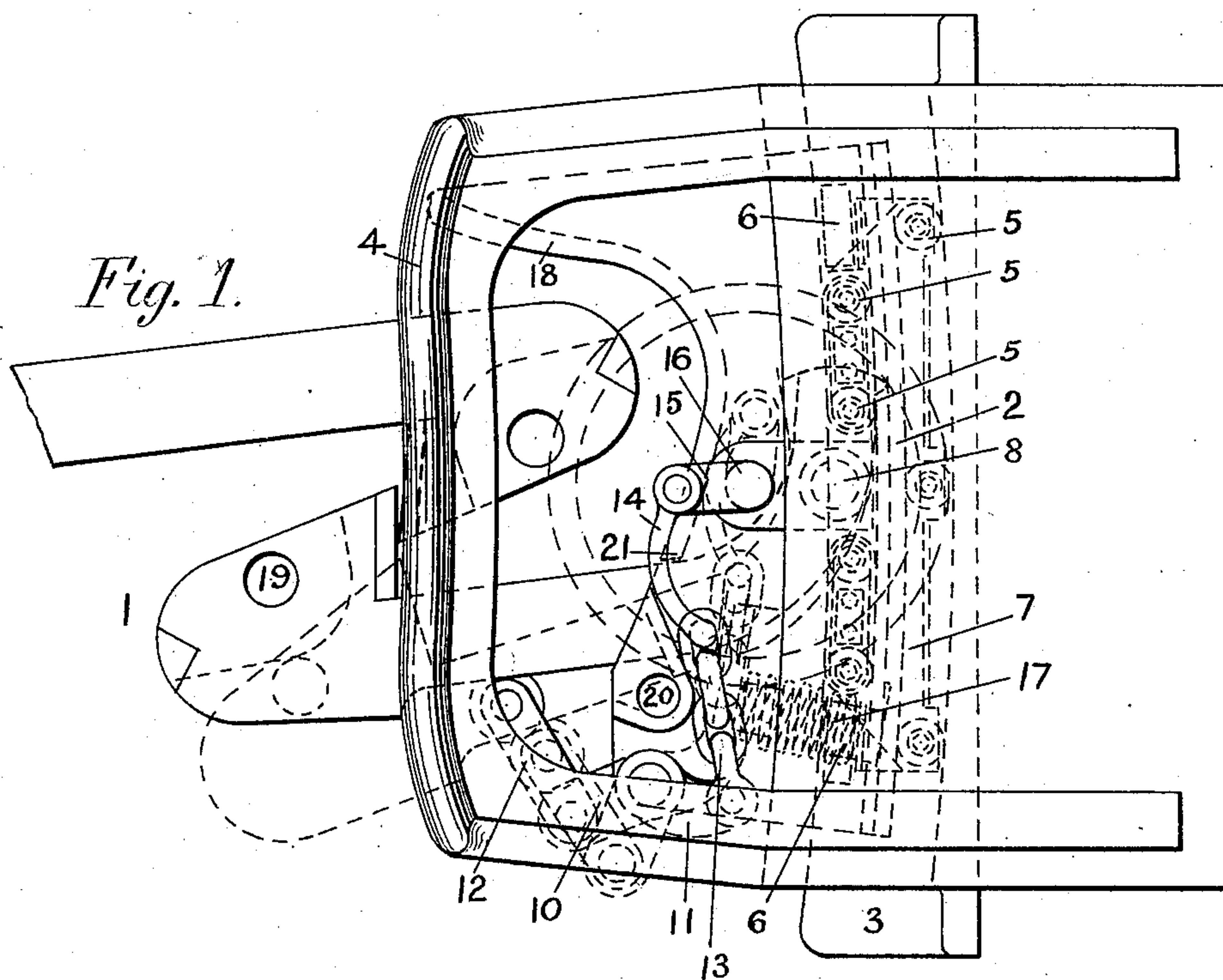
No. 387,725.

Patented Aug. 14, 1888.

*Fig. 2.*



*Fig. 1.*



Witnesses:

*H. S. Manning.*  
*Chapman*

Inventor:

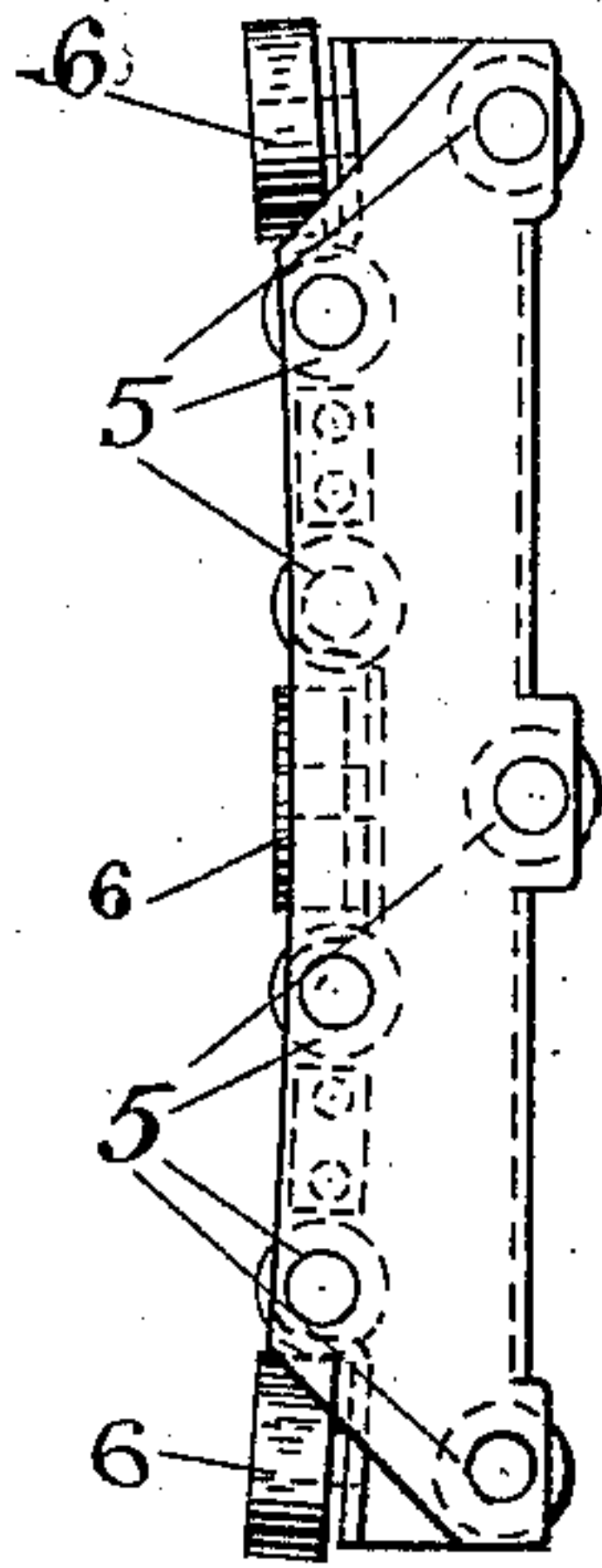
*Albert P. Massey.*

A. P. MASSEY.  
LOCOMOTIVE COUPLER.

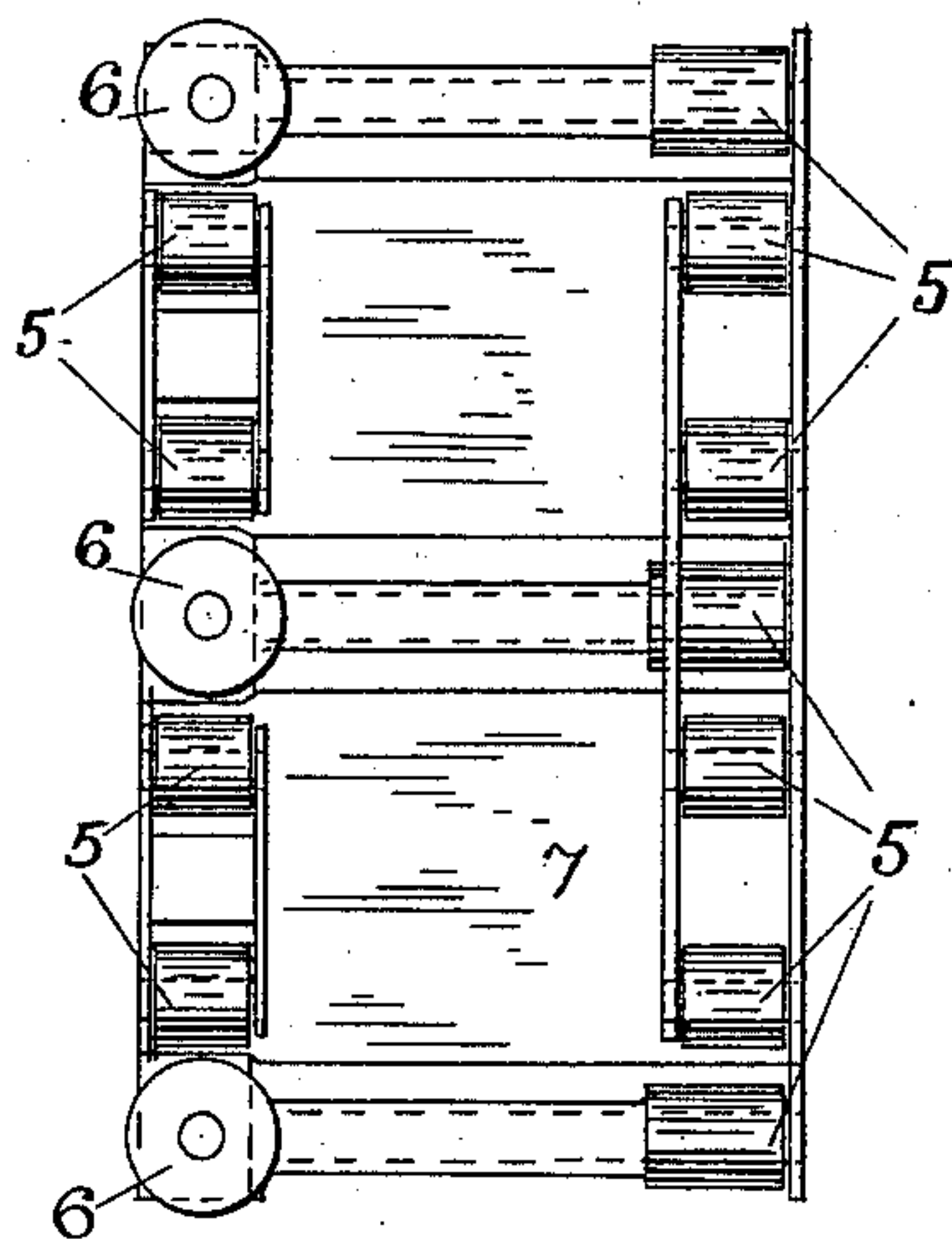
No. 387,725.

Patented Aug. 14, 1888.

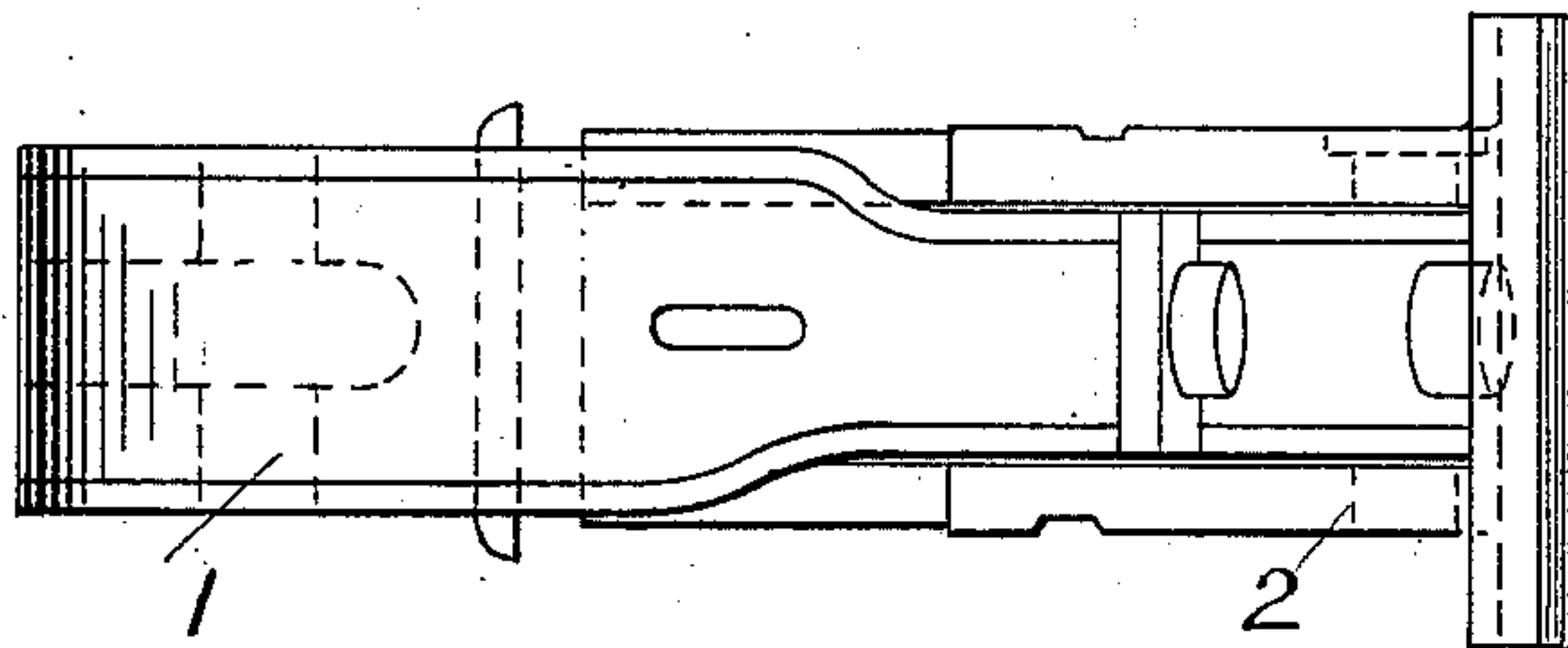
*Fig. 5.*



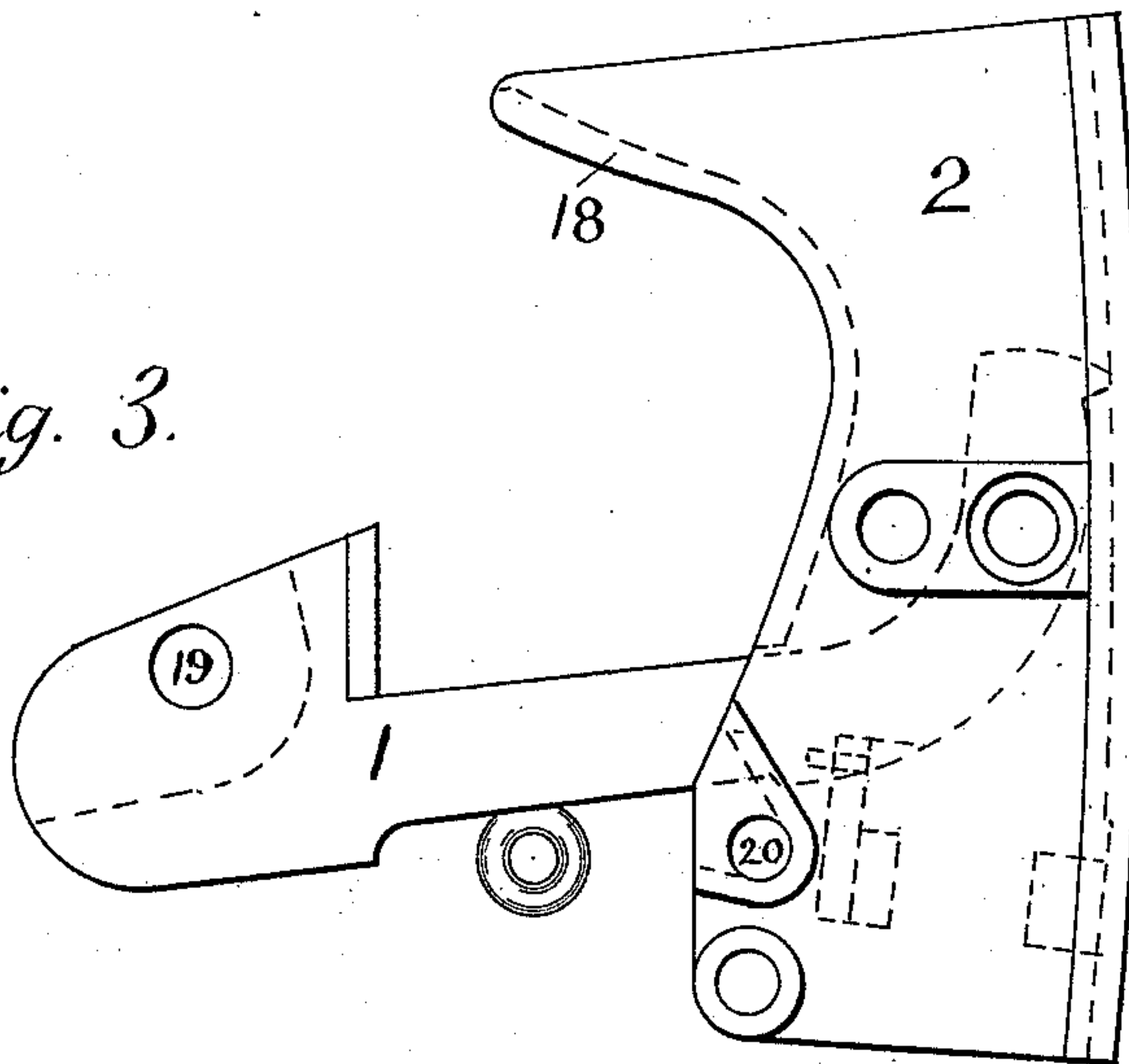
*Fig. 6.*



*Fig. 4.*



*Fig. 3.*



Witnesses:

*H. C. Manning*  
*Victor M. Anderson*

Inventor:

*Albert P. Massey*



# UNITED STATES PATENT OFFICE.

ALBERT P. MASSEY, OF WATERTOWN, NEW YORK, ASSIGNOR TO THE  
EAMES VACUUM BRAKE COMPANY, OF SAME PLACE.

## LOCOMOTIVE-COUPLER.

SPECIFICATION forming part of Letters Patent No. 387,725, dated August 14, 1888.

Application filed February 2, 1888. Serial No. 262,770. (No model.)

*To all whom it may concern:*

Be it known that I, ALBERT P. MASSEY, a citizen of the United States, residing in the city of Watertown, in the county of Jefferson and State of New York, have invented certain new and useful Improvements in Locomotive-Couplers, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to couplers and buffers for locomotives; and it consists of a coupling-hook attached to a shuttle moving in a raceway across the end of a locomotive, so that it may be moved a considerable distance from the center line of the track for the purpose of coupling to cars on a sharp curve.

Most of the passenger-cars in the United States are fitted with the Miller coupling-hook. These hooks are held in position by a strong spring behind each one, and can be moved from the center line of the car but three or four inches in one direction only. As the cars are mounted on trucks with the center pin from eight to twelve feet from the coupling-hook, the hooks are over the center of the track only when the cars are on a straight track. When the car forms the chord of a curve, the coupling-hooks are thrown outside of the center line of the track a distance depending on the sharpness of the curve, say ten or more inches for ordinary curves. Even at this distance two cars with the same distance from the center-pin to the draw-hook will couple, as the draw-heads are thrown the same distance from the center line of the track. With a locomotive, however, this is not the case. Many locomotives in yard-service have but four wheels under the tender, and the draw-head is kept near the center line of the track, no matter how sharp the curve, and consequently they will not couple with passenger-cars on any considerable curve. The train-men have, therefore, to resort to links, and are very liable to be injured when coupling the engine to the cars. Even with locomotive-tenders that have two trucks the center pin is quite near the draw-head and a coupling cannot be made on a sharp curve.

With my invention all this is obviated. The draw-hook is attached to a shuttle which

moves in a raceway across the end of the engine or tender any required distance to meet the draw-hook on the car, and will couple as readily on the sharpest curve as on a straight track. This arrangement would be effective as regards coupling and uncoupling if it were a plain shuttle sliding in a straight raceway across the end of the engine; but to overcome friction and make it easier to handle I have mounted the shuttle on live rollers and curved the raceway, so that the shuttle travels in a circle concentric with the center pin of the truck of the longer cars. This allows the cars to pass from curved to straight track, or vice versa, without altering the length of the connecting-hooks, and consequently with very little friction. I have also curved the central portion of the buffer from the same center for the same purpose.

Figure 1 is a plan of the whole. Fig. 2 is an elevation partly in section. Fig. 3 is a plan of the shuttle and hook. Fig. 4 is an elevation of the same. Figs. 5 and 6 show the carriage that carries the live rollers.

In the drawings, 1 is the draw-hook. 2 is the shuttle which carries it.

3 is the raceway.

4 is the buffer, which in this case is cast on the raceway, but may be a separate piece.

5 5 are live rollers rolling on a vertical axis.

6 6 6 are live rollers rolling on a horizontal axis.

7 is a carriage for keeping the live rollers at proper distances apart.

8 is a pin joining the draw-hook to the shuttle.

9 is a shaft with two cranks, 10 and 11, attached.

12 are links connecting crank 10 with draw-hook.

14 is a chain connecting crank, 11, with crank-arm 15 on vertical shaft 16. This shaft has a hand-wheel at the top for turning it in order to unhook the draw-hook by means of the above-mentioned crank and links.

17 is a spring to return the hook to its normal position and keep it coupled to the hook on a car.

18 is a guide for the hook on the car. It is placed at such a distance from the point of



hook 1 that the car draw-hook cannot be released unless the draw-hook 1 is opened by compressing the spring.

19 is a hole for using an ordinary link and pin when coupling with freight-cars.

20 is a hole, in which a pin can be placed to keep the draw-head rigid when used in freight-service.

21 is a stop in the shuttle casting to keep the spring from throwing the hook too far.

The operation is as follows: When the engine is approaching a car, the train-man moves the shuttle one way or another by means of the vertical shaft 16, so that the opening between hook 1 and guide 18 is opposite the draw-hook of the car. The car draw-hook then enters the opening, pushes back the hook by compressing the spring, and is securely coupled as soon as the two hooks have passed each other. The buffer-spring on the car is compressed by the buffer on the engine. This coupling will take place at either end of the raceway, as well as at the center. If, now, the engine pulls the car from a curve to a straight track, or vice versa, the shuttle will be moved along the raceway by the draw-hook of the car, but will keep at the same distance from the center-pin of the car-truck. To uncouple the engine-hook from the car-hook, the hand-wheel at the top of the vertical shaft 16 is revolved in a right-hand direction. This pulls back the hook and releases the car draw-hook. The link 14 is made of such a form that the crank 15 can be turned until the center of crank-pin has passed the dead-center, thus forming a lock to hold the draw-hook open at will. If the hand-wheel is turned to the left, the spring will return the draw-hook to its normal position. Thus it will be seen that the vertical shaft and its hand-wheel serve the double purpose of opening the hook or of moving the shuttle in the raceway.

The drawings show clearly the position of the live rollers for relieving friction when the shuttle is under heavy strain from a heavy load and the train is passing from a tangent to a curved track.

What I claim as novel, and desire to secure by Letters Patent, is—

1. In a locomotive-coupler, a draw-hook attached to a shuttle which is free to move in a raceway in a transverse direction, but is firmly secured against a longitudinal strain, substantially as set forth.

2. In a locomotive-coupler, a draw-hook combined with a shuttle moving in a raceway which is practically concentric with the center-pin of a standard passenger-car when said car is coupled to the locomotive, substantially as set forth.

3. In a locomotive-coupler, a buffer which is concave in the central portion, in combination with a draw-hook attached to a shuttle moving in a raceway which is practically concentric with the center-pin of a standard passenger-car when said car is coupled to the locomotive, substantially as set forth.

4. In a locomotive-coupler, the live rollers 5 5 and 6 6, in combination with a draw-hook attached to a shuttle moving in a raceway, substantially as set forth.

5. In a locomotive-coupler, the shaft 16, crank 15, links 14, cranks 11 and 10, links 12, and hook 1, for the purpose described, and substantially as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 31st day of January, A. D. 1888.

ALBERT P. MASSEY.

Witnesses:

H. W. BOYER,  
M. J. MORKIN.