

No. 876,762.

PATENTED JAN. 14, 1908.

A. BARNA.

DETACHING DEVICE.

APPLICATION FILED JULY 8, 1907.

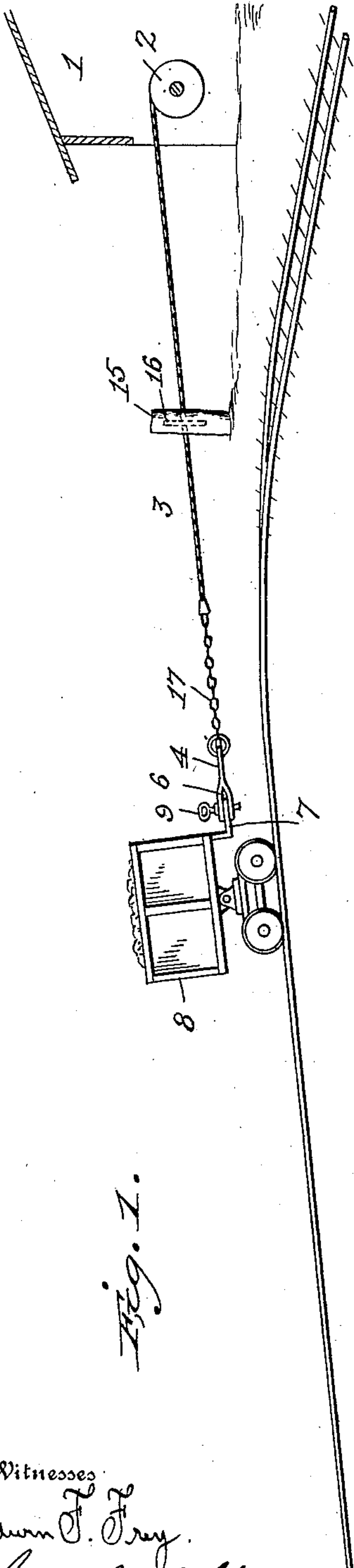


Fig. 1.

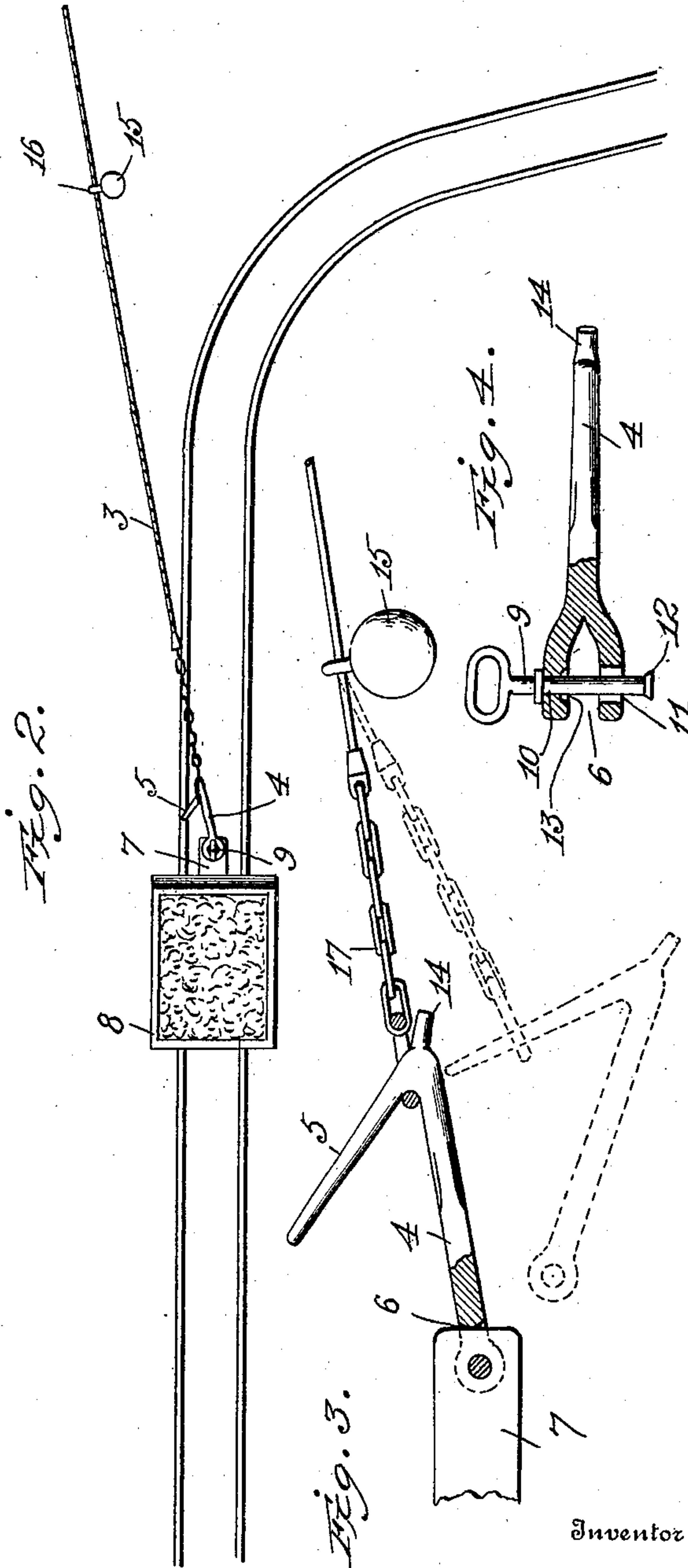


Fig. 2.

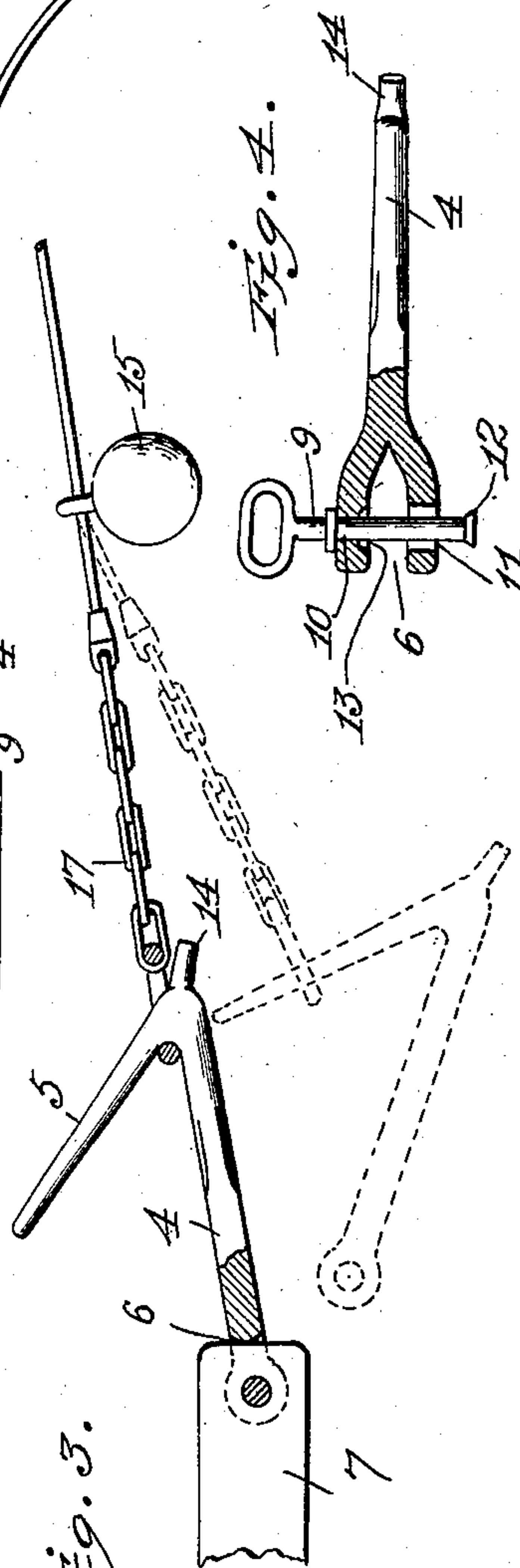


Fig. 3.

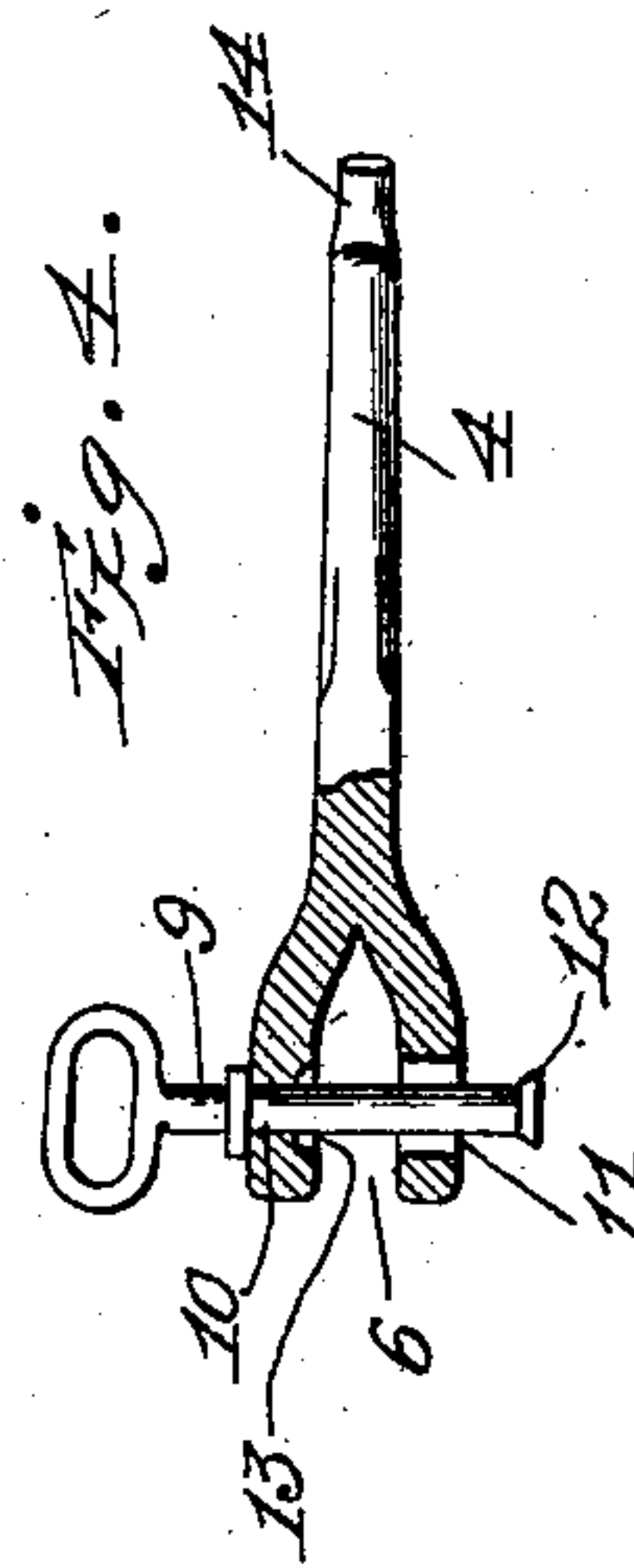


Fig. 4.

Witnesses:  
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# UNITED STATES PATENT OFFICE.

ANDREW BARNA, OF PURITAN, PENNSYLVANIA.

## DETACHING DEVICE.

No. 876,762.

Specification of Letters Patent.

Patented Jan. 14, 1908.

Application filed July 8, 1907. Serial No. 382,703.

*To all whom it may concern:*

Be it known that I, ANDREW BARNA, a citizen of the United States, residing at Puritan, in the county of Cambria and State of Pennsylvania, have invented certain new and useful Improvements in Detaching Devices, of which the following is a specification.

My invention relates to devices for automatically detaching mine cars from their hauling cables, and has for its object to provide certain improvements in the construction of the same, as will be hereinafter more definitely pointed out and claimed, reference being had to the accompanying drawing, in which:

Figure 1 is a side elevation of a section of track showing a car in the act of being drawn up the incline leading from the mine just before it has reached the down grade curve. Fig. 2 is a plan view of the same. Fig. 3 is an enlarged detail plan view of the coupling hook attached to the hauling cable. Fig. 4 is an enlarged side elevation of said coupling hook shown partly in section.

Similar numerals of reference denote corresponding parts in the several views.

It is the practice, particularly in coal mines, to curve the track leading from the mine at the summit of the up-grade, and to provide a down-grade from that point to the dumping point. A power house 1, located at this point is provided with an engine actuating a winding drum 2 thereon that winds the cable 3 to draw up the cars from the mine.

My improved coupling hook consists of a body portion 4, having formed integral therewith an engaging arm 5, said body portion and arm forming a V-shaped angle, as shown. Said body portion 4 is bifurcated at its inner end at 6 to straddle an apertured coupling plate 7, fixed to the car 8, said plate, when the two are engaged, projecting into the bifurcated portion sufficiently far to permit but slight lateral movement to said coupling hook.

The coupling pin 9 passes through apertures 10 and 11 in said coupling hook, and is headed at 12 at its lower end, the lower aperture 11 being large enough to permit the

passage of said headed end, while the upper aperture 10 is smaller, to prevent its passage, though recessed at 13 to receive said headed end, and thus provide an unobstructed passage for the reception of the coupling plate in coupling. The coupling hook is also formed with a projection 14 at its outer end, the same serving as a hand hold in manipulating the same. At the point where the track curve begins I provide a guide post 15 for the cable 2, a guide clip 16 receiving and guiding the same.

In operation the end link of the chain 17 at the end of the cable is engaged with the arm 5 of the coupling hook, and the car hauled up the incline from the mine until it reaches a point nearly opposite the post 15, where the track begins to curve and to incline downward. At this point the turning movement of the car carries with it the coupling hook, which has but limited lateral play on the coupling plate 7, the result being that said coupling hook is automatically disengaged from the chain 17 in the manner shown in dotted lines, Fig. 3, without interrupting the movement of the car, which continues on the down-grade to the dumping point. It will be observed that in this detaching movement the post 15 acts as a fulcrum for the cable and materially assists in the detaching operation.

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

1. A coupling hook for cable drawn cars, embodying a body portion, an engaging arm formed integral therewith and projecting therefrom at an acute angle, and a projection at the junction of said body portion and arm forming a hand piece.

2. The combination with a coupling hook embodying a bifurcated end adapted to straddle a coupling plate, of a coupling pin having a headed lower end and vertically movable in apertures in said bifurcated end, said headed end passing freely through the aperture in the lower bifurcation and adapted to fit into a recess in the upper bifurcation and to be retained therein against complete withdrawal.



3. The combination with a hauling cable,  
a guide post therefor, and a car hauled there-  
by, of a coupling hook connected with said  
car and detachably engaging said cable in  
5 such manner that the movement of said car  
on a curve as it approaches said guide post  
will cause said coupling hook to be auto-  
matically disengaged from said cable through

the combined turning movement of said car  
and the leverage of said post on said cable. 10

In testimony whereof I affix my signature,  
in presence of two witnesses.

ANDREW BARNA.

Witnesses:

P. F. CAMPBELL,

J. J. McDONNELL.