

No. 695,684.

Patented Mar. 18, 1902.

E. GRAFSTROM.  
LOCOMOTIVE PILOT AND CAR COUPLING THEREFOR.

(Application filed Aug. 23, 1901.)

(No Model.)

2 Sheets—Sheet 1.

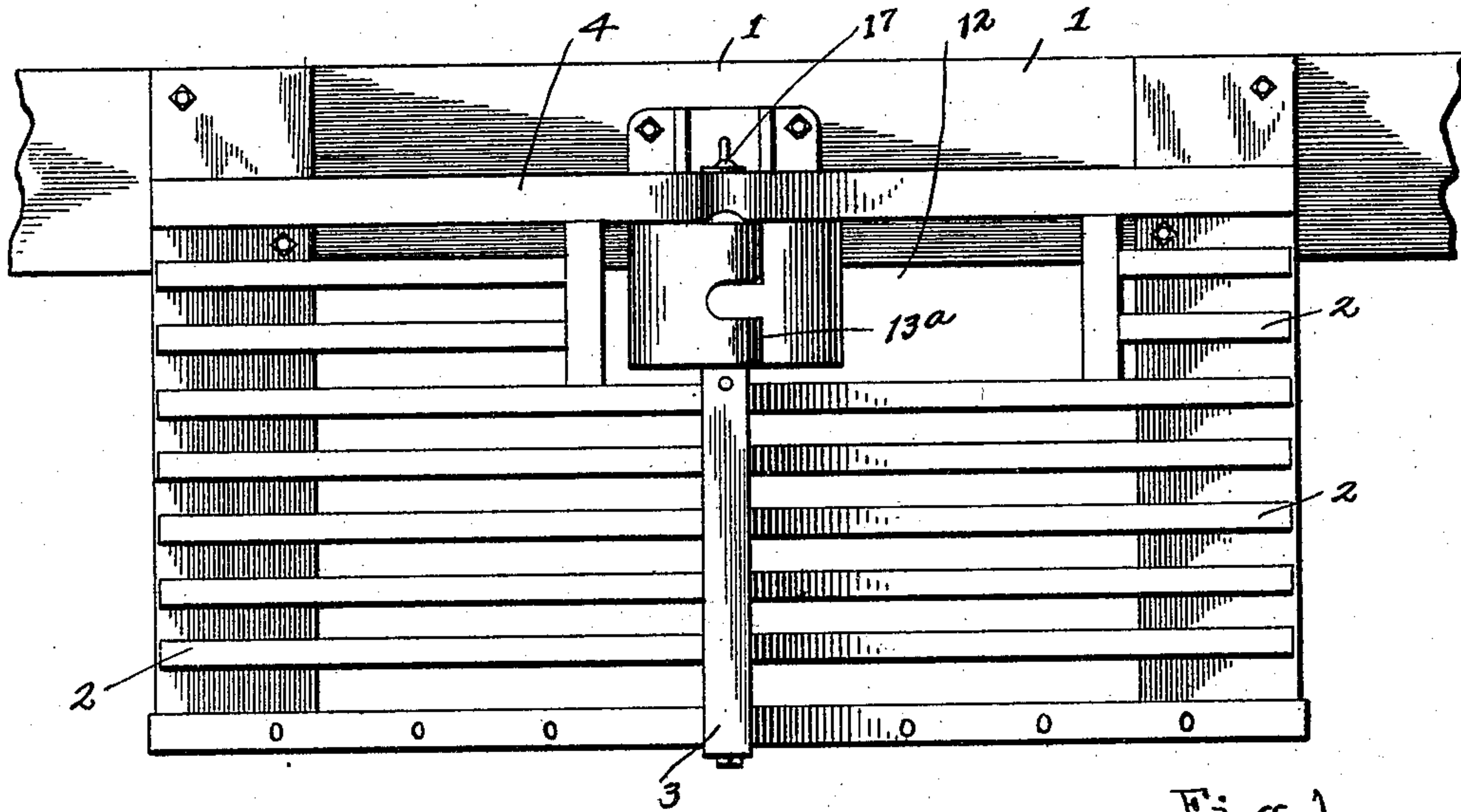


Fig. 1.

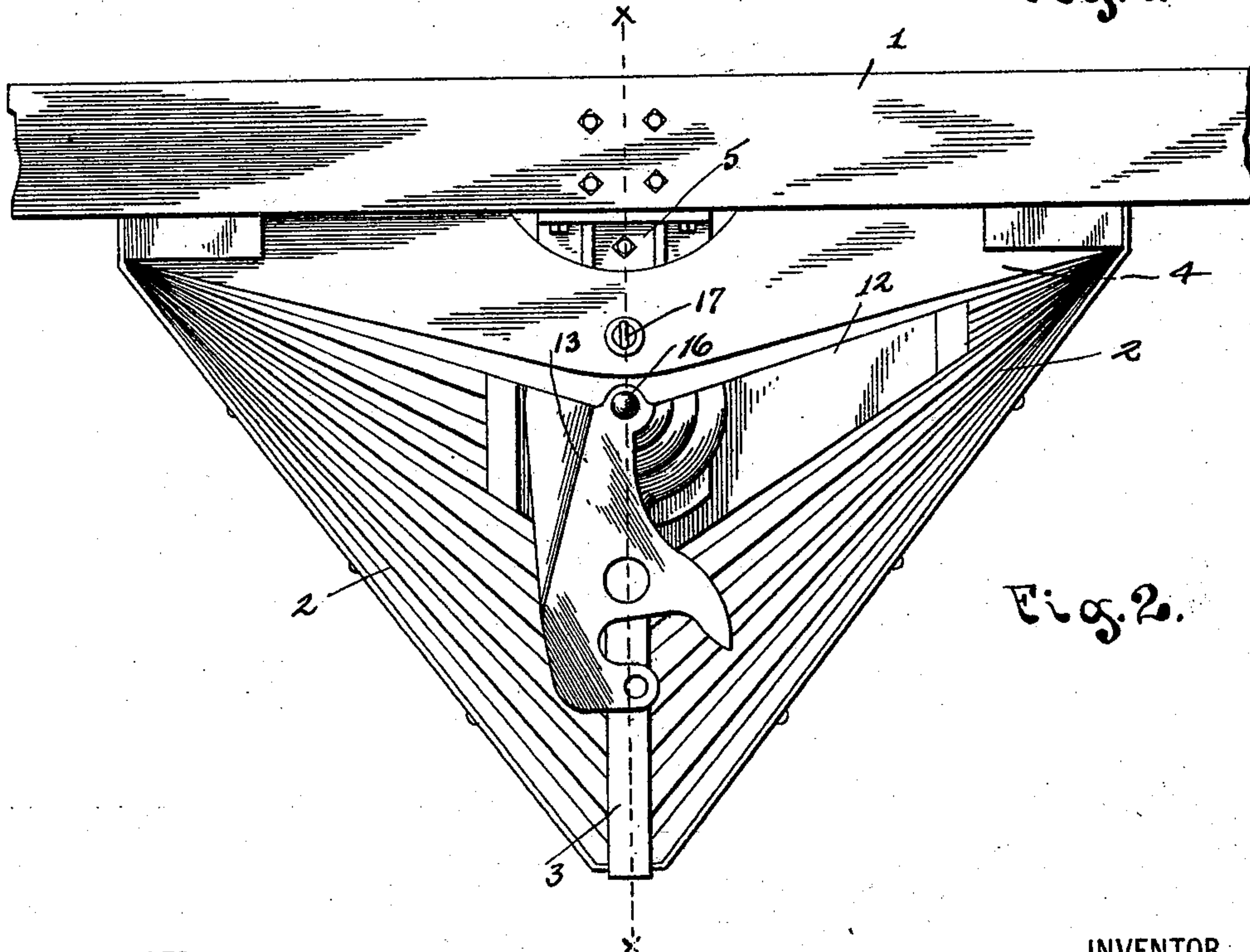


Fig. 2.

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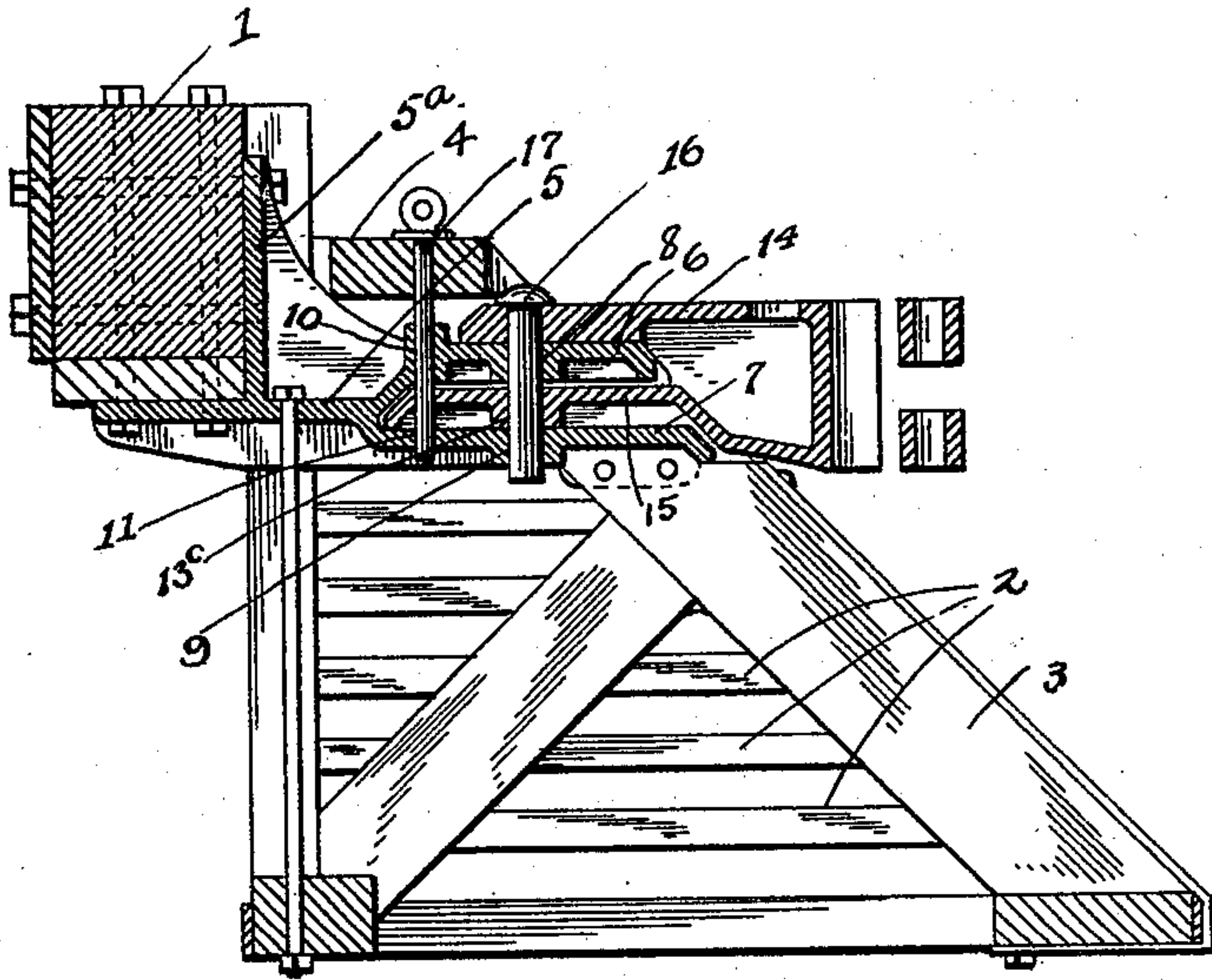


Fig. 3.

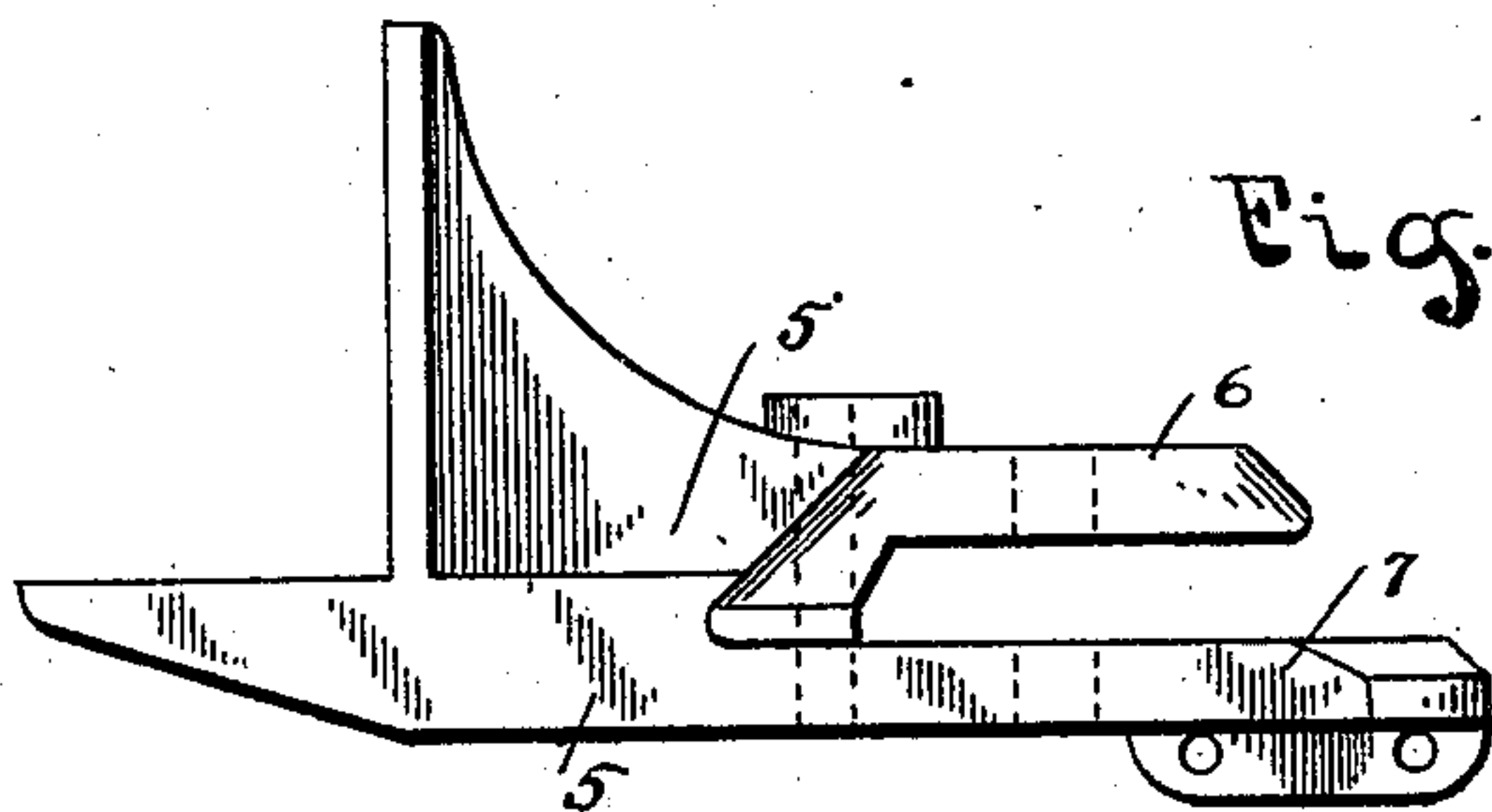


Fig. 5.

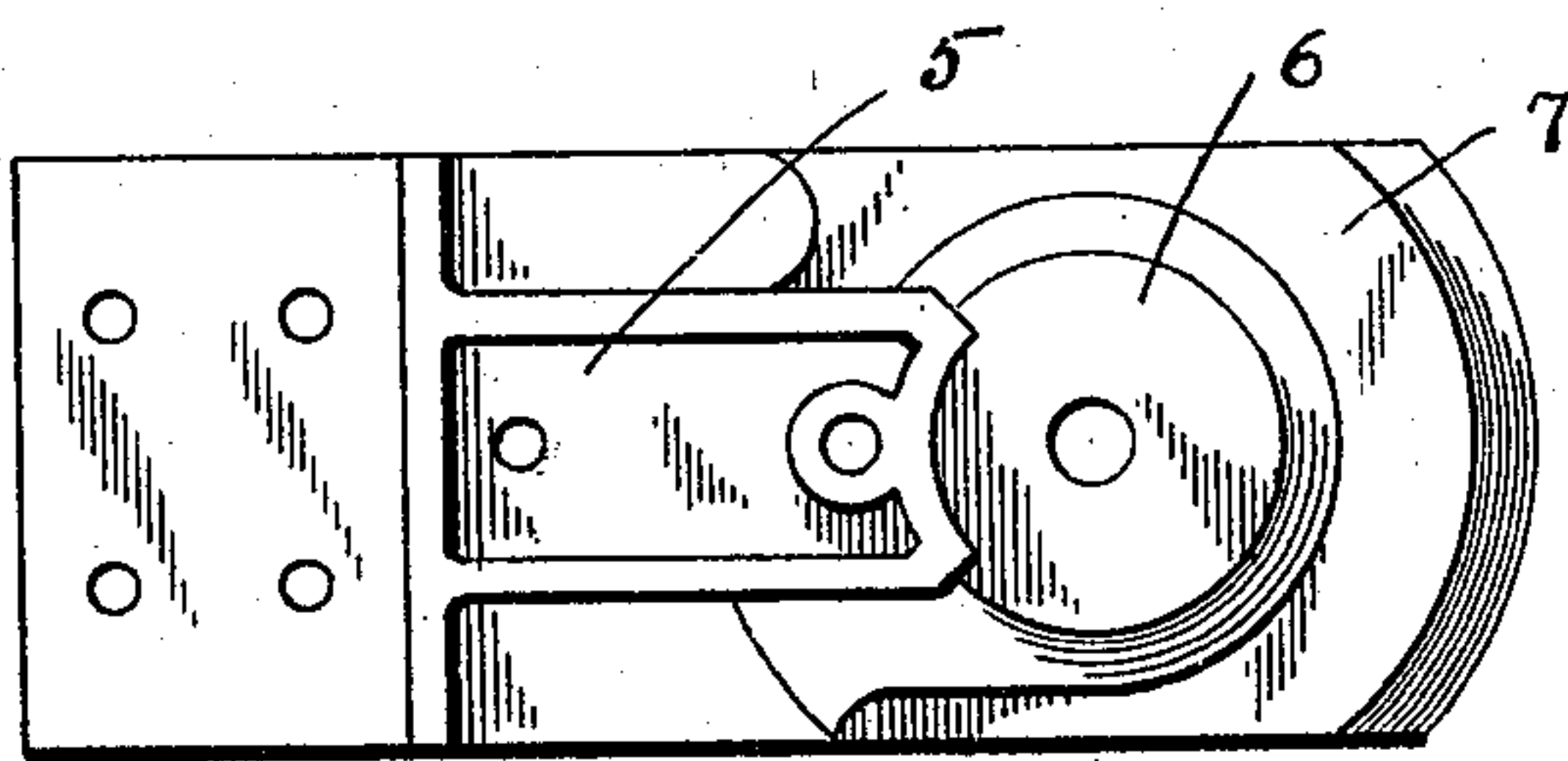


Fig. 6.

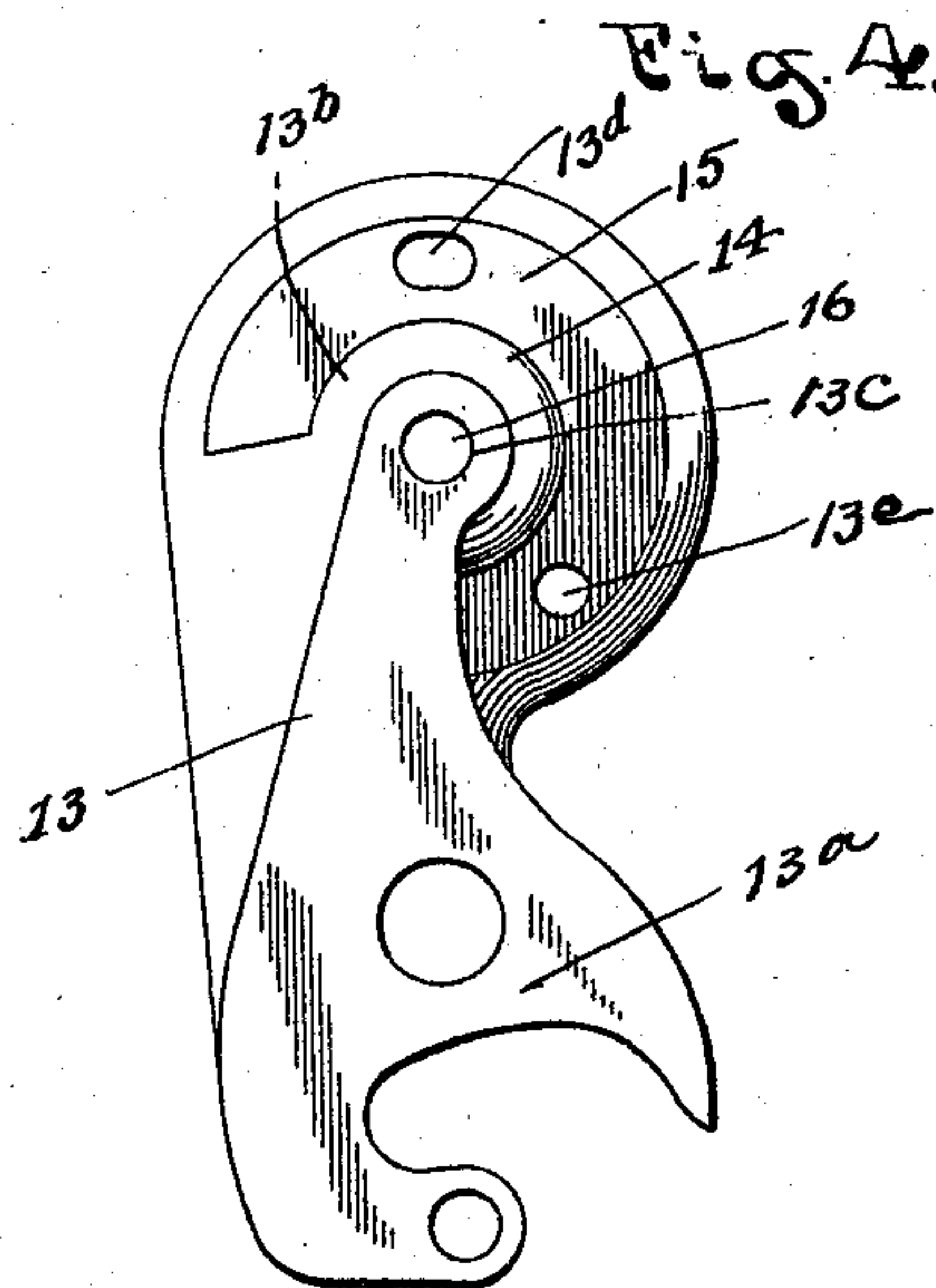


Fig. 4.

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# UNITED STATES PATENT OFFICE.

EDWARD GRAFSTROM, OF TOPEKA, KANSAS.

## LOCOMOTIVE-PILOT AND CAR-COUPLING THEREFOR.

SPECIFICATION forming part of Letters Patent No. 695,684, dated March 18, 1902.

Application filed August 23, 1901. Serial No. 72,968 (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD GRAFSTROM, a citizen of Sweden, residing at Topeka, in the county of Shawnee and State of Kansas, have  
5 invented a certain new and useful Improvement in Locomotive-Pilots and Car-Couplers Therefor, of which the following is a specification.

My invention relates to the improvement  
10 of locomotive-pilots and couplers therefor; and the objects of my invention are to provide an improved construction of coupler-carrying pilot and in conjunction therewith to provide superior means for supporting and  
15 disposing of the coupler and to produce certain improvements in details of construction and arrangement of parts which will be more fully pointed out hereinafter. These objects I accomplish in the manner illustrated in the  
20 accompanying drawings, in which—

Figure 1 is a front elevation of a locomotive-pilot having my improvements. Fig. 2 is a plan view of the same. Fig. 3 is a sectional view on line *x x* of Fig. 2. Fig. 4 is a  
25 plan view of a coupler which I employ. Fig. 5 is a side elevation of the coupler-supporting bracket, and Fig. 6 is a plan view of the same.

Similar numerals refer to similar parts  
30 throughout the several views.

1 represents the front end sill of the locomotive; 2, the converging frame bars or ribs of the pilot; 3, the inclined front frame-beam or pilot nose-beam, and 4 the top frame-plank  
35 of the pilot.

In carrying out my invention I employ a coupler-supporting bracket-body 5, the inner end of which is provided with an angular termination 5<sup>a</sup>, which embraces two or more  
40 sides of the sill 1, to which it is bolted or otherwise firmly secured over the central portion of the pilot. The supporting-bracket 5 in its outer portion is recessed or bifurcated to form two forwardly-extending jaws 6 and  
45 7, these jaws being provided in their central portions with oppositely-located pin-holes 8 and 9 and at points in rear of the holes 8 and 9 with oppositely-located pin-holes 10 and 11.

In carrying out my invention portions of  
50 the upper ribs or pilot-bars 2 are removed, resulting in the formation of an oblong opening 12 in the pilot-framework, through the

inner end portion of which projects the casting 5.

13 represents a car-coupler body, the head 55 or coupling outer end portion 13<sup>a</sup> of which may be any suitable or well-known construction which will facilitate its engagement with the coupler-head of an adjacent car. The rear or shank portion 13<sup>b</sup> of the coupler is, 60 however, formed with an enlargement, which results in the production of separated jaws 14 and 15, and, as indicated in the drawings, the jaws 14 and 15 of the coupler are adapted to embrace the upper jaw 6 of the bracket, 65 the lower jaw 15 of the coupler having a suitable bearing on the upper side of the lower jaw 7 of the bracket.

16 represents a vertical pivot-pin which, as shown, is designed to pivotally connect 70 the coupler and bracket by passing loosely through pin-openings 13<sup>c</sup> in the coupler-jaws and through the bracket pin-openings 8 and 9.

17 represents a retaining-pin which passes 75 loosely through an opening in the upper horizontal frame-beam 4 of the pilot, thence through the bracket-opening 10, a slightly-elongated pin-hole 13<sup>d</sup> in the lower jaw of the coupler, and through the lower bracket pin-hole 11. 80

It will be observed that when the coupler is supported in the position shown in the drawings—that is, extended forwardly with the pins 16 and 17 inserted—said coupler-body will be held in position for coupling with an adjoining car and that it may have such necessary 85 lateral swinging motion as may be permitted by the degree of elongation of the opening 13<sup>d</sup> in the lower jaw of the coupler. When the coupler is not desired for use, however, it is 90 obvious that the pin 17 may be withdrawn and the coupler-body swung horizontally on its pivot-pin 16 until it enters the opening 12 of the pilot-frame, in which position it will be out of the way. When the coupler is thus 95 thrown back, the pin 17 may be inserted in an opening 13<sup>e</sup>.

In case a sufficiently-low form of pilot-frame is employed it will be seen that the coupler might be swung horizontally out of the way 100 and over the upper side of the pilot, in which case the necessity of the recess or opening 12 in the pilot-frame would be avoided. Although my improved coupler is shown and



described as particularly designed for use on locomotive-pilots, it is obvious that the vertically-pivoted and horizontally-swinging coupler, such as herein described, might be  
 5 employed in connection with a tender or car.

It is customary to extend the air-brake pipe ends or other fittings beyond the surfaces of the pilot-ribs or frame-bars and to permanently clamp thereto air-conducting hose.  
 10 In order to avoid this undesirable projection of the air-brake pipe ends or other extensions beyond the pilot, it is obvious that a suitable or well-known form of hose-coupling may be secured between the pilot-ribs, flush with the  
 15 front surfaces thereof, thus permitting the hose to be coupled or removed therefrom and carried on the locomotive, preserving the hose from injury and at the same time clearing the  
 20 pilot from undesirable attachments or projections.

It will be readily understood that the jaws 14 and 7 of the coupler might be consolidated into the form of a tongue which could be inserted between the jaws 6 and 7, or that the  
 25 two latter jaws might likewise be consolidated to form a tongue which could be inserted between the jaws 14 and 15 of the coupler.

Having now fully described my invention, what I claim, and desire to secure by Letters  
 30 Patent, is—

1. In a locomotive-pilot and car-coupler therefor, the combination with the pilot-framework having a recess 12 in its upper portion, of a fixed bracket extending from the locomotive-sill and a car-coupler connected  
 35 with said bracket by a vertical pivot-pin and adapted to be swung into said pilot-recess, substantially as specified.

2. In a locomotive-pilot and car-coupler, the combination with a pilot-frame having a recess 12 in its upper portion and a fixed bracket  
 40 extending from the locomotive-sill, of a car-coupler mounted to swing in its bracket on a vertical pivot and a detachable stop-pin adapted to intersect said bracket and car-coupler,  
 45 substantially as specified.

3. In a locomotive-pilot and car-coupler, the combination with the pilot-frame having an upper recessed portion 12, a fixed bracket extending from the locomotive-sill and having  
 50 separated jaws, of a car-coupler having its rear portion bifurcated to embrace one of said bracket-jaws, a vertical pivot-pin hinging said coupler and bracket and a detachable stop-pin intersecting said coupler and bracket,  
 55 substantially as specified.

EDWARD GRAFSTROM.

In presence of—

FRANK MITCHELL,  
 W. C. JETT.