

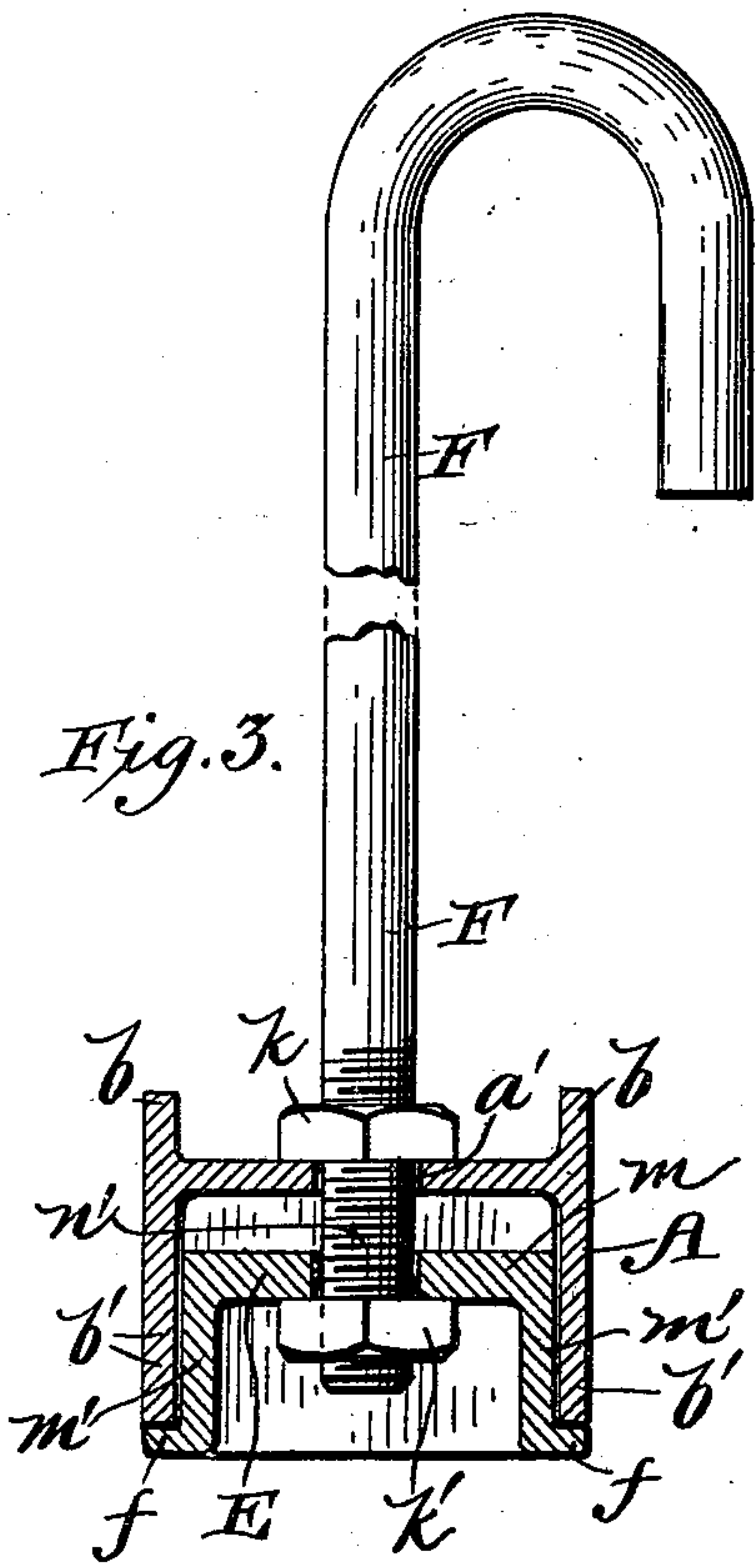
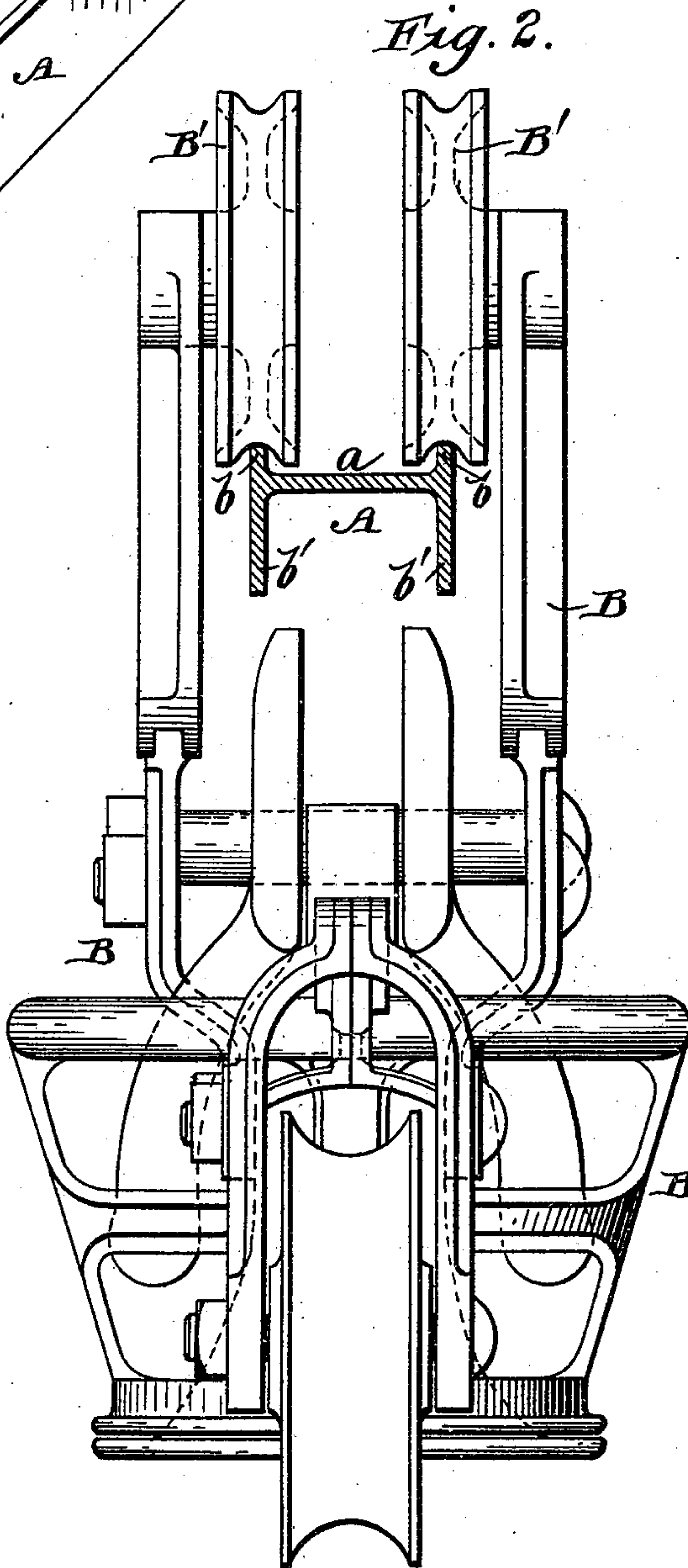
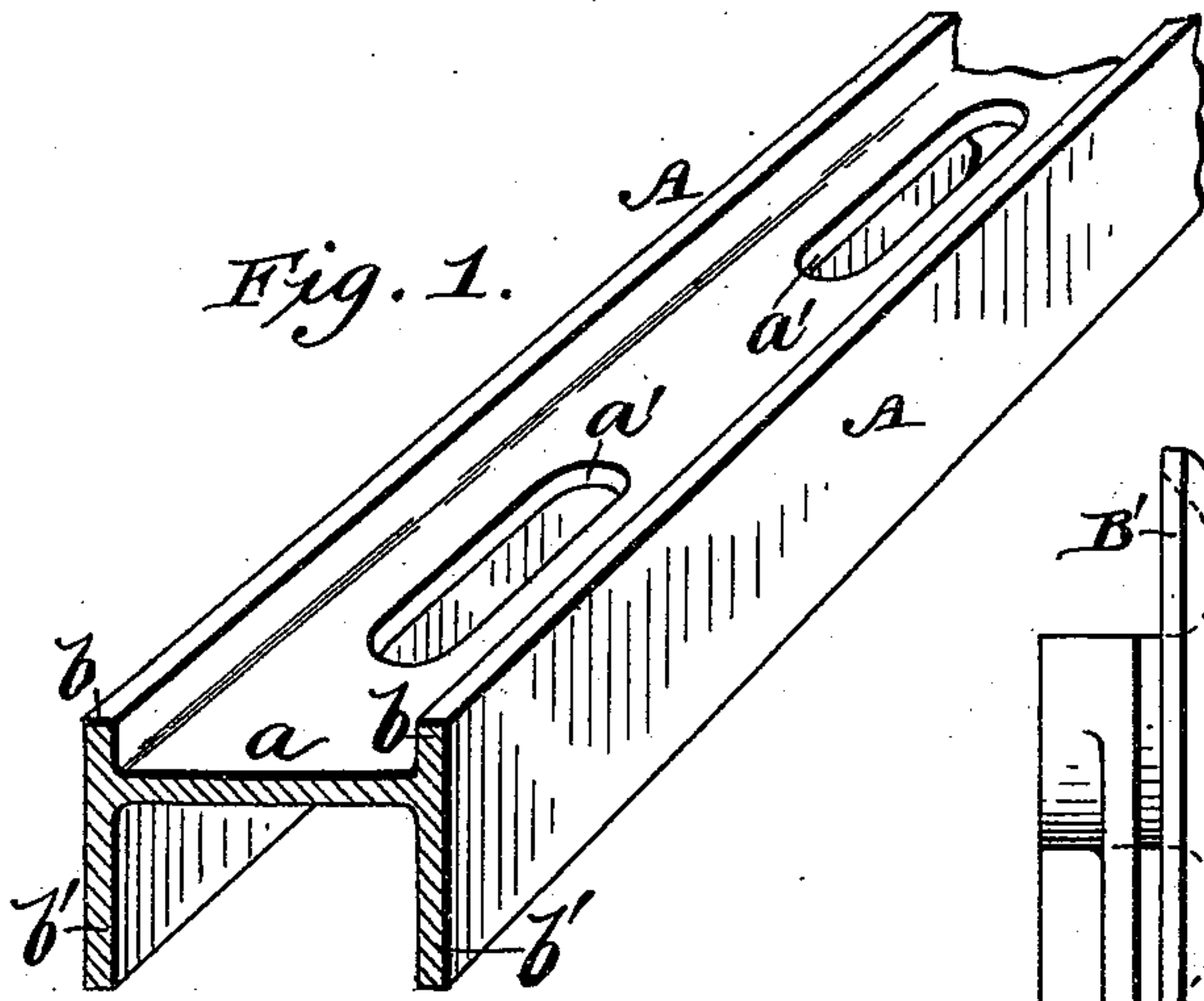
(No Model.)

2 Sheets—Sheet 1.

M. G. GROSSCUP.
TRACK RAIL FOR HAY CARRIERS.

No. 562,294.

Patented June 16, 1896.



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W. Harry Muzzy.

INVENTOR

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by Mason, Fenwick & Lawrence
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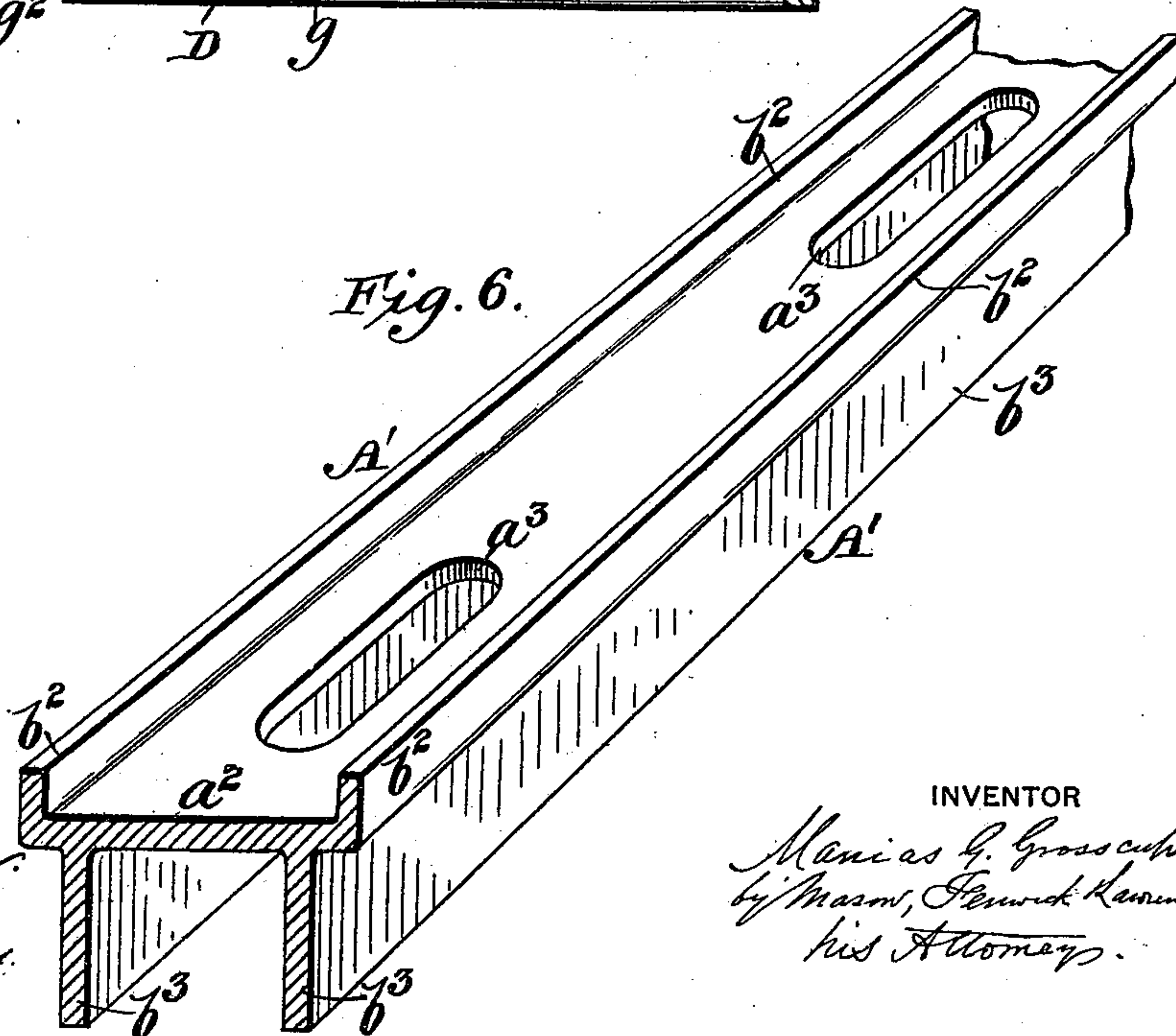
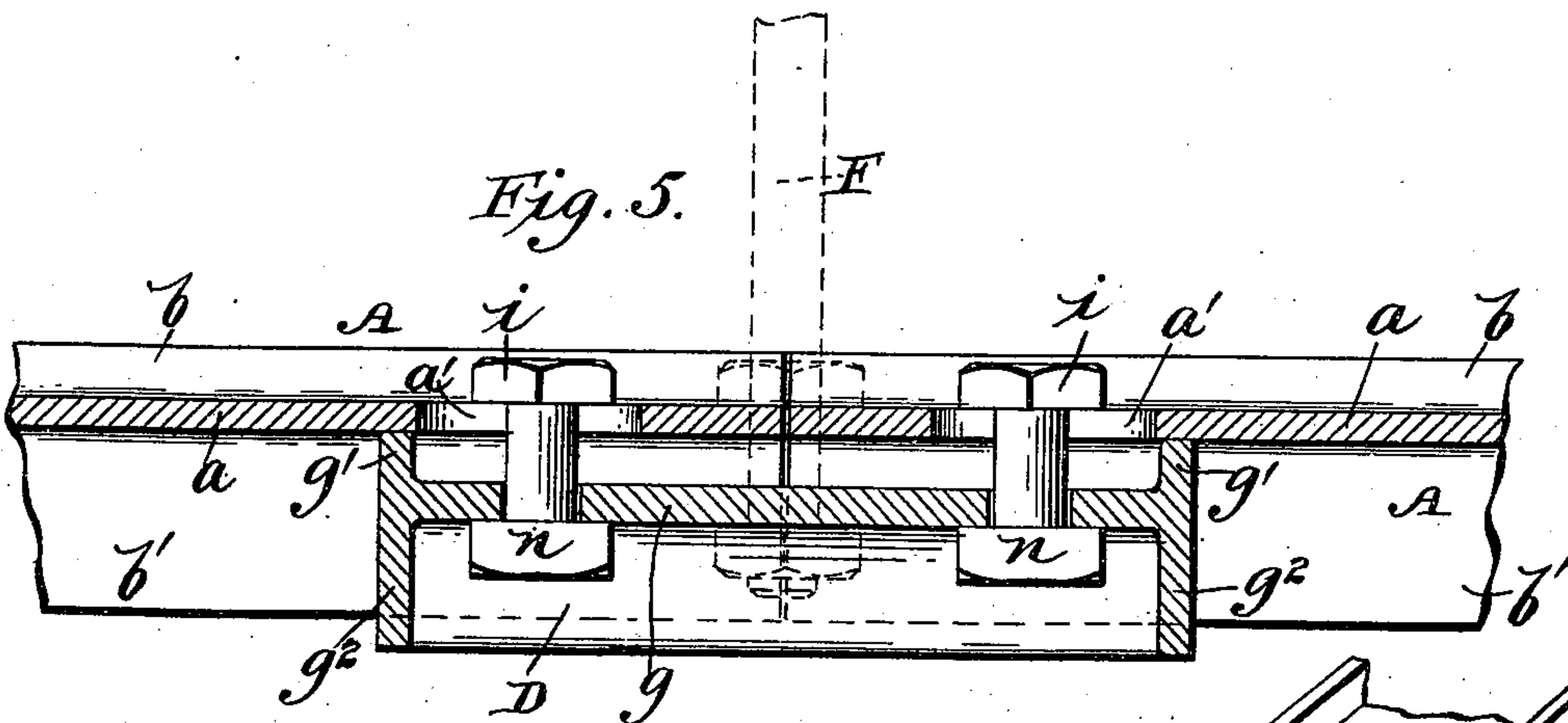
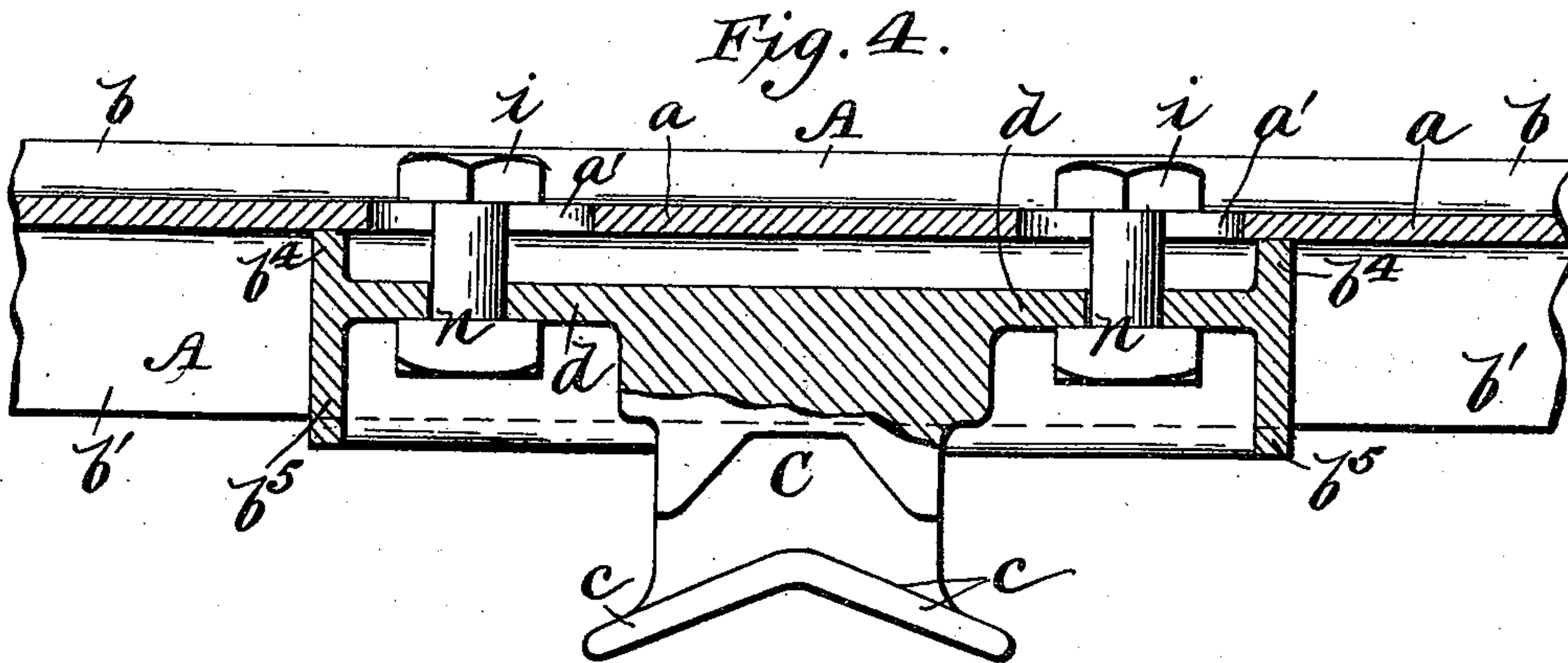
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UNITED STATES PATENT OFFICE.

MANIAS G. GROSSCUP, OF CHICAGO, ILLINOIS.

TRACK-RAIL FOR HAY-CARRIERS.

SPECIFICATION forming part of Letters Patent No. 562,294, dated June 16, 1896.

Application filed April 27, 1895. Serial No. 547,308. (No model.)

To all whom it may concern:

Be it known that I, MANIAS G. GROSSCUP, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Rails for Hay-Carrier Tracks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to suspension-rails for hay-carrier tracks, and also to adjuncts of such rails, and its object is to provide a light strong rail which may be rolled out of steel or wrought-iron, and which will be adapted for supporting a hay-carrier having wheels on opposite sides of its frame, and will serve for preventing the spread of the carrier, and for holding the carrier in position while traveling on the track, and also will afford facilities for attaching, by means of novel connecting-plates, suspending hangers that extend down from rafter-beams and other portions of barns, and adjustable novel-shaped knocker-blocks below the track and novel-shaped coupling or joint clamp-plates between the sections of the track; and it consists, first, in perforated and slotted carrier track-rails formed with a horizontal web having vertical side flanges, which extend up above and down below it; second, in the combination, with rails having a horizontal web, and having vertical side flanges which extend up above and below it, of a perforated knocker-block having horizontal end web extensions, terminated in vertical flanges which extend above and below said web extensions; and, third, in joint clamp-plates formed with a horizontal web and end flanges which extend up above and down below it, in combination with a hay-carrier rail having a horizontal web and vertical side flanges extending up above and down below it.

In the accompanying drawings, forming part of this specification, Figure 1 is a perspective view of my improved hay-carrier track-rail. Fig. 2 is an end elevation view of a hay-carrier and a cross-section of my improved rail, illustrating how the carrier runs upon the rail and is kept from spreading or getting off the track. Fig. 3 is a cross-section

of the rail and a holding-plate for the hanger or suspending device. Fig. 4 is a longitudinal section of the rail and a knocker-block applied to it. Fig. 5 is a similar section of two portions of two rail-sections and a coupling or clamping plate across the joint where the rails adjoin, and Fig. 6 is a perspective view of the rail made in a slightly different form.

A in the drawings represents the improved rail, and B any suitable hay-carrier adapted for running thereon. The rail is constructed out of a single piece of metal connecting a horizontal web portion *a*, having oblong or other shaped holes *a'* cut down or punched through it and vertical side flanges *b b'*, which respectively extend up above and down below the web. In Figs. 1, 2, and 3 the flanges *b b'* are shown as being in the same vertical line or plane, and I prefer this form, as it can be more easily rolled. In Fig. 6 the flanges *b² b³* of the rail *A'* are shown extending up and down from a horizontal web *a²* and having oblong or other holes *a³* through it, but the respective pairs of flanges are not in vertical lines or planes with one another. In all other respects the rails shown in all the figures are alike. This construction of the rail gives great strength with lightness, and at the same time other beneficial results are secured, to wit: the upper flanges serve as guides for the grooved wheels *B'* of the hay-carrier *B*. They also prevent the carrier from spreading laterally, and serve for keeping the carrier on the track. The lower flanges form a deep channel in which a knocker-block *C*, coupling or joint clamp-plate *D*, and a hanger-hook-connecting plate *E* may be very effectively applied to the improved track, as illustrated in the drawings.

The knocker-block *C* may have the usual tripping-inclines *c*, and be provided at each end of each incline with a horizontal web portion *d*, terminated in flanges *b⁴ b⁵*, the former extending up above the knocker-block or top surface of the web portion thereof, and the latter down below said web portion, as shown. The coupling or joint clamp-plate *D* is formed with a continuous horizontal web *g*, and at its end transverse flanges *g' g²* are formed, those *g'* extending up vertically above, and those *g²* down below the web *g*. The hanger-hook-

connecting plate E is formed with a horizontal web m and vertical flanges m' m^2 , and on the lower flanges m' , at their bases, horizontal ledges f may be provided, as shown in Fig.

5 3. Ledges similar to those f of the plate E may also be provided at the bases of the lower flanges b^5 of the knocker-block C, and also the flanges g^2 of the clamp-plate D, but it is only deemed essential to provide ledges, such as f ,
 10 on the joint clamp-plate. The shapes given to the rail, knocker-block C, clamp-plate D, and hanger-hook-connecting plate E give great lightness and strength, while a very effective track for hay-carriers provided with
 15 wheels on each side of its center and furnished with the usual connections, such as described, can be employed in connection with it, and such track and the said connections furnished at slight cost; and by having the horizontal
 20 web g of the joint coupling-plate D located below the upper transverse flanges g' , or said flanges g' adjusted to bear against the web of the rail and otherwise constructed, as shown, a firm bearing or bite against the under side
 25 of the web a of the track-rail A is obtained. Furthermore, a bearing is secured against the lower edges of the flanges b' , when the parts are screwed up tight, the ledges f of this coupling-plate being caused to bear firmly
 30 against the bottom edges of the said lower flanges b^3 of the rail A; these actions taking place when the nuts of the bolts of the coupling-plate D are turned up tight, from the fact that the construction and relation of this
 35 plate to the web of the rail cause the web between its flanges to develop a spring-like action, which permits the ends of the flanges g' to be thrown upward against the webs of two coupled rails of the track, and thereby
 40 prevent the nuts turning and getting loose, and insuring a firm joint. The joint clamp-plate and the knocker-block are confined in the channel of the rail by bolts n and nuts i , while the hanger-hook F is secured by a screw-
 45 thread n' on its lower end, said end being passed through the web of the rail and the web of the connecting-plate E, and clamped in position by nuts k k' , as illustrated. It is preferable, for hay-carrier tracks, to make
 50 the upper flanges of a much less depth than the lower flanges b , but the invention is not limited to any special relative depth of these flanges. The upper flanges should, however, be of equal depth with each other, as should,
 55 also, the lower flanges, with one another. By making the bolt-holes in the different parts oblong, adjustment of the parts can be made to suit the requirements, within certain ranges.

60 It is very important in the construction of hay-carrier tracks to avoid having the upper wheel-guiding flanges of the rail so high that they will interfere with the introduction and turning of a wrench between them for the
 65 purpose of turning up and loosening the nuts which fasten knocker-blocks, joint clamp-plates, and the hanger-hooks in position upon

the rail. Hence I have made the upper guiding-flanges of my rail of quite shallow depth. It is equally as important to provide flanges 70 below the web of the rail of a considerably greater depth than the upper flanges, say about three times the depth of the said upper flanges. These deep flanges, while forming staying side walls for the knocker-blocks, 75 joint clamp-plates, and hanger-hook-holding plates, form a deep channel-way, which will afford room for the raising out of the way of the locking or latching device, so as to allow the hay-carrier carriage to pass by one 80 knocker-block to another beyond, when necessary; and furthermore, it is important to relatively proportion the upper and lower flanges of the rail in order to produce a rail which is light, weighing, say, not more than 85 two and a quarter pounds to the foot, and which can be rolled, and sold at something less than six cents per foot. If the flanges were of equal depth above and below the web, as in the construction of I-beams, the rail 90 would not answer for a hay-carrier track, as its lower flanges would be too shallow and not serve as staying side walls for the knocker-blocks, joint clamp-plates, and hanger-hook-holding plates; nor would the channel-way 95 below the web be deep enough for receiving the aforesaid locking device when it is raised to allow the carrier to pass along beneath it to another knocker-block beyond; and if the flanges were made of sufficient depth, and 100 equal above and below the web, the rail would be too heavy and not convenient for use as a hay-carrier track-rail.

Having now described my invention, what I claim as new, and desire to secure by Letters 105 Patent, is—

1. A hay-carrier track-rail adapted for supporting a carrier having wheels on each side of its frame, made of a single piece of metal, said piece consisting of a horizontal web provided with vertical passages for the passage 110 of screw-bolts for fastening joint clamp-plates and knocker-blocks in position upon the track, and also for the passage of screw-threaded ends of hanger-hooks, and said web having 115 upper vertical flanges of equal depth with one another, and lower vertical flanges of equal depth with one another, the two sets of flanges extending respectively above and below the horizontal surfaces of the said web, so as to 120 form an upper pair of guide and supporting ways of slight depth for the wheels of the hay-carrier to run upon, and a lower pair of confining stays and supports of relatively much greater depth than the upper guide 125 and supporting ways for knocker-blocks, hanger-hook-connecting plates, and joint clamp-plates, substantially as described.

2. The combination with the hay-carrier track-rail for supporting a carrier on each 130 side of its frame, made of one piece of metal, said piece consisting of a horizontal web provided with vertical passages, and said web having vertical side flanges extending respec-

tively above and below its horizontal faces, a hay-carrier knocker-block having horizontal web extensions terminating against the horizontal web of said track, a coupling or joint clamp-plate, a hanger-hook, a hanger-hook-connecting plate, and screw-bolts for securing said block and coupling or joint clamp to the track-rail, said screw-bolts and hanger-hook passing through said passages in the track-rail, and the said joint or coupling clamp-plate fitting closely between the lower vertical flanges of the track-rail, substantially as described.

3. The combination of a rail having a horizontal perforated web and upper and lower flanges, a knocker-block having a horizontal web extension and fitting closely between the lower vertical flanges of the track-rail, and screw-bolts passing through the perforations of the track-rail and securing the knocker-block to said rail, substantially as described.

4. The combination of the rail having a perforated horizontal web and upper and lower flanges, and a perforated hanger-hook-connecting plate fitting closely between the lower vertical flanges of the track-rail, a hanger-hook having a screw-threaded end, passing

through the perforations of the web and connected to the hanger-hook-connecting plate and two nuts applied to the hanger-hook, substantially as described.

5. The combination of the rail having a perforated horizontal web and upper and lower flanges, the perforated clamp-plate having a horizontal web and upper and lower flanges, and fitting closely between the lower vertical flanges of the track, screw-bolts passing through the perforations of the track, and confining-nuts, substantially as described.

6. The combination with a hay-carrier rail having a horizontal web and upper and lower vertical flanges, a hay-carrier knocker-block having horizontal web extensions terminating against the horizontal web of said track-rail, and fitting closely between the lower vertical flanges of the track-rail, and means for securing said block firmly in position, substantially as described.

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

MANIAS G. GROSSCUP.

Witnesses:

LOUIS M. KRUSE,
WM. KRUSE.