

(No Model.)

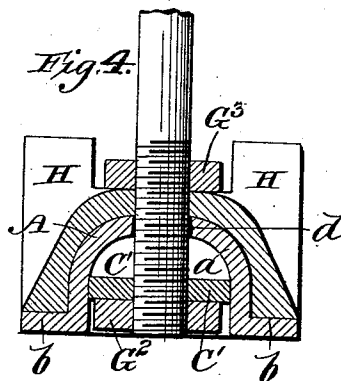
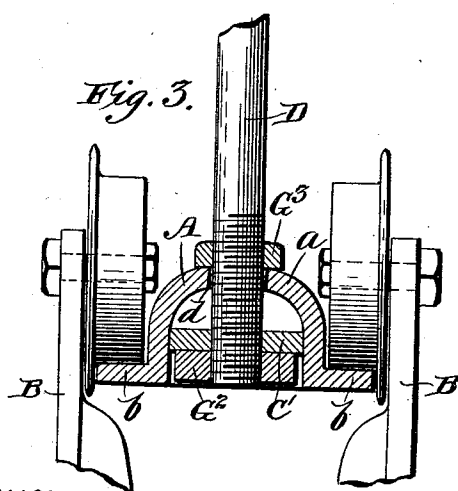
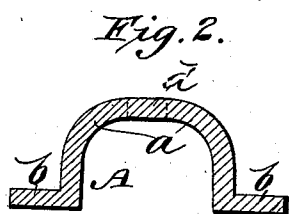
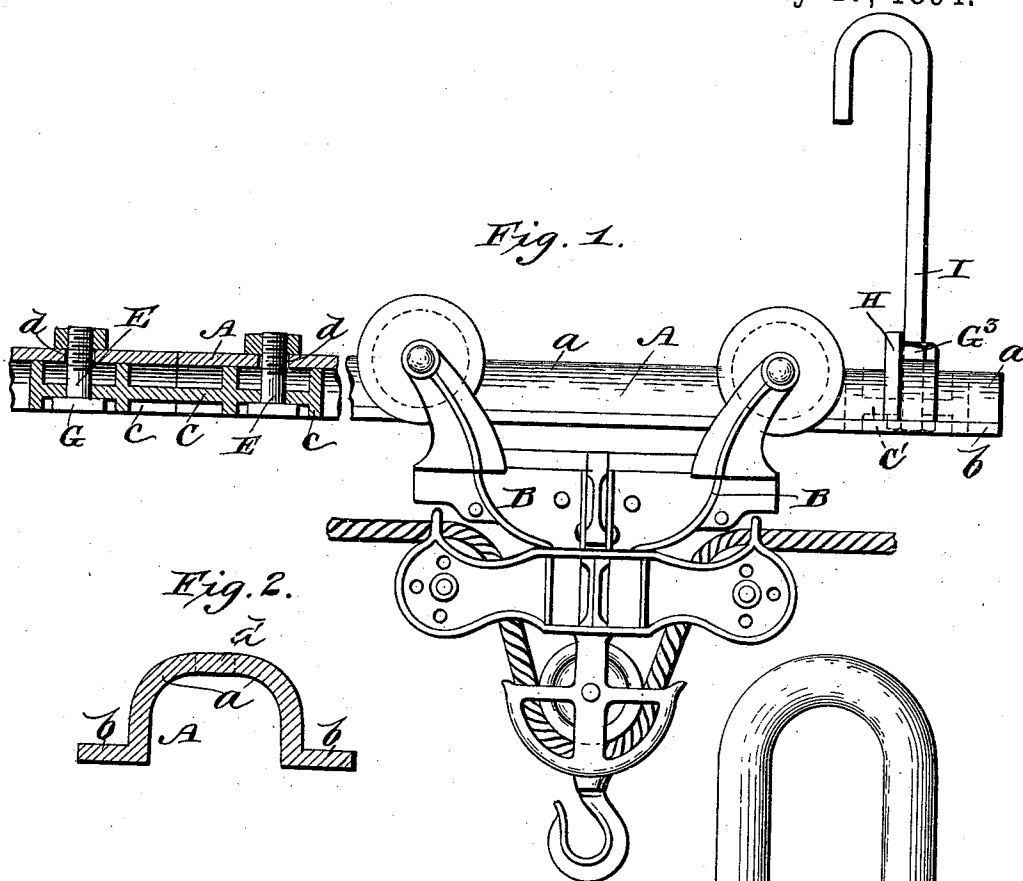
2 Sheets—Sheet 1.

M. G. GROSSCUP.

HAY CARRIER TRACK AND ITS CONNECTIONS.

No. 523,145.

Patented July 17, 1894.



Witnesses

*Everance.*  
*W. Harvey Muzzey.*

Inventor

*Manias G. Grosscup*  
*by Mason, Fenwick & Hannan*  
*Attorneys*

(No Model.)

2 Sheets—Sheet 2.

M. G. GROSSCUP.

HAY CARRIER TRACK AND ITS CONNECTIONS.

No. 523,145.

Patented July 17, 1894.

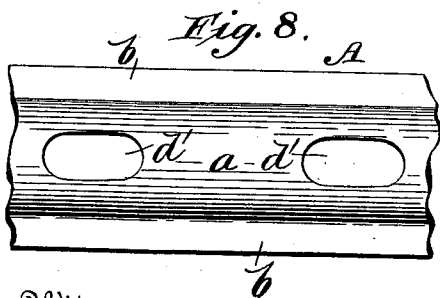
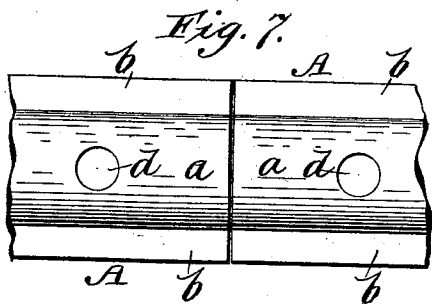
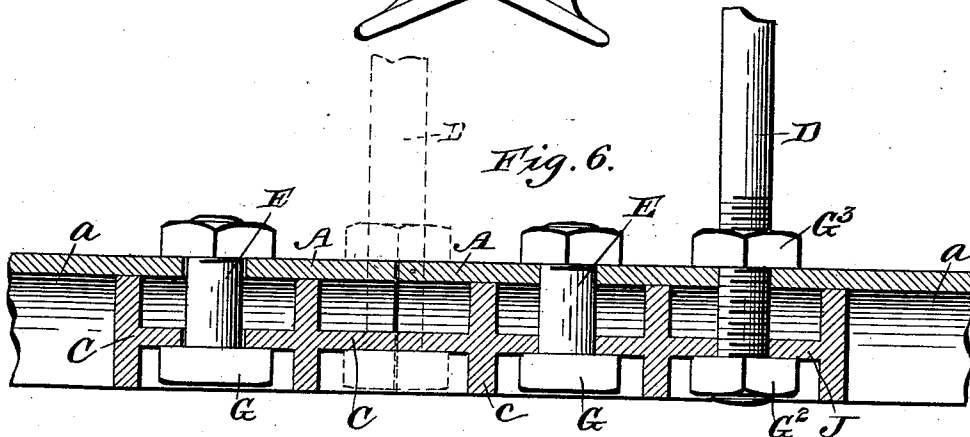
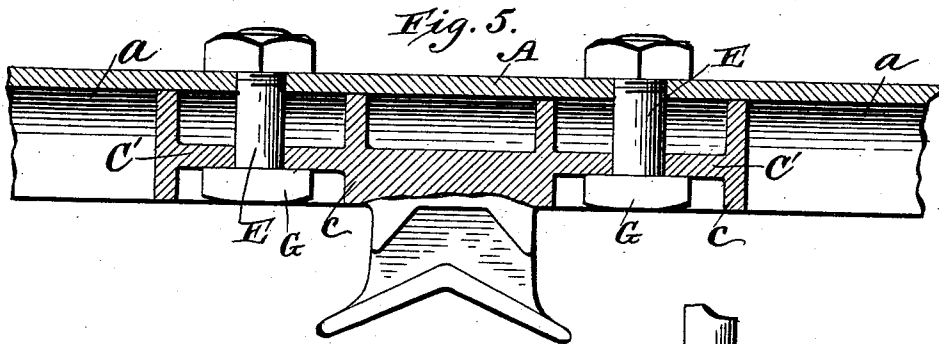


Fig. 9.

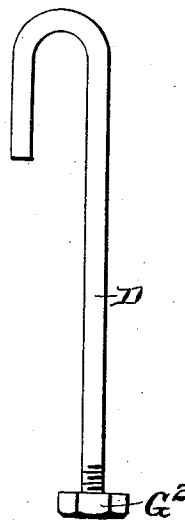


Fig. 10.

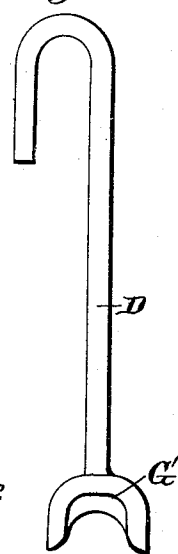
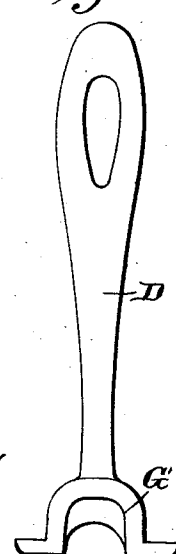


Fig. 11.



Witnesses

*Everance.*  
*Joseph M. Buel*

Inventor

*Marion G. Grosscup*  
*E. Mason Thirick*  
*Attorneys*

# UNITED STATES PATENT OFFICE.

MANIAS G. GROSSCUP, OF CHICAGO, ILLINOIS.

## HAY-CARRIER TRACK AND ITS CONNECTIONS.

SPECIFICATION forming part of Letters Patent No. 523,145, dated July 17, 1894.

Application filed July 12, 1893. Serial No. 480,248. (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 Hay-Carrier Tracks and their Connections; 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 hay carrier tracks and their connections; and its object is to provide strong, light and stiff hay carrier track-rails made of a single piece of rolled steel or wrought metal, and which will afford two flanges for the wheels of a carrier to run upon, and which are adapted for having the splicing pieces, knocker-blocks, hangers, and the carriage-arresting stops conveniently applied to them; and at the same time have said attached parts act as strengthening stays to the rails of the track, while the rails, by reason of their form in cross-section, will serve for preventing the nuts of the hangers, knocker-blocks, spliced pieces and arresting stops, from turning on their bolts.

My invention consists in the peculiar construction of the rail for forming the track, and in certain combinations and arrangements of parts, whereby an improved suspended hay carrier track with usual attachments is produced.

My invention will be fully understood from the following specification and claims, in connection with the accompanying drawings, in which latter—

Figure 1 is a side elevation of a hay carrier track illustrating my improved form of rail, also showing the manner in which the usual parts employed on such tracks may be modified so as to be applied to this rail. A small portion is shown in section to indicate the construction of the splice piece. Fig. 2 is a cross-section of my improved rail: Fig. 3 is also a cross-section of the rail but on a line with one of the hangers, showing the carrier straddling the rail. Fig. 4 is also a cross-section of the rail but on the line of one of the end arresting-stops combined with a hanger so as to be fastened by the same screw bolt or hanger. Fig. 5 is a longitudinal section

but in the line of the block usually known as either the "stop," "trip" or "releasing block." Fig. 6 is a longitudinal section on the line of the splice piece of two rails of the track. Fig. 7 is a top or plan view of track showing the ordinary form of holes for bolts or hangers. Fig. 8 is also a top or plan view of the track showing elongated holes for the hangers or bolts. Figs. 9, 10 and 11 are detail views of hangers of different form.

A in the drawings designates the improved hay carrier rail. This rail is made with a semi tubular web portion *a*, either semi circular, or semi oval in cross section, and with horizontal flanges *b* at the base of the web portion and extending outward, horizontally, as shown.

The top of the web of the rail may be curved or flat or nearly so, and if desired, the horizontal and vertical sides of the rail may form a right angle at the top corners; or the corners may be slightly rounded. The hollow or arched portion of the rail constitutes a deep strengthening web, and the flanges form the track surfaces below and outside the web portion, for the wheels of a hay carrier, as *B*, to run upon; said carrier being suspended below the said web portion by means of the wheels and the flanges of the track as illustrated in the drawings.

Hay carrier track-rails of the construction shown and described are spliced together by means of combined splice and stay pieces which are chambered and ribbed, and which have an outside surface corresponding in cross section with the under surface of the arch. The chambered portion is indicated by *c*, and is on the under side of the splice pieces, and the ribs *c'* are above said chambered portion. Other stay pieces *C'* similar in cross section to the under surface of the arch shaped portion of the rail, may be employed at necessary points along the track, in the manner shown and for the purposes presently described.

The respective rails along the center of their arched portions are provided with vertical holes *d, d'*, which may be either round or oblong. Through some of these holes hangers *D* are passed, and through others are passed bolts *E* for securing the stay and splice pieces in place. By making such of the holes

as may be necessary, oblong, the attached parts, as for instance knocker blocks, hangers and end arresters may be adjusted to suit the requirements of the location of the hay carrier apparatus. In the stay pieces C', and in the combined splice and stay pieces C coinciding holes are cut, but these of course are round, and through these holes and similar registering holes of the rail, either the screw threaded ends of the above mentioned parts, or the shanks of the bolts E are passed.

On the lower ends of the bolts either heads G or shoulders G' are formed; or nuts G<sup>2</sup> may be applied; and in some cases jam nuts G<sup>3</sup> are screwed upon the hangers above the arched portion of the rail, and the nuts on the lower ends of the bolts being square or many sided fit against the inner surface of the arched portion of the rail, and thus cannot turn or become loose so as to endanger the firmness of the track and the fixed condition of the attached parts.

From the drawings it will be seen that the nuts or heads of the bolts can be fitted in the chambers of the splice piece C, or in a chamber of a stay piece C' inserted in the hollow of the rail. By employing the chambered stay pieces C' and the combined splice and stay piece the rail is stiffened and strengthened, while by the square walls of the chambers, the nuts or heads of the bolts are kept from turning.

The knocker-block may be of the form shown, or of any one of the usual forms, except that its upper part is shaped in transverse section to fit into the arch of the rail; and through the bolt holes formed in it, bolts are passed and extended up through registering holes in the arched top portion of the rail, such bolts receiving nuts upon their ends.

If it is necessary to have a hanger at a spliced joint of the track, a chamber with a hole through its top, is formed in the splice piece for this purpose and a hanger is passed up through a hole in the top of the chambered portion of the splice piece, and through the rail, same as in the other instances set forth of applying hangers at points along the rail.

The arresting stops H, formed on the end hangers I are fitted upon these hangers so as to be confined to the rail by means of the same screw threads and nuts that would be used to fasten simply the hangers at the ends of the rails.

The splice pieces may have an extension J beyond one of their ends, and through this extension the screw threaded hanger may be passed and confined by a nut.

From the foregoing specification it will be apparent that my rail is very light, stiff and strong as well as capable of being manufactured at slight cost, and that by its form great convenience in applying the hangers,

knocker-blocks and other necessary parts of a hay carrier rail is afforded; and that two horizontal flanges, which can be brought very close to each other, are afforded for the hay carrier wheels to run upon.

After many years of practical experience with hay carrier tracks I have found that the rails of which they are constructed should not weigh much more than one and three quarter pounds to the foot and although thus light, they should be strong and stiff, and the flanges on which the carrier wheels run should be free from any thing that would offer obstruction to the said wheels, and that the flanges should be quite close together so as to obviate the difficulty of too great leverage in the carriage, which difficulty is experienced when the wheels of the carriage are placed too far apart. Furthermore, it is essential that the rail shall admit of a knocker block being applied to its under side; and to secure this advantage and have the wheels of the carriage run on rails on the outside of the web, it is necessary to have a rail which is adapted for securely attaching such blocks as well as hangers; and it is believed that all these essential requirements are secured with the within described hay carrier rail and its adjuncts.

What I claim is—

1. A metallic hay carrier track comprising sections of rail, each section being formed of a single piece having a central, hollow, arched web portion, and two horizontal outwardly extended flanges at the base of said web portion, and holes along and through its arched portion; suspending means, and knocker blocks, substantially as described.

2. The new article of manufacture, to wit, a metallic hay carrier rail constructed of a single piece having a central hollow arched web portion, two horizontal outwardly extended hay carrier wheel supporting flanges at the base of said web portion, and holes through and along its arched portion, for the passage of suspending and knocker block fastening devices, substantially as described.

3. The combination with a track formed of arched and outwardly flanged hollow rails of the type described, of perforated and ribbed splice pieces, shaped to fit the hollow of the rail, and adapted to set up into the hollow of the rail, and screw bolts and nuts, substantially as described.

4. The combination with a track formed of arched and outwardly flanged hollow rails, of ribbed and perforated stay pieces set into the arch of the rails, and hangers having lower ends which fit squarely between the ribs of the stay pieces, substantially as described.

5. The combination with a hay carrier track formed of arched and outwardly flanged hollow rails of the type described, of the combined screw threaded hangers and arresting end stops, ribbed stay pieces, corresponding

in cross section to the under side of the arched portion of the rail and fitted into said portion, and nuts, substantially as described.

6. The combination with a hay carrier track  
5 formed of perforated rails, each constructed of a single piece of metal which in cross section is of semi tubular form and is extended out on each side into base flanges, of a stop block having an upper portion which corre-

sponds to the arched portion of the rail and 10 is fitted in said portion, and screw bolts and nuts, substantially as described.

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

MANIAS G. GROSSCUP.

Witnesses:

ALFRED H. CIRK,

WM. J. DANENHOWER.