A. PURSELL.
Car-Couplings.

No. 137,719. Patented April 8, 1873.

Fig. 1.

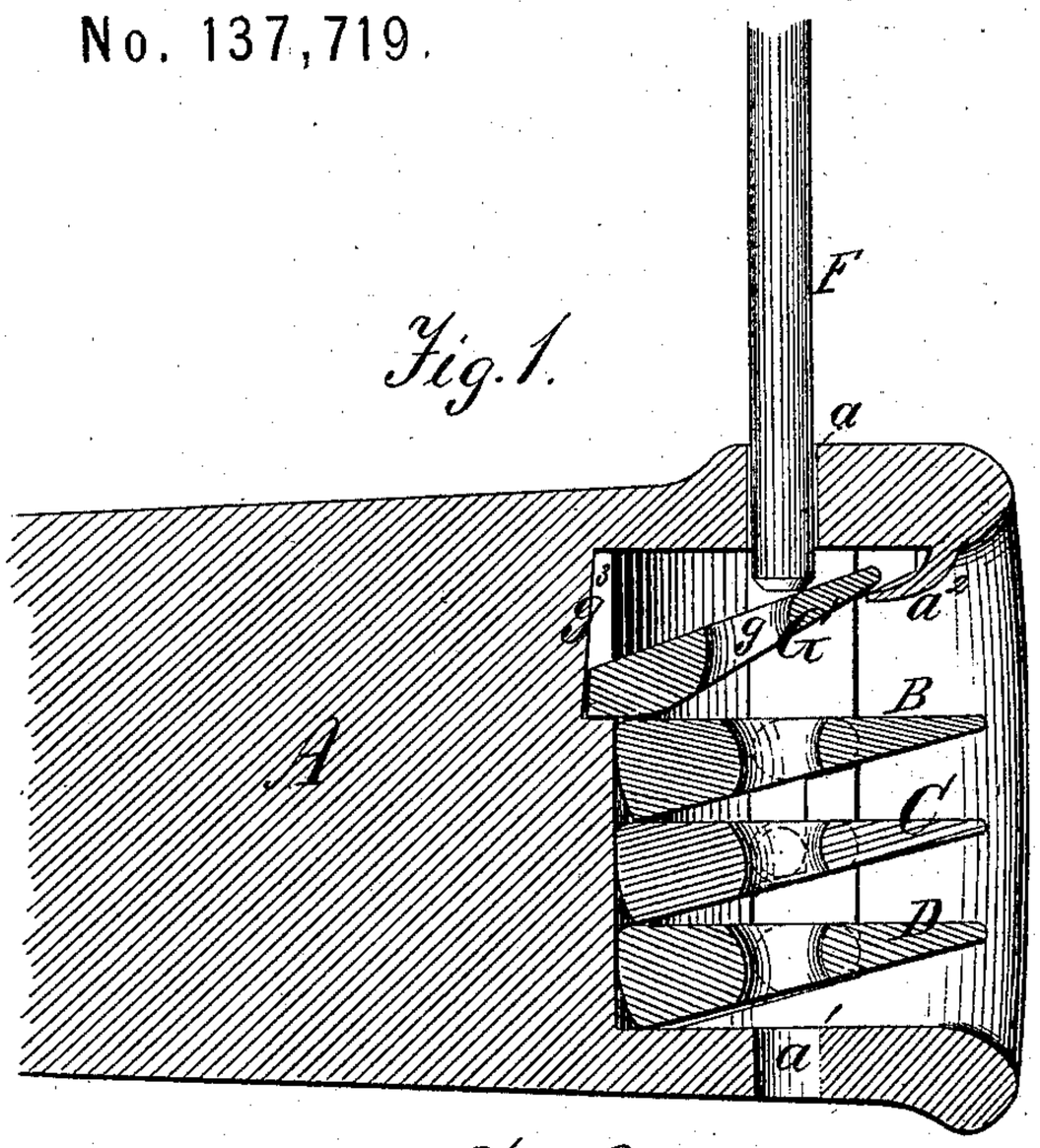


Fig. 3.

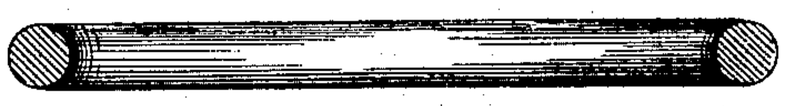
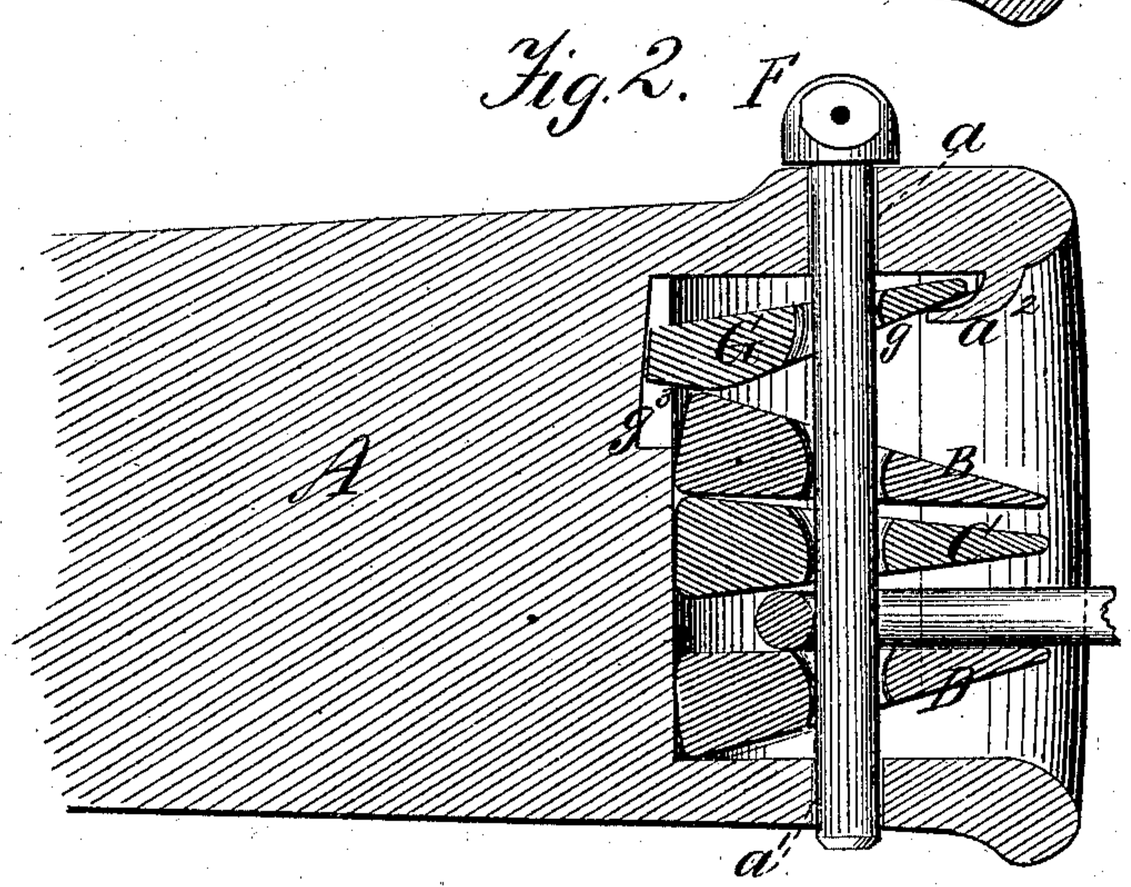
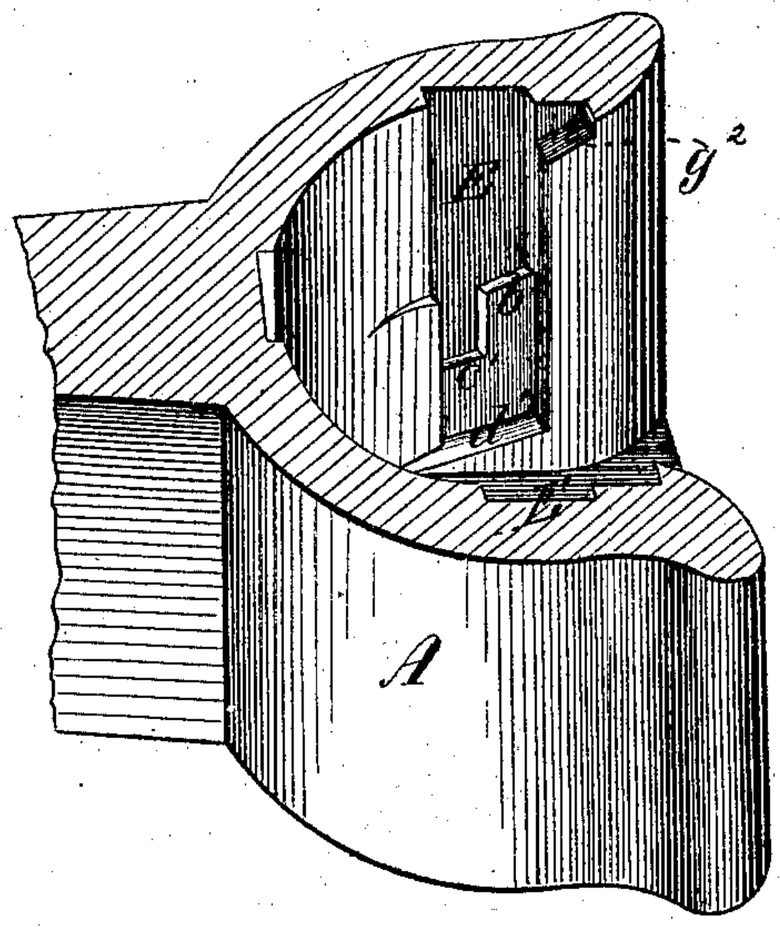
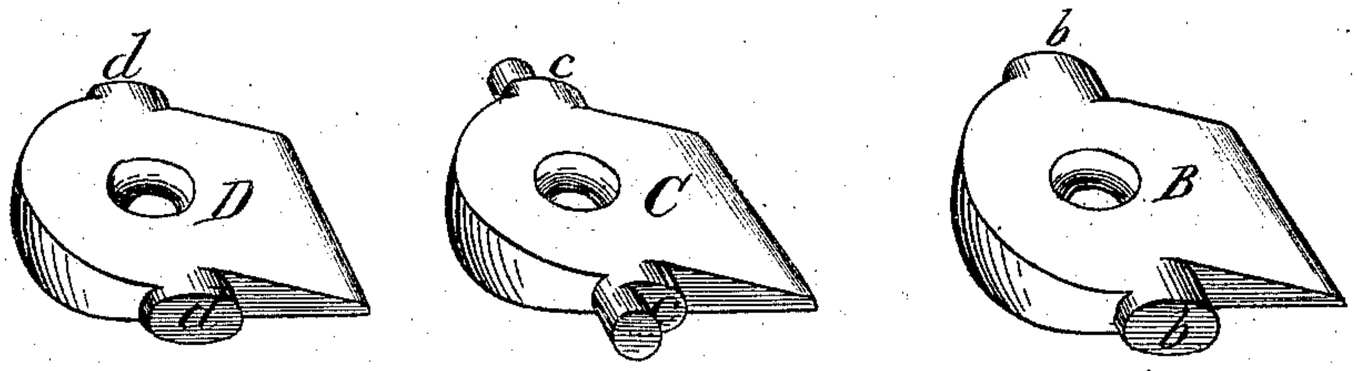
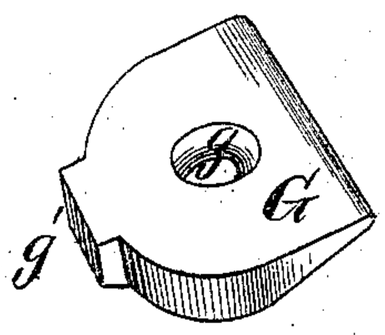


Fig. 2.









Witnesses
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UNITED STATES PATENT OFFICE.

AUGUSTUS PURSELL, OF WILLIAMSPORT, PENNSYLVANIA.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **137,719**, dated April 8, 1873; application filed July 14, 1871.

To all whom it may concern:

Be it known that I, AUGUSTUS PURSELL, of Williamsport, in the county of Lycoming and State of Pennsylvania, have invented certain Improvements in Car-Couplings; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawing making a part of this specification, in which—

Figure 1 represents a vertical longitudinal section of my improved car-coupling as it appears before the entrance of the coupling-link. Fig. 2 represents a similar section with the link inserted in the draw-head. Fig. 3 represents an interior view, in perspective, of the draw-head, its top wall being broken away and the plates removed. The other figures represent, respectively, the gravitating self-adjusting plates.

The same letters of reference are employed in all the figures in the designation of identical parts.

This invention relates to that class of car-couplings the draw-heads of which are constructed with comparatively deep mouths divided by a series of horizontal plates for upholding the coupling-link at varying heights, and always in a nearly-horizontal position, so that the coupling-link may readily be arranged to obtain a draft in a nearly-horizontal direction, whether the adjoining cars be of equal or of unequal height, and which are also provided with means for supporting the coupling-pin in an elevated position in the upper portion of the draw-head, in such a manner that the entrance of the coupling-link of an approaching car causes, by the release of the coupling-pin and its consequent descent through the slot in the coupling-link, the automatic coupling of the cars. My improvement consists in the employment of a series of gravitating and self-adjusting division-plates, and another sliding and gravitating plate for the temporary elevated support of the coupling-pin while the coupling-link is out of the draw-head, all as will be generally set forth in the following description, and specifically pointed out in the claims.

The deep-mouthed draw-head A may be cast in a single piece, its mouth being made somewhat flaring, as usual, to facilitate the entrance of the coupling-link. The rear wall of the mouth is made preferably of the semicircular form shown, for the reason that it will afford the freest play to the gravitating division-plates. Other forms may, however, be adopted. The mouth of the draw-head is divided horizontally by a series of division-plates, B, C, and D, which are wedge-shaped in section, taken in the direction of the length of the draw-head, and conform in general outline with the shape of the mouth. They are placed in the latter with their thick heavy ends abutting, or nearly so, against the rear wall, the thick end of the lowest one resting upon the bottom of the mouth, while the thick end of each succeeding plate is supported upon that of the one next below it. The plates are constructed upon opposite edges with projecting lugs or journals *b b*, *c c*, and *d d*, respectively, at points sufficiently far forward that the weight of the thick ends in rear of the journals is largely in excess of the weight of the thin forward ends. Each plate is supported by its respective journals, the preferred construction of which is clearly indicated in the detail views of the plates, upon the respective ledges or shoulders *b'*, *c'*, and *d'* formed in vertical grooves E in the side walls of the mouth, and best shown in Fig. 3. The elevations of these supporting-shoulders with reference to one another and to the bottom of the mouth are such that, on the withdrawal of the coupling-link, each plate automatically assumes, by reason of its construction and the points of support, the position shown in Fig. 1, disposing its upper surface in a horizontal plane. By the same means the plates are held apart at their forward ends. Thus the coupling-link may enter between any two of the division-plates, or between the upper or lower one and the bottom or roof of the mouth, and be always held in a horizontal position by the horizontal surface below it and the superincumbent weight of the plate or plates above it. The plates are provided with suitable apertures in line with the holes *a* and *a*[1] in the draw-head for the reception of the coupling-pin F. These apertures are somewhat greater in diameter than the pin, and are made flaring each way to allow for the slightly-oscillatory motions of the plates when lifted or raised by the introduction of the link,

though their upward movement will be nearly vertical by reason of the vertical grooves E serving as guides for the journals of each plate. Here, as in other draw-heads constructed with horizontal division-plates, the the latter subserve also the very useful purpose of affording a very firm support to the coupling-pin against the pull of the link upon it. A greater or lesser number of these division-plates may be used, as practical experience may dictate. Between the uppermost division-plate and the roof of the mouth of the draw-head a sufficient space is left for the reception in an inclined position of another wedge-shaped plate, G, which is supported at the rear thick end upon the upper division-plate, and at the front end upon inclined shoulders g^2 in the side walls of the mouth, in close proximity to the roof thereof. This plate has an aperture, g, which, when the rear end of the plate is pushed up by the entrance of the coupling-link into the draw-head, comes into line with the hole a in the draw-head and allows the descent of the coupling-pin. On raising the coupling-pin above the plate G and withdrawing the coupling-link, such plate will assume the more inclined position shown in Fig. 1; and, as its weight will cause it to to hug the rear wall of the mouth in the descent of its heavy rear end, its aperture will be drawn out of line with the pin, and the latter can be supported on the plate in front of its aperture, as shown in Fig. 1. To give greater range of movement to this plate it may be constructed with a projection, g^1, at its rear edge to extend into a recess, g^3, in the rear wall of the mouth, such recess deepening from the top to the lower end, as clearly indicated in Figs. 1 and 2. The forward edge of the plate G is concealed in a recess formed by a curved flange, a^2, of the draw-head.

As above stated, the draw-head can be cast in one piece, the construction of the plates being such that they can be readily inserted by passing them edgewise into the mouth, beginning with the top one. When once inserted their own weight will prevent accidental displacement.

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

1. In combination with the draw-head of a car-coupling, one or more gravitating and self-adjusting plates hung horizontally upon journals in the mouth of the draw-head, but capable of vertical motion, and constructed and arranged substantially as described, whereby a large preponderance of the weight is thrown in rear of the journals and the front of the mouth divided into two or more spaces, in the manner and for the purposes set forth.

2. The gravitating plate G, arranged in an inclined position, on supports for the front and rear ends, in the mouth of the draw-head, and operating in the manner and for the purpose set forth.

3. The combination of the horizontal gravitating division-plates and the inclined gravitating plate G, all arranged in the mouth of the draw-head in relation to one another, substantially in the manner set forth.

In testimony whereof I have signed my name to the foregoing specification in the presence of two subscribing witnesses.

AUGUSTUS PURSELL.

Witnesses:
BRICE M. PURSEL,
LEVI TRAUGER.