N° 104 A.D. 1903

Date of Application, 2nd Jan., 1903

Complete Specification Left, 2nd Nov., 1903—Accepted, 10th Dec., 1903

PROVISIONAL SPECIFICATION.

Improvements in Brakes for Carts and other Vehicles

WILLIAM BRITAIN, Junior, of Rocklea Muswell Hill, N. Toy Maker, do hereby declare the nature of this invention to be as follows:—

My invention relates to a brake for heavy vehicles and is particularly applicable to tip-up carts. It is automatically applied by the horse, through the breeching, and offers no obstacle to backing or tipping the cart—Instead of fixing the "rigid staple" to which the harness is attached rigidly to the shaft I fix it to a plate which is connected to the shaft in such a way that it can slide lengthwise of the shaft a short distance (some two or three inches) and on this plate in addition to the usual attachments for the harness I fix a horizontal pin projecting beyond the shaft away from the horse. Fulcrumed upon this pin, and terminating at the other end in the brake-block I make a rod of any suitable material and of such length that when the plate is pulled forward by the horse the brake block is clear of the wheel. Upon the side of the rod next the cart I fix a bayonet shaped projection reaching some distance beyond the brake block between the body of the cart and the wheel; and I fix a loop or staple on the body of the cart in such a way that the bayonet projection resting in it shall form a guide and support for the brake so that the brake cannot be depressed below, a line drawn from the centre of the wheel to the pin on the shaft; but permitting it to be lifted a considerable distance upwards. Now while the horse is pulling the cart the plate on the shaft is pulled to its forward limit and with it the entire brake, then as soon as the cart, in descending a hill begins to overtake the horse, the plate with the brake attached slides back and brings the brake into operation, and continues to do so as long as the cart moves forward and the horse offers any resistance to the breeching—When, however, the horse starts to back the cart the first movement is imparted through the backward thrust of the brake, but as soon as the wheel begins to revolve backwards the brake is lifted out of contact, and merely rests lightly on the tyre of the wheel until the forward motion is again started when it drops into position again—When a cart is tipped up for shooting the load, the distance between the axle and the point where the harness is attached on the shaft is considerably reduced so that a brake guided solely by the shafts would cause an obstruction; but by supporting the rear end of the brake rod on the body of the cart, the cart as it tips up lifts the brake out of position.

I have described my invention as applied to one wheel of a two-wheeled cart but it may be applied to both wheels if desired. It may also be applied to the front wheels of a four wheeled vehicle by fixing the supporting loop on the forecarriage instead of on the body.

Dated this 2nd day of January 1903.

W. BRITAIN JR.

[*Price 8d.*]

COMPLETE SPECIFICATION.

Improvements in Brakes for Carts and other Vehicles

I, WILLIAM BRITAIN Junior, formerly of Rocklea, Muswell Hill, N. and now of Wildwood, Rowantree Road, Enfield, in the County of Middlesex, Toy Maker, do hereby declare the nature of this invention and in what manner the same is to be performed to be particularly described and ascertained in and by the following statement:

This invention relates to a brake for heavy vehicles and is particularly applicable to tip carts or waggons The said brake is adapted to be automatically applied by the horse by means of the breeching or other part of the harness when the vehicle overtakes the horse and offers no obstacle to the backing or tipping of the cart.

The annexed drawings show the application of the invention to a two wheeled tip-cart by way of example. Fig. 1 being an elevation of the cart with the brake out of action. Fig. 2 a plan view thereof and Fig. 3 an elevation showing the cart body tipped.

Instead of fixing the "rigid staple" to which the harness is attached rigidly to the shaft I fix it to a plate *a* which is connected to the shaft *d* in such a way that it can slide lengthwise thereof a short distance (some two or three inches) for instance by means of bolts and slots a^1 a^2 respectively, and on this plate, in addition to the usual attachments for the harness or breeching *b* I fix a horizontal pin *c* projecting beyond the shaft away from the horse. Fulcrummed upon said pin *c* and terminating at or near the other end in a brake block *f* is a rod *g* of any suitable material and of such length that when the plate *a* is pulled forward by the horse the brake block *f* is clear of the wheel *h*. Upon the side of the rod *g* next the body *i* I fix or form in one with said rod, a bayonet, hook, or other shaped projection *j* reaching some distance beyond the brake block *f* between the body of the cart and the wheel, and on the body of the cart is fixed a loop, staple or the like *k* in such a manner that the projection *j* forms a guide and support for the brake rod, so that it or the brake cannot be depressed below a line drawn from the centre of the wheel *h* to the pin *c* on the shaft but permitting it to be lifted a considerable distance upwards.

Whilst the horse is pulling the cart the plate *a* on the shaft is pulled to its forward limit and with it the parts *f g*, but as soon as the cart, in descending a hill begins to overtake the horse the plate *a* with the rod *g* connected thereto slides back and brings the brake block into operation, and continues to do so as long as the cart moves forward and the horse offers any resistance to the breeching. Should however the horse attempt to back the cart, the first movement is imparted through the backward thrust of the brake, but as soon as the wheel begins to revolve backwards the brake-block *f* is lifted out of action and merely rests lightly on the tyre of the wheel until the forward motion is again started when it drops into the position shown in Figure 1 again. When the cart is tipped up for shooting the load the distance between the wheel axle and the pin *c* or point where the harness is attached on the shaft is considerably reduced as shown in Fig. 3 so that a brake guided solely by the shafts would cause an obstruction, but by supporting the rear end of the brake rod *g* on the body of the cart by means of the staple *k* and projection *j* the cart as it tips up lifts the brake out of position.

I have described my invention as applied to one wheel of a two wheeled cart but it may be applied to both wheels if desired. It may also be applied to the

front wheels of a four wheeled vehicle by fixing the supporting loops on the fore-carriage instead of on the body.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed I declare that what I claim is:

1. A brake for carts and other vehicles comprising a brake block mounted on a rod connected to the breeching or other part of the harness and adapted to slide on the shaft, said brake block, on backward pressure of the animal, being applied to the vehicle wheel at a point above a line connecting the wheel centre to the point of connection of the brake rod and shaft, substantially as described for the purpose set forth.

2. In the brake described the arrangement of a loop staple or the like fixed to the vehicle frame or body and engaging the brake rod or an extension thereof to prevent said brake rod or brake from being depressed beyond the desired position whilst allowing it considerable upward movement, substantially as described.

3. In the brake described the arrangement of a hook or other shaped extension to the brake rod adapted to engage the loop or staple so that on the vehicle body being tipped the brake is put out of operation, substantially as described.

Dated this 2nd day of November. 1903.

HERBERT HADDAN & Co.,
Agents to Applicant,
18 Buckingham Street, Strand, W.C.

Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.—1903.

A.D. 1903. JAN. 2. Nº. 104.

BRITAIN'S COMPLETE SPECIFICATION. (1 SHEET)

Fig. 1.

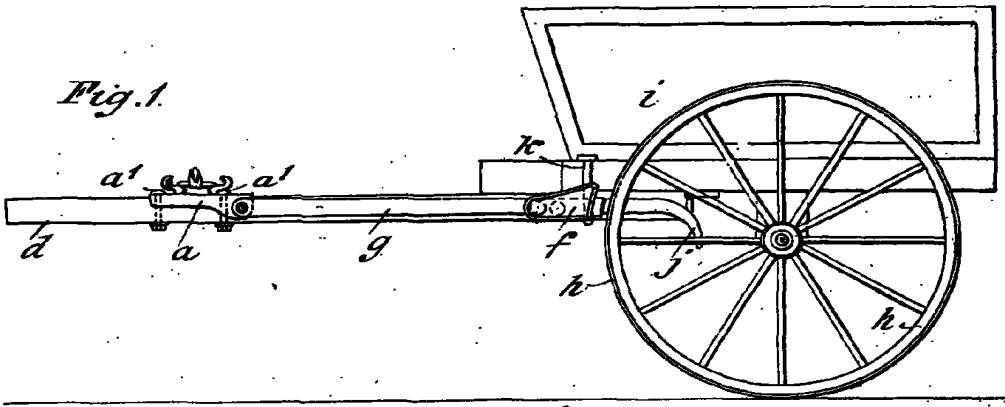


Fig 2

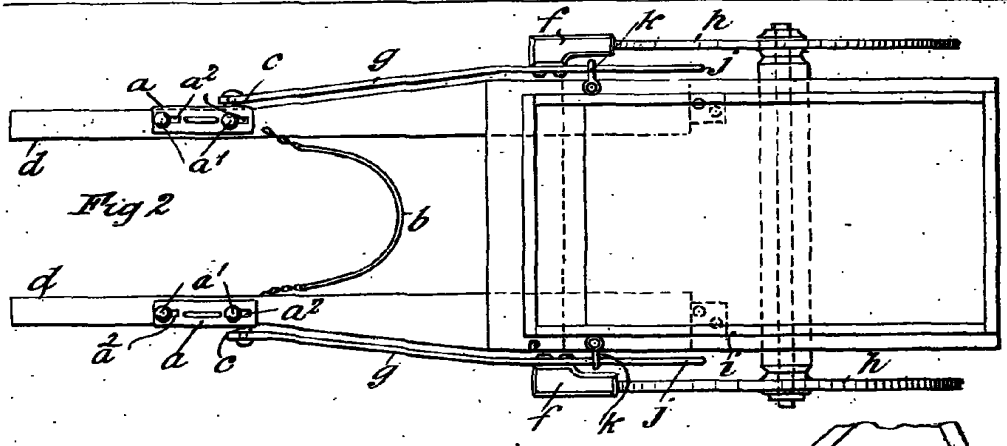
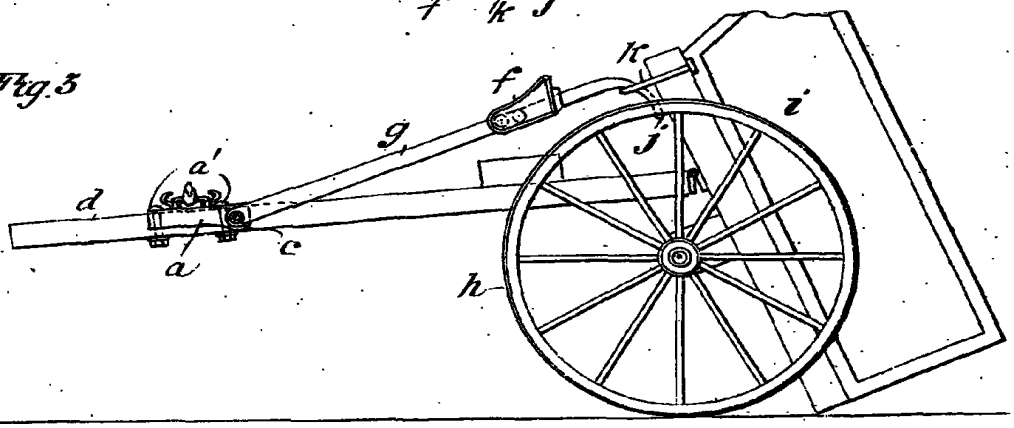


Fig. 3



[This Drawing is a reproduction of the Original on a reduced scale.]

Malby & Sons Photo-Litho