

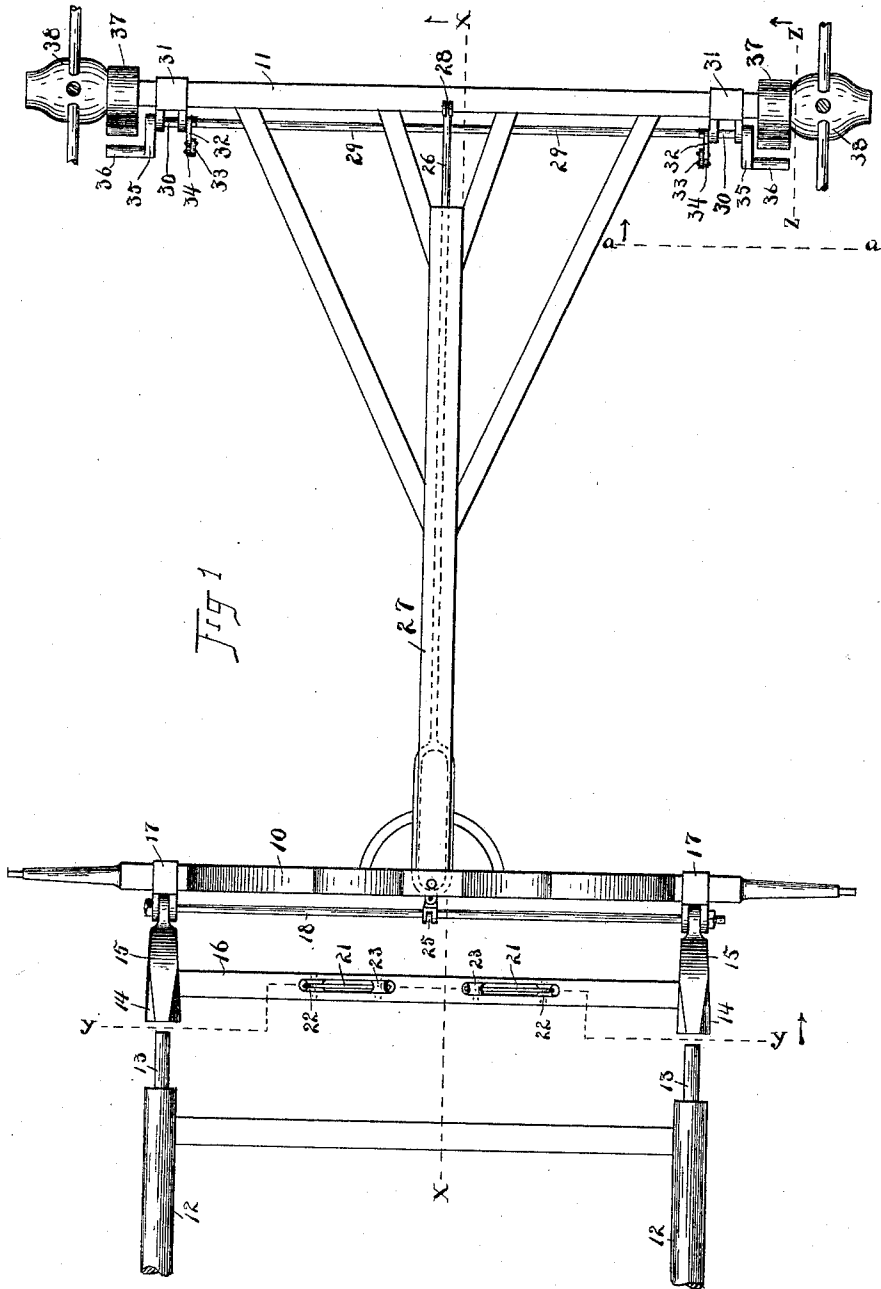
(No Model.)

2 Sheets—Sheet 1.

G. TISCHLER & C. HOLMOK.
SAFETY DEVICE FOR VEHICLES.

No. 466,840.

Patented Jan. 12, 1892.



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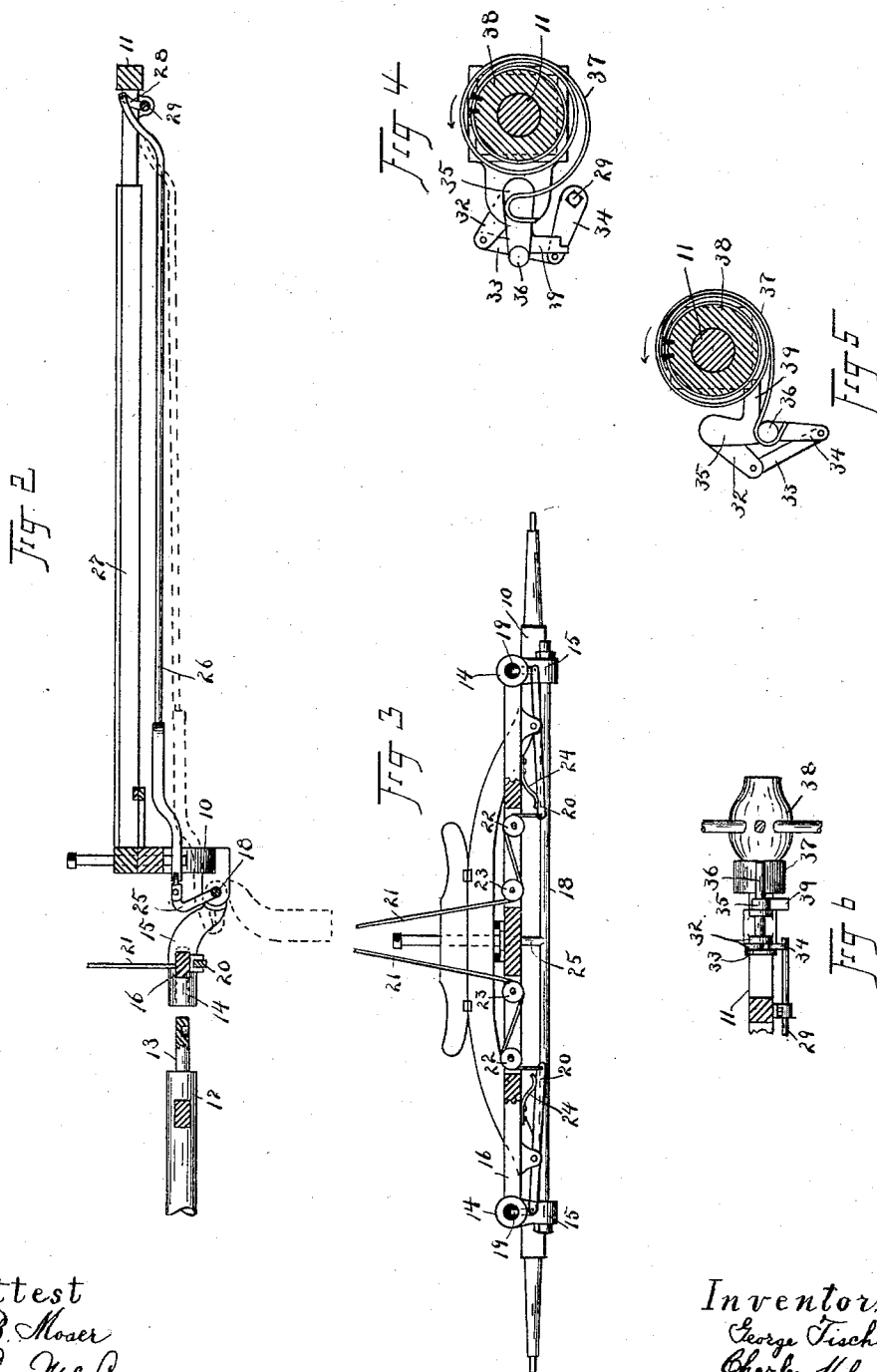
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UNITED STATES PATENT OFFICE.

GEORGE TISCHLER AND CHARLES HOLMOK, OF CLEVELAND, OHIO.

SAFETY DEVICE FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 466,840, dated January 12, 1892.

Application filed August 25, 1891. Serial No. 403,644. (No model.)

To all whom it may concern:

Be it known that we, GEORGE TISCHLER and CHARLES HOLMOK, citizens of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Safety Devices for Vehicles; and we do hereby declare that the following a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to safety devices for buggies, carriages, wagons, and other like vehicles drawn by horses; and the object of the invention is to provide a device or devices, whereby a runaway horse or team may be instantly liberated from the vehicle at the will or pleasure of the driver, and the vehicle at the same time be automatically locked to stop where the disengagement of the team occurs.

To these ends the invention consists in mechanism for releasing the thills or pole from a position convenient to the driver or other occupant of the vehicle and for automatically locking the hind wheels the moment the thills or pole is released, all substantially as shown and described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view of the running-gear of a vehicle, which embodies our improvement. Fig. 2 is a longitudinal sectional view taken on line *x x*, Fig. 1. Fig. 3 is an elevation of the mechanism taken on line *y y*, Fig. 1. Figs. 4 and 5 are enlarged views taken on line *z z*, Fig. 1, showing a side elevation of the locking mechanism for the rear wheel. In Fig. 4 the mechanism is in normal position, and in Fig. 5 it is in engaging or locking position. Fig. 6 is a front elevation on line *a a*, Fig. 1, with the parts in normal position, as in Fig. 4.

In the drawings, 10 represents the front axle and 11 the rear axle and 12 the thills. If a pole be used instead of the thills, the connection will be the same. The idea of the invention is that the thills or pole shall be released and permitted to go with the team in case of accident or runaway or serious danger of any kind, so far as the horse or team are concerned. To this end the thills are provided with spindles 13, which are adapted to

sockets 14 in what may be termed the "thill-supporting frame." This frame 15 consists of two socket-pieces 14 and a connecting-bar 16, with which the socket-pieces are rigid, and the socket-pieces are constructed to be secured to the axle-clips 17 by means of a rod 18, extending through said clips and socket-pieces. This rod 18 may be secured in the clips in any suitable way to make it serve the purpose for which it is intended, and is rigid with the socket-pieces, so that when the thills are released from the sockets and the thill-supporting frame drops of its own weight the rod 18 will turn with said frame and practically form a part thereof.

To make the socket-pieces and the rod 18 rigid with one another, set-screws or other suitable means may be employed. The spindles 13 are designed to fit snugly in the socket-pieces, so as to avoid undue looseness or rattling, and are held therein by pins 19, (shown clearly in Fig. 3,) which pins enter holes in the spindle 13 and make a sufficiently strong engagement between the socket-pieces and the said spindle. These pins pass through holes in the under side of the socket-pieces and are each controlled by a lever 20, pivoted on the bottom of the cross-bar 16 of the thill-supporting frame, and have each at the end opposite said pin 19 a cord or rope 21, which runs over small sheaves 22 and under sheave 23 in the said cross-bar 16, and thence up to a convenient position in the body of the vehicle, where the said cords will always be available to the driver or other person to draw upon, and thereby release the pins 19 from engagement with the spindle 13 in case of accident, as hereinbefore described. A light spring 24 bears down upon each of the levers 20, so as to hold the pin 19 firmly and securely in engagement with the spindle 13 and thus secure the thills in position with as much safety and reliability as if they were secured in other well-known ways.

It is obvious that the mechanism shown for locking the spindle 13 might be more or less varied and still serve the same purpose, and we do not therefore wish to have it appear that our invention is limited to the exact form of construction of said mechanism, as shown, and the invention is understood as being broad enough to comprise modifications and equiva-

lents thereof which will serve the same purpose in substantially the same way.

The thill-supporting frame 16 is pivoted in clips 17, so that the instant the thills are released the said frame will of its own gravity drop down into the position shown in dotted lines in Fig. 2. The action of this frame in its movement from the horizontal to the dropped position is employed to operate the lock which engages the rear wheels and stops the vehicle. For this purpose the rod 18 has at its center a short curved arm 25 rigid therewith and standing normally in the position seen in Fig. 2. Connected with this arm is a rod 26, extending to the rear of the vehicle along the bottom of the reach 27 and engaging with an arm 28 on the cross-rod 29, held in suitable bearings at the front of the rear axle 11. It follows that when the thill-supporting frame 16 drops and turns the rod 18 with it the rod 29 at the rear of the vehicle will be likewise turned axially through the connecting-rod 26. This turning of the rod 29 is utilized to make the locking engagement with the rear wheels, and for this purpose a triple bell-crank lever 30 is employed. This lever is supported in clips 31 on the axle 11 a short distance from the hub of the wheel, and has, first, an arm 32, connected by a link 33 with an arm 34, rigid with the rod 29. Then upon the opposite side of its bearings in the clip 31, and near the hub of the wheel, is another arm 35, upon which is a lateral projection 36, designed to make engagement with a convolute spring 37 on the hub 38 of the wheel, and at right angles to this projection 36 on the arm 35 is an arm 39, shouldered to engage the corner of the rear axle 11.

The operation of the mechanism just described is as follows: When the rod 29 is turned axially by the dropping of the thill-supporting frame, as before described, it draws the bell-crank lever 30 down sufficiently to throw the projection 36 into position to be engaged by the hook on the spring 37 when the wheel carries the spring around, so that such engagement can be made. At the same time the shouldered arm 39 will rest against the axle 11 and stop a farther downward movement of said bell-crank lever. Then, the parts being in this position, the movement of the wheel will simply wind up the spring 37, which will give a gradual stop to the vehicle, and the wheels will be positively locked against further movement. It will thus be seen that by releasing the thills or the pole in the manner herein described a train of mechanism is at once set to work, which automatically and quickly locks the vehicle from further forward movement, and that the driver, to accomplish both of these results, has nothing to do in a moment of danger but to draw upon the cords or their equivalent 21, which are convenient in the buggy-body, and let the team go. These cords or ropes 21 will of course be so placed in the buggy and protected that they will not be liable to accidental movement.

It is obvious that the locking mechanism for engaging the rear wheels may be modified and changed without departing from the spirit of the invention, as we do not wish to have the invention construed as being limited to the exact devices or means here shown to effect the locking of the wheels, but regard it as comprising, broadly, any equivalent construction which will accomplish the same result.

To protect the shafts or thills carried off by the horse, suitable straps may be employed on the harness connected with the thills and extending over the rump of the horse, which will carry the thills and prevent their dragging or dangling about the horse's feet.

The spindles 13 might be on the carrying-frame and the sockets on the thills or pole; but the construction shown is preferable.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The thill or pole supporting frame having its end pieces constructed to detachably hold the thill or pole, a cross-rod rigid with the said frame and pivoted in clips on the axle, said rod having a rigid arm at its center, in combination with brake mechanism and a rod connecting said arm and said brake mechanism, substantially as described.

2. The thill or pole supporting frame having socket-pieces at its ends, pivoted levers on said frame having pins to engage the thill or pole, and cords to operate said levers, in combination with brake mechanism for the rear wheels having a pivoted cross-rod and a rod connecting said cross-rod with the said thill or pole supporting frame, substantially as described.

3. The thill or pole supporting frame having a pivot-rod connected thereto and supported in clips on the axle, said rod having an arm rigid therewith at its center, the thill or pole and mechanism to release the same, in combination with brake mechanism having a cross-rod at the rear axle provided with a rigid arm and a bar or rod connecting said arm with the arm of the front pivot-rod, substantially as described.

4. In a vehicle, catches fixed on the hubs of the rear wheels, and a rotating rod and mechanism operated thereby to engage said catches, in combination with a swinging frame constructed to carry the thills or pole and connections between said frame and the said rotating rod, whereby said rod is turned and the wheels locked when the said swinging frame drops, substantially as described.

5. In a vehicle, a swinging frame and thills or a pole held in said frame by a temporary lock, mechanism to release said lock, and a cord or rope for operating said mechanism, in combination with catches on the rear wheels, mechanism to engage said catches, and a rod to operate said mechanism having connections extending to the said swinging frame, substantially as described.

6. The rear wheels having springs with
hooks on the hubs, a transverse rod by the
rear axle, and mechanism connected there-
with to engage said springs and lock said
5 wheels, in combination with a swinging thill
or pole carrying frame and a rod or bar ex-
tending therefrom to the said transverse rod,
substantially as described.

Witness our hands to the foregoing speci-
fication this 15th day of August, 1891.

GEORGE TISCHLER.
CHARLES HOLMOK.

Witnesses:

H. T. FISHER,
NELLIE L. McLANE.