5946X

# S. JONES.

## Wagon Brake.

Patented May 4, 1830.

Fig:7.

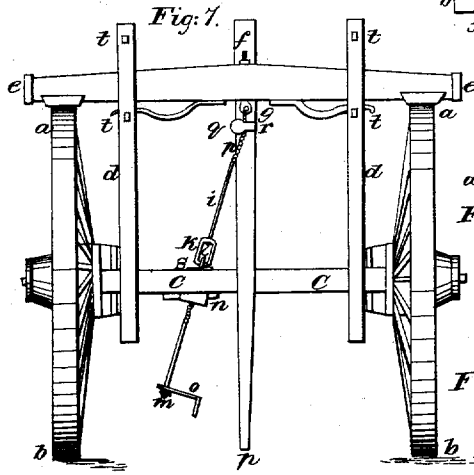


Fig:3.

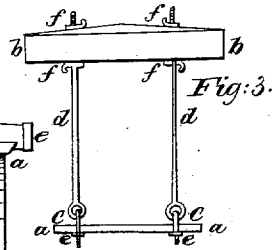


Fig:4.

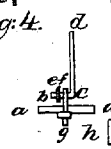


Fig:5.

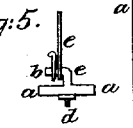


Fig:1.

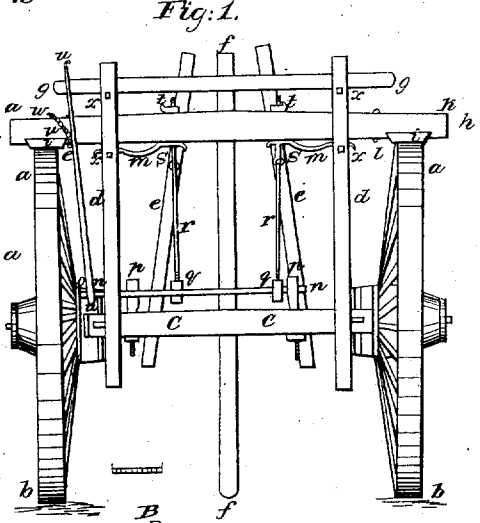


Fig:2.



Fig:6

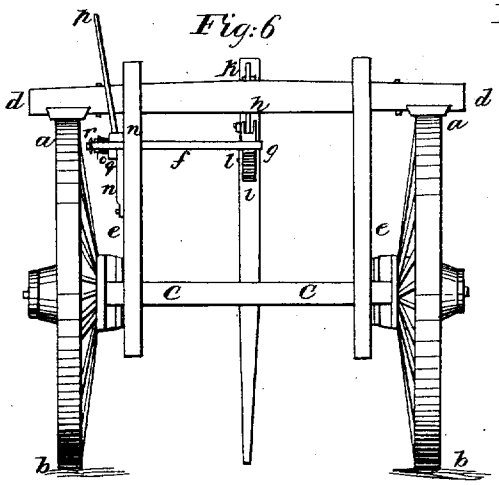
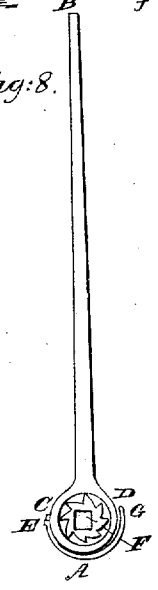


Fig:8.



N. PETERS. PHOTO-LITHOGRAPHER. WASHINGTON, D. C.

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Samuel Jones.
Letters Patent. Dated May 4th 1830.

"The Schedule referred to in these Letters Patent, and making part of the same, containing a description in the words of the said Samuel Jones himself of his improvements for the purpose of checking or retarding the velocity of road waggons Stages & other wheel carriages & for taking the burden off of the horses in descending a hill & for checking the waggon & taking the weight off of the horses on the ascent of a hill

To all to whom these presents shall come:
Be it known that I, Samuel Jones of the Borough of Bridgeport in the County of Fayette & State of Pennsylvania have discovered that there was no good method known or practised by waggoners or drivers of checking the velocity of waggons & taking the burden off the horses in descending a hill, The old method of locking the wheels with a lock chain being found to be very imperfect beside the loss of time occasioned by it in stopping to lock & again to unlock the waggon & being particularly destructive to the tire especially on turnpike roads which have of late years been so greatly multiplied in our country besides the incalculable injury thereby caused to the roads & otherwise ... injurious to the waggon or wheel & the horses Although a partial remedy was found a number of years ago by a contrivance by which the hind horses were somewhat relieved from the pressure of the weight by means of a pitching bar which was pressed against the pavement of the road wheels by their application & ... loss in the act of backing back. Yet this is so ... to be

Drawing

considerably depositive, & particularly as the hind horses have still to sustain very heavy burdens & often to go by jerks in the very unnatural position of holding back, & from which cause, many very valuable horses have been ruined. To remedy which I have invented several new & useful machines or improvements for the purpose of checking or retarding the velocity of road waggons stages or other wheel carriages & for taking the burden off the horses in descending a hill & for checking the waggon & taking the weight off of the horses when resting on the account of a hill & that the following is a full & exact description of the construction & operation of some of the said machines or improvements as invented or improved by me. The said machines I call "Steers waggon lock" A friction bar for a large waggon is formed of white oak, ash or other suitable wood, about six inches wide in the middle & 4 inches at each end by 2 & 1/2 inches thick & long enough to reach from one of the hind wheels to the other & to project 4 or 5 inches beyond each wheel one of the sides being straight. Near each end & opposite to each wheel when in use on the nearmost side of the bar a piece is cut out a little wedging & dovetailed as to stand. A line 6 inches in length is drawn on the upper side of the bar, parallel with & one foot beyond from the edge next the wheel or straight side another line 4 & 3/4 inches long is drawn along said edge, so that a line drawn from the middle of one of these lines to the middle of the other would be at right angles with said edge, another line similar to the first is drawn on the under side but one eighth of an inch shorter & 1 1/2 inch

from the lower edge, & another line corresponding with the second line is drawn along the edge at the under side also one eighth of an inch shorter, then the corresponding one on the upper edge, a line is then drawn from each end of each line on the same side of the bar, to the corresponding end of the other line. The piece thus marked out is to be sawed & cut out to the mark: this is for a narrow wheeled waggon of two inch bar for a broader wheeled waggon the notch should be cut out proportionally wider; in the place where this piece is cut out a temporary wedging & dovetailing block is to be fitted which I call the friction block & which may be 3 or 4 inches in thickness, & extend 4 or 5 inches above & below the bar; this temporary block may be mortised out & easily replaced when worn out; A notch made to wedging & not dovetailing & a block made to fit it I believe would answer the purpose & perhaps equally as well as the other: another method of applying a temporary block is to bore 2 holes horizontally & corresponding thro each end of the friction bar, one on each side of the wheel, thro each of which, an iron clamp, or screw bolt about 3/4 of one inch in diameter & 8 or 9 inches long is to pass from the side next to the wheel, leaving a screw nut on this end about 3 or 4 inches & a small mortise to fit it, on the end of each of these next to the wheel should be pierced two strong eyes thro the joints of which should be about an inch & a half apart & to bend so as to hold the block fast when it is placed between bar & them, which should be far enough apart for the wheel to turn round between, without touching them; any piece of wood or other substance suitable for maintaining the friction of wheels, placed between the clamps &

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against the axes of the bar, or in a notch cut in the bar for the purpose; so that the clamps will have a sufficient hold, & the said screwed bolt may serve when drawn with sufficient force against the wheels to produce the requisite friction. A piece of cast or wrought iron, may be nailed to a temporary block of wood or held fast to it by the clamps & applied to the wheel as above to sustain the friction when it might be deemed necessary. To prevent the dovetail or wedge shaped block from splitting the friction bar the corners between the notch & the end of the bar should be shaved a little rounding & a band about one & 3/4 inch wide drove on close to the notch, & rivet driven horizontally thro the bar at the other side of the block & rivetted tight.

The friction bar may be varied in size & shape & made of wood or metal or part of each according to circumstances I do not claim the invention of the friction bar, nor of the staples which support it, nor the springs attached to it, but suppose them to be public property as they have been long in use in the old fashion of applying the bar to the wheels by the hind horses as hereon mentioned but I do claim as new & as my own invention or discovery the invention of the dovetail & wedge shaped notches in the friction bar & of the temporary blocks of wood to be applied to the wheels of the waggon as above specified as my improvement & substitute for the former plan of inserting the blocks into the inner side of the bar & fixing plates of iron on them to keep them from wearing, which temporary blocks of wood are found to answer better than iron, but as they readily reach the

wood would rather fail the above mentioned lamferary blocks might be plated with iron & would also be used to advantage. The friction bar when in use on a road waggon or any other waggon or carriage to which it may be applicable, may be confined to & carry the bottom of the bed, by two staples of sufficient strength & large enough to admit the bar to play back & forward in them about 6 inches At the place where it comes in contact with the front of the hind wheels where the staples must be fastened to the larger bed rails for the purpose, by boring holes & inserting the prongs of the staples through & clenching a bar on each prong or a staple may be formed with straps hanging along the under side of the lower bed rail & fastened to it by two screw bolts with heads to each strap, passing thro the bed rail from above & thro the straps & fastened by burr below. To keep the friction bar & blocks off from the wheels when not in use, in those methods of application herein described, where no other plan is described, I make use of two springs made of steel about 15 inches long & of sufficient strength to produce the desired effect, & bent so that the bar may play 3 or 4 inches, one of these springs must be fastened to the hind part of each end of the bar so as to extend thro to the outside of the staple before mentioned. A stirrup nail about half an inch thick should be driven into the underside of each end of the friction bar setting in its proper place both either inside or outside of the staples as guides for the bar or otherwise two artificial wheels may be made of cast or wrought iron each about 2 ½ inches in diameter

(or the nigher, might be less if the prongs of the staples were bent so that their outer extremity should be perpendicular to the outer extremity of the lower hoop rail) & three fourths of an inch thick, with a half inch hole thro. the centre, 2 holes should be bored thro. the friction bar, one at each side of the waggon bed, and side of holes near to the staples as to admit the wheels to play against them perpendicular; 2 pins should be made about 4 inches long & half an inch square in thickness, with a head at one end, & a slit cut thro. the other end to hold a key; one of these pins should be inserted thro. each of the said holes in the bar, from above, that the wheel which is to be fastened thereby putting the key into the slit made to receive it.

To apply the friction bar to the purpose within mentioned I have invented a variety of methods, the following are descriptions of some of them; N° 1 is a follower. A shaft is made of iron for a common road waggon about one & a quarter inch square which is to be placed as near as practicable to the coupling pole where it should be a little bevelled & must lie parallel with & the centre of it to be about 3 inches from the front part of the hind bolster, & to extend from within 4 inches of the near side of the waggon bed, or that side where the driver usually walks to about 18 inches beyond the coupling pole where it should be rounded off in order making a shoulder there, on this shaft at 10 inches each side of the middle of the coupling pole is fixed a collar 4 inches in diameter & 1/2 inch thick, on the fore end & back part of each of which is permanently fixed a button shaft

& to these are attached a few links of chain, made
twisting, so as to lie close to the rollers & to wind on
them, when the shaft is turned, To each of these
chains is fixed a rod of round iron, about half an inch
thick with an eye formed on each end, these two part
together constitute the connecting chain & to this again
is fixed a screw bolt about 10 inches long & half an inch
square, & about 4 inches of it rounded & a screw cut
on it & each of which is to be inserted thro a hole bored
thro the friction bar for the purpose, at right angles with
the shaft & opposite to one of the rollers, & a box-iron
nut screwed on each of them at the fore side, The
connecting chains & screw bolts altogether are to
be of such length as to admit of regulating the dis-
tance of the cast & blades, from the wheels, & the
elevation of the cover by screwing & unscrewing the
nuts. The shaft is to be fixed to the hind bolster at
the place aforesaid, by making eye bolts with shoul-
ders, in which it is to turn, fixing thro the bolster
& confined by burrs screwed on them behind, one
of them at the far end of the shaft where it had
been rounded & the other one which should be
the strongest & the shoulder formed thereon, close
inside of the stirrup band & the shaft should be
rounded from the end as far as to where it
turns in the eye so that it may turn freely, on the
outer end of the shaft which should again be made
square with a shoulder & as large as it will admit
of passing thro the eye of the screw bolt, is fixed a hand
lever made of iron four feet or more in length, & fas-
tened to it by a pin or key or a screw & burr
at the end.

To confine the cover at the proper height, when

the necessary friction is applied I have invented a manner of ways, some of which I shall here describe, a cord or strap may be fastened to the end of the lever & brought forward & wound on a wheel, with a handle, that may be attached to the forward part of the waggon & stopped at the time required by a ratchet & click, or a chain about 2 1/2 or 3 feet long may be fastened to the lever about 3 1/2 feet from the shaft or a foot from the other end, and a hook drove into the other end of the small piece, or to the lever but will to hitch it on when the requisite friction is attained.

When this machine is required to be applied, if the wheel be in motion the operator takes hold of the handle & turns it until he has applied the requisite power, when the click on the ratchet secures it until it is wanted to be withdrawn, he then raises the click & the springs force the bar off of the wheels, or if the chain is used to compose the lever, which mode I prefer, the operator takes hold of the hand lever & bears it down which to the chain on the no 2 end draws the bar against the wheels, when he has applied the quantum of power which he judges necessary for the occasion, he confines the lever in its proper place, by hitching the lever chain to the hook, as aforementioned & when the friction is to be withdrawn, he unhitches the chain & the springs pressing against the shanks of the staples, force down the bar & block off of the wheels I do claim that a screw or screws might be substituted for the iron shaft no 1 & lever, by inserting them as many as circumstances such admit & require, & strengthening

with iron bands, rivets & screw bolts, where necessary; & that wooden springs to the friction bar, might be substituted for steel.—

N° 2, is in every respect the same as N.1, except that it has but one roller, connecting chains, screw bolts &c as described in N.1, instead of 2 & which rollers &c., should be placed directly over the coupling pole, where there is room for it, & consequently higher on the boiler, where there is not room, then as close to it as practicable, & must be applied in the same way, & the shaft may be shortened, to extend just beyond the coupling pole, where the eye for bolt., must be placed for it to turn in. N.3 is the same machine as N.1, & must be used in the same way, the only difference, is in the friction bar, which is to be cast off in 2 places in order to accommodate it to the waggons the point of whose beams rest on the coupling pole & therefore cannot conveniently be joined to give room for it to play in its integral character, In the end of each piece where it has been cut off & which must be previously banded with a strong iron band, must be fixed lengthwise a strong iron pin to project one inch or two & which must be inserted into a hole bored into the beams for that purpose, & over which hole at each side, should be placed a plate of iron, with a corresponding hole, to prevent the wood from wearing, & so placed that when a small block is fitted to the notch in consideration of the bar & both blocks brought in contact with the wheels, each section will lie in the range with the other, & as near horizontal as circumstances will admit, The connecting chains in this case, are to be fixed as,

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over the outer sides of the waggon bed as practicable
A.B.C. to a substitute for the roller connecting chains
& screw bolt described in N.1 & for the purpose of push-
ing back the friction bar & blocks from the wheels
when not in use; instead of using the perpendicular
springs on the friction bar, for that purpose, which
are liable to get out of order, as well as to simplify the
machine & save expence, I have invented the fol-
lowing described eye bolt, which I shall call the shaft
eye bolt, & connecting rod or chain; thro. the shaft, where
the roller in N.1 is to be described to be placed & which
at that place should be made a little the strongest,
a hole must be punched about one inch square,
at the forward side, & tapering to about half an inch,
at the opposite side, the shaft eye bolt should be
made with a shank, just to fit the said hole & pro-
ject thro. the shaft, about 3 quarters of an inch. which
projection should be rounded & a screw cut on
it & a burr fillet to screw tight on it. At the for-
ward side of the shaft the eye bolt should be 2 3/4
inches long 1/2 inch perpendicular width & 3/4
of an inch thick, which consequently forms a shoul-
der & which shoulder should be placed on the aft-
er side. The forward corners should be rounded
& a hole just half an inch or more diameter punched
thro. longitudinally at such distance as that the centre of
this hole should be 2 1/2 inches from the centre of the
shaft, thro. this hole or eye must be inserted one end
of a strong iron rod of round iron & an Eye turned
or welded on it & which with the eye of the shaft eye,
is to form a joint, which should work close but
easy with the two eyes of the bars; the other end
of this connecting rod, should afterwards

the the friction bar to within about an inch of the
nearest piece, or where there is no such piece, far enough
to give room for the friction bar to play 4 or 5 inch-
es off from the wheels, so as to admit a good sized
friction block, & a screw nut on that end of the rod,
about eleven inches or long enough to give suffi-
cient room to fix the friction bar at the requisite
distance. 2 one inch nuts screwed on the rod, one
at each side of the bar to confine it at the place required.
A joint may be made in the connecting rod, if the
construction of the wagon should require it, about
a foot from the end of the rod, including the screw,
2 of the above mentioned holes should be made thro
each shaft, & the shaft eyebolts fastened in them
as aforesaid, when circumstances will admit &
then is sufficient room for them to play freely,
one of them on the near side, between the thorough
bands & the bow sweeps, inward from the eyebolts, in which the shaft turns, &
the other at an equal distance from the coupling
pole on the other side, otherwise it will answer
as a general rule, to place them about 20 inches
apart or 10 inches from the middle of the coup-
ling pole. The other ends of the connecting rod
must be inserted thro the friction bar as aforesaid at
a corresponding distance, each way from the coup-
ling pole with the shaft eye bolts. The screws & nuts
on the ends of the connecting rods are intended to
regulate the distance of the friction bar from the
wheels according to the size of the friction blocks & the
requisite elevation of the levers by screwing on or un-
screwing the nuts. The connecting rod being thus
when the lever is moved it pushes the bar

the Clevis off of the wheel, where it should be confined when not in use by hitching the Cart chain to a hook drove into the bed at a convenient place for the purpose. In every other respect except which is hereinmentioned or described it is similar to N.1. & must be marked in the same way. To a hook about ¼ of an inch diameter may be welded to the connecting rod & inserted thro. the shaft eye bolt & fastened thereby a Key thro. the end of the hook. To a hook bolt may be made the shank of which shall be one inch square. To the shaft from whence thro. the shaft it should be apattly similar to that of the shaft Eye bolt, just described & should be fastened to the shaft in the same way. The hook which should be ¾ of an inch diameter & the centre of which should be 2 pr inches from the centre of the shaft, should project from the other end of the shank at right angles about 3 inches, & should be inserted through the eye of the connecting rod, just mentioned & fastened there by a Key thro. the end of the hook. No. 5. will be drawn bolt five eighths of an inch thick is made and drove thro the middle of the friction bar from behind, with a screw cut 1 inch on the forward end & a burr made to fit it & screwed on tight & on the edge of which just behind the bar is attached about 2 or 3 inches of chain similar to that which is wound on the roller as described under N.1. which is again attached to an eye made on one end of a half inch rod of iron, the other end of which is extended to near the hind axle between the coupling pole & the near hind wheel, when it passes thro. one end of a strong swivel, with an iron plate of 4 by 1 ½ or ¼ inch & a strong round head formed on it, but so as to admit of its turn

freely in the swivel, the other end of the swivel is to have a hole thro it three fourths of one inch diameter & to receive thro it the square end of the following screw pin, & which is to be fastened there by a key thro the end of the pin. The screw pin may be made from one & a half, to two feet in length, & one inch in diameter except about 6 inches of it, which is to be 3/4 in. of an inch diameter & thro the end of, which a place is punched to receive a key, a screw must be cut, about four inches on the thicker part, next to the small end and the other end flattened & shouldered to receive a crank or handle which is to be fixed on it; An enlipriation roller of cast iron must be made about 2 1/2 inches diameter, & one & a half inch thick, with a hole thro the centre, about 3/4 of an inch diameter. A strong cap of iron must be made to fit on, & accept the coupling pole, & firmly nailed there, having a pinion the rear end, of a size to fit in the roller, & rise perpendicular from the rear end of the strap. The roller must be fitted on the pin & confined by key, thro the upper end of it & must be placed so near the friction bar, at the nearest proximity as will give sufficient room for the play of the chain on the roller & conduct the draught in a line at right angles with the friction bar. A strong plate of iron is to be firmly attached by screws or nails to that part of the limb style, or the style & below together, or to a block fitted in between them & fastened there for the purpose, according to the construction of the waggon, at the place that will give the crank, when fitted on the end of the shaft or screw pin above mentioned a sweep of about 7 inches &

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reame for the hand to turn it, without touching the coupling pole, or any other part of the waggon; Thro this plate must be cast a female screw one inch in diameter, in a direction toward the far side of the roller, & where wood intervenes, a hole must be bored thro it in the same direction & at the forward side must also be a plate of iron with a hole thro it 3/4 of an inch in diameter in the same direction & firmly fastened there, as a guide, & support to the screw pin; To put it together the screw pin is screwed thro the screw plate, the small end put thro the other plate & thro one end of the timber before mentioned & fastened there with a key, And when going to use it the operator takes hold of the crank & turns it so as to withdraw the screw, which draws the friction bar with the blocks against the wheels & causes the necessary friction, & to remove them from the wheels the motion is reversed, when the springs on the bar will push them off—

N° 6. A shaft of iron is formed, one inch square & about 31 inches long more or less according to the width of the waggon bed, & placed under & across the bed at right angles, just behind and at such distance from the friction bar as will be most convenient, to connect the reaching chain with & give it full scope for operation & reaches from within about 3 inches of the near side of the bed to about 1 inch beyond the coupling pole, where the end of it is rounded & placed in a strong eye bolt the shank of which passes thro the pole & is fastened by a burr screwed on the end below & also a screw cut on that end of the shaft & a burr screwed on it, to confine it

to the place, & near the other end it turns in a staple fastened to the under part of the lower bed piece, where it is also a little rounded, near the fore end of the shaft, & just at the middle of the pole, a pinion is formed on it having 6 teeth which turn to work in a rack of cast or wrought iron about 7 inches long two inches wide & 1/2 an inch thick having 6 half inch teeth. This rack is on the carrying pole, with the teeth upward where it is confined by the said eye bolt & by a strong iron spoke driven into the pole on the opposite side of the rack from the eye bolt & by the pinion, & through the forward end of it lengthwise is a perpendicular slot about 5/8 of an inch wide & 2 inches long, thro which slot a fork, horizontally & crapwise is a hole 3/8 of an inch diameter, a round iron bolt is made 3/8 of an inch thick & about 9 inches long, having an eye 3/8 of an inch diameter formed on one end & about an inch of a screw cut on the other end. The eye of this bolt being a little flattened is inserted in the fork or cleft of the rack & a pin with a head on one end passed thro the holes in the rack & the eye of the bolt & confined there by a key thro the pin. The other end of the bolt is passed thro a hole bored thro the middle of the friction bar so as to sit tight in it & confined by a screw or nut on the end. A cog wheel 4 inches in diameter & three eighths of an inch thick is placed on the shaft, close to the waggon bed, & a click fastened to the bed to stop the shaft from turning when required, to this click is attached a strap or cord which is passed thro a staple fixed to the waggon bed above the cog wheel & brought forward & passed thro another staple drove into

the waggon box, or in the best & convenientplace, a handle fixed to it for convenience, on the near end of the shaft a crank may be fitted & in that case the shaft should be shortened 2 or 3 inches & the machine moved further back & the bolt behind connects it with the fraction box proportionally lengthened, to give more sweep to the crank, but as it would not be so convenient in this situation, between the hind wheel & the waggon box to turn a crank fixed to the shaft, which should produce sufficient power, I have invented a sliding-hand lever to be placed on the outer end of the shaft instead of the crank & which is made according to the following description. A hay cylinder of cast iron is formed about 4 1/2 inches long & 2 inch in diameter including the teeth, having an inch square hole thro, the middle lengthwise, with 8 teeth or catches on its periphery running in the same direction from each end to within 1/8 of an inch of the middle, leaving a space round it there 1/8 of an inch wide. The teeth of each end standing in a contrary direction to those of the other & are formed as follows, one side rises from the periphery of the hay cylinder about 1/4 of an inch in a direct line from the centre, whence it declines in a curve to within 1/8 of an inch of the base of the next & so on round the space between the teeth on one end, must correspond with the space between those of the other end, so that the stop may slide freely from one end of the hay cylinder to the other, an other piece of cast iron which I call a cover box, is made of a cylinder and four 2 1/2 inches long, & 1 1/2 in diameter & 1/8 of an inch

Rack, which slides freely round on the rag cylinder, midway between the two ends of this box is a longitudinal slit or groove thro the box, one inch long & ¼ of an inch wide, thro which a strip made of steel of a figure of 8 plays freely in this slit & in a corresponding one, made thro the lower board, is placed & confined to its place, by a spring placed over it & fastened to the board, & box, by a screw or rivet, which goes thro both. To the band thus encircling the box, to which it is firmly fastened as aforesaid, a hand lever, of which it constitutes a part is attached, this hand lever is made of iron, about ¾ of an inch square next to the band & long enough at the other end, for the bone mentioned band formed on the end of it, & may be of any convenient length from 20 inches to 2 feet is supposed to be sufficient. The rag wheel must be slid on the shaft, to its place, against the lower head nail, then the hand lever & box being slid on the rag cylinder, both must be slid on the shaft, next a washer large enough to prevent the box from sliding off, must be slid on the shaft, & then all confined there, by cutting a screw on the end of the shaft, & screwing a screw on it or by a key or pin thro it. To use this machine, the operator takes hold of the handle lever, & placing it over that end of the rag cylinder which is adapted to the purpose, he raises it to a convenient height when the stop slides freely over it, then by reversing the motion the stop catches one of the teeth of the rag cylinder & he bears down the lever which turns the shaft, until it is stopped by the friction bar, the stop catching the rag wheel & securing it

until he raises the lever & passes his purchase, when he lowers it down as before, & thus continues until he has applied the requisite force against the wheels. When the friction is to be withdrawn from the wheels, he takes hold of the handle attached to the end as aforesaid with one hand & pulling it downward at the same time bears on the hand lever with the other until the click is lowered & raised, & lets the shaft turn back again. And to bring down the lever without turning the shaft, he slides it to the other end of the ray cylinder from whence it is brought down again, the stop sliding over the ray cylinder, when pulling the lever again the stop catches the teeth, & the shaft is turned in a contrary direction from the first & the lever pressed back & which operation is renewed until both ends of the friction bar, rest against the forward passage of the staples in which they slide & which are placed at a proper distance for the purpose.

Nº 3 A block of suitable wood, which I call the wedge block is formed 2 inches thick 12 inches long, 4 inches wide at one end & tapering to a point at the other end this is the dimensions where the space between the friction bar, with blocks five inches thick fitted in the notches & pressed against the wheels of the waggon & the waist piece is 11 inches, where the space is greater the waist piece must be enlarged equally at each end so as to preserve the same angle & with the wedge hereafter to be described to fill up the said space, this wedge block must be formed in a similar pat

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to the side of the round piece, next to the friction bar & the widest end which is to be at right angles with it to reach about 2 inches beyond the coupling pole, the point at the near side; where there is no round piece, a piece of wood must be firmly attached to the under side of the waggon bed as a substitute for it; Another block which I call the wedge is, formed of similar wood, & of the same dimensions as the wedge block first described & must be formed so that when the two sloping sides come together the other two sides will be parallel to each other, consequently the widest end will be at the near side from whence it must extend, the same thickness & two inches wide against & to the rear end of the friction bar which for this purpose must be of equal width, from one end to the other, & may be about 5 inches wide. In other respects it is similar to that first described, & must be attached to the waggon bed by staples &c in the same way— This part I call the wedge stock. To this end must be firmly rivetted a piece of iron, to strike on, to apply & to withdraw the friction, which shall cover the end of the stock & project about ½ an inch beyond it on the forward side, & connected with which must be 2 straps of iron let along the forward & the back part of the stock, thro' ends of which must be punched 2 holes for the pins. The wedge must be inserted thro' the staple at the near side of the waggon, in which the friction bar slides & pushed forwards to its place as before described, where the fore end must rest on the coupling pole, to which if too low must be nailed a piece of wood to raise it to a level with the bar,

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the rear end resting on the staple. A stubbed nail must be drove into the under side of the wedge stock inside of the staple to keep it from slipping out. A hammer of cast or wrought iron, of a suitable weight & form with a handle of convenient length, must be prepared & may be fixed by a cord or chain to the friction bar or the waggon box or waist piece, with which the operator strikes on the end of the wedge stock to cause the friction against the wheels & to withdraw it, he strikes in a contrary direction against the above mentioned projection.

What I claim as new & as my own invention or discovery in the above described machine, & for which I ask an exclusive privilege, is as well the improvement of the dovetail & wedge shaped notches in the friction bar & of the temporary blocks of wood &c. to be applied to the wheels of road waggons, stages &c. as herein specified & the machines or methods of applying the friction bar, with the blocks as herein described & before claimed to be my invention, under the heads of N.1. 2. 3. 4. all involving the same principle of the bent lever, N.5. involving the principle of the screw & crank, N.6. involving besides the bent lever & the crank, the principle & rack, & N.7. involving the principle of the wedge; as the main general principle which is involved in all of them, of the manual application & uninterrupted maintenance at pleasure, of a sufficient regular & determinate friction against the wheels of the waggon or carriage to stop the progress of the mechanical power

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and which may be performed with ease & expedition without stopping the boat to apply it

Witnesses
James Shuman
Isaac V. Bull

Sam Jones

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7260 words

much obliterated

Drawing

Ed
J & R