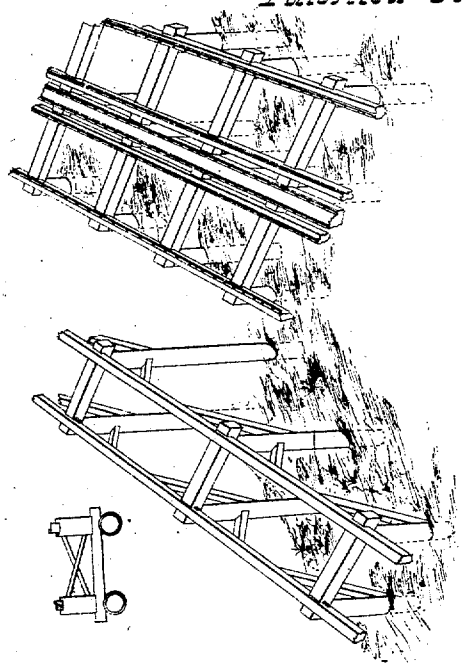
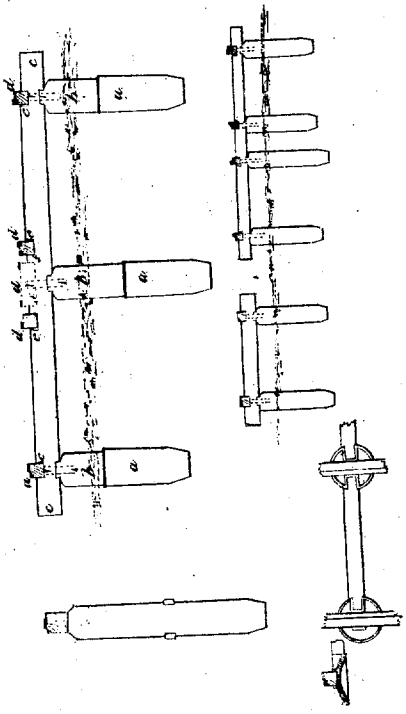
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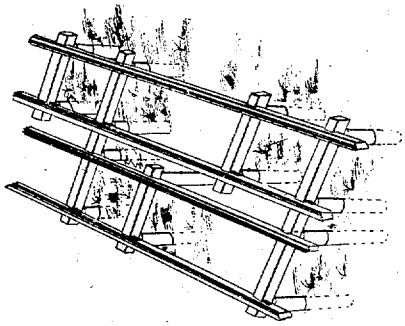
J. Stimpson,

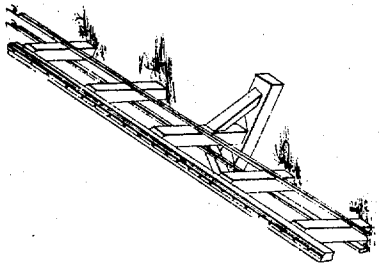
Railroad,

Patented June 3, 1830.









~~Feb 16, 1830~~ ~~June 3, 1830~~ June 3, 1830 ~~5833X~~ 6015X 911

James Simpson Baltimore Maryland

Letters-Patent

The Schedule referred to in these Letters Patent and making part of the same containing a description in the words of the said James Simpson himself of his improvement in the mode of constructing timber Rail Roads

To all to whom these presents shall come. Be it known that I James Simpson of the City and County of Baltimore and State of Maryland have invented a new and useful improvement in the mode of constructing timber Rail Roads and that the following is a full and exact description of the construction as invented and improved by me. I propose to make Rail Roads of two kinds. Where no heavy Rails or mecary may be required said rails to be secured in notches cut down into timbers laid transversely with them at a distance from one to two feet more or less apart. said timbers to rest upon wood piles post stone blocks cast iron chairs respectively alternately as the nature of the earth may require in as many rows as there are Rails with except in one situation which will be hereafter mentioned. When a Road is made to consist of but one rail for the carriage to run upon it should be considerably elevated above the ground to admit of the carriage being suspended on each side and sufficiently below the top of the rail to bring the centre of gravity of the load and carriage below the top of it. There should also be another line of rails below the top rail fastened to the outside of the posts. the outsides of the rails being flat and straight and so confined to the posts as to produce the same distance through horizontally from end to end the whole length of the road for side or guide wheels to run against which will keep the carriage in an upright position although it may be loaded out of balance. The posts of which Road may be driven or sunk into the earth or set upon it having a sufficient number in the earth and to a proper depth to secure a straight position. The posts may be stepped when transverse sleepers especially where the line of elevation of the rail is considerably above the earth. Rail road posts must have bases on each side ranging from near the ends of the transverse sleepers up to the

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posts intersecting them at the same line of direction but sufficiently below the rails not to interfere with the carriage wheels the post may be driven into the earth or rest upon said the sleepers. When two rows of posts Stone blocks cast iron chairs or pedestals are used for a Tee rail or flange track they are to be surmounted by the transverse timbers secured to the posts Stone blocks respectively as will be herein after mentioned. said timbers are to have notches cut down into them sufficiently deep and wide to set securely the road rails into by help of plug keys or otherwise.

When three rails are laid upon three rows of posts &c. the middle rail should be so wide as to allow the wheels of the cars to pass each other without touching and sunk into transverse timbers as before described centrally over the posts stone blocks &c. The said three rails may be so distant as to form the usual width of Road tracks including the vacant space between them with only the inconvenience of the extension of the length of the wheel axles. Four rails may be laid upon the above transverse timbers the notches being cut equidistant from the middle row of posts three inches deep and one & a half inch wide. but if four Rails be laid upon four rows of posts Stone blocks cast iron chairs or pedestals they should be laid centrally over the timber as that one & half of the transverse timbers may not extend through both tracks. but over the second one. said road rails should be surmounted by cast or wrought iron plates for the wheels to run upon. but to avoid the expense of iron plates I propose in those cases on Railroad roads especially to make roads with wide timber Rails. the carriage wheels corresponding in width and lined with thin iron and may have a double row of spokes to resist the sideway. by which increase of width they will not sink into the wood of the rails as to obstruct their passage. In some cases I do propose to drive down a short log or post sufficiently below the surface to obtain a solid foundation and to prevent from decay. then to step the log post resting to the road rails upon that for the reason that when the bottom of the log post has decayed so that it comes in contact with the earth so as to require its removal it can easily be done and the bottom one still remain to support a new one. By this process the first cost and necessary length of the supported rail is much less than if it is put into the ground and with more economy of time &c. I propose

to make each iron chain as flexible as possible, must be of any other shape than the eight inches diameter more or less drawing upwards in the centre about three inches more or less, with a thirteen pronged upwards about one inch and with this only ranging from near the centre out to the iron with two Nails or Studs three inches more or less in length and about three inches in height, parallel to each other and equidistant from the centre, and also proper distance apart to receive the road rails through which Nails and nail pins may be driven to confirm them together and upon the inside of the outside chains is to be cast circularly against the inside rail Nail or Stud, two other Nails at right angles with the first mentioned Nail nearly converging from the rail Nail at which place they both join half an inch at their extremities which last mentioned Nails are to receive dovetailed tenons of the transverse timbers which timbers are to reach from one chain to the other transversely of the road and to confine the chains in their proper places and to prevent their being rendered by lateral pressure. They may also be notched down upon the iron for further security. The middle chain must have Nails on both sides of the middle or Road Rail Nails to receive the ends of the transverse timbers of the two tracks. the base of which mortices may not exceed one eighth of an inch in thickness between the ribs, the being convex and strengthened by the three ribs at proper distances. and also by the Nails which confine the rails, or the transverse timbers may be laid down upon the cast iron chairs between the two first mentioned Nails, and then the track rails upon them in notches as in other cases. and then the dovetail Nails may be left off the chairs when used in this way. These chairs as flexible may be extended perpendicularly to any satisfactory height. by raising a column consisting of plates about half an inch thick, four inches wide more or less. and crossing each other at right angles through the centre where they join. being cast in this form. they would probably afford the most strength for the same weight of metal. with a pin in the centre upon the top to pass up through the transverse timbers and into the road rails. which pedestals in this form would enable us to pass slight hollows in the earth without embankments. as in general of proper thickness for narrow carriages when no platform is necessary. Giving

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ings of the last description. The Nails may all be cut off or the Clenches may be sawn off from the heads of all the above mentioned chains or pedestals. Spikes to be used chiefly in Landings where Stone cannot be had, pinned in hot climates where dead posts or piles would be subject to rapid decay, and where the elevation of the road and earth will permit. When using Stone Blocks to support the transverse timbers. holes should be made into them to receive pins which confine the transverse timbers upon them. Or Blocks of Stone may be placed at the ends of said timbers, or to, or into the earth to prevent any lateral movement of said timbers. The joinings of all the posts transverse timbers and brace rails where they come in contact with each other are to be secured by pins Keys or other means in the following manner and form. The tops of the posts are to be made true horizontally a little crowning upwards in the centre and all reduced to a certain size at top for an inch or more down leaving the edge of the shoulder should there be any in reducing the posts a little sloping downwards from the posts out to shed water. a hole is to be made in the top and centre of said posts to receive a pin of sufficient size to confine the transverse timbers and brace rails to them. The transverse timbers are to have holes bored through the centres of the notches made for the brace rails to bed in. of a size conformable to those in the tops of the posts. The under sides of which timbers should be cut out a little concave. and sufficiently distant from the hole in the centre to fit on the tops of the posts. by which means and shape no water can insinuate itself into the joinings or on to the tops of the posts. A perforation to bore holes into the under sides of the brace rails nearly but not quite through and after the transverse timbers are adjusted to the tops of the posts a pin is to be driven into the holes made in the transverse timbers and tops of the posts. from on to the bottom leaving a sufficient length above to fill the holes in the under sides of the brace rails. which rails are to be driven down upon said pins and into the notches cut down into the transverse timbers for that purpose. and keys may also be driven between the rails and the sides of the notches for a further security. said pins not reaching nor through the rail will prevent water from descending into the posts &c. as the pins may be cut just

flush with the side of the notch made through and have a wedge or wedges driven into it if necessary and then the said platform to the cross timbers or transverse timbers by keys or other means. That Solomon's any invention or improvement in the construction of timber Rail Roads is the elevation above the ground of the road rails and the timbers transversely to them throughout the whole length of the road and their mode of combination as set forth in the specification. They requiring but a slight support from the earth to keep them in an upright position by means of the cross timbers being strongly confined to the road rails posts &c. combined with the firm foundation of the road posts effected by the accumulating posts which are driven into the earth. small stones under the stone blocks or cast iron chairs either kind to be used alternately. when the elevation of the road or the nature of the earth may require it. Also the right of driving or sinking supplemental posts or piles from them connected to the cross timbers already fastened to a firm foundation and secured from decay by their being sunk sufficiently below the surface for that purpose. Also the right to set posts upon the ground and sink them alternately. and to lay them upon cross timbers with bases or upon stone blocks or cast iron chairs and to drive them up alternately for the necessary purposes against lateral pressure. Also the three rail track upon three rows of posts. cast iron chairs and stone blocks alternately as may be required by the nature of the earth &c. Also the four rail track upon three rows of posts &c. Also the right of extending the cross timbers alternately through the tracks or rail. to save timber as may be found best in the four rail track with four rows of posts &c. Also the under rail platform rail track with the manner of setting the posts upon pile foundation below the surface and upon cross sills with bases stone or iron chairs alternately. Also reducing the tops of the posts to one size and cutting the tops accurately also the shaping of the under sides of the transverse timbers to conform to the tops of the posts. Also the cast iron chair or pedestal secured upon small stones or solid rammed or pounded earth for a substitute for wood posts or stone blocks whereby the cross timbers and rail rails have a support without touching the earth. Also the right of under timber

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made to move men. Also the right of fastening the end plates upon each bow
bow and they to rest upon legs of any upon the ground by means of the end
secured by screws at different parts of it. Also the extension of posts to an
unusual distance from each other by the application of braces &c also the
wedges in the posts as set forth. Also the two end bars as set forth in
the specification

Samuel Stimpson

Wit. William Stimpson
Julia Stimpson
J. A. Watson

Patented June 2 1830

[2352 words