2378X

B. L. Greenough,

Making Carriage Wheels.

Patented Sep. 12, 1815.

Fig 1

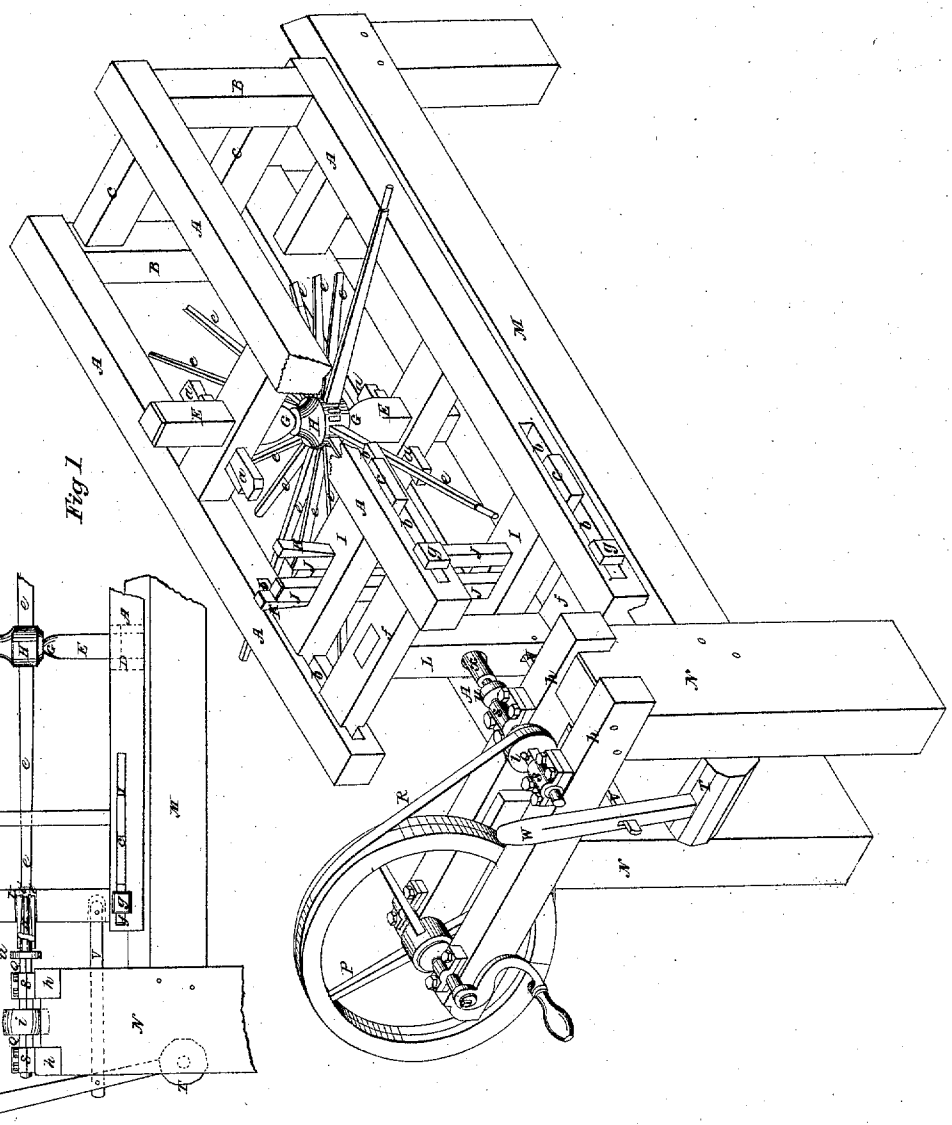


Fig 2

AM. PHOTO-LITHO. CO. N.Y. (OSBORNE'S PROCESS.)

Dated 12 1815
Sept.
2378X

Bracket & Strainough

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 Bracket & Strainough himself of his - machine for facilitating the making of Carriage Wheels

The particulars of which consists in making round Grooves on the interior ends of Waggon and other carriage Wheels for spokes without the assistance of a spoke dish or draught. and bringing the shoulders of the spoke regularly from the centre of the nave and felloes down to the fellows. The Grooves and parts between are made with the same machine

The machine consists of a frame of suitable timber about four inches square and five feet long. two feet wide and two feet high. is framed together at one end by means of two posts and two girts. and in the centre of the frame are two other girts one in the bottom and the other in the top of the frame. perpendicularly over the other. Into the centre of which girts are to be made two square mortices perpendicularly over the other in which are fitted two square pieces of timber each about one foot and a half long and about three inches square and are moveable up and down but may be secured at will by two keys. that fixes in conjunction with them. the spoke in an oblique direction. The ends of these square pieces of timber that front towards each other in the centre are to be circularly rounded and which constitute the pivots which confine the nave of the wheel (after the spokes are done) while the grooves are cut on the ends as will be shewn after described

About a foot and a half or two feet under the head of the machine are two other girts placed in the same direction with the first girts on the ends of which levers are made which I call cocks and mortices made there the levers are that the girts may be moved to or from the centre as the girts according to the length of the spoke is wanted. that there there are two on fine. The standards are two pieces of timber that

fixed to a mortice made in the centre of the girts of an oblong square about six inches by one inch & half each. Round of the girts to be cut to a circle as near between them and confined by two keys that are placed in the mortice each side the standards in the top girt. That when one stake is out to a circle the standards can be twisted up by loosening the wedges at top and another stake raised between them. At the end of the frame as the head post they last is framed in the centre of the two girts first stake in the same mortice as the standard girts and more like them except they may be confined at any place between the standard girts and the end of the frame by four joint bolts that screw on the ends of the timbers and when screwed clinch with the timber along the mortice. As the distance from the round post to the girts that confine the same may be varied according to the diameter of the wheel or the length of the spokes on which the fellies are to be cut. The frame is mounted to slide and from the centre a pole mounted upon a carriage of a suitable height to convenience the workmen. One end of the carriage is framed into the girts that one may go as high as the centre of the sliding post of the machine when mounted on the carriage. Into these girts and on a right angle with the machine are framed (horizontally) two sticks of timber about four or five inches square and are placed about a foot apart. and may be long enough on which to hang a wheel for the purpose of turning the burr mandrill. if you intend it upwards by hand. if by water they may be no longer than a machine is wide. Upon these and on a line with the centre of the sliding part of the machine are placed the two blocks in which the burr mandrill runs by means of a spindle that passes round a wheel on the centre of it. When the mandrill is placed on these it must forward thro' the centre of the head post but is prevented from going too far by a shoulder on the mandrill back of the hollow pivil that carries the fellies as fast as the shoulder is cut away by the teeth on the end of the cylinder. The frame is moved on the carriage upon the mandrill by means of a small pin of timber that is framed

on at the foot of the head post and passing horizontally thro' directly under the mandrick, is gripped and which is formed into a roller that turns in the posts at the head of the machine and gives a sufficient purchase by which the frame is easily moved up to the cutter till stop'd by the shoulder in the head post against the shoulder on the mandrick back of the cylinder. so that by moving the head posts you may bring short or taller cuts to the Burr and cut the tenons. For longer or for wheels of greater diameter the head post must be moved nearer the head of the machine. so likewise must be moved the standards and guide to bring the standards a suitable distance from the end of the spoke — The Burr mandrick is made of iron about a foot and a half long. the Burr in the cutting end of it is a cylinder about an inch longer than the tenons intended to be cut which the cylinder receives. about an inch of the end of the cylinder is steel three eighths of an inch thick. being twice the thickness of the cylinder from the cutting end to the shoulder or guide. the shoulder is somewhat larger than the cutting end and when the head block is suitably placed, prevents the sliding part of the machine from moving too near the cutter. and comes to a shoulder in the post when the tenon is cut down. the cutting end of the cylinder has one or more teeth that cuts away the shoulder while the tenon is received into it — The dowels and pins are likewise made by presenting the — the timber of a suitable size to the Burr.

After the spokes are set in the naves. the nave is placed upon the blocks and keyed so that the end of the spoke points directly to the Burr. a spoke is then made fast between the standards the Burr set in motion the workman by means of the lever draws up the machine till the tenon is cut on the end of the end of the spoke. the machine is then thrown back by the same means which draw the tenon out of the cylinder of the burr and now the standards are to be removed and the operation repeated till all are cut. If convenient, may require this machine with very

little alteration may stand perpendicularly between the ... the ... of the sliding part would apply sufficient force to thrust ... and nearly the same means might be employed in using ... in this case.

Bracket & Greenough

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Drawing made 1886 words
A.M.S.