(12) **United States Patent**
Town

(10) **Patent No.: X9441**
(45) **Date of Patent: Feb. 25, 1836**

(54) **STOCK, GUN, LATHE FOR**

(76) Inventor: **Abner Town**

Abner Sown.

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 Abner Sown himself of his improvement in the Eccentric Lathe for turning Gun Stocks, Shoe and Boot Lasts &c.

To all persons to whom these presents shall come.

Abner Sown of Woodbury in the county of Caledonia and State of Vermont sends greeting.

Be it known that I the said Abner Sown have invented constructed made and applied to use a new and useful improvement in the art of turning and in the construction of the gun Stock Lathe, called Sown's vibrating turning Machine, (or the improved gun Stock Lathe,) specified in the words following viz. Being an improvement on the gun Stock Lathe, designed for the purpose of turning gun Stocks, Lasts, boot trees, hat blocks, and of turning to the shape of any given pattern.

The construction of the improved Lathe or machine is such that both the guide and fly wheels remain stationary while in the operation of turning the pattern & block pass them, whereas in the original gun Stock Lathe, those wheels are moveable and pass the pattern and block, both of which remain stationary, also in the improved machine the Pattern and block have each a separate mandrill turned by a wheel which is not the case in the original Lathe which improvement already mentioned in the construction is designed to hold the block in a more firm position, cause the work in a more finished state, render the machine more easily handled, and facilitate turning. Also the construction of the machinery attached to the carriage in the improvement is such as to produce a rocking motion instead of the swinging motion of the original Lathe.

The small hooks (added to the fly wheel) in the improved machine or Lathe are designed to save great labour in preparing the blocks

The oval (instead of the circular curve of the guide wheel) and corresponding curve of the hooks are designed to facilitate the operation of the hooks upon the block.

Construction

A frame is constructed by placing two thick plank 18 inches wide in a position upright form a platform and connecting them by a block of the same description four feet ten inches above the platform, two timbers 4 feet 5 inches square also connect the end planks being inserted 2 ft. 1 inch below the top plank, 10 inches apart which are called carriage bars. and serve for the carriage to run upon; length of frame inside 3 feet 2 inches two cross bars 4 inches square and 2 feet 10 inches in length are bolted upon the under side of the cross bars near their ends 8 inches apart which project in front resting upon two posts called front posts which posts are connected by a tie or joist

A carriage is constructed 3 feet 5 inches in length and 1 foot 5 inches wide and sides of which are 3 inches square, the ends 4 inches deep and 3 inches wide to slide lengthwise of the machine upon the carriage bars. Within the carriage and six inches from front side of it is placed a bar of iron 1¼ inches square resting by means of arbors upon the ends of the carriage called the iron shaft upon which at one end are placed two iron hubs 3 inches apart each hub having two arms for the purpose of holding the mandrills 13 inches from the centre of the iron shaft which arms project at such an angle as to carry the mandrills 22½ inches from each other. Between these arms on each hub is a short arm 7 inches in length for the purpose of holding the centre mandrille wheel.

Between the hubs on the iron shaft is a box upon which is a small cog wheel 3 inches in diameter and also a broad wheel 6 inches in diameter which wheels are connected and revolve together upon the iron shaft.

Three cog wheels 11 inches in diameter are inserted in the arms the arbors of two of which form the mandrills. the centre mandrill wheel meshes with the other two and these with the small cog wheel

Upon the iron shaft ~~there~~ is a movable hub having two iron holding cones corresponding with the mandrille between which cones and mandrie is the patterns & blocks are confined. From the top plank is suspended a wheel 18 inches in diameter with an oval surface called the guide wheel against which the pattern revolves — Upon the cross bars fourteen inches in front is placed a wheel 12 inches in diameter called the fly wheel with steel hooks projecting 1 inch from the surface of the wheel and corresponding in shape to the surface of the guide wheel, which hooks are sharpened & cut in their revolution, two small hooks are fastened to the fly wheel, same but little, and placed in a manner to cut upon the opposite side of the fly wheel, from the large hooks. Upon the shaft of the fly wheel under the mandrille wheel and between the carriage bars, is a drum or shaft called the short shaft, one end revolving in the end plank and the other is a cross piece between the carriage bars called the centre cross piece. Upon the short shaft are band wheels of various sizes for the purpose of varying the motion of the machine. is a small band wheel

Between the carriage bars at the end opposite the short shaft is a screw of iron 2 feet 4½ inches in length with one band wheel, one end of which revolves in the end plank and the other in same cross piece with the short shaft. On the end of the carriage is a steel vice in the form of blacksmiths tongs, which with iron and steel upon the screw at pleasure by means of a handle and ~~cord~~ a hook & latch.

Underneath the carriage bars is a shaft revolving in each end plank called the long shaft on one end of which are various band wheels corresponding in proportion to the band wheels on the short shaft on the other end is both a fixed and loose or revolving band wheel for the purpose of being connected with the moving power. Near the centre of the long shaft is a band wheel 2 feet and 2 inches in diameter called the large band wheel.

Motion. The long shaft is carried by being connected with water or horse power, the fly wheel by being banded to the large band wheel — The short shaft by being cross banded to the long shaft. The three mandrille wheels and small cog wheels by banding small cog wheel & short shaft which last mentioned band is to be disbanded by means of a friction wheel con—

connecting with the handle which turns and thus the rack or box on the screw. 2d The carriage is put in motion by closing the box upon the screw, three of the long arms which hold the mandrills & centre project in front and hold the block to be turned. obliquely over the fly wheel and in contact with the hooks while the others are in the rear, and elevated so as to set the pattern against the guide wheel by which means a rocking motion is produced as the pattern is carried by the guide wheel the block at the same time passing by the hooks on the fly wheel, and is converted into the form of the pattern. 3d The foregoing dimensions are suitable for a machine for the purpose 1st of turning dasty, beet boxes 2d but but should be enlarged for larger work. —— N. B. The screw is put in motion by being bonded to a small shaft passing thro the centre crop piece which shaft is bonded to the chest shaft.

In testimony that the above is a true specification of my said improvement as above described I have hereunto set my hand this 8th day of June 1835

Ithabil Wheeler
Witness { Elisa Alden

Abner Town.
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Ent.
Chf.