

(12) **United States Patent**  
**Town**

(10) **Patent No.:**

**X9441**

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

(76) **Inventor: Abner Town**

Abner Town.

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

Be it known that I the said Abner Town 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 Town'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, last, 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 there, whereas in the original gun stock lathe, those wheels are movable and pass the pattern and block, both of which remain stationary; also in the improved machine the Pattern and block have each a separate mandrel 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, leave the work in a more finished state, render the machine more easily loaded, 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 surface 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 planks 18 inches wide in a position upright from a platform and connecting them by a plank of the same description four feet ten inches above the platform, two timbers 14 feet 5 inches square also connect the end planks being inserted 2 feet 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 14 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 girt.

A carriage is constructed 3 feet 5 inches in length and 1 foot 5 inches wide and six 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 1 1/2 inches square resting by means of a bolt 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 mandrill 22 1/2 inches from each other. Between these arms on each hub is a short arm of inches in length for the purpose of holding the centre mandrill 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 also with the small cog wheel

Upon the iron shaft there is a movable pulley having two iron holding centers corresponding with the mandrills between which centers and mandrill is the patterns & block are confined. From the top plank is suspended a wheel 14 inches in diameter with an oval surface called the guide wheel against which the pattern revolves. Upon the cross bar <sup>in front</sup> is placed a wheel 12 inches in diameter called the fly wheel with four 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 to cut in their revolution, two small hooks are fastened to the fly wheel, since but little, and placed in a manner to cut upon <sup>the</sup> opposite side of the fly wheel from the large hooks. Between the shaft of the fly wheel <sup>is a small band which</sup> under the mandrill 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 in a cross piece between the carriage bars called the center cross piece. Upon the short shaft are band wheels of various sizes for the purpose of varying the motion of the Machine.

Between the carriage bars at the end opposite the short shaft is a screw of iron 2 feet 4 1/2 inches in length with one band wheel <sup>at</sup> one end of which revolves in the end plank and the other in same cross piece with the short shaft. In the end of the carriage is a seat or box in the form of blacksmith's tongs, which will open and shut upon the screw at pleasure by means of a handle and rod as set forth.

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 center 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 mandrill wheels, and small cog wheels by banding small cog wheel to short shaft which last mentioned band is to be tightened by means of a friction wheel con-

positioning with the handle which opens and shuts the nut or box on the screw.  
 The carriage is put in motion by closing the box upon the screw,  
 Three of the long arms which hold the mandrills & centers project in front  
 and hold the block to be turned directly over the fly wheel and in contact  
 with the locks while the others are in the rear, and cleared so as not to  
 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 pas-  
 sing by the locks on the fly wheel, and is converted into the form of the  
 pattern. 2. The foregoing dimensions are suitable for a machine for  
 the purpose 1<sup>st</sup> of turning cast, best brass &c. but should be enlarged  
 for larger work. — N. B. The screw is put in motion by being  
 banded to a small shaft passing thro' the center cross piece which shaft  
 is banded to the short shaft.

In testimony that the above is a true specification of my said in-  
 vention as above described I have hereunto set my hand this  
 8<sup>th</sup> day of June 1835

Abner Town.

(Witnesses) Hubail Wheeler  
 Eliza Alden

1443 1835

Ex. C. H. H.