

*J. Vandyke,
Boring Wood.*

N^o 49,060.

Patented July 25, 1865.

Witnesses:
Wm. Greun
Thos. Fuzler

Inventor:
Wm Dyke
By Wm Dyke
attf.

UNITED STATES PATENT OFFICE.

JOHN VANDYKE, OF GRIMSBY, CANADA WEST.

IMPROVEMENT IN BORING-MACHINES.

Specification forming part of Letters Patent No. 49,060, dated July 25, 1865

To all whom it may concern:

Be it known that I, JOHN VANDYKE, temporarily residing at Grimsby, Canada West, have invented a new and useful Improvement in Boring-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a vertical longitudinal section of a machine made according to my invention, the letter *y*, Fig. 2, indicating the line of section. Fig. 2 is a horizontal section taken on the line *x* of Fig. 1.

Similar letters of reference indicate like parts.

This machine is intended for boring wood, and is especially adapted for bevel-work. It is also well adapted for use in making carriage-wheels with either screw or hollow auger, saving great labor, and making what was formerly the most difficult part of wheel-making when carried on by hand to be now accomplished with ease and in a comparatively perfect manner.

A designates the bench which sustains the machinery to be described.

The letter B' designates a fixed frame, fastened to the bench by means of ears B². It consists of four upright pieces (here marked B') rising from the horizontal plate which has the ears B², and the tops of the said upright pieces B' are connected by side bars, *a*, running lengthwise of the machine, only one of which bars is seen in the drawings, and by transverse bars D D. (Seen only in sectional view in Fig. 1.)

B designates a frame whose ends are lettered D'. It incloses the frame B' and is movable vertically thereon, and it is adjustable thereon longitudinally. Its longitudinal adjustment is effected by the adjusting-screw J, which works through one of the ends D', its end working against the adjacent vertical part of the frame B'. Set-screws K K pass through one of the sides of the frame B and work against adjacent uprights B', their office being to secure the frame B in position after each longitudinal and vertical adjustment.

O is a bar extending from one end D' to

the other of the movable frame on a line about midway of the length of the frame. It carries a sliding bearing, L, which supports the shaft C in ears *b b* rising from its upper side. These ears are far enough apart to receive a collar, M, which is fixed to the shaft, and by means whereof the motion of the slide is communicated to the said shaft. The slide L has also ears *c c* below, to which are fastened the ends of two bands, Q Q. The band Q is led around three pulleys, 1, to a treadle, R, to which its other end is firmly fastened, and the band Q' is led over a pulley, 2, its other end being attached to a weight, S. This construction and arrangement of the slide L and of its attachments enable the operator by depressing the treadle to move the slide toward the left, (observing Fig. 1, which shows the back side of the machine.) When the treadle is released the weight S will draw the slide in the opposite direction. At each movement of the slide the shaft C will be moved also in the direction of its length. The shaft C carries the stock T of the boring-tool. It revolves in bearings 3 3 3, made for it on the ends D' of the movable frame, and on a bracket, N, which extends inwardly from one of the sides of the frame, and whose chief office is to support the inner end of the bar O. The shaft is directly above this bar, and therefore the latter does not appear in Fig. 2. The shaft has fixed on it, between the bracket N and the nearest end piece D' of the frame, a bevel-gear, G, which meshes with a large bevel-gear, F, fast on a transverse shaft, E, whose bearings are made on a side extension, *d d*, of the frame B. The outer end of this shaft E is fitted with a crank for the purpose of giving motion to it; or it may be driven in any other convenient way.

The frame B is moved vertically by means of screw-rods H H, one at each end, which pass through the transverse bars D D of the fixed frame. These bars are so fitted to the sides of the fixed frame B' as to be capable of revolving therein, thus enabling the screw-rods to stand at different angles. The lower ends of the screw-rods are hinged to ears formed in the end pieces D' of the movable frame, so that the latter may be moved lengthwise and up and down without binding the screw-rods. The upper ends of said rods are squared to receive a wrench by which they can be rotated.

The longitudinal movement of the shaft C is limited by means of the collar U on the outside of the frame B, said collar being secured to the shaft by a set-screw. P is a balance-wheel fixed on the shaft C to steady it during its rotation.

It will be observed that the pitch of the bore of the auger-stock is regulated and varied by the elevating-screws H, so that it can operate at different angles for different kinds of work, and that by means of the screws J K K the movable frame is firmly held in contact with the fixed frame, so as to bring the auger-shaft forward or backward as required in the progress or by the position of the work.

What I claim as new is—

1. The combination of the movable frame B, which carries the shaft or stock of a boring-tool, with a fixed frame, B', on which it works

up and down by means of elevating-screws H, substantially as and for the purpose above described.

2. The combination of the elevating-screws and the adjusting-screws J K K with the movable frame B, substantially as and for the purpose above described.

3. The feeding-slide L, in combination with the shaft C of the boring-tool and the slide-bar O of the movable frame, for the purpose of feeding the tool to the work, substantially as above described.

The above specification of my invention signed by me this 4th day of May, 1865.

JOHN VANDYKE.

Witnesses:

W. K. SUMNER,

I. WOOLVERTON.