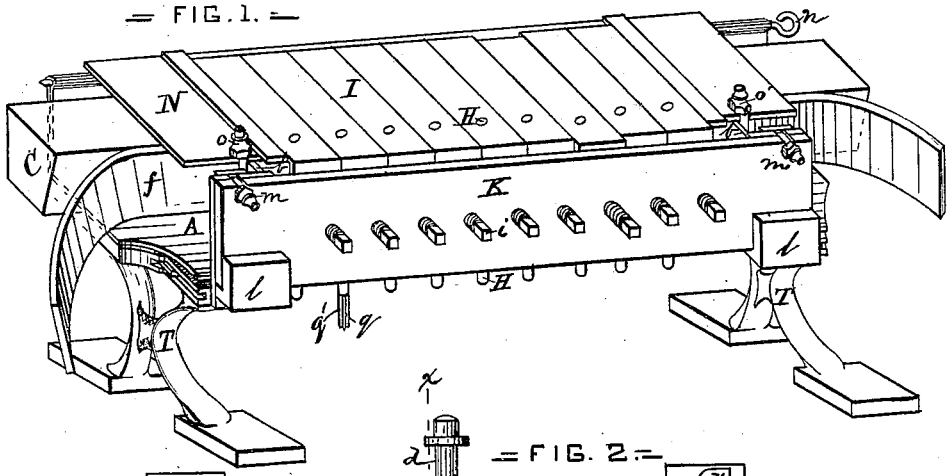
A. NAWADNY.

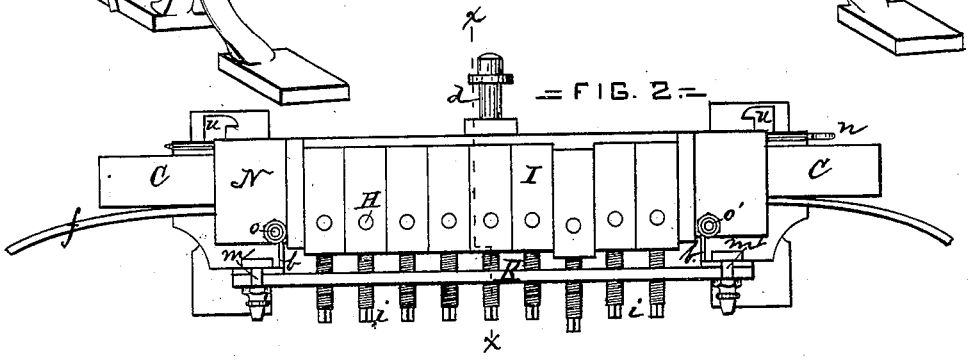
Machine for Boring Brush-Blocks.

No. 205,497. Patented July 2, 1878.

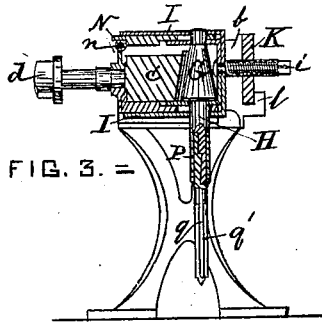
= FIG. 1. =



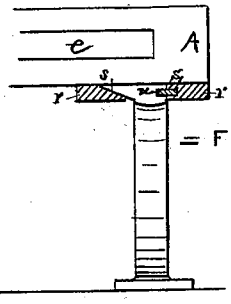
= FIG. 2. =



= FIG. 3. =



= FIG. 4. =



Witnesses.

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ALBERT NAWADNY, OF NEW ORLEANS, LOUISIANA.

IMPROVEMENT IN MACHINES FOR BORING BRUSH-BLOCKS.

Specification forming part of Letters Patent No. **205,497**, dated July 2, 1878; application filed November 16, 1877.

To all whom it may concern:

Be it known that I, ALBERT NAWADNY, a resident of the city of New Orleans, parish of Orleans, and State of Louisiana, have invented a certain new and useful Improvement in Drilling-Machines; and I do hereby declare the following to be a full, clear, and correct description of the same, reference being had to the annexed drawing, making a part of this specification.

This invention embraces certain improvements in drilling-machines, whereby a number of holes may be drilled simultaneously in close proximity to one another, and either in straight or curved lines, as the nature of the work may require, the said machine being designed especially for boring holes in brush-backs, but being obviously applicable for other analogous purposes.

On the accompanying drawing, Figure 1 represents a perspective view of my improved machine, constructed with a view to drilling holes in straight lines. Fig. 2 is a plan or top view thereof; Fig. 3, a cross-section through the line *x x;* and Fig. 4, a portion of one end of the machine, showing the manner in which the supporting-legs are connected with the main frame.

A is a metal frame, with partitions *b b* near the ends thereof, each provided with a guide-hole, through which a sliding bar, C, is operated, the said bar being furnished for this purpose with a handle or journal-pin, *d*, the latter projecting through and operating in an elongated slot, *e*, that is formed for the said purpose in the rear portion of the frame.

In front of the aforesaid bar is a facing or belt, *f*, of leather or other equivalent material, against which the conical portions G of the drill-spindles H are held, so as to be operated by friction.

The bearings of the spindles are made in pairs, each pair operating independent of the other, and all formed of right-angle pieces I, the horizontal portions of which are recessed to permit of their being moved back and forth on that portion of the frame to which they are fitted, and in which elongated slots are cut, in order to admit of the position of the spindles being changed therein.

The vertical portions of the bearings are made, at a point midway between the horizontal portions thereof, to overlap one another, and these overlapping parts are provided on a central line with vertical slots, that are made to straddle the grooved portion of a set-screw, *i*, by which means the spindles are thrown in or out of gear. Thus it will be seen that all the spindles may be worked at one time, or only such of them as are required to accomplish the desired work.

The front plate K, in which are fitted the operating set-screws *i*, is secured to the frame by recessed lugs *l*, and by means of bolts *m m'*, which are inserted in slots that are made in the upper edge of the said plate and front portion of the frame, as shown.

The top plate N is secured to the frame by a rod, *n*, which is passed through eyes made in both the frame and plate, and by means of bolts *o o'*, the lower ends of which are pivoted to the partitions *b b'*, so that their upper ends may engage in recesses formed at the front edge of the plate, and be secured therein, as shown.

On the under side of each end of the frame are two strips, *r r'*, having grooves cut therein, as shown at *s s'*, to receive the legs T and keys *u*, whereby they are secured in position.

The drills are connected with the spindles by cutting away portions of each, so that a sleeve, P, may hold the two together as though they were of a single piece, and the shanks of both drill and spindle are undercut, as shown, in order to prevent the drills from falling out.

In order that the drills may the more effectually accomplish the work for which they are designed, they are each provided with vertical cutting-edges *q''*, which are designed so as to operate in either direction.

To drill holes in curved or semicircular lines, the driving-bar should be formed accordingly; or the band-facing *f* may be operated so as to drive the drills, and thus accomplish the desired result.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A drilling-machine provided with a slid-

ing bar, C, and belt *f*, drill-spindles H, and adjustable bearings I, as described, and for the purpose specified.

2. In combination with the bar C and strap *f*, the pulleys G, set-screws *i*, and frame I, substantially as described.

3. In combination with the spindle H and drill *q*, having scarfed and undercut shanks, the sleeve P, substantially as described.

In testimony whereof I have hereunto signed my name.

ALBERT NAWADNY.

In presence of—
GEORGE KRAFT,
JOHN KERRY.