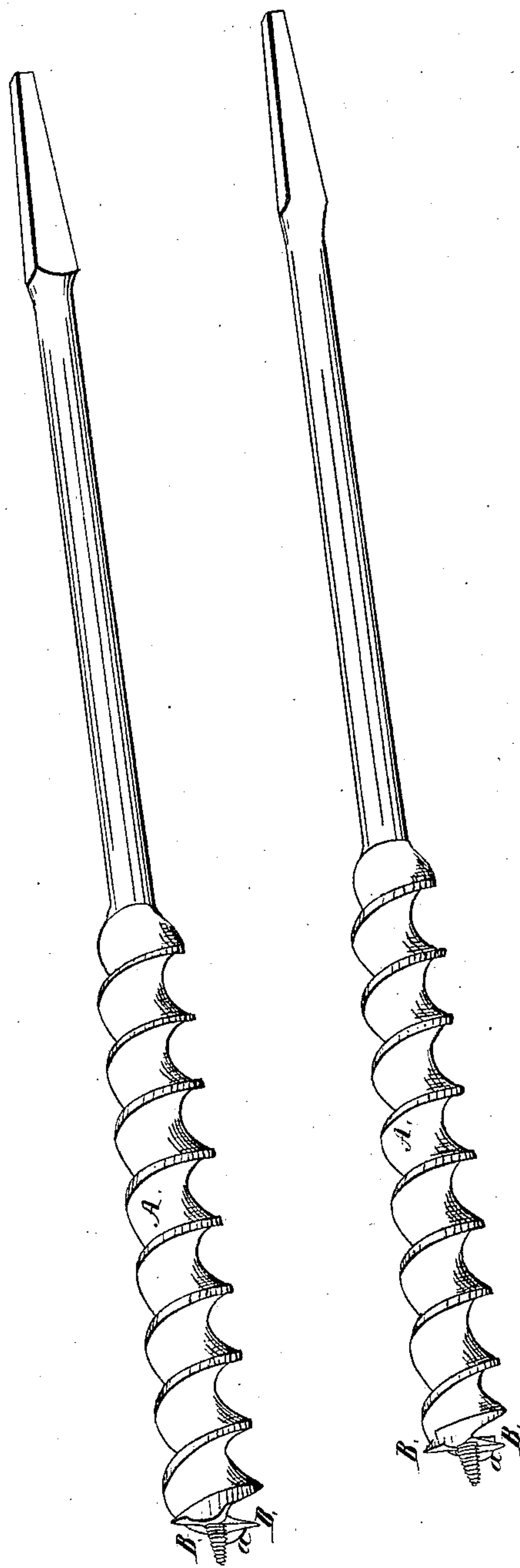


R Jennings,
Wood Auger.
N^o 12,318. Patented Jan. 30, 1855.



UNITED STATES PATENT OFFICE.

R. JENNINGS, OF DEEP RIVER, CONNECTICUT.

AUGER.

Specification forming part of Letters Patent No. 12,318, dated January 30, 1855; Reissued October 3, 1865, No. 2,081.

To all whom it may concern:

Be it known that I, RUSSELL JENNINGS, of Deep River, in the county of Middlesex and State of Connecticut, have invented a new and useful Improvement in the Double-Twist Augers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, which forms part of this specification and in which—

Figure 1 represents a side elevation of my improved double twist auger, and Fig. 2 is an end view of the same.

Augers as usually constructed are composed of two members, the cutting bit and the pod, the latter acting to discharge the chips separated by the former. The cutting bit in double-twist augers has two radial cutting edges or floor lips extending at right angles to the axis of the auger from the pintle or screw to the periphery of the twisted pod. Each floor lip is furnished at its outer corner with a spur or cutter which projecting, in the direction of the axis of the auger, beyond its cutting edge, cuts round the periphery of the cylinder of wood removed by the floor lips. The spur thus described being at the outer corner of the floor lip acts in conjunction with it, and augers thus constructed are very defective; first, because the spur is projected from the thinnest part of the floor lip and to be useful as a cutter it must be made too thin for durability and strength, hence it together with the portion of the cutting edge of the floor lip from which it is projected are continually liable to break off in using and this liability to break is so great that augers thus constructed are considered unfit for boring hard wood. This contiguity of the cutting edge of the floor lip and spur is also objectionable because when the former is broken by boring against a nail or other hard substance, there is no material in reserve to allow a new cutting edge to be filed further back on the lip and the instrument becomes useless. Another difficulty arising from this contiguity of the cutting edge of the floor lip and the spur, is that when the former is cutting a chip, the latter acts to cut round the edge of the next succeeding chip in exact conjunction with the former, hence, each interferes with the action of the other, the fibers of the wood are torn as the bit enters, and the hole is not bored smoothly.

My improved double-twist auger is designed to overcome these objections, and my improvement consists in constructing the cutting bit in such manner that the floor lip and the spur, instead of acting in conjunction, act separately and independently of each other. The instrument as represented in the drawing is constructed with a double twisted pod A and two floor lips B, B, the latter project beyond the positions in which they have heretofore been placed, and the spur *a*, instead of being situated at the outer front corner of the cutting edge of the floor lip where the latter from its necessary thinness is weakest, is projected from its hinder part or heel where it is thickest and strongest. By this change in the relative positions of the cutting edge of the floor lip and the spur, I effect a new relationship between them so that the one in acting does not interfere with the operation of the other, and an instrument is obtained which is strong and durable, while at the same time it requires less power to operate it than the common auger, produces a smoother hole, and will bore faster without danger of breakage. These advantages ensue, first, because the spur being situated at some distance behind the cutting edge of the floor lip does not necessarily act to cut throughout its entire length and hence its root can be made larger than is possible in the ordinary method of constructing double twist augers, where its increase in size at the outer corner of the floor lip would impede the action of the instrument. Secondly, as the spur is projected from the strongest part of the lip, it is not liable to break with the strain and carry with it a portion of the floor lip. Thirdly, the instrument is much more durable because as the floor lip is filed away, a sufficient quantity of material is in reserve to form a new cutting edge, and as the spur can be made heavier and stronger, it also is of sufficient size to admit of a considerable amount of filing before its strength is materially impaired. The efficiency of the instrument and the smoothness of the hole bored are the necessary results of this improved construction, first, because the wood upon which the spur is acting is not disturbed by the floor lip and remains firm both before and behind the spur which thus cuts smoothly round the edge of the chip to be removed by the succeeding floor

lip; secondly because the chips removed by the floor lip being undisturbed by the action of the spur pass freely out of the hole as fast as they are cut thus preventing the
5 choking of the pod. The double twist auger thus constructed becomes an efficient instrument for boring hard woods, either across or endwise with the grain, for which purpose the ordinary double twist augers are
10 almost useless. It may be constructed with or without the side lip projecting upward from the periphery of the floor lip, but I prefer to construct it as represented in the accompanying drawing, without this addition,
15 tion, which is useless when the spur per-

forms its work efficiently, as it must do in my auger.

What I claim as my invention and desire to secure by Letters Patent is—

So constructing the cutting edges of a 20 double twist auger or auger bit, that the vertical scores shall follow the chisel; *i. e.* so that the cutting edges of scores and chisel shall never intersect the worm or helix of the shaft at the same point.

RUSSELL JENNINGS.

Witnesses:

CHARLES W. SNOW,
EGBERT C. PRATT.

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