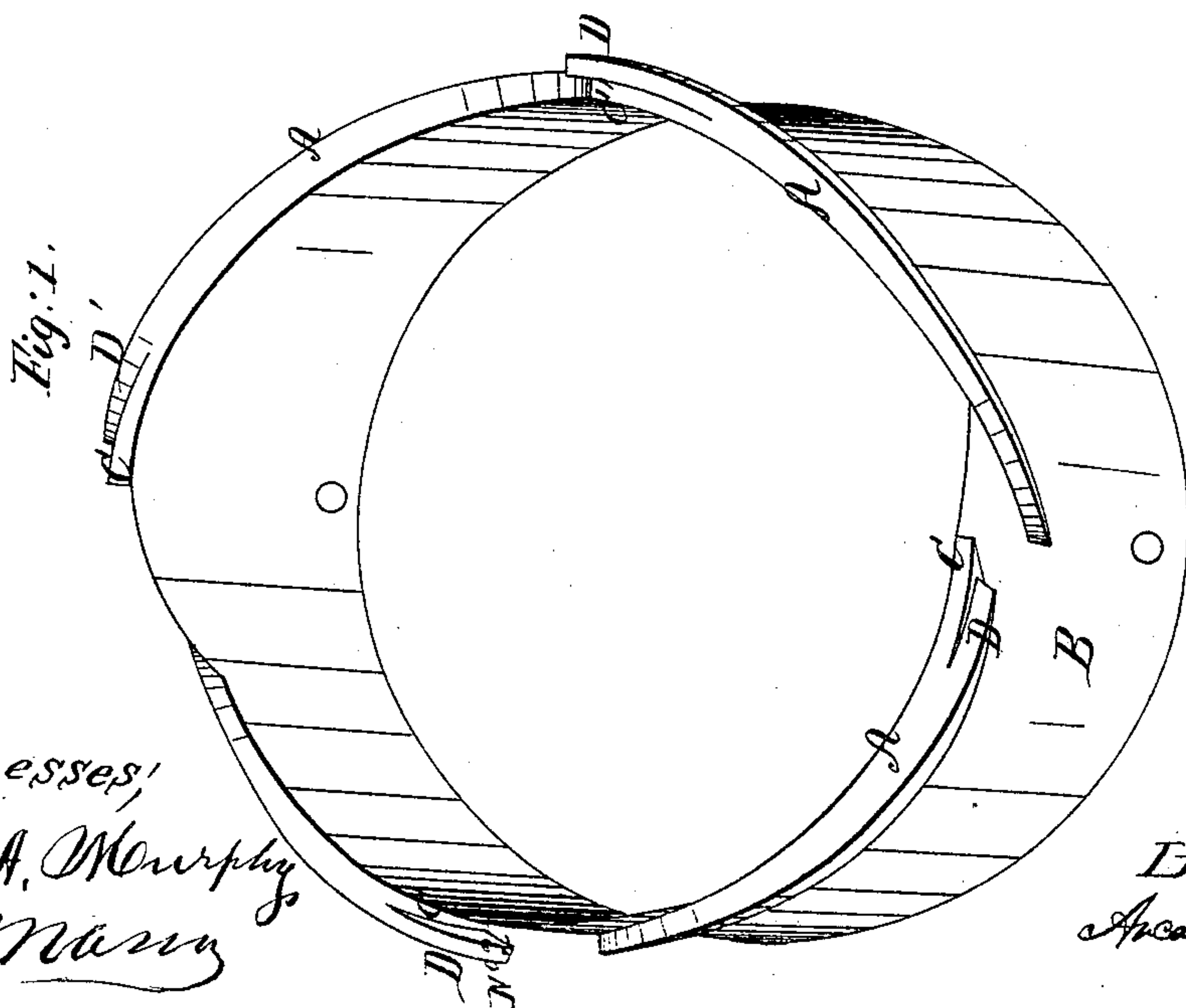
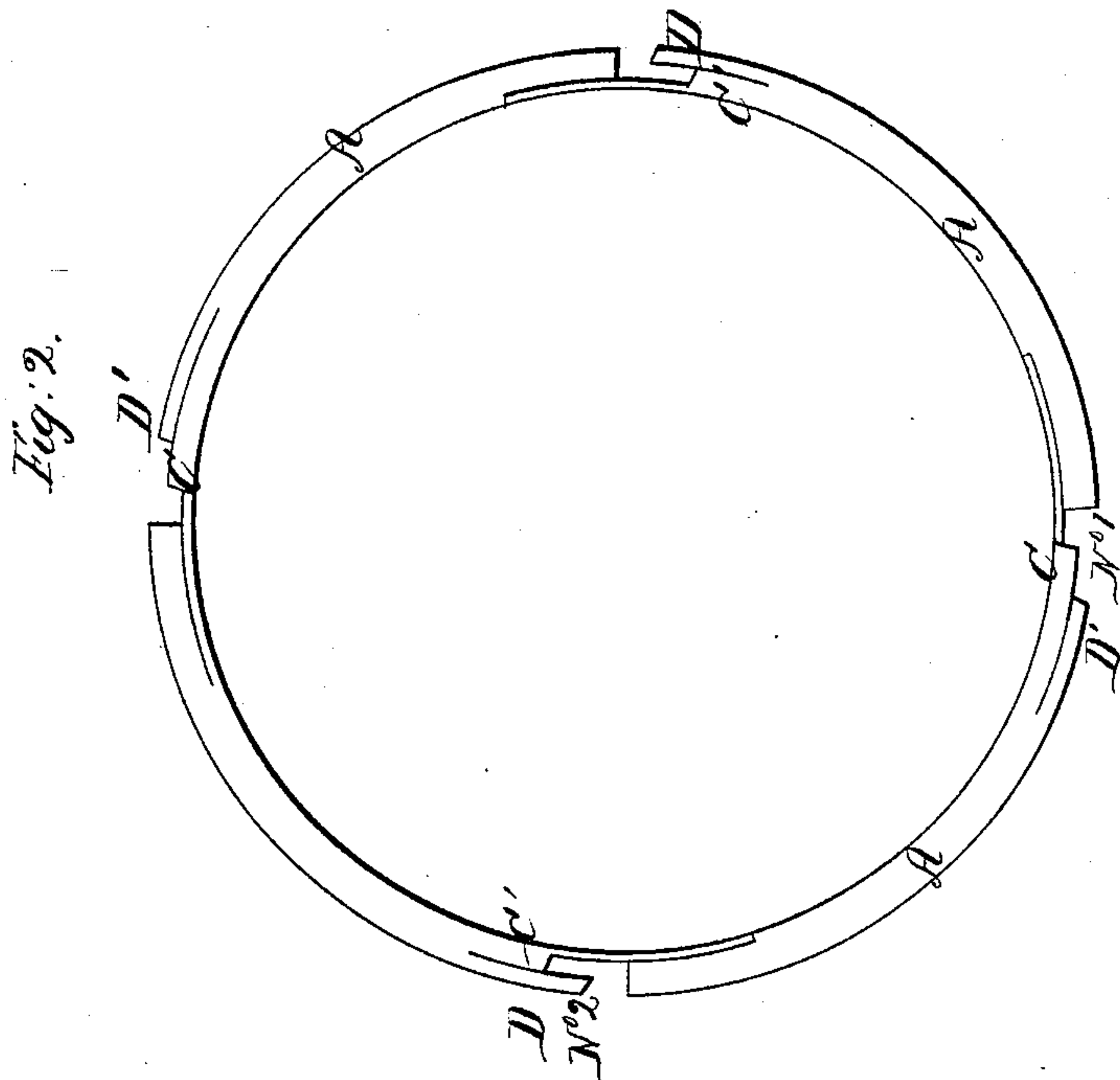


A. Wyckoff,  
Hollorr Auger.

*N<sup>o</sup> 53,722.*

*Patented Apr. 3, 1866.*



Witnesses,  
L. A. Murphy  
Marry

Inventor:  
Aralous Hyckoff

# UNITED STATES PATENT OFFICE.

ARCALOUS WYCKOFF, OF ELMIRA, NEW YORK.

## IMPROVEMENT IN HOLLOW AUGERS.

Specification forming part of Letters Patent No. 53,722, dated April 3, 1866.

*To all whom it may concern:*

Be it known that I, ARCALOUS WYCKOFF, of Elmira, in the county of Chemung and State of New York, have invented a new and useful Improvement in Hollow Augers; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, made a part of this specification, in which—

Figure 1 is a perspective view, and Fig. 2 is a top view, of the annular cutter-head.

My improvement relates more particularly to that class of boring-machines in which a ring or series of concentric rings is cut out of a block of wood, each leaving an internal core and external shell. The difficulty encountered in these tools when boring to considerable depth has been to give ready clearance to the cuttings. As the cutters must be wider on their faces than the space between the cylindrical stock and external shell by a little more than the thickness of the cylindrical stock, and as through the space between the stock and shell the cuttings must pass, the shavings being of the width of the cutters are liable to impede and stop the working of the machine. This difficulty is not removed by reducing the feed, for the finer the shavings the greater their tendency to pack. The end desired to be attained is to make the cuttings as thick as possible and as narrow. This has been attempted by means of alternately-reversed inclined cutters, each cutting one-half the width of the shaving; but such cutters producing wedge-shaped chips, they are found to be insufficient to remedy the difficulty, the thin portions of the shaving producing the packing necessarily following the making of thin cuttings. To meet this difficulty I make my cutters as follows:

B represents the cylindrical ring constituting the cutter-head attached to the end of the cylinder of an auger of the above-described character.

A A are the cutters, spirally disposed upon the end of the cutter-head, having their projecting points made sharp. These cutters have heretofore been made entire; but I divide them, so as to form two points, C and D' and D and C', one higher than the other and having the cutting-points C and D alternately projected, so that one cutter shall cut one-half the entire width of the kerf, near the core, as at C, No. 1, and the succeeding cutter shall cut the half near the shell, as at D, No. 2, the feed being so regulated that the two points C and D' or D and C' of the same cutter A shall not cut at the same time, making a thick and a thin shaving.

By this means I am enabled to cut a uniformly-thick shaving of half the ordinary width, which will be readily removed by the spiral flange of the hollow cylinder, and to make the shaving of double the ordinary thickness, for less power will, with this arrangement, allow double the feed attainable with augers of the ordinary construction of cutters.

Having fully explained the character of my improvements, what I claim as my invention, and seek to secure by Letters Patent, is not, broadly, for an arrangement of cutting-bits for cutting with each alternate bit one-half the width of the kerf; but

I claim—

The cutters A A, constructed with two or more alternately-projected cutting-points, C and D, so arranged as to cut in parallel but concentric planes, substantially in the manner and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ARCALOUS WYCKOFF.

Witnesses:

JOHN S. HOLLINGSHEAD,  
L. A. MURPHY.