No. 658,782. Patented Oct. 2, 1900.

W. T. KELLOGG.

AUGER CUTTER.

(Application filed Aug. 4, 1899.)

(No Model)

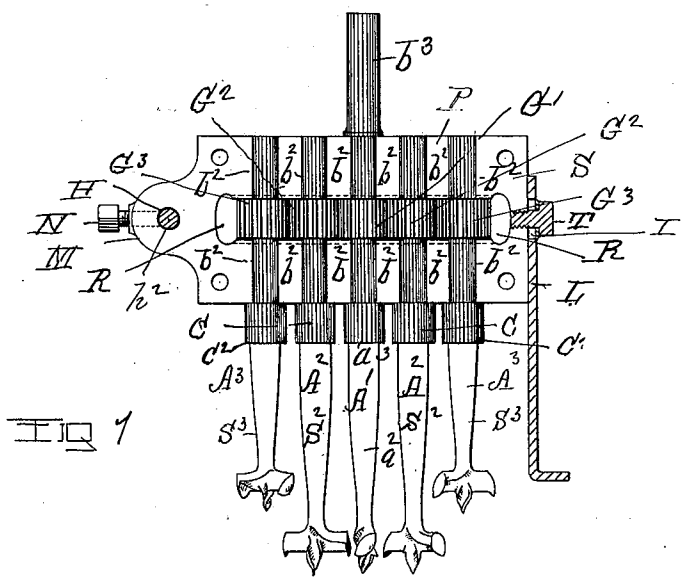


Fig 1

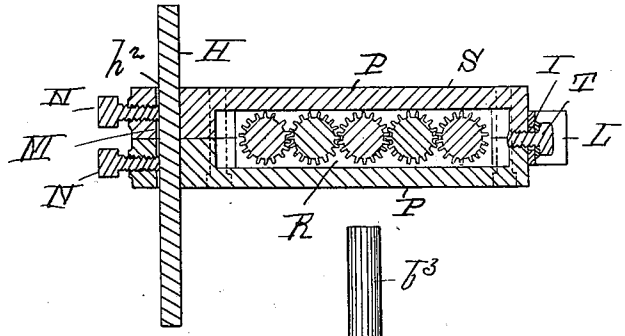


Fig 3

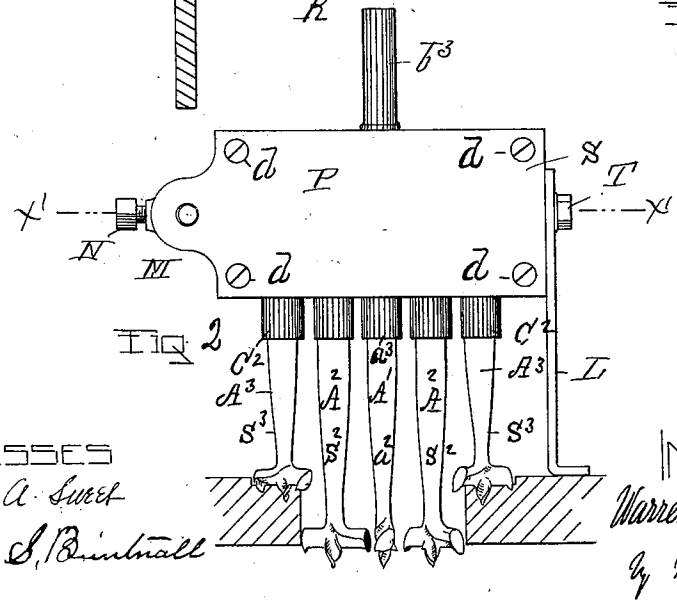


Fig 2

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WARREN T. KELLOGG, OF LANSINGBURG, NEW YORK.

AUGER-CUTTER.

SPECIFICATION forming part of Letters Patent No. 658,782, dated October 2, 1900.

Application filed August 4, 1899. Serial No. 726,094. (No model.)

To all whom it may concern:

Be it known that I, WARREN T. KELLOGG, of the village of Lansingburg, county of Rensselaer, and State of New York, have invented new and useful Improvements in the Construction and Arrangement of a Series of Connectedly-Working Augers, of which the following is a specification.

My invention relates to improvements upon the manner of mounting and arranging a series of augers for boring the sockets made to receive sash-balances, and more particularly to improvements upon that device of this class which is described and shown in Letters Patent No. 393,817, dated December 4, 1888, these improvements having for their object the combination, with a series of augers employed, of a stock wherein the augers may journal, a recess formed in the stock for inclosing the connecting-gears, together with a construction whereby the augers may be retained relatively to each other as to vertical position.

Accompanying this specification to form a part of it there is a plate of drawings containing three figures illustrating the application of my invention to a group of augers designed to bore a socket and recess for the face-plate of a sash-pulley with the same designation of parts by letter-reference used in all of them.

Of the illustrations, Figure 1 is a side elevation of the apparatus with one of the side plates removed and with the handle and gage shown in section. Fig. 2 is a side elevation of the apparatus with the augers in position for boring a socket and a recess for a face-plate for a sash-pulley, with the wood in which the boring is being done shown in section. Fig. 3 is a section taken on the line $x\ x$ of Fig. 2.

The several parts of the apparatus thus illustrated are designated by letter-reference and the function of the parts is described as follows:

The letter S designates the stock in which the augers forming the series are arranged to journal and to be operated. This stock is formed by two plates P P, which are connected together by means of screws *d*. The inner side of each of these plates P is made to form one-half of journal-bearing b^2 for the shanks of each of the augers to journal in, and the letters R designate a recess that is made crosswise in the stock for the gears operating the auger-shanks, one-half of this recess being formed in the inner face of each of the plates P, as shown at Fig. 3.

The letter A′ designates the centrally-located one of the augers with its shank a^2 journaling in one of the bearings b^2 of the stock, and the letter G′ designates a gear-wheel mounted upon the shank a^2, within the recess R, and provided with a collar a^3 where the shank a^2 extends below the stock. The centrally-located auger A′ has connected to the upper end of its shank a shaft b^3, to which power is applied to work the series.

The letter A^2 designates an auger, of which there is one located at each side of the central auger A′. These augers A^2 are each provided with a collar C on each of their shanks S^2, below the bottom of the stock. The shanks of these augers A^2 each have a bearing in one of those indicated at b^2, wherein to journal, and they are each provided with a gear G^2, mounted thereon within the recess R, and with each of these gears arranged to mesh into the gear G′ on the centrally-located shank a^2 to receive power therefrom.

The letters A^3 designate two augers, of which there is one at each end of the series, and each of these last-named augers at their boring ends have shorter shanks than those of the augers located between them. The shanks S^3 of each of these augers A^3 are arranged to journal in one of the bearings b^2, and they are each provided with a collar C^2 where extending below the stock, and they each have mounted thereon to be within the recess R a gear-wheel G^3, arranged in the said recess with each of said last-named gears being constructed to mesh into the next adjacent one of the two gear-wheels G^2, so as to receive power therefrom. These augers are all of them arranged to bore intersecting holes, with the augers A^2 having their cutting rotation moving in a direction that is opposite to that of the centrally-located auger, with the end augers A^3 having the same direction of cutting rotation as the centrally-located auger A′. As thus placed the upper surface of each of the gears G′ G^2 and the gear G^3 will be in guiding contact with the bottom sur-

face of the recess R and the upper surface of each of the auger-shank collars C and C^2 be in guiding contact as to vertical adjustment with the under surface of the stock S, as shown at Fig. 1.

The letter H designates a horizontally-arranged handle which is adjustably secured within a passage-way h^2, formed in the stock end M, which is opposite to that in which the gage is placed, by the set-screws N N, and by which handle as adjusted the stock is steadily held upon the object being bored.

The letter L designates a gage arranged upon that end of the stock which is opposite to that at which the handle is attached, and this gage is connected to the stock for vertical adjustment thereon by means of a slot I, formed in the gage L, and a set-screw T.

As thus constructed and arranged to be operated, when the augers are together actuated those of the series having the longest shanks will commence boring before those at the outer ends of the series, which have shorter shanks than the others. As the augers are actuated to bore by the power applied to the central one A′ the stock and the augers descend until the bottom of the gage L comes in contact with the surface of the wood being bored, when the boring ceases, although the augers may continue to turn. By this arrangement of having part of the augers bore before those at the ends of the series commence to bore a socket and recess for the insertion of a sash-pulley and its face-plate can be bored and a mortise bored for chiseling, so as to adapt it to receive a shouldered tenon.

By arranging the actuating-gears within the recess R they are protected from the intrusion of chips and dirt, and by using in connection with the stock S the handle H a means is provided to hold and guide the device when power is applied to the shaft b^3, said handle and the gage L enabling the operator to handle the device with ease. The adjustability of the handle allows the length of it on the side toward the operator to be regulated with regard to the position and convenience of the latter. Without this he must necessarily be at a great disadvantage whenever the conditions are changed, as from one piece of work to another, since his distance may have to change also, and an unadjustable handle which suited the former distance might be altogether unfit for the latter distance.

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

In combination with a series of augers geared together and a shaft for operating them, a stock, in which they are journaled, provided with a passage-way at right angles to the said augers, a handle movable forward and back in said passage and a clamping device for adjusting the position of the said handle in the said stock, substantially as and for the purpose set forth.

Signed at the city of Troy, New York, this 31st day of July, 1899, and in the presence of the two witnesses whose names are hereto written.

WARREN T. KELLOGG.

Witnesses:
N. E. HAGAN,
CHARLES S. BRINTNALL.