

No. 855,411.

PATENTED MAY 28, 1907.

A. OLESON.
BORING TOOL.

APPLICATION FILED JUNE 23, 1908.

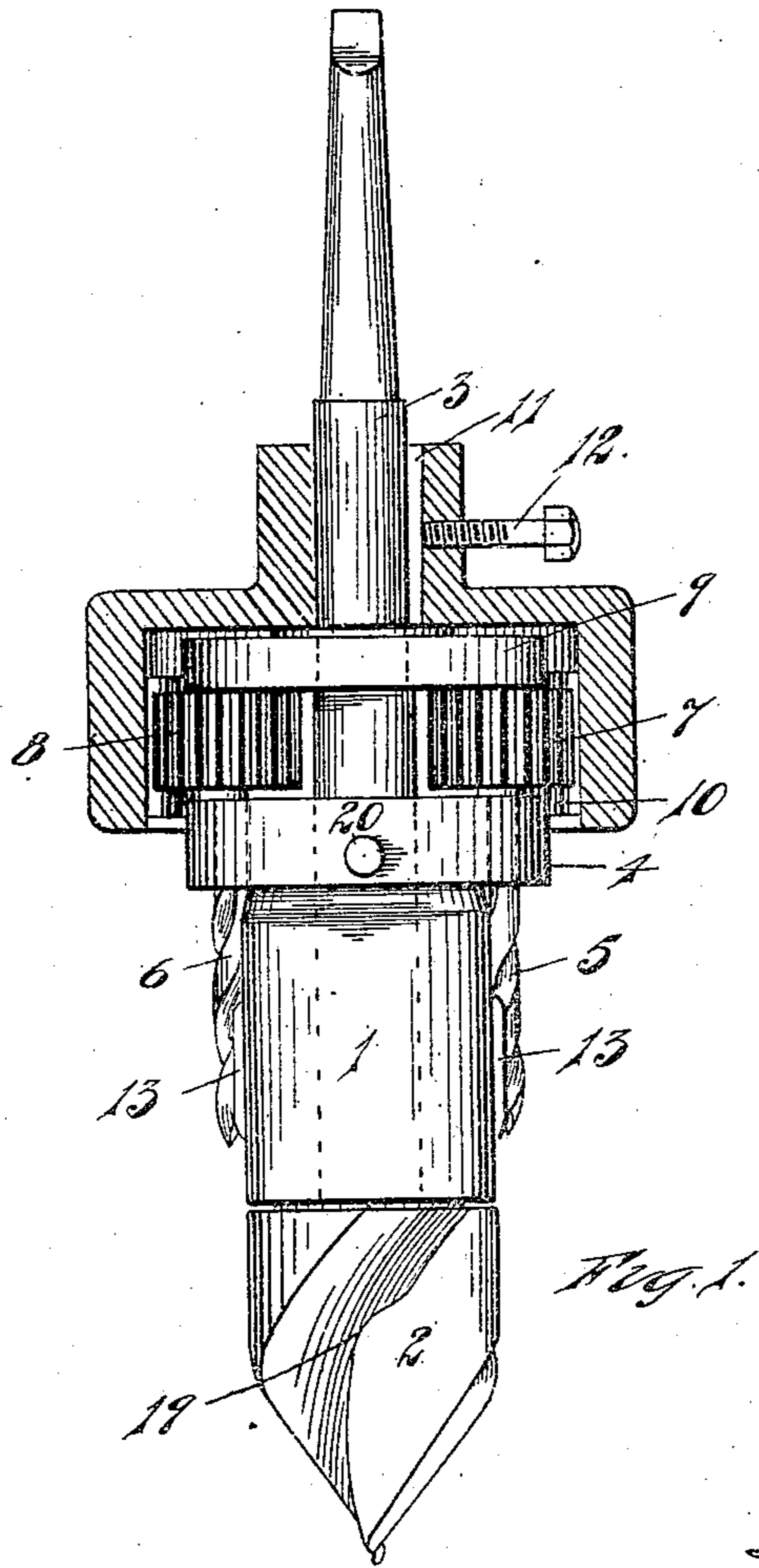


Fig. 1.

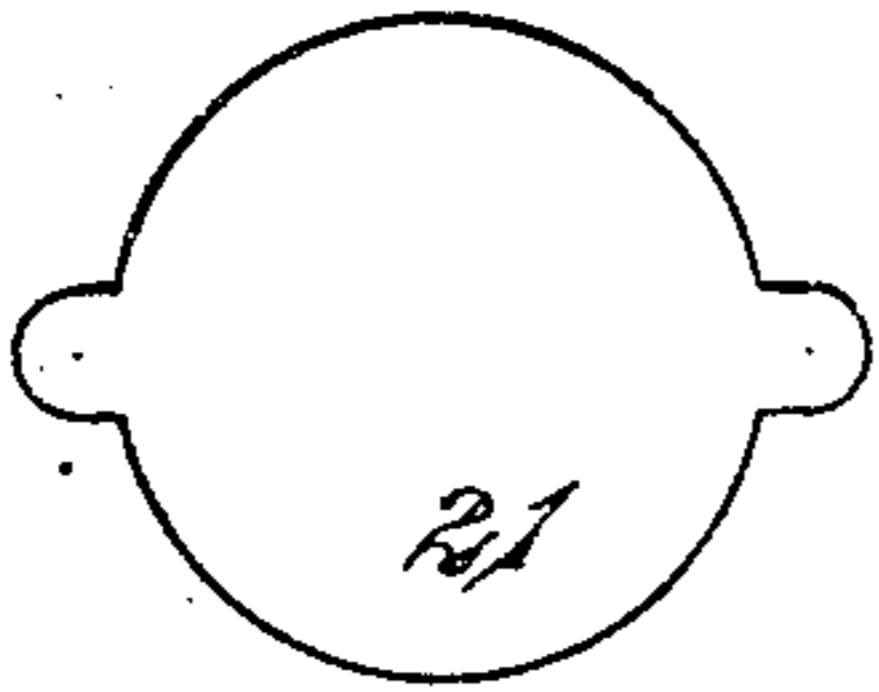


Fig. 2

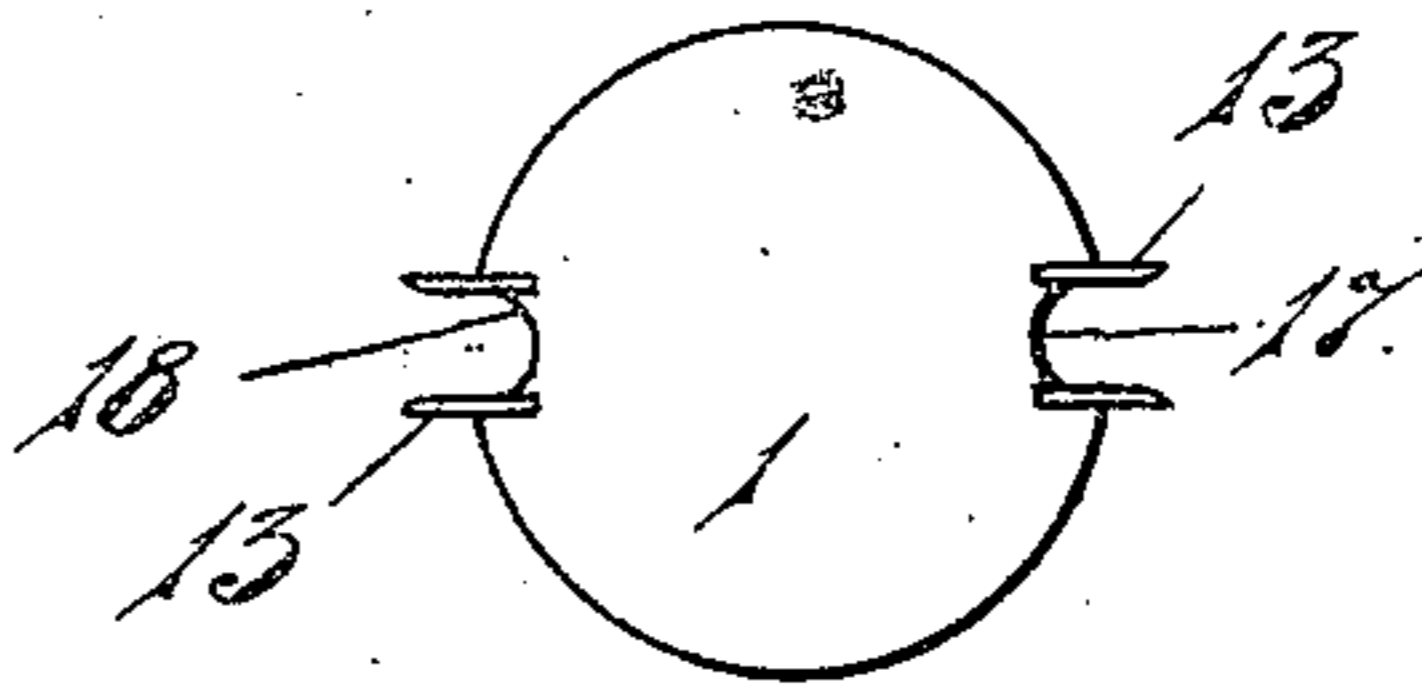


Fig. 3.

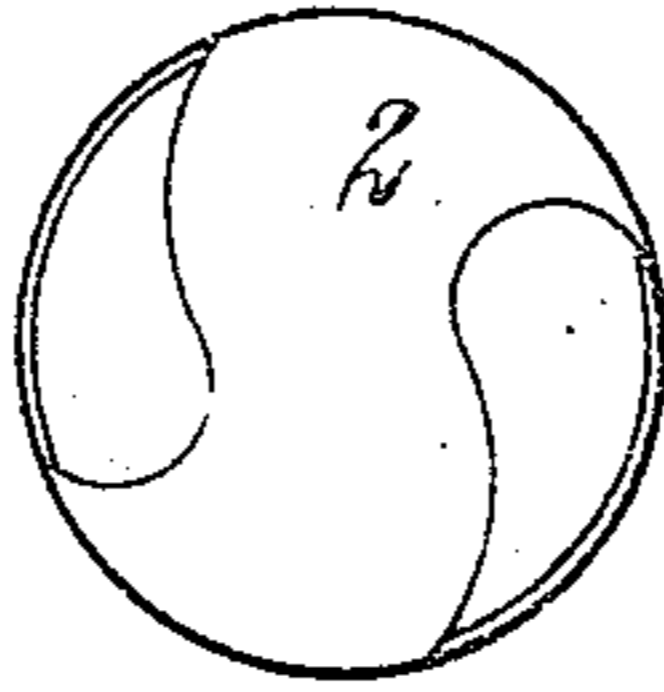


Fig. 4.

WITNESSES

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UNITED STATES PATENT OFFICE.

ALBERT OLESON, OF TOLEDO, OHIO, ASSIGNOR TO THE RUEDY BUSHING COMPANY, A CORPORATION OF OHIO.

BORING-TOOL.

No. 855,411.

Specification of Letters Patent.

Patented May 28, 1907.

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To all whom it may concern:

Be it known that I, ALBERT OLESON, a citizen of the United States, residing at Toledo, county of Lucas, State of Ohio, have invented a certain new and useful Improvement in Boring-Tools; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to boring tools; it has for its object an improved boring tool intended to be used for the purpose of simultaneously boring the round hole in which the body part of a bung is inserted, and forming grooves in the side of the hole for the reception of lugs on the bung.

In the drawings:—Figure 1, is the tool shown partly in section and partly in elevation. Fig. 2, shows the shape of the hole produced. Fig. 3 is a cross-section of the stationary part of the tool taken through the knives 13. Fig. 4, is a plan view of the bit, taken just at the turn from the conical to the cylindrical part.

1 indicates that part of the tool which may be considered as a stationary part, a part which is held from revolving when the bit 2 is turned by any suitable force. The bit 2, is of the character known as a counter-sink bit with a peculiar formation of the chip-passages; this bit is at the end of a shank 3, which passes through the stationary part 1. The body or main part of the stationary part 1 is cylindrical and of the same diameter as the diameter of the bit 2, at its largest diameter, so that the body 1, will pass into the hole bored by the bit 2. At the upper end of the stationary part 1, is a collar 4, through which are two passages parallel with the axis of the shank 3, and through these passages engage the shanks of small bits 5 and 6, that are provided on the upper end, (the end above the collar 4), with pinions 7 and 8; above the pinions is a yoke 9 perforated for the passage of the shank 3. This yoke furnishes bearings for the ends of the small bit spindles.

A hollow cup gear with an annular race 10 engages over the pinions, the race engaging with the pinions; this hollow cup gear is

mounted upon the shank 3, to which it is keyed by key 11, held in place by set-screw 12.

At each side of the small bits 5 and 6, inserted in the main or stationary part 1, is a knife 13. There are four of these knives, one on each side of the bits 5 and 6; these serve to cut from the wood the feather left between the hole bored by the bit 2, and the holes bored by the bits 5 and 6. The bits 5 and 6 are preferably partially embedded in grooves 17 and 18, in the stationary part 1 of the tool.

The groove of the boring part of the bit 2 is spiral with constantly increasing depth and width of groove from the point to the extreme top of the bit. At the junction of the conical part with the cylindrical part of the boring head, there is formed a lip 19 with a sharp cutting edge; which sharp cutting edge is continued from this place to the extreme point of the tool, but is particularly prominent and particularly sharp, just at the union of the cylindrical and the conical portions of the surface of the bit.

The sharp cutting edge 19 serves to finish the hole when the tool passes through, and the hole has its finishing cut given to it with a smooth even edge, entirely without slivers or splinters.

The large bit 2 completes its work before the small bits are brought into action.

The entire tool will revolve together unless the stationary part is held by a handle inserted in the hole 20; the shape of the hole cut by the tool is shown in Fig. 2.

What I claim is:—

1. In a boring tool, the combination of an inclosing casing, a revolving main bit there-within, the lower portion of said casing being of the same diameter as that part of the main bit immediately external thereto, a pair of auxiliary bits one on each side of said main bit, projecting knives fixed to said casing on each side of each of said auxiliary bits, and intermeshing gear wheels carried by said main bit and said auxiliary bits within said casing whereby upon the rotation of said main bit said auxiliary bits are caused to rotate in the same direction, substantially as described.

2. In a boring tool, in combination with the boring head, a stationary body adapted to follow the head into the hole made there-

by auxiliary bits partially embedded in said body and adapted to bore holes adjacent to and communicating with the main hole there being on each side of each bit projecting sharpened portions of said body adapted to engage against and cut away portions of the wood adjacent to the holes being bored, substantially as described.

3. In a boring tool, in combination with a body portion adapted to be held from rotation, said body portion having a plurality of longitudinally extending grooves in its outer surface and projecting knives integral with said body portion on each side of each groove, a boring head journaled therewithin, the diameter of said boring head immediately external to said body portion being the same as that of the adjacent portion of said body, auxiliary boring members located within said grooves and journaled within said body portion within the peripheral cutting plane of said boring head, and interconnecting means between said boring head and said auxiliary boring members whereby upon the rotation of said boring head said members are also caused to rotate in the same direction, substantially as described.

4. In a boring tool, in combination with a stationary body portion, a plurality of auxiliary bits journaled therein, knife pieces projecting from said body portion on each side of each auxiliary bit, a main bit having in its cutting portion a tapering spiral groove of a depth and width increasing regularly from the point to the shank, the greatest diameter of said main bit being the same as that of the adjacent body portion, and interconnecting means between said auxiliary bits and said main bit whereby, when it is rotated, said auxiliary bits are also rotated in the same direction, substantially as described.

5. In a boring tool, in combination with a stationary body, a boring head journaled therein and having the portion immediately external to said body of the same diameter as

the lower portion of said body, there being in its engaging surface a tapering groove of constantly increasing width and depth and a cutting edge at one side thereof, a pair of auxiliary bits journaled in said body above its lowermost portion, adapted to intersect the hole made by said boring head when said body is forced therethrough after the completion of the cutting thereof, and interconnecting gear wheels carried by the stem portions of said boring head and of said auxiliary bits whereby the rotation of said boring head causes said bits to be actuated in the same direction, substantially as described.

6. In a boring tool, in combination with a revolving head, a stationary body, auxiliary bits partially embedded in said body, knives integral with said body lying adjacent to said bits, and a system of ratchet wheels within said head whereby when the head is revolved the auxiliary bits are also caused to revolve in the same direction, substantially as described.

7. In a boring tool, in combination with a casing, a main bit journaled therein, that portion of the bit projecting from said casing and immediately below the same being of the same diameter as the lower portion of said casing, auxiliary bits journaled in said casing in such position that their cutting planes intersect the plane of the periphery of the lower portion of said casing and of the adjacent portion of the main bit, said bits being partially protected by projecting portions of said casing on each side of each bit, and intermeshing gear wheels whereby when said main bit is revolved the auxiliary bits are actuated in the same direction, substantially as described.

In testimony whereof, I sign this specification in the presence of two witnesses.

ALBERT OLESON.

Witnesses:

CHAS. C. WILLIAMS,
WILLIAM M. SWAN.