

**No. 631,572.**

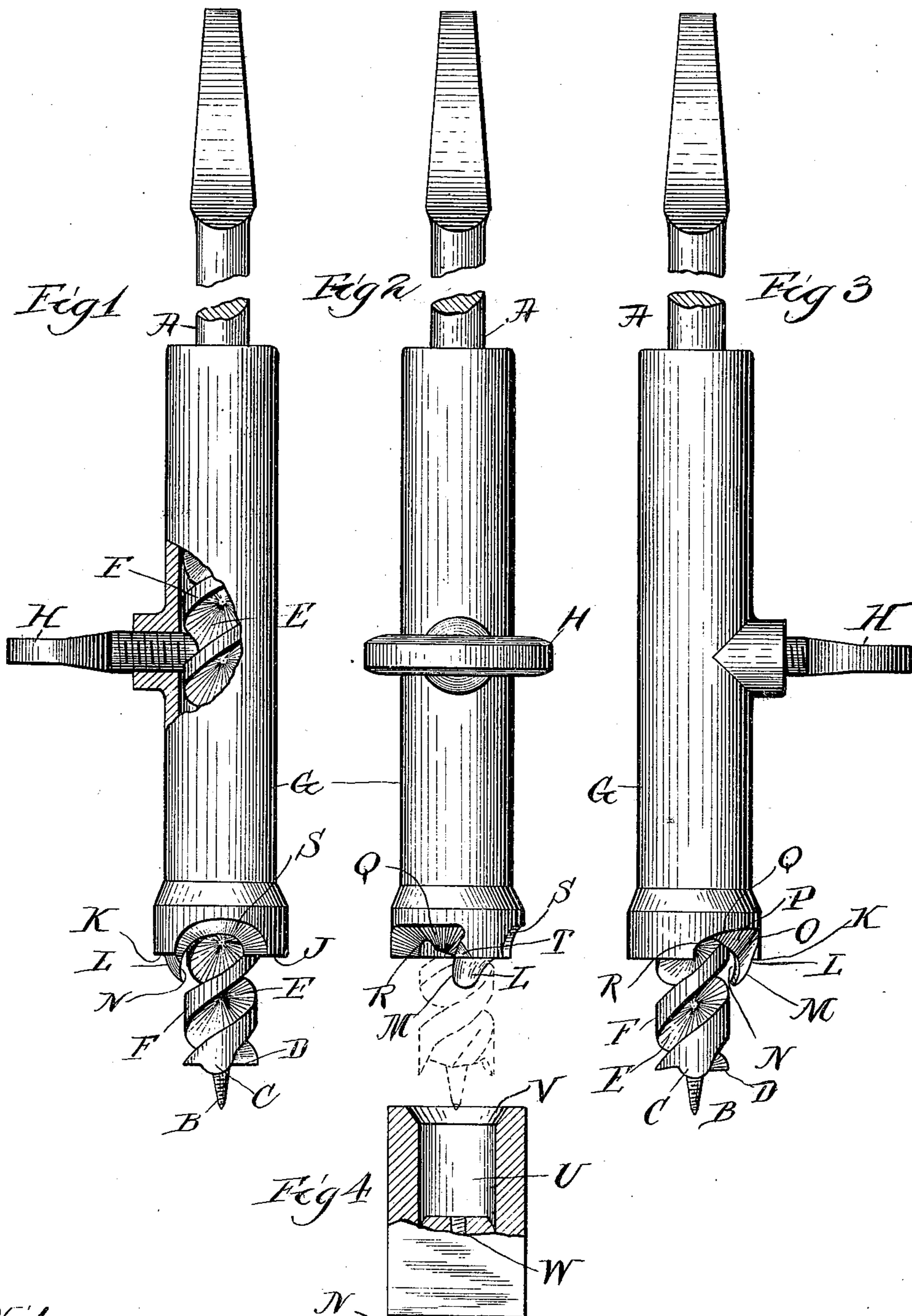
Patented Aug. 22, 1899.

**L. JUDSON.**

REAMING ATTACHMENT FOR BITS.

(Application filed Mar. 20, 1899.)

(No Model.)



# UNITED STATES PATENT OFFICE.

LOUIS JUDSON, OF CHICAGO, ILLINOIS.

## REAMING ATTACHMENT FOR BITS.

SPECIFICATION forming part of Letters Patent No. 631,572, dated August 22, 1899.

Application filed March 20, 1899. Serial No. 709,725. (No model.)

*To all whom it may concern:*

Be it known that I, LOUIS JUDSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have  
5 invented certain new and useful Improvements in Reaming Attachments for Bits, of which the following is a specification.

My invention relates to a new and improved attachment for bits used in boring circular  
10 holes in wood; and it consists of a cutting edge or blade suitably attached to or projecting from the bottom of a cylindrical tube which can be placed upon the bit and fastened in any desired position so as to determine to  
15 what depth the bit shall penetrate and to ream out or bevel off the edge of the cylindrical hole cut by the bit. It is intended mainly for use in boring holes for dowel-pins, which have heretofore been reamed out by  
20 hand by a separate operation, so as to enable the pins to enter their cooperating holes readily and without having to be in exact register therewith. By using my improved attachment I am enabled to bore the hole to any  
25 desired depth and to ream it out to the extent desired without paying any attention whatever to the work other than to operate the bit in the usual manner, as after the hole is completed and the edge reamed out no further  
30 penetration is possible no matter how much the bit is turned. The continued turning only cuts or tears out the threads formed in the material by the screw portion of the bit, so that it is not necessary to turn the bit  
35 backward, as is the case with the ordinary construction.

Referring to the sheet of drawings, in which the same letters of reference are used to designate identical parts in all views, Figure 1 is a  
40 side elevation of my attachment in place upon the bit, a portion of it being broken away and in section to show the action of the set-screw in holding it in place. Figs. 2 and 3 are similar views, but with the parts rotated through angles of ninety and one hundred  
45 and eighty degrees, respectively. Fig. 4 is a sectional view through a hole bored and finished by the attachment adjusted as shown in the preceding figures, and Fig. 5 is an in-  
50 verted plan view of the attachment.

A represents the customary bit, having the screw-point B, the vertical cutting-blades C,

the chiseling edges D, and the enlarged surface having the helical grooves E therein forming the helical ridges F thereon.

The body G of the attachment may be, as  
seen, a hollow cylinder, the bore of which is just large enough to accommodate the ridges F of the bit, and it has a set-screw H let into  
one side of it, by which it is screwed in any  
60 desired position upon the bit, the end of the screw taking into one of the grooves E and insuring that the operating parts thereof shall be in proper relation to the grooves E to permit the proper discharge of the borings. The  
65 bottom of the tool has the longer segmental surface J and the much shorter and oppositely-disposed surface K, both on the same level, and operating as stop-surfaces in the  
70 manner to be subsequently set out. Projecting downwardly and inwardly from the surface K is the blade L, the cutting edge of which is at M. The inner and outer sides of the blade may be curved, as seen in Figs. 1  
and 3, the inner curved and cut-away side,  
75 as at N, being necessary to allow the escape of the chips cut thereby.

To permit the escape of the chips cut by the edge M upwardly, I form the angular  
groove O back of the cutting edge. This  
80 groove O has its side which is non-adjacent to the cutting edge M formed by the beveled surface P, the inner edge of which rests close to the rib F and prevents the borings from possibly catching between the surface of the  
85 bit and the inside of the tube G and being forced upwardly therein, thus choking the apparatus. The notch formed by the groove O and the beveled surface P, which notch I indicate generally by the letter Q, is termi-  
90 nated by the deeper portion R, which comes into the line of movement of the chips or borings ascending in the opposite groove E and permits their ready escape without clog-  
95 ging. On the other side and in rear of the cutting-blade L is formed the rounded notch S, which has its surface beveled outwardly and upwardly, so as to form a continuation, as it were, of the other groove E to insure the discharge therefrom of the borings. To  
100 prevent the sharp point (which would be formed in the advance of the cutting edge M by the intersection of the surface K and the groove O) from catching in the borings and

stopping them, I cut this point off which would be formed, and leave the triangular surface T, one side of which forms a continuation of the cutting edge.

5 The operation of the device will be readily apparent. The attachment is placed upon the bit so that the surfaces J and K will be above the chiseled edges D a distance equal to the depth of the hole to be bored, and it is  
10 then securely fastened by the set-screw H. The bit is now used in the ordinary manner, and it operates as usual, forming the hole U in the wood until it penetrates deep enough for the blade L to contact with the edge of  
15 the hole, after which, as the bit descends, the blade L will trim out or bevel off this edge, as seen at V in Fig. 4, until the surfaces J and K come in contact with the surface of the wood, when any further penetration is  
20 stopped, and the further turning of the bit simply results in tearing out the threads W, formed at the point B, so that the bit can be more readily withdrawn without being rotated backward to release it from these  
25 threads W.

While I have shown my invention as embodied in the form which I at present consider best adapted to its purpose, it will be understood that it is capable of some modifications and that I do not desire to be limited  
30 in the terms of the following claims except as may be necessitated by the state of the art.

What I claim, and desire to secure by Letters Patent of the United States, is—

35 1. A reaming attachment for bits consisting of the body portion, and means for attaching it to the bit, with a stop-surface formed by the bottom of said body portion for limiting the penetration of the bit, and the cutting-  
40 blade L projecting inwardly and downwardly from the bottom of the body portion, substantially as described.

2. A reaming attachment for bits consisting of the body portion, and means for attaching  
45 it to the bit, with the oppositely-disposed stop-surfaces for limiting the penetration of the bit, and the cutting-blade L projecting inwardly and downwardly from one of said stop-surfaces, substantially as described.

50 3. A reaming attachment for bits consisting of the body portion, and means for attaching it to the bit, with a stop-surface for limiting the penetration of the bit, the cutting-blade L projecting inwardly and downwardly from  
55 the bottom of the body portion, and the notch Q arranged in advance of the blade L substantially as and for the purpose described.

4. A reaming attachment for bits consisting of the body portion, and means for attaching  
60 it to the bit, with the stop-surface for limiting the penetration of the bit, the cutting-blade L projecting inwardly and downwardly from the bottom of the body portion, and the notch S arranged in the rear of the blade L, sub-  
65 stantially as and for the purpose described.

5. A reaming attachment for bits consisting of the body portion, and means for attaching it to the bit, with the stop-surfaces for limiting the penetration of the bit, the cutting-blade L projecting inwardly and downwardly from  
70 the bottom of the body portion, and the notches Q and S arranged respectively in advance and in rear of the blade, substantially as and for the purpose described.

6. A reaming attachment for bits consisting  
75 of the body portion, and means for attaching it to the bit, with a stop-surface for limiting the penetration of the bit, and the cutting-blade L projecting inwardly and downwardly from the bottom of the body portion and hav-  
80 ing the curved and inwardly cut-away side at N, substantially as described.

7. A reaming attachment for bits consisting of the body portion, and means for attaching it to the bit, with a stop-surface for limiting  
85 the penetration of the bit, the cutting-blade L projecting inwardly and downwardly from the bottom of the body portion, and the notch Q arranged in advance of the blade L and composed of the groove O, the surface P, and the  
90 portion R, all substantially as shown and described.

8. A reaming attachment for bits consisting of the body portion, and means for attaching it to the bit, with a stop-surface for limiting  
95 the penetration of the bit, the cutting-blade L projecting inwardly and downwardly from the bottom of the body portion, the notch S arranged behind the blade L, and the notch Q arranged in advance of the blade L and com-  
100 posed of the groove O, the surface P and the portion R, all substantially as shown and described.

9. A reaming attachment for bits consisting of the body portion, and means for attaching  
105 it to the bit, with the oppositely-disposed stop-surfaces for limiting the penetration of the bit, the cutting-blade L projecting inwardly and downwardly from one of said stop-surfaces, the notch S arranged behind the cutting-  
110 blade, and the notch Q arranged in advance of the blade and composed of the groove O, the surface P and the portion R, all cooperating substantially as and for the purpose described.  
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10. A reaming attachment for bits consisting of the body portion, and means for attaching it to the bit, with the oppositely-disposed stop-surfaces for limiting the penetration of  
120 the bit, and the cutting-blade L projecting inwardly and downwardly from one of said stop-surfaces, one of said stop-surfaces having the flattened portion T adjacent to the blade, substantially as and for the purpose described.

In witness whereof I have affixed my signature this 18th day of March, 1899.  
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LOUIS JUDSON.

Witnesses:

LOUISE SERAGE,

ALLAN A. MURRAY.