C. SWANBERG.

DRILL ATTACHMENT.

APPLICATION FILED SEPT. 5, 1914.

1,138,423. Patented May 4, 1915.

FIG. 1.

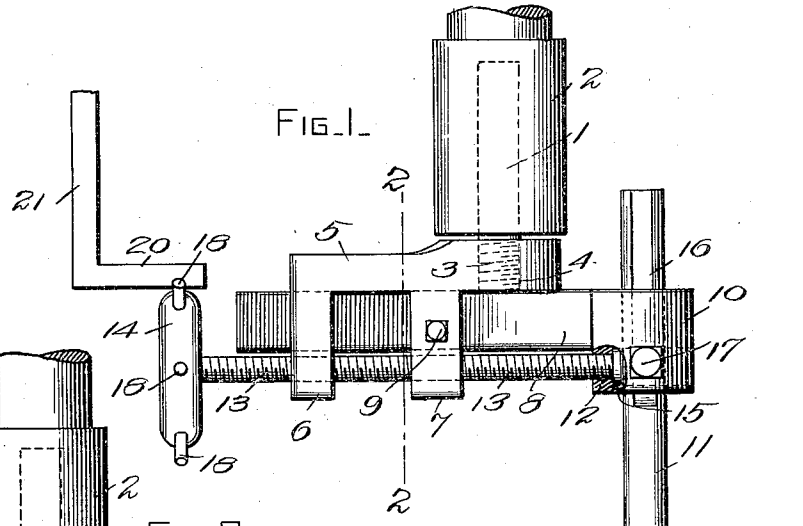


FIG. 2.

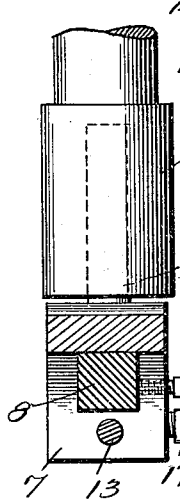


FIG. 3.

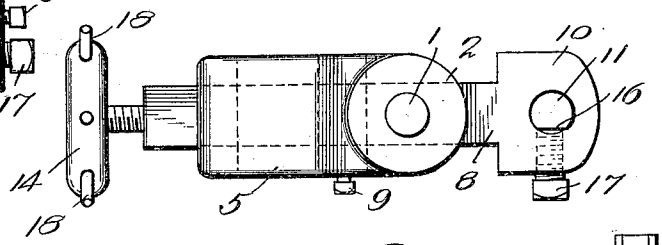


FIG. 4.

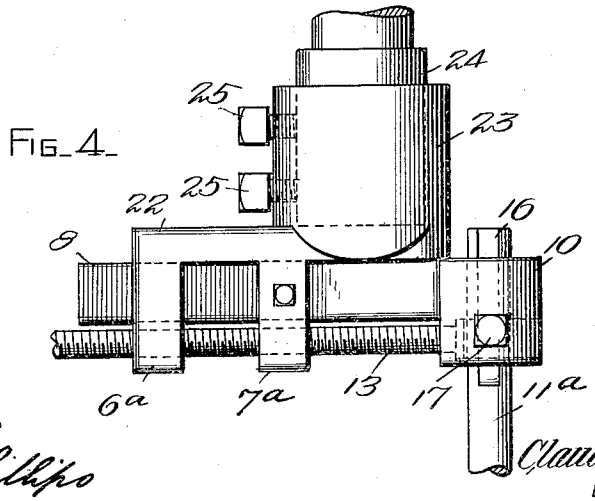
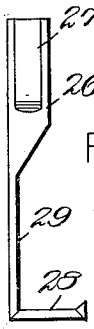


FIG. 5.



WITNESSES

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DRILL ATTACHMENT.

1,138,423. Specification of Letters Patent. Patented May 4, 1915.

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To all whom it may concern:

Be it known that I, CLAUD SWANBERG, a citizen of the United States, and a resident of Cadillac, in the county of Wexford and State of Michigan, have invented a new and useful Improvement in Drill Attachments, of which the following is a specification.

My invention is an improvement in drill attachments, and has for its object to provide an attachment for use with hand or power drills for converting the drill into a planer designed to operate upon disks, pulleys, mandrels, and like circular or cylindrical bodies, wherein a support is provided having means for engaging the drill stem to constrain the support to rotate therewith, and a holding bar mounted for movement on the support radially with respect to the drill stem, and provided with means for supporting a bit or tool for revolution about the axis of the stem, together with mechanism operated by the revolution of the bit or tool for feeding the bit or tool.

In the drawings:—Figure 1 is a side view of the improved attachment, Fig. 2 is a section on the line 2—2 of Fig. 1, Fig. 3 is a top plan view, Fig. 4 is a side view of a modified construction, and Fig. 5 is a side view of a bit for use with wood.

The embodiment of the invention shown in Figs. 1 to 3, comprises a stem 1, which may be of a size to fit any size of drill chuck, designated at 2, and the lower end of the stem is threaded as indicated at 3 to engage a threaded opening in the main body 5 of the attachment. This said body is provided with a pair of depending arms 6 and 7, respectively, and the said arms are slotted, the slots being in register to receive the bar 8, the said bar being square in cross section and mounted to slide in the arms 6 and 7 transversely of the stem 1.

The bar 8 is held in adjusted position by means of a set screw 9, the said set screw being threaded through the arm 7 into engagement with the bar as shown. The bar 8 is provided at one end with a vertical sleeve 10 for receiving the bit 11, and the said sleeve depends below the lower face of the bar. Below the bar the sleeve is provided with a radial opening 12, and the inner end of the opening is enlarged annularly.

A threaded rod 13 is provided at one end with a hand wheel 14 and at the other end with a head 15, and that end of the rod adjacent to the sleeve is received within the radial opening 12 and the head 15 engages the enlargement of the opening 12 to permit the rod to rotate freely with respect to the sleeve but to prevent longitudinal movement of the rod relative to the sleeve.

The rod is supported by the arms 6 and 7, the said arms having openings through which the rod is passed, and the engagement of the rod with the arms is a threaded engagement so that when the rod is rotating it will move longitudinally with respect to the main body 5 of the attachment.

The bit 11 is provided with a flattened portion 16 on one face, and a set screw 17 is threaded through a radial opening in the sleeve into engagement with the bit to hold the same in adjusted position. It will be noted that the hand wheel 14 is provided with a series of radial pins or extensions 18 for engagement by the angular portion 20 of a catch 21. The catch is so arranged that once during each complete rotation of the chuck 2, the catch will engage one of the pins 18 of the hand wheel, and will impart a partial rotation to the threaded rod 13 to advance the bit.

With the use of the improved attachment, a hand or power drill of ordinary form may be converted into a machine for operating on circular or cylindrical bodies either inside or outside of the same. Thus bodies of this character, such as disks, pulleys, mandrels, or the like, may be planed or cut down or grooves may be cut in the same, or they may be turned off or trued up.

It will be evident that when the stem 1 is rotated by the rotation of the chuck, the bit 11 will cut any circle, the said bit revolving about the axis of the stem 1. At each complete rotation of the stem 1, the bit will be advanced, the pins or extensions 18 of the hand wheel engaging the angular portions 20 of the catch to partially rotate the rod 13 to move the bit radially outward or inward, as the case may be.

In Fig. 4 a modified form is shown, the attachment being designed for the chuck. In this construction the body 22 of the attachment is provided with a socket 23 at one end, for receiving the stem 24 of the bit. Set screws 25 are threaded through the socket into engagement with the stem to hold the attachment in place. The body 22 is provided with depending arms 6^a and 7^a, corresponding to the arms 6 and 7 of the

construction of Fig. 1, and the bar 8 and the threaded rod 13 are supported in the arms 6 and 7 in the same manner as with the main body 5 of Fig. 1. The bit 11ª is held in the socket 10 in the same manner as before mentioned, the bit having the flattened portion 16 for engagement by the set screw 17. The construction is otherwise precisely the same as that shown in Fig. 1.

In Fig. 5 is shown a tool for use with wood. This tool has a shaft 26, provided with a flattened portion 27 for engagement by the set screw, and the shank is provided with a cutting bit 28, connected to the shank by an integral arm 29. The bit 28 will cut grooves or the like, and the bit operates in precisely the same manner as the bit 11, the only difference being that the tool just described is designed for cutting wood instead of metal.

I claim:

1. An attachment for use with hand or power operated drills, for connecting a tool to the chuck of the drill eccentrically and comprising a body having at one end means for engaging the stem of the drill to connect the body with the stem and with the body extending radially from the stem, the body having spaced depending arms provided with registering openings, a bar mounted to slide in the openings radially of the stem, said bar having at the end adjacent to the engaging means of the body a holding sleeve for the tool, and having means for clamping the tool in the sleeve, a feed screw having a threaded engagement with the arms below the bar and having a rotatable connection with the holding sleeve, a hand wheel at the opposite end of the feed screw, said hand wheel having radial pins or extensions for engagement by a catch to partially rotate the screw at each complete rotation of the stem, and means for clamping the bar from longitudinal movement.

2. An attachment for use with hand or power operated drills, for connecting a tool to the chuck of the drill eccentrically, and comprising a body having at one end means for engaging the stem of the drill to connect the body with the stem, and with the body extending radially from the stem, the body having spaced depending arms provided with registering openings, a bar mounted to slide in the openings and provided at one end with a holding sleeve for the tool, and having means for clamping the tool in place, feeding mechanism in connection with the bar, and the main body, and means for operating the said feeding means to advance the tool at each complete rotation of the stem.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."