

(No Model.)

S. BOWMAN.
BORING TOOL.

No. 505,746.

Patented Sept. 26, 1893.

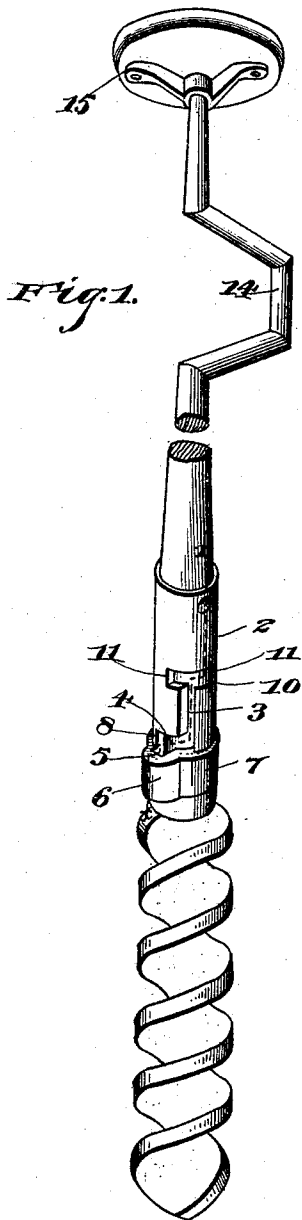
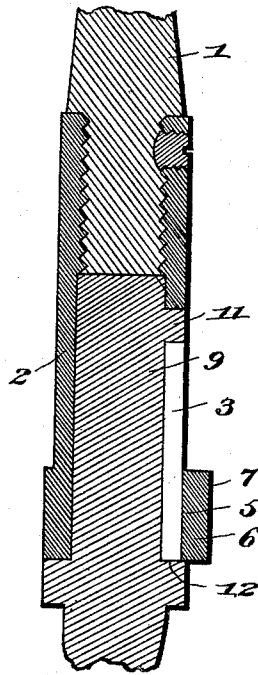
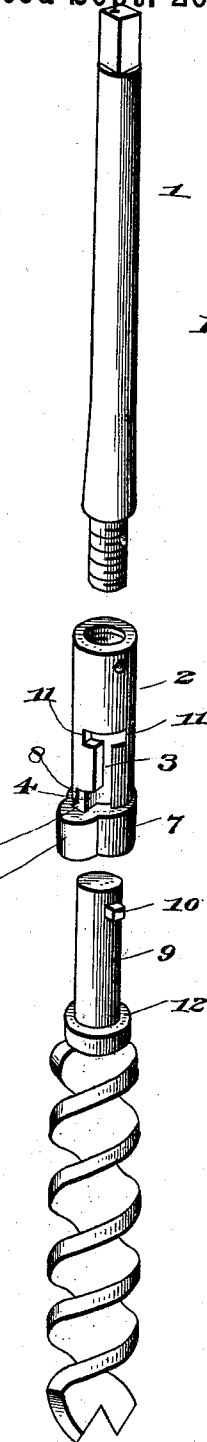


Fig. 2.



1

Fig. 3.



Witnesses

B. S. Ober,
Chas. S. Hoyer

By his Attorneys,

Chas. Bowman,

Inventor

UNITED STATES PATENT OFFICE.

STASE BOWMAN, OF BLOOMINGTON, PENNSYLVANIA.

BORING-TOOL.

SPECIFICATION forming part of Letters Patent No. 505,746, dated September 26, 1893.

Application filed May 31, 1893. Serial No. 476,134. (No model.)

To all whom it may concern:

Be it known that I, STASE BOWMAN, a citizen of the United States, residing at Bloomington, in the county of Clearfield and State of Pennsylvania, have invented a new and useful Boring-Tool, of which the following is a specification.

This invention relates to boring tools, and has for its object to so construct mining augers, drills, or other analogous devices by means of which the bits may be readily detached or attached for the purpose of exchanging the same for others without the necessity of entirely dispensing with the whole tool or of injuring the bit points, and without disconnecting a stock from mechanism for operating the same, or misplacing it from a boring position in order to exchange or substitute another bit.

With these and other objects in view the invention consists of the construction and arrangement of the parts as will be hereinafter more fully described and claimed.

In the drawings—Figure 1 is a perspective view of a stock showing a bit or auger applied thereto and embodying the invention. Fig. 2 is a partial longitudinal section. Fig. 3 is a detail perspective view of the two parts of the device disconnected from each other.

Like numerals of reference indicate corresponding parts in all the figures of the drawings.

Referring to the drawings, the numeral 1 designates a stock having an upper squared end arranged to be engaged by a suitable crank or other turning mechanism, and at the lower end has attached thereto by any suitable means a tubular sleeve or head 2, in which is formed a T-slot 3 having an L-branch 4 extending transversely from the bottom of the vertical member of the said T-slot and the termination thereof aligns with an inside vertical throat or recess 5 that extends through a protuberance or bulge 6 of a lower collar 7. The upper edge of the collar 7 forms a partial lower wall for the L-branch 4, and the sleeve in which the said branch is formed provides a stop shoulder 8 at the termination of said branch that is in line with the throat or recess 5, and by which means a direct entrance is had with the said branch. It will be observed that the vertical part of the T-

slot is considerably out of alignment with the throat or recess 5, and before entrance can be made into said vertical part of the T-slot, it is necessary to rotate the engaging part through the L-branch until the base of said vertical members of the T-slot is reached, and then moved up through the latter into the horizontal part of the said T-slot.

The bit or tool has its shank 9 formed with an angular lug 10 that is of such size as to pass through the throat or recess 5, the L-branch 4 and the T-slot 3 and in connecting the said shank 9 with the sleeve 2 the end thereof is inserted in the said sleeve in such manner as to bring the lug 10 in line with the bottom of the throat or recess 5, when the said shank may be moved upwardly into the sleeve until the uppermost wall of the L-branch 4 is reached. The tool and its shank are then revolved to carry or rotate the lug 10 through the length of the L-branch 4, and until it reaches the base or lower termination of the vertical member of the T-slot 3 when said lug may be moved upwardly through said vertical member and into the horizontal member of said T-slot, and turned either right or left to engage either one of two locking shoulders 11 to hold the shank firmly in the sleeve and the tool in locked position with the stock. The shank 9 is formed with a lower circumferential shoulder 12 that has its engaging surface at such a distance from the lug 10, that when the latter is in position in the horizontal part of the T-slot, the lower side or edge of the sleeve or collar 7 will bear firmly against the said engaging edge of the shoulder 12, and thereby prevent play of the shank in the sleeve 2 and assist in holding the parts in connected position.

If the shank of the tool should happen to become loosened and slip down through the sleeve, carrying the lug 10 from the vertical member of the T-slot, a disconnection could not be made or result because the said lug would strike the exposed part of the collar 7 at the bottom of the vertical member of the T-slot, which is at a distance from the throat or recess 5, and thereby a separation of the parts could not readily result.

It will be understood that the improved construction herein set forth is especially intended for use with mining augers or drills,

as the advantage of changing in a moment a soft coal auger to an auger for boring rock, by simply substituting one bit for another will be readily apparent. It will also be understood that other forms of bits may be had at hand, and could be readily exchanged for one already in use, and other advantages and conveniences will appear from time to time to those using the improved device.

Changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

The drill is provided with a crank handle 14 and a breast plate 15; and the crank portion may be constructed integral with the stop or formed separate therefrom.

Having described the invention, what is claimed as new is—

In a device of the character set forth, the combination of a stock having a lower sleeve

with a T-slot therein provided with an L-branch at the lower termination of the same, the latter having its termination aligning with an inside throat or recess formed in a protuberance or bulge in a lower collar that is located to one side of the vertical part of the T-slot, and a tool having a shank with an angular lug thereon and a circumferential shoulder, said lug being arranged to pass through said throat or recess, L-branch, and T-slot and engage the horizontal member of the latter and bring the circumferential shoulder of the shank against the lower edge of the collar, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

STASE BOWMAN.

Witnesses:

WITMER BROOME,
DANIEL FAUST.