



# UNITED STATES PATENT OFFICE.

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## COMBINED GAGE AND STOP FOR BORING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 587,993, dated August 10, 1897.

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*To all whom it may concern:*

Be it known that I, HARRY W. McCORMICK, residing at Centralia, in the county of Lewis and State of Washington, have invented a new and Improved Combined Gage and Stop for Boring-Machines, of which the following is a specification.

My invention is in the nature of an improved linear-gage and stop device for boring-machines; and, primarily, it has for its object to provide a stop mechanism of this character of a very simple and inexpensive nature which will automatically and positively serve for its intended purposes.

My invention also seeks to provide an automatic stop device which will gage all linear lengths to which the member to be bored is moved without requiring any special manipulation or adjustment of the said member as it is fed to the borer.

With other objects in view, which will hereinafter be referred to, my invention consists in the peculiar combination and novel arrangement of parts, such as will be first described in detail, and then be specifically pointed out in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1 is a front elevation of a boring-machine with my improvements applied. Fig. 2 is a transverse section of the same, taken on line 2 2 of Fig. 1. Fig. 3 is an enlarged sectional view of one of the stops, and Fig. 4 is a perspective view thereof.

In the drawings, in which like numerals indicate like parts in all the figures, 1 indicates the main frame of the boring-machine, 2 the table, 3 the auger, and 4 the auger-operating mechanism, all of which may be of any approved construction, they forming, *per se*, no part of this invention.

The bed of the table 2 is slotted longitudinally, as at 5, which slot is closed at the bottom by a cross-plate 6, which extends the full length of the table-bottom and forms an abutment, for a purpose presently explained.

One of the special purposes for which my invention is employed is the proper gaging of the cross-arms for telegraph-poles, so as to provide for a quick and accurate movement thereof toward the auger.

In Fig. 1 I have shown my improvement as especially set for such work, by reference to which it will be seen that a number of stops 7 are pivotally held in the slotway of the bed 4, spaced equidistantly apart. Each of the stops consists of a metal body having its pivot 3 at such a point as to cause its rear end to normally swing down by gravity and its upper end to project above the table-top and inclined forward—*i. e.*, in the direction of the auger. These stops have their front ends cut at an obtuse angle, as at 8, and their lower ends at an acute angle 9, such lower end being in practice of such length that its angle portion 9 will engage the cross-plate 6 and seat solid thereon, while the upper end has its angle portion projected at right angles to the table-bed, whereby to form a solid back-stop for the cross-arm 10, as clearly shown in Fig. 1, it being obvious that by providing an abutment for the lower end of the stop the said upper end will be limited in its back or upward movement and held as a positive back-stop.

By referring to Fig. 2 it will be noticed the stops are held centrally of the table and in line with the auger, the object of which is to render the operation of such stops positive, irrespective of the width of the cross-bar, it being manifest that such arrangement of stops require no special adjustment or manipulation of the cross-arm to adapt them for a proper operation, the said cross being placed on the table in the same manner as is now done in machines of this kind not having my improvements applied.

In practice the table may have a greater number of transverse apertures 11 than there are stops to receive the pivot-pins 12, which can be adjusted in any of the said apertures to gage the cross-bars as desired.

From the foregoing it will be readily seen that as the cross-bar is moved toward the boring-auger and it passes one of the stops a slight backward movement will bring it against the stop, such operation providing for gaging the linear lengths between the holes in the said cross-bar.

The special advantage of arranging the stops as described is that they can be economically attached to the ordinary boring-machine and

will be positive and automatic in their action without requiring any special attention of the operator.

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

1. In an improved stop and gage mechanism for boring-machines the combination, with the boring mechanism, of a feed-table having a longitudinal slot and a fixed abutment at the bottom thereof, of a series of gravity-stops pivotally held in the said slot with their lower end normally engaging the abutment, and their upper end projected above the table as specified.

2. The combination with the auger and the operating mechanism therefor, and the table,

said table having a central longitudinal slot in line with the auger, and a fixed abutment at the bottom thereof, of the stops 7 adjustably and pivotally held in the said slot to swing normally to an inclined position by gravity, said stops having their lower end provided with an obtuse-angle portion 8 and the upper end with an acute-angle portion 9, said portion 8 engaging the abutment and the portion 9 forming a vertical back-stop substantially as shown and for the purposes described.

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Witnesses:

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