

951,972.

G. W. M. SMITH & F. F. BRAUN.
BEST GAGE FOR CUTTERS.
APPLICATION FILED MAY 24, 1909.

Patented Mar. 15, 1910.

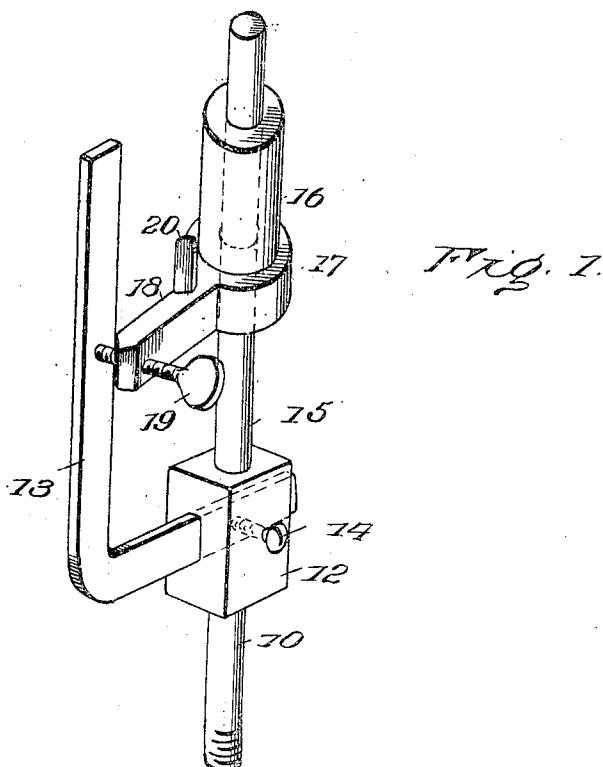
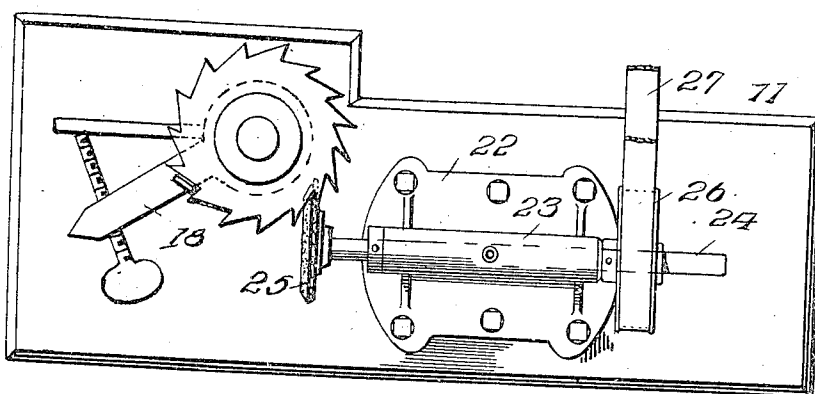


Fig. 2.



Witnesses
W. H. Hoadley,
Juana M. Fallon,

G. W. M. Smith Inventors
F. F. Braun

By

H. A. Macy, Attorneys.

UNITED STATES PATENT OFFICE.

GEORGE W. M. SMITH AND FERDINAND F. BRAUN, OF CAPE GIRARDEAU, MISSOURI.

REST-GAGE FOR CUTTERS.

951,972.

Specification of Letters Patent.

Patented Mar. 15, 1910.

Application filed May 24, 1909. Serial No. 497,851.

To all whom it may concern:

Be it known that we, GEORGE W. M. SMITH and FERDINAND F. BRAUN, citizens of the United States, both residing at Cape Girardeau, in the county of Cape Girardeau and State of Missouri, have invented certain new and useful Improvements in Rest-Gages for Cutters, of which the following is a specification.

This invention relates to grinding machines and refers particularly to a rest for supporting the object which is to be ground.

An object of this invention is to provide a novel rest which is adaptable for rotary cutters of all characters and which is provided with a gage whereby the depth of the cut is regulated and maintained uniform throughout the teeth of the same.

The invention has for another object the provision of means in connection with a rest whereby the rotary cutter is held from movement relative to the rest and which is permitted to rotate as the throats of the teeth are ground and which stops the feeding of the cutter against the grinder when a predetermined depth of cut is reached.

For a full understanding of the invention reference is to be had to the following description and accompanying drawing, in which:—

Figure 1 is a perspective view of the improved rest and gage, and Fig. 2 is a top plan view of the same as applied to an emery grinding machine.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawing by the same reference characters.

Referring to the drawing the numeral 10 designates a shank which is threaded at its lower extremity and which is engaged in the upper face of a suitable stand or table 11 of the machine which supports the grinding mechanism. The upper end of the shank 10 is provided with a head 12 which is transversely apertured centrally thereof for the reception of a gage 13 which comprises an arm of L-formation having one end of the same engaged through the aperture formed in the head 12 and retained in such position by the provision of a set-screw 14 which extends inwardly through the head 12. The opposite arm of the gage 13 extends upwardly in a substantially vertical position above the head 12. Upwardly extended from the head 12 is a spindle 15 upon which is

disposed in slidable relation thereto a sleeve 16 which is provided at its lower extremity with a flange 17 from which an arm 18 is laterally extended. The arm 18 is provided at its outer extremity with a thumb-screw 19 which is adjustably engaged therethrough by reason of its threaded engagement therewith and is abutted at its outer end against the gage 13, to limit the swinging movement of the arm 18. Upwardly projected from the arm 18 at an intermediate point thereof is a lug 20 which is flattened and which is positioned in a tangential plane to the sleeve 16 and is employed for the purpose of engaging within the throats of the teeth of a cutter 21 which is engaged over the sleeve 16.

The table 11 is provided with a suitable standard 22 which is intermediately mounted thereon and is provided at its upper end with a journal 23 through which is mounted a shaft 24 which carries upon one extremity an emery wheel 25 and at its opposite extremity a pulley 26 for the purpose of imparting rotation to the shaft 24 and emery wheel 25 through the medium of a belt 27 engaged over the pulley 26. The improved rest and gage is positioned adjacent the emery wheel 25 so as to dispose the teeth of the cutter 21 in engagement with the emery wheel 25 at the angle desired.

In operation the cutter 21 is engaged over the sleeve 16 and so disposed thereon as to register the lug 20 within one of the throats of the teeth disposed upon the cutter to prevent the rotary movement of the cutter 21 with respect to the sleeve 16. The thumb-screw 19 is now adjusted to the desired distance from the gage 13 when one of the teeth is engaged against the emery wheel 25 so as to limit the rotary movement of the cutter 21 when the desired depth is cut from the tooth being ground. The sleeve 16, which is loosely disposed about the spindle 15 is permitted free vertical movement whereby the cutter 21 is permitted to drop upon the emery wheel 25 and to automatically adjust itself thereto according to the size of the emery wheel employed and in accordance with the wear incident to the use of the same which produces the diameter of the emery wheel. When one tooth of the cutter 21 is ground to the desired depth the cutter is disengaged from the lug 20 and moved circularly to dispose the lug 20 in the adjacent throat, whereby the next

tooth is brought into engagement with the emery wheel 25 and the same is ground until the outer end of the thumb-screw 19 abuts with the gage 13 to limit the movement of the cutter 21.

It is readily observed that from this construction a uniform grinding is produced upon each of the teeth of the cutter.

Having thus described the invention what is claimed as new is:—

1. A device as specified comprising a shank, a head mounted on said shank, a spindle upwardly extended from said head, a sleeve loosely mounted on said spindle, a flange formed about the lower end of said sleeve, an arm laterally projected from said flange, a lug upwardly extended from an intermediate point of said arm at a tangent to said sleeve, a thumb-screw engaged through the outer end of said arm and a gage upwardly extended from said head for engagement with said thumb-screw to limit the rotation of said arm.

2. A device as specified comprising a table, an emery wheel mounted on said table, a shank engaged in said table adjacent said emery wheel, a head disposed upon the upper end of said shank, a gage upwardly and laterally extended from said head, a spindle upwardly extended from said head, a sleeve loosely mounted on said spindle for supporting a cutter, an arm rearwardly extended from said sleeve, a thumb-screw carried by said arm for engagement with said gage to limit the movement of said sleeve and a flattened lug upwardly extended from an intermediate point of said arm for engagement in the throats of the cutter.

In testimony whereof we affix our signatures in presence of two witnesses.

GEORGE W. M. SMITH. [L. S.]
FERDINAND F. BRAUN.

Witnesses:

C. H. W. MEYER,
S. E. FLANERY.