No. 649,011. Patented May 8, 1900.

J. SZAFKA.

SURFACE GAGE.

(Application filed Aug. 3, 1899.)

(No Model.)

Fig. 1.

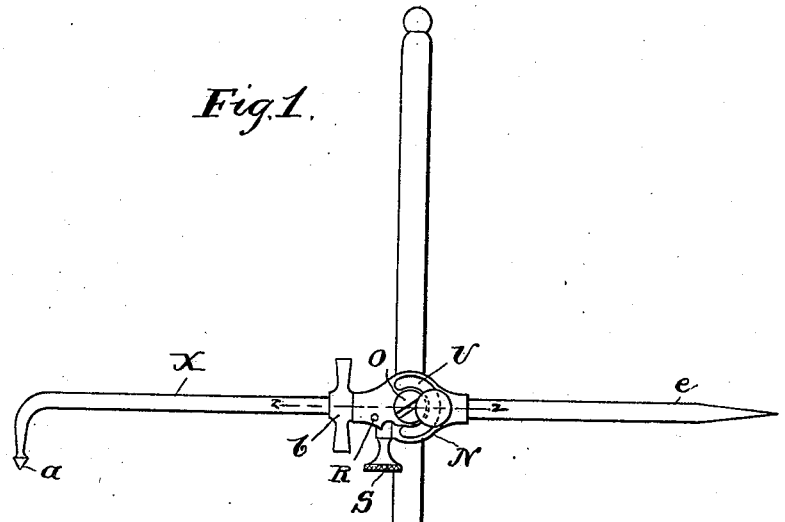


Fig. 2.

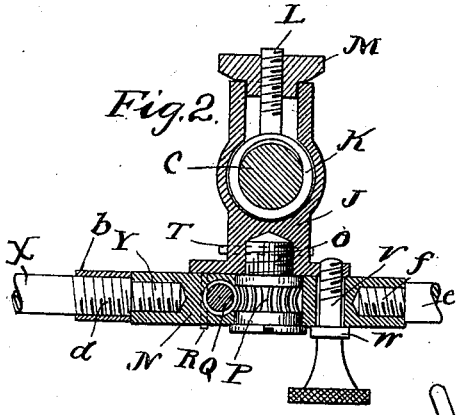
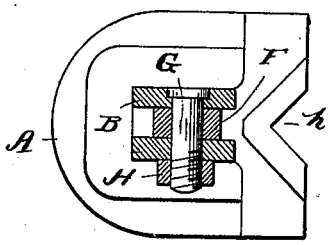
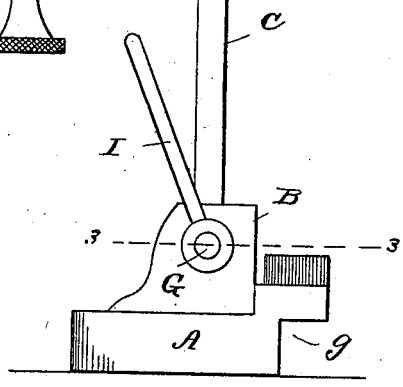


Fig. 3.





Witnesses
S. Williamson
E. A. Forsyth

Inventor
Joseph Szafka
By Geo. C. Hazelton Jr. Atty.

UNITED STATES PATENT OFFICE.

JOSEPH SZAFKA, OF PHILADELPHIA, PENNSYLVANIA.

SURFACE-GAGE.

SPECIFICATION forming part of Letters Patent No. 649,011, dated May 8, 1900.

Application filed August 3, 1899. Serial No. 726,002. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH SZAFKA, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a certain new and useful Improvement in a Combined Surface-Gage and Scribe, of which the following is a specification.

My invention relates to a new and useful improvement in combined surface-gages and scribes, and has for its object to provide an effective tool of this description which may be used for the various purposes for which such tools are used and which may be adjusted accurately to allow for the great variety of positions and thus for the accomplishment of various kinds of work.

With these ends in view this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claim.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, the construction and operation will now be described in detail, referring to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is an elevation of a tool made in accordance with my improvement; Fig. 2, a section at the line 2 2 of Fig. 1 upon a large scale, and Fig. 3 a section at the line 3 3.

In carrying out my invention as here embodied, A represents the base-block, which is adapted to support the tool upon the surface from which the measurement is to be made, and this block has formed therewith the lugs B, between which is pivoted the rod C. In order that this rod may be adjustably held between the lugs, its lower end is enlarged, as indicated at F in Fig. 3, and through this enlargement and both of the lugs passes the bolt G, the threaded end thereof having the nut H run thereon, which is manipulated by the pin I. This provides for the adjustment of the rod at any angle above the horizontal in either direction and the securement thereof in this adjustment by the binding of the nut, which will spring the lugs toward each other sufficiently to bind them against the enlargement F, as will be readily understood.

A head J is mounted upon the rod so as to slide thereon and is held in any adjustment by means of the yoke K, located within the head and through which the rod passes, this yoke having a screw L formed therewith, upon which is run the nut M. Thus when this nut is properly manipulated the screw and nut will be turned outward, thereby binding the latter tightly against the rod and holding the head against any movement. When this yoke is loosened, the head will be free to slide up and down or be turned around the axis of the rod. A swinging hub N is pivoted to the head by the screw O, and the body of this screw has formed thereon the worm-wheel P, with which meshes the worm Q, the latter being secured within the hub by means of the pin R, as will be readily understood, so as to have a revolving movement therein, but held against withdrawal. Thus it will be seen that the manipulations of the worm Q by means of the thumb-knob S will bring about a swinging movement of the hub, since the worm-wheel is prevented from turning by the screw O being secured in place by the pin T. The hub has a segmental slot U formed therein, through which a set-screw V passes, said screw being threaded into the head and provided with a shoulder W for bearing against the disk in such manner as to hold it in adjustment against lost motion, which may take place between the worm-wheel and worm.

A gage-pointer X is secured to one side of the disk by its threaded end Y being screwed into a corresponding socket, and the nose *a* of this pointer may be turned and secured in any position by means of the jam-nut *b*, which is threaded upon the pointer-rod, as indicated at *d*, the said nut having suitable projecting handles for its manipulation. To adjust this gage-pointer, the jam-nut is backed off by a slight turn when the pointer-rod has turned upon its axis to the desired position, after which the jam-nut is again secured against the disk, and will thus hold the gage-pointer in position.

e is the scriber-point, which is secured in the disk by its threaded end *f* being screwed in a corresponding socket, as clearly shown in Fig. 2.

The surface-block is adapted for use upon

the straight-edge by the cut-away portion *g* and is also adapted for use upon round work by the V-shaped opening *h*.

If desired, suitable graduations may be formed upon the disk, so as to determine the extent of the movement of said disk, and consequently the gage-pointer and scriber.

My improved tool is especially applicable for use in machine-shops and like places where large planers, millers, and like machinery are used, since it provides for the accurate measurement, surfacing, and leveling of work in the securement thereof upon such machines.

Having thus fully described my improvement, what I claim as new and useful is—

In combination with a base and rod, a head slidable on the rod, a yoke on the head through which the rod passes, a screw formed with the yoke, a nut thereon engaging the head, a hub, a worm-wheel having a threaded shank secured to the head, said worm-wheel having a head for holding the hub in place, a worm secured in the hub and meshing with the worm-wheel for rotating the hub on the worm-wheel, a set-screw passing through a segmental slot of the hub and threaded in the head and a gage-pointer and a scribe-point threaded in the hub.

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

JOSEPH SZAFKA.

Witnesses:

MARY E. HAMER,

S. S. WILLIAMSON.