Feb. 6, 1934. E. H. ALDEBORGH 1,946,432

SURFACE PLATE

Filed July 28, 1931

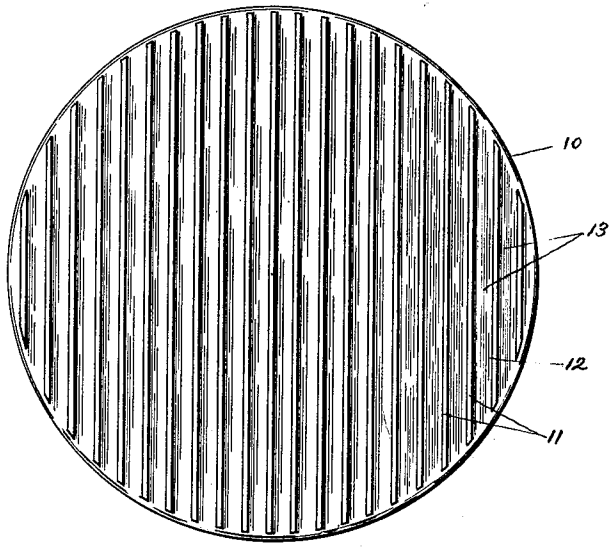


Fig 1

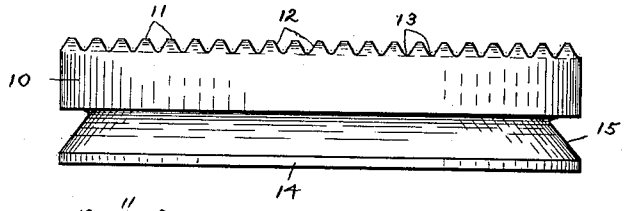


Fig 2

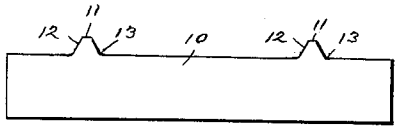


Fig 4

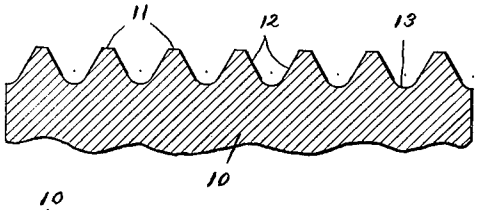


Fig 3

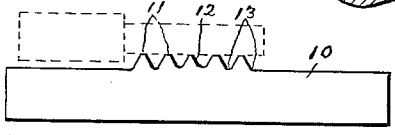


Fig 5

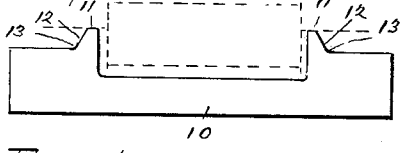


Fig 6

Inventor

Erik H. Aldeborgh.

By John J. Thompson

Attorney

Patented Feb. 6, 1934 1,946,432

UNITED STATES PATENT OFFICE

1,946,432

SURFACE PLATE

Erik H. Aldeborgh, Poughkeepsie, N. Y., assignor to Standard Gage Company, Inc., Poughkeepsie, N. Y., a corporation of New York

Application July 28, 1931. Serial No. 553,580

2 Claims. (Cl. 33—174)

This invention relates to a surface plate having an almost perfectly flat plane or surface, and the invention relates more particularly to that class of surface plates which are employed for resting the work upon in comparator gauges, etc., where a table having a perfect plane is required for accurate measuring.

In the usual type of surface plate or table now employed, a flat smooth surface is presented, which will collect dirt and dust, and which will become affected by the strains and stresses in the metal, which in time will warp the same and render it useless for accurate work, and to overcome this objection I have formed the surface with a series of parallel undulations, which have small lands, which eliminate the collection of dirt and dust and yet taken together present a large area to the work.

While an undulated table top may have been used for other purposes, I have so shaped the undulations that they not only tend to act as a support, but owing to no sharp angles being present, the danger of cracks caused by the internal strains and stresses of the metal and changes in temperature are reduced to a minimum, and this construction I believe to be new in the art, and to provide a surface plate that will retain its shape and be of longer life than those having the usual type of undulations.

It has been the practice in forming undulations, to form the bottom of the groove with a sharp V, and as is well known any sharp corner in a hardened piece of metal will tend to create a crack as the metal changes its structure by internal strains and stresses due to changes in the temperature.

While I have here shown the face plate to be round, it is understood that the same may be of any desired shape and also that the surface may be of more than one level, and that any desired number of undulations may be employed and these may be of any desired size.

The object of the invention is to provide a surface plate having an undulatory top.

Another object is to provide a surface plate with an undulatory top, and in which the sides of the undulations are inclined at an angle and the bottoms of the grooves are rounded.

With these and other objects in view, my invention consists in certain novel construction as will be fully described and claimed, and which is fully illustrated in the accompanying drawing, in which like figures of reference refer to corresponding parts in all of the views.

In the drawing:—

Figure 1 is a top plan view of a surface plate, showing my novel construction.

Figure 2 is a side view of the same.

Figure 3 is an enlarged partial sectional view, showing the undulations in detail.

Figures 4, 5 and 6 show modified forms of the surface plate, illustrating the arrangement of the undulations to accommodate work having shoulders, such as rollers, etc.

Referring to the drawing:—

A circular surface plate 10, is shown, which is formed upon its upper surface with a series of parallel undulations, having the top lands 11 ground and lapped; the sides 12 formed at an angle to the top, and the spaces or grooves between the undulations, formed with rounded bottoms 13, thus eliminating all sharp angles and corners.

The surface plate here shown is intended for use in a circular holder, and is thus formed with the flat bottom 14 and the angular retaining groove 15, but as before stated, the surface plate may be of any desired shape and size, such as square, oblong, etc., and the undulations may be parallel or radiate, or be formed at right angles to each other, so long as their sides slope and the intersection of the sides converge into a rounded groove without corners or angles.

As shown in Figures 4, 5 and 6, the undulations may be placed apart or spaced from each other so that pieces of work having shoulders or enlarged parts may be placed on the plate and such enlarged parts will not come into contact with the gaging surfaces.

For mounting the surface plate in a holder, the lower part thereof is placed in the holder and is clamped therein by such means as a set screw through the side of the holder which engages the angular groove 15 formed in the side of the plate. The shape of this groove 15 is such that the action of the set screw tends to exert a downward pressure on the plate to retain the same rigid and level in the holder.

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

1. An adjustable and interchangeable circular surface plate for use with instruments of precision, comprising a circular body portion having an undulatory top surface, a mounting portion integral with said body portion and an encircling groove formed in said mounting portion adjacent the lower edge thereof and having an angular side.

2. A surface plate comprising a body portion having an undulatory top surface, the undulations of which have flat tops inclined sides and rounded intersections integral with the body portion, and a mounting portion integral with said body portion formed with an angular encircling groove.

ERIK H. ALDEBORGH.