C. GUITEAU.

Magnetic Needle.

No. 7,216. Patented March 26, 1850.

Fig. 1.

Fig. 2.

UNITED STATES PATENT OFFICE.

CALVIN GUITEAU, OF SYRACUSE, NEW YORK.

CORRECTING MAGNETIC NEEDLES.

Specification of Letters Patent No. 7,216, dated March 26, 1850.

To all whom it may concern:

Be it known that I, CALVIN GUITEAU, of Syracuse, in the county of Onondaga and State of New York, have invented a new and Improved Method by which I am enabled to bring the axis of a magnetic compass-needle to a position exactly parallel with the magnetic meridian, or to bring the axes of any number of magnetic needles into positions exactly parallel with each other; and I do hereby declare the following to be a full and exact description thereof, reference being had to the accompanying drawings making a part of this specification.

Figure 1, is a plan of the upper side of a magnetic needle, and Fig. 2, a plan of its under side.

It is well known that magnetic needles cannot by any previously known process, be so constructed and adjusted as to bring their axes into perfect harmony and coincidence with the magnetic axis. The grinding away of portions of a needle to correct its imperfect action, greatly deteriorates or destroys its magnetic properties.

I have discovered that by making use of a broad flat needle,—of similar form to that represented in the drawings—I can bring its axis into perfect coincidence with the magnetic axis, by removing a small portion of the needle as at C′ by filing or grinding. I prefer to make on its upper or under surface, with a sharp instrument or file, a series of narrow channels or grooves or stricæ as at *c*, running parallel with the edges of the needle until they approach its extremities, and then curving laterally to the right near one end of the needle, and to the left at its opposite end—or vice versa—until they (the channels) cut the edges of the needles:—as represented in Fig. 2; but merely cutting, filing or grinding away portions will answer the purpose.

When the compass is placed on the meridian line and the needle is found to fall to the right of it, channels (*c*, *c*,) must be formed on the upper or under surface of the needle curving to the left as they approach its N. end, and to the right as they approach its S. end; and vice versa, when the needle falls to the left of the meridian. By forming a sufficient number of these channels, the axis of a nagnetic compass needle can be brought into perfect coincidence with the magnetic meridian; and any number of needles can be brought into perfect harmony with each other.

In the accompanying drawings *a*, is the cap secured to the center of the needle, *b*, is the axis line on its upper surface, and *c*, *c*, are the channels for correcting its imperfection.

What I claim as my invention and desire to secure by Letters Patent, is—

The method herein described of producing perfect harmony and coincidence between the axis of a magnetic needle and the magnetic axis; and also of producing perfect harmony between any number of magnetic needles: To wit; removing portions from the needle whether by the formation of channels upon the upper or lower surface of the needles, of the form and in the position substantially as herein set forth, or merely by grinding or filing or cutting away as above set forth.

The above specification of my invention signed and witnessed this 24th day of August, 1849.

CALVIN GUITEAU.

Witnesses:

JULIA A. GUITEAU,

HELEN L. GUITEAU.