October 25, 1913.

DRAWING

2,426

A careful search has been made this day for the original drawing or a photolithographic copy of the same, for the purpose of reproducing the said drawing to form a part of this book, but at this time nothing can be found from which a reproduction can be made.

Finis D. Morris,

Chief of Division E.

AWK

UNITED STATES PATENT OFFICE.

ROBERT PIGGOT, OF ELK RIDGE LANDING, MARYLAND.

APPARATUS FOR TEACHING GEOGRAPHY AND ASTROGRAPHY.

Specification of Letters Patent No. 2,426, dated January 17, 1842.

To all whom it may concern:

Be it known that I, ROBERT PIGGOT, of Elk Ridge Landing, in Anne Arundel county, in the State of Maryland, minister of the Gospel, have invented certain Improvements in Apparatus for Teaching Geography and Astrography; and I do hereby declare that the following is a full and exact description thereof.

This improved apparatus consists principally of spheres, of hemispheres, or other portions of spheres, and of plain surfaces, which are to have drawn, cut, or indented, upon them lines representing meridians, parallels of latitude, and any of the greater, or the lesser circles usually depicted, or delineated, upon celestial and terrestrial globes, maps, and charts; said spheres, or plane surfaces, being also covered, by means of a dark-colored paint, varnish, or other adhesive substance, with any fine, earthy powder which shall give to them the properties of artificial slates, so that by means of white crayons, or other suitable substances, lines and figures may be readily drawn upon them, and readily erased; or such surfaces may be prepared and finished of a light color, so that they may be drawn upon by a lead pencil, and the pencil lines erased by india rubber.

In the accompanying drawing, Figure 1, is a representation of the kind of sphere which I employ both for geographical and astrographical delineations.

A, A, is a hollow globe, of a fourth of an inch in thickness, more or less, and which may be made of wood, paper, or other light material; this globe I construct so that it may be separated at the equator, or in any great circle, being, when the two parts are placed together, retained by means of a groove, rabbet, or other suitable device; and having grooved indentations on its outer surface, corresponding with the greater and the lesser circles usually delineated on the terrestrial globe. When the two parts are separated, the interior will present the whole, or any desired part, of the lines ordinarily drawn on the celestial globe; such lines, both on the exterior and interior, being indented, or cut, to a sufficient depth to be visible and tangible, after the surfaces have been covered with the slate like, or other, composition. Besides the greater and lesser circles which are to be cut within the hollow, or celestial, sphere, I intend sometimes to cut in the same manner, the outlines of the whole, or of a part, of the respective constellations; but for the more advanced students it will be best to provide only the greater and lesser circles, such as those which serve to designate the celestial latitudes and longitudes; the colures; the elliptic; the equinoctial; the tropics, and the polar circles; leaving the pupil to draw the outlines of the respective constellations, as well as to mark thereon the places of the principal stars contained in them.

I use, when the terrestrial globe is the subject in hand, a stand consisting of a round piece of wood A′, having a concavity in which the globe will lie, and remain in any position in which it may be placed; or, instead of this, a stand consisting of a ring, or hoop, supported on legs may be employed. In using this sphere, the scholar is required to draw, with the crayon, the outlines of the respective continents, islands, or other divisions of the globe, in their relative positions; the exercise being the same both with the celestrial and the terrestrial sphere, the objects to be delineated being the only difference.

Fig. 2, represents a section of the hollow globe, supposed to be made through its poles. At B, B, is shown the manner in which the hemispheres may be joined together by a rabbet, or other device. The respective lines in the interior, or concave, sphere, represent some of this which are to be indented, or cut, into the surface of said interior, as permanent guides in the operations to be performed.

Besides the spheres and hemispheres indented, or cut, so as to present the lines which are to guide the pupil, and so prepared as to present a surface of artificial slate, or capable of receiving pencil lines, which may be erased, I also provide tablets of wood, or of other light material, which are to have such lines cut, or indented, upon them as are usually delineated on maps representing the whole, one half, or any portion, of the earth, or of the celestial sphere; such lines being of the kind above designated, and being projected on any of the known systems, or plans, and such tablets being prepared so as to form artificial slates, or other suitable surfaces, admitting of drawings being made upon, and of being erased from, them at pleasure. Figs. 3, 4, 5, 6, 7 and 8, represent such tablets, with

lines indented upon them, of such kind as will be found applicable to the purpose above designated; the nature and object of these will be perfectly obvious, and it will be readily seen that they may be so varied as to adapt them to the requirements of the teacher, and of the pupil.

Having thus, fully pointed out the nature of my improvements in the apparatus for teaching geography and astrography, and the manner in which the same may be formed and used, what I claim therein as new, and desire to secure by Letters Patent, is—

The forming of celestial and terrestrial spheres, or of portions thereof, and of the lines representing the projections of such spheres or of portions thereof, of wood, or of other light materials, having the lines representing the greater and the lesser circles, or the outlines of constellations, cut into such spheres, or plane surfaces, and having the whole of the surfaces of such spheres, or portions of spheres, or plain surfaces, converted into artificial slates, being so coated and prepared as that pencil lines may be drawn upon, and erased from, them, substantially in the manner, and for the purposes, herein fully made known and described.

ROBERT PIGGOT.

Witnesses:
THOS. P. JONES,
M. JONES.