J. R. Agnew,

Geographical Globe.

No. 35,498. Patented June 10, 1862.

Fig 2.

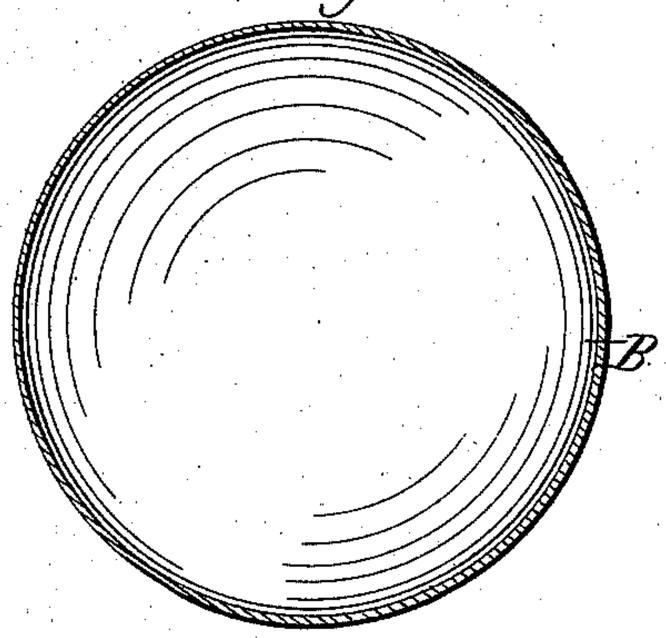


Fig 3.

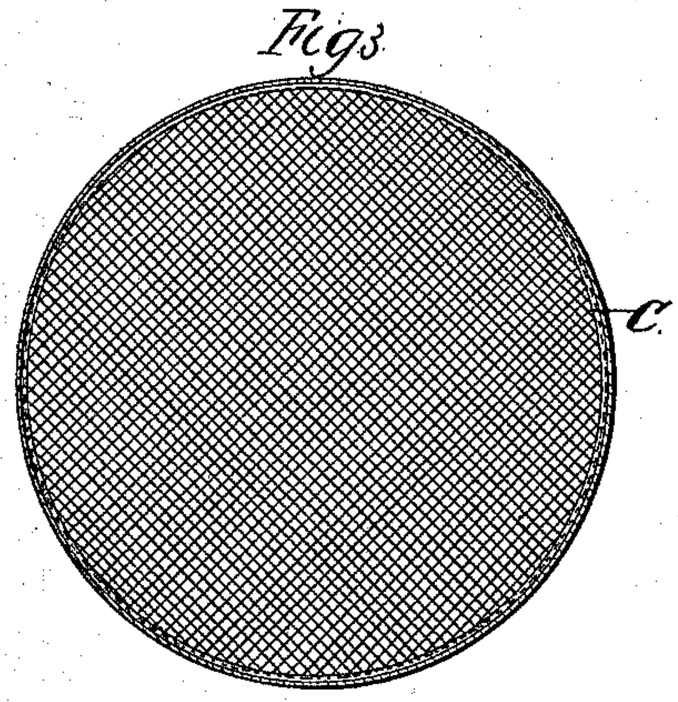
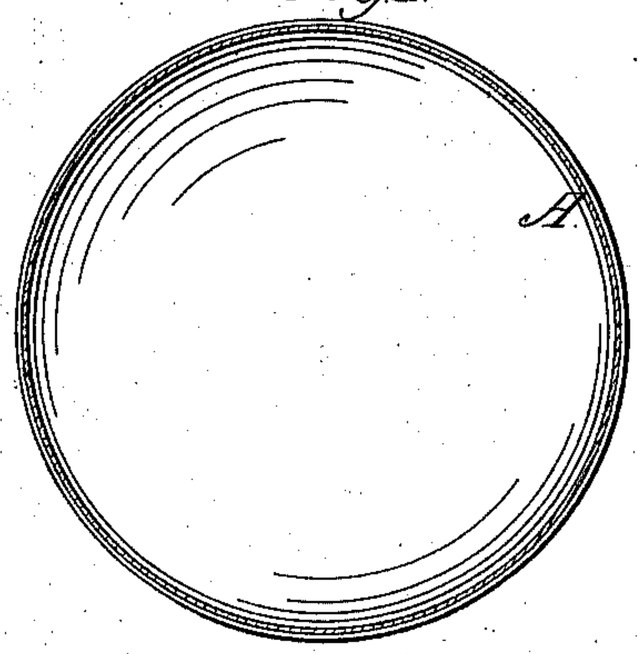


Fig 1.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN R. AGNEW, OF MERCERSBURG, PENNSYLVANIA.

IMPROVEMENT IN SCHOOL-GLOBES.

Specification forming part of Letters Patent No. **35,498**, dated June 10, 1862.

To all whom it may concern:

Be it known that I, JOHN R. AGNEW, of Mercersburg, in the county of Franklin and State of Pennsylvania, have invented a new and Improved School-Globe; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a central section of a globe made of muslin. Fig. 2 is a similar section of a globe made of leather. Fig. 3 is a similar section of a globe made of muslin strengthened with wire.

Similar letters in the three views denote corresponding parts.

This invention consists in the employment or use of textile fabrics made either of mineral, vegetable, or animal substances, or such textile fabrics combined with each other or with leather, and strengthened, if necessary, by means of metal wire or other suitable material, for the purpose of manufacturing terrestrial or celestial or terra-celestial globes.

Terrestrial or celestial globes such as are commonly used are made of plaster and paper in the following manner: A wooden axis is provided somewhat less than the intended diameter of the globe, and into the extremities iron wires are driven for poles. On this axis are applied two hemispherical caps formed on a spherical wooden mold by pasting several sheets of paper on the mold one over the other to about the thickness of a fifty-cent piece and cutting them through the middle and slipping them off the mold. They are now applied to the poles of the axis, and the two edges are sewed together with pack-thread. The rudiments of the globe thus laid, they proceed to strengthen it and make it regular. In order to do this, the two poles are hasped in a metallic semicircle of the size intended, and a plaster made of whiting, paper, and glue well incorporated together, is daubed all over the surface. In proportion as the plaster is applied the ball is turned round in the semicircle, the edge of which pares off whatever is superfluous and beyond the due dimensions, leaving the rest adhering in places that are short of it. The ball is then set to dry, after which it is again set in the semicircle and fresh plaster applied, and thus they continue to apply fresh composition and to dry it till the ball everywhere accurately touches the semicircle, in which state it is perfectly smooth and regular. The next thing is to paste the map on it. In order to do this the map is projected in several gores or gussets, all of which join accurately on the surface and cover the whole ball. When the paper is properly pasted on, the globe is colored and illuminated, and finally varnished, the better to resist dirt and moisture.

It is obvious that the several operations herein mentioned require much time, and consequently render the globe expensive, and, furthermore, a globe made of plaster is comparatively heavy, and when large it is difficult to handle, and it is liable to break from the slightest accident. For these reasons a globe, particularly a globe of several feet in diameter, has hitherto been considered a luxury, and they are entirely beyond the reach of ordinary public schools, where they would prove to be most beneficial. My globes obviate this difficulty entirely. They can be made cheap, and they will therefore come within reach of everybody.

The materials which I use for my globes are all of such a nature that they will stretch, and that they can be brought into the desired shape by means of suitable molds or dies. I form the globes in two halves or hemispheres, and I mark on the outside the usual lines of a terrestrial globe and on the inside the lines and constellations of a celestial globe. These two hemispheres I connect so that they can be opened and closed at pleasure, and a globe of this kind will now serve the double purpose of a terrestrial and of a celestial globe.

For small globes I use several thicknesses of muslin or other textile fabric secured together by glue or other suitable cement, which at the same time renders said sheets stiff, or one thickness of leather pressed by means of suitable dies into the desired shape; but for large globes the textile fabric or leather has to be strengthened by means of braces of metal wire or other suitable material, or the textile fabric may be stretched over hemispheres made of wire-netting of sufficient strength for the occasion.

The globe A, Fig. 1, is made of several thicknesses or layers of muslin pressed and shaped in two hemispheres, as previously described,

which may be connected together either permanently or so that they can be opened and closed.

The globe B, Fig. 2, represents a piece of leather brought in the desired shape to strengthen a globe made of muslin or other textile fabric, and the globe C, Fig. 3, is made of one or more sheets of muslin strengthened by wire-netting.

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

A globe made of textile fabrics either alone or combined with and strengthed, if desired, by wire-netting or leather, substantially in the manner and for the purposes described.

JOHN R. AGNEW.

Witnesses:
J. H. GROVE,
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