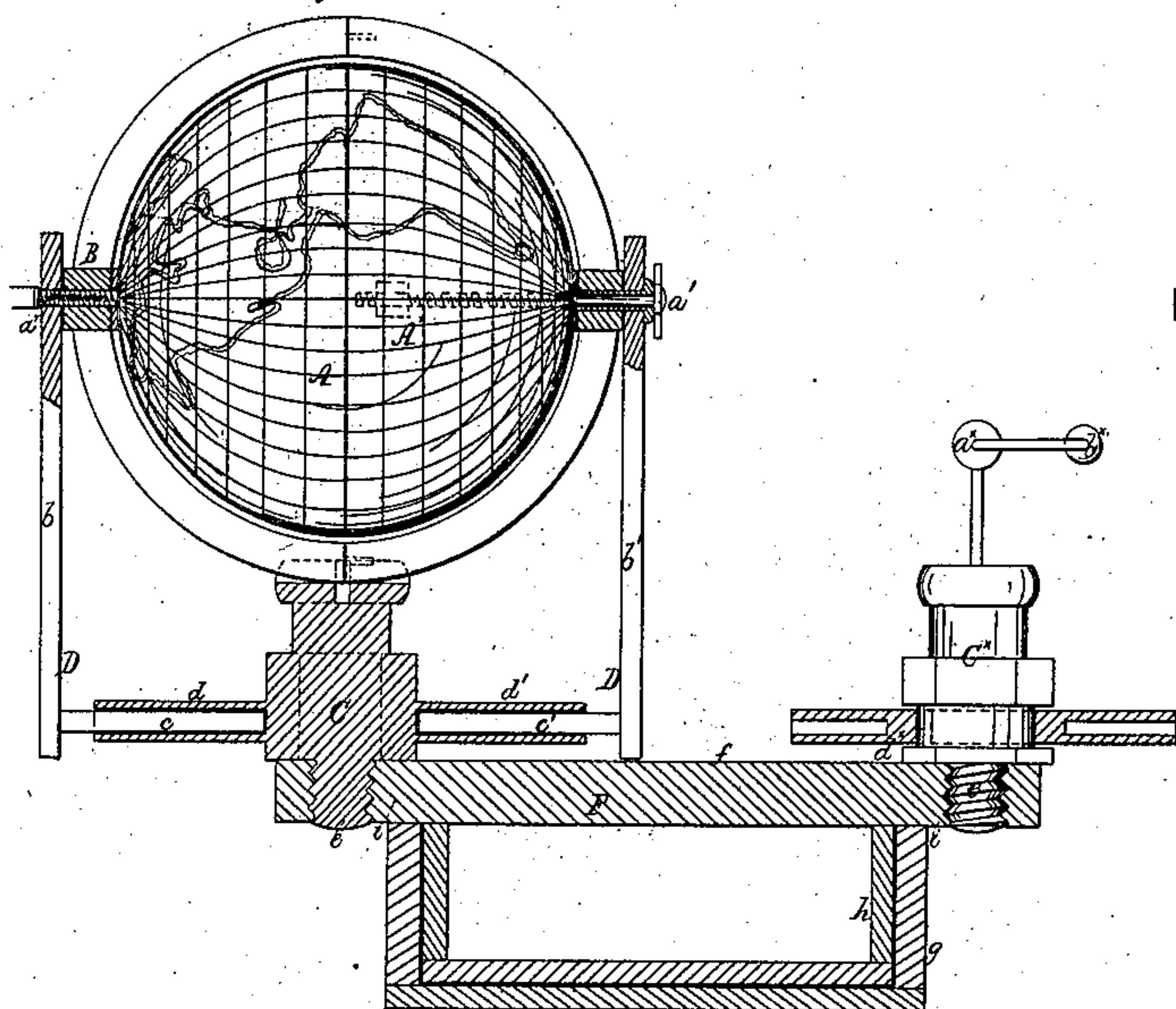


*J. R. Agnew,*  
*Geographical Globe.*

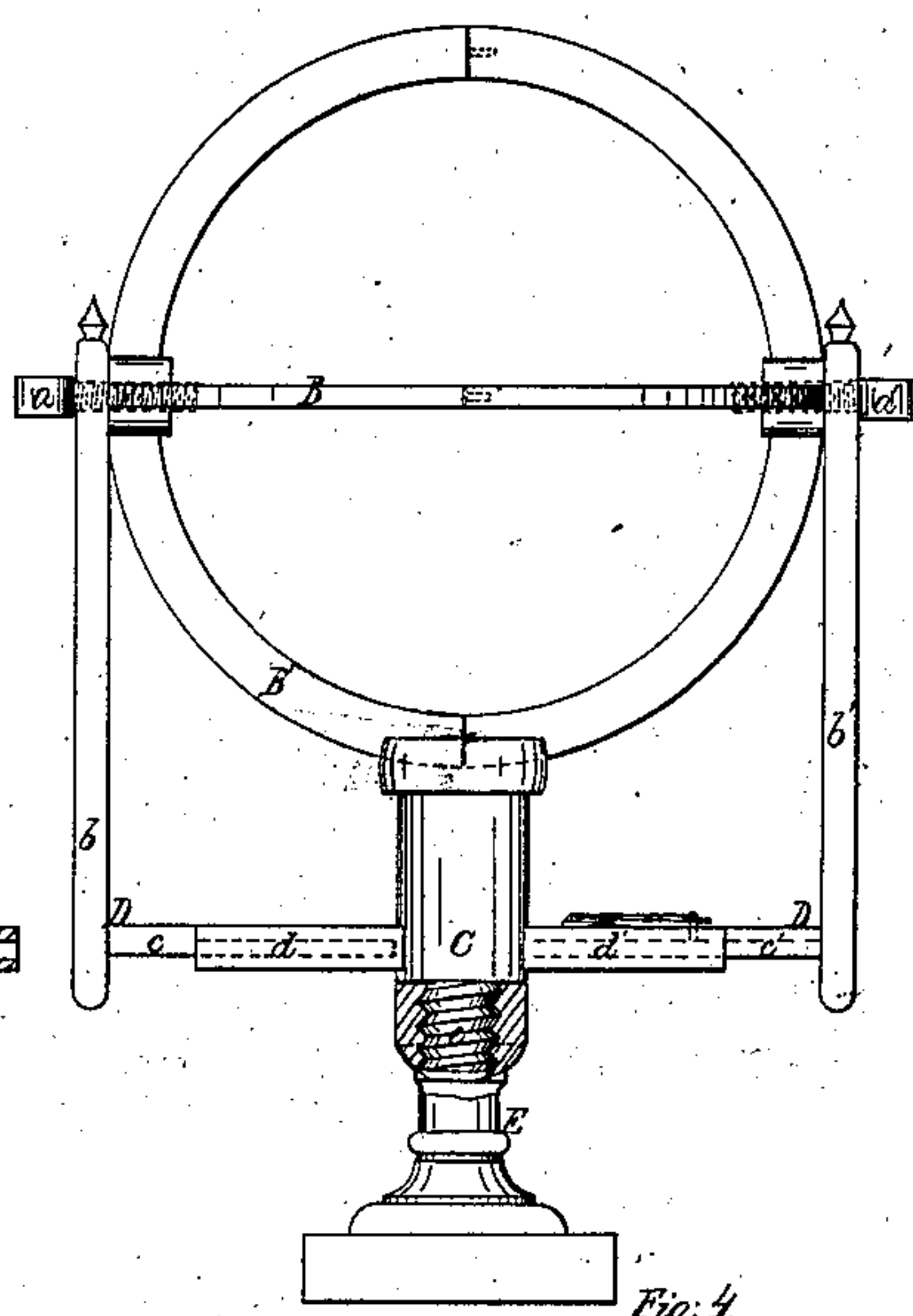
*N<sup>o</sup> 36,387.*

*Patented, Sep. 9, 1862.*

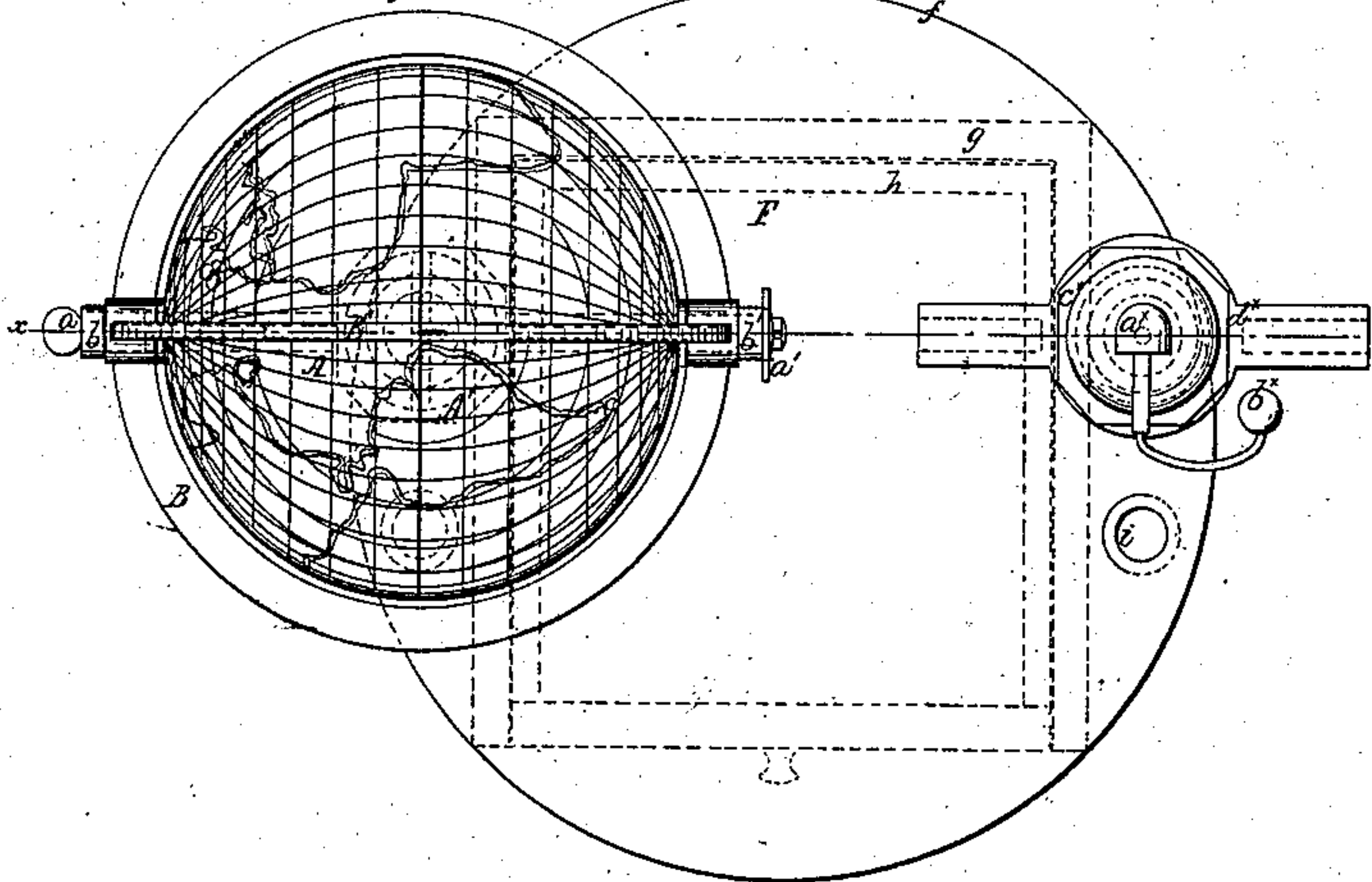
*Fig. 1.*



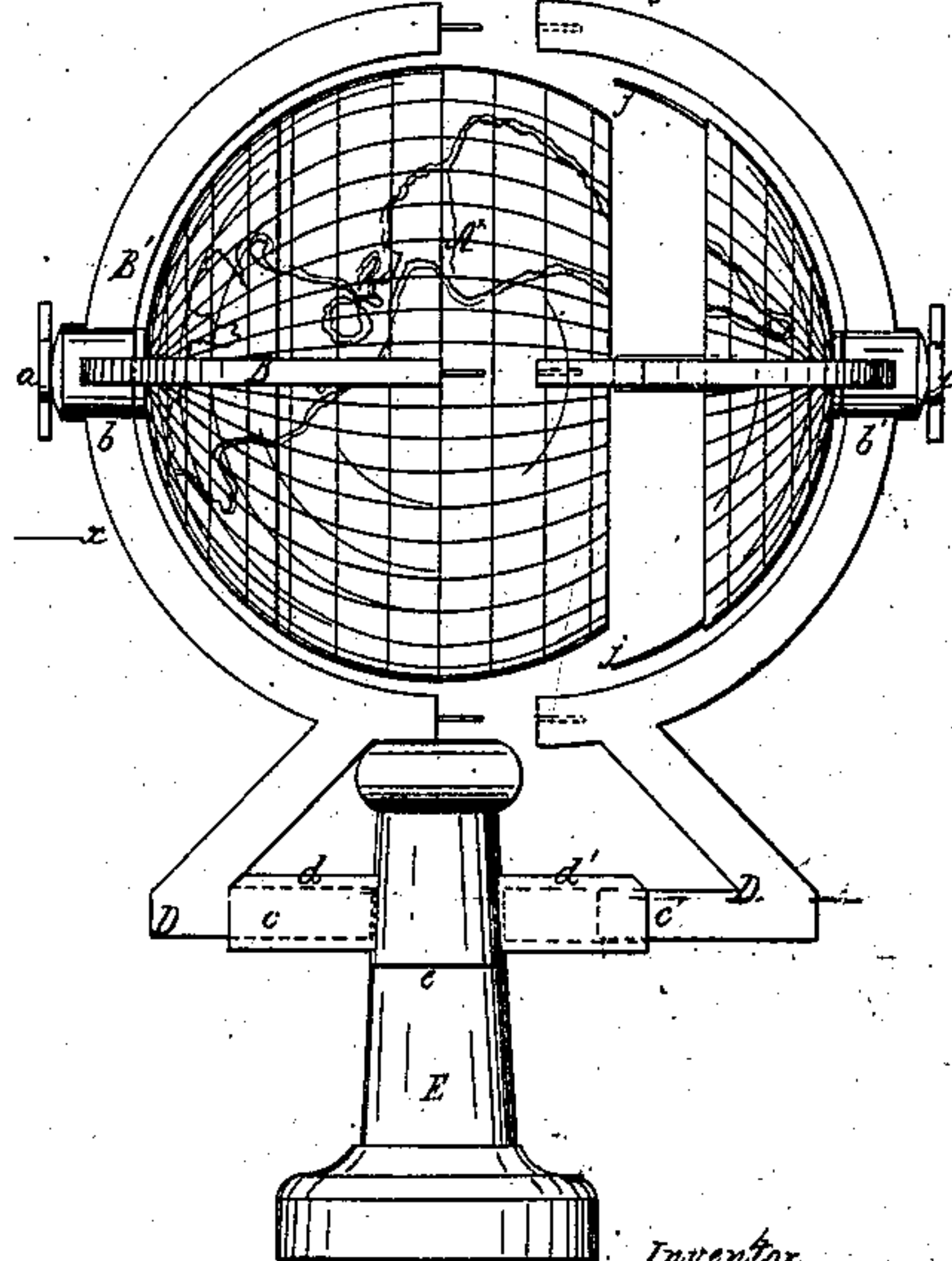
*Fig. 3.*



*Fig. 2.*



*Fig. 4.*



*Witnesses:*  
*J. R. Agnew*  
*W. Reed*

*Inventor*  
*J. R. Agnew*  
*per M. H. C.*  
*Attorney.*



# UNITED STATES PATENT OFFICE.

JOHN R. AGNEW, OF MERCERSBURG, PENNSYLVANIA.

## IMPROVEMENT IN SCHOOL-GLOBES.

Specification forming part of Letters Patent No. 36,387, dated September 9, 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 certain new and useful Improvements in School-Globes; 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, making a part of this specification, in which—

Figure 1 represents a longitudinal vertical section of my globe with the primary pedestal and slotted swivel-sockets, the plane of section being indicated by the line  $x x$ , Fig. 2. Fig. 2 is a plan or top view of the same. Fig. 3 is a sectional side elevation of the permanent pedestal and sliding arms without the globe. Fig. 4 is a side elevation of a globe and pedestal, the globe being divided according to two or more parallel circles.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to certain improvements in that class of school-globes for which Letters Patent have been granted to me July 24, 1860.

The invention consists in mounting two hemispheres in armed standards which slide in parallel planes toward or from each other in such a manner that on separating said hemispheres the several parts or lines marked on their inner and outer surfaces retain their relative position opposite to each other. It consists, further, in the arrangement of a primary pedestal provided with a series of screw-sockets in combination with a screw-shank projecting from the lower end of the head, in which the armed standards of the hemispheres slide in such a manner that one or more globes can be placed on the primary pedestal or taken from the same and returned to their original pedestals at pleasure. It consists, also, in combining with the sliding armed standards slotted swivel-sockets in such a manner that the globe can be turned freely in either direction.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it with reference to the drawings.

The hemispheres  $A A'$ , which, when brought together, represent on the outside a terrestrial and on the inside a celestial globe, are suspended from pivots or screws  $a a'$ , which have

their bearings in the upper ends of standards  $b b'$ , and which also pass through the junction of two rings,  $B B'$ , which may represent the prime meridian and the rational horizon or any other two great circles drawn on the surface of the globe in planes at right angles to each other. These rings are divided in the same plane as the globe, so that they open and close with the hemispheres.

From the lower ends of the standards  $b b'$  arms  $c c'$  extend, and these arms slide in sockets  $d d'$ , which are firmly attached to the head  $C$ . The arms  $c c'$  and standards  $b b'$  form the supports  $D$  of the two hemispheres, and by sliding said supports in and out in the sockets  $d d'$ , the hemispheres are separated or brought together, as may be desired, and during this motion all the parts move in horizontal planes, and the different lines and points of the two hemispheres retain their relative positions toward each other as much as possible. When the said hemispheres are opened parallel, in the manner described, the pupils will readily understand the relation of the terrestrial and of the celestial lines; at least it will be much easier for them than when the hemispheres swing apart in the manner described in my former Letters Patent. The armed standards are retained in the desired position by a spring-catch,  $G$ .

The head  $C$ , from which the sockets  $d d'$  extend, is provided with a screw-shank,  $e$ , which screws into the ordinary pedestal,  $E$ , as shown in Figs. 3 and 4, and which may be unscrewed from said pedestal and inserted into the primary pedestal  $F$ , as shown in Figs. 1 and 2. This pedestal consists of a table or platform,  $f$ , supported by a frame,  $g$ , and said frame is provided with a drawer,  $h$ , which serves to receive such tools or other articles as may be requisite in giving lessons in astronomy. The platform  $f$  is furnished with several sockets,  $i$ , to receive the screw-shanks of the heads  $C$  of swivel-globes simultaneously, when desired, and by these means two or more globes can be exhibited to the pupils in various positions and changes and provided with different lines whereby the relation of these lines toward each other is rendered much more intelligible and easier to comprehend than by using one globe with ever so many lines marked or represented thereon.



The sockets  $d$   $d'$ , in which the armed standards or supports  $D$  slide, may either be permanently attached to the head  $C$ , or they may be connected to same by means of a swivel,  $d^x$ , as shown in Fig. 1, where said swivel  $d^x$  is represented in section, being attached to the head  $C^x$ . The head  $C^x$  is furnished with a small globe,  $a^x$ , representing the earth, and if the hemispheres  $A$   $A'$  are now inserted into the swivel sockets  $d^x$  and separated far enough to observe the little globe  $a^x$  the apparent daily motion of the stars round the earth can be illustrated; or several small globes,  $a^x$   $b^x$ , &c., representing an orrery, may be arranged on the head  $C^x$ , and by placing the hemispheres  $A$   $A'$  into the swivel sockets the relation of the sun and planets toward the fixed stars can be illustrated. The swivel-socket is also very handy for the purpose of explaining and demonstrating the lines, and the formation of land and water on the terrestrial globe.

Instead of dividing the globe in two hemispheres it may in some cases be desirable to divide the same into three or more parts, following the tropic or polar circles, or the colures, or any other line which may be convenient in demonstrating the relations of the terrestrial and celestial lines. In doing so I have connected the several parts of the globe by spring slides  $j$ , (see Fig. 4,) which project from the edges of one part and fit into corresponding sockets in the edge of the other parts of the

globe. When properly connected by means of these slides, the globe appears to be of one piece, and at the same time it can be taken apart and put together very easy and without loss of time.

A globe,  $A^*$ , of this description may be used in combination with the sliding supports  $D$ , as represented in Fig. 4, or it may be used independent of said supports, or mounted in the ordinary manner.

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

1. The arrangement of the armed sliding standards or supports  $D$ , in combination with the hemispheres  $A$   $A'$ , constructed and operating substantially as and for the purpose shown and described.

2. The arrangement of the primary pedestal  $F$ , provided with a series of screw sockets, in combination with the screw-shank of the head  $C$ , and with the armed standards  $D$ , and hemispheres  $A$   $A'$ , constructed and operating substantially as and for the purpose set forth.

3. The slotted swivel-sockets  $d^x$ , in combination with the head  $C^x$ , constructed and operating substantially in the manner and for the purpose specified.

JOHN R. AGNEW.

Witnesses:

DANIEL SHAFFER,  
JNO. A. HYSSONG.