E. Weissenborn.

School Globes.

No. 84,398. Patented Nov. 24. 1868.

Fig. 1

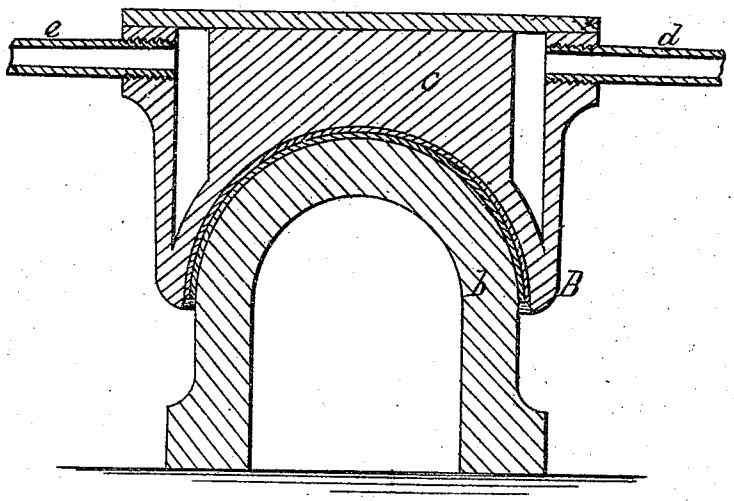


Fig. 2

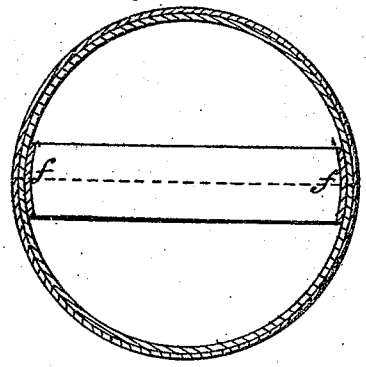
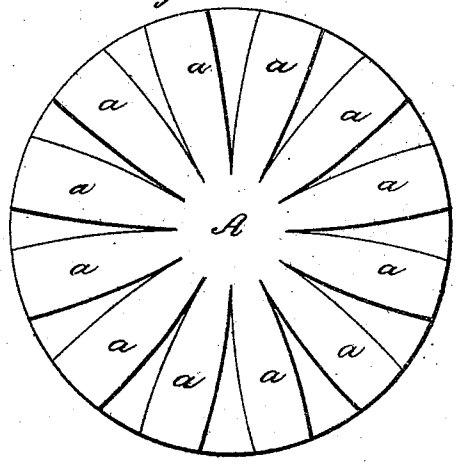


Fig. 3



Witnesses;
E. F. Kastenhuber
Chas. Wahlers

Inventor;
Edward Weissenborn
pr.
Van Santvoord & Hauff
attys

United States Patent Office.

EDWARD WEISSENBORN, OF HUDSON CITY, NEW JERSEY.

Letters Patent No. 84,398, *dated November* 24, 1868.

IMPROVEMENT IN THE CONSTRUCTION OF SCHOOL-GLOBES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, EDWARD WEISSENBORN, of Hudson City, in the county of Hudson, State of New Jersey, have invented a new and useful Improvement in School-Globes; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which drawing—

Figure 1 represents a central section of the mould which I use in the manufacture of my globes.

Figure 2 is a central section of the globe when finished.

Figure 3 is a plan of the blanks which I use in the manufacture of my globes.

Similar letters indicate corresponding parts.

This invention consists in the peculiar manner of cutting out the blanks, and of uniting the same, each hemisphere of the globe being made of two or more circular layers of pasteboard, which are cut out to form a series of radiating arms, with intermediate triangular spaces, and laid, one on the top of the other, so as to break joints, and that by applying glue or other cement between the two layers, and subjecting the same to a heavy pressure in a suitable mould, (which may be heated,) the several layers are firmly united, and the edges of the various arms are brought together in such a manner that a smooth, strong, and durable hemisphere is produced. The hemispheres thus produced are turned off true at their edges, and finally united by an internal strip of pasteboard, and then smoothed off ready for the maps.

A, fig. 3, represents one of the blanks or layers of pasteboard which I use in the manufacture of my globes. These blanks I cut out, so that the same form a series of radiating arms, *a*, as shown in fig. 3, and, after the blanks have been properly prepared, I select two, apply to the surface of one of them glue or other suitable cement, place the other on it, so as to break joints, or so that the arms of the second blank will cover the open spaces between the arms of the first blank, and before the glue or other cement has set, I introduce the two blanks into the mould B.

This mould consists of the male part *b* and the female part *c*, and either one or both parts are heated by steam or hot air, which may be introduced through a pipe, *d*, and exhausted through a pipe, *e*.

After the two layers of pasteboard, prepared as above described, have been adjusted on the male part of the mould, the female part is forced down by means of hydraulic or other powerful pressure, and the two layers of pasteboard are formed into a hemisphere, the edges of the arms *a* of each layer being brought close together, and firmly united to each other by the glue or other cement applied to one of the layers, and by the adjacent arms of the other layer.

The hemispheres thus formed are turned off true at their edges, and, by uniting two such hemispheres, globes of the required kind are produced.

The operation of uniting the two hemispheres is conducted as follows: I take a strip, *f*, of pasteboard, glue it fast to the inner surface of one hemisphere, with its edge projecting some distance beyond the edge of said hemisphere, and then I place the other hemisphere over it, always taking care that the whole outer surface of the strip *f* is well covered with glue or other cement. By the strip *f*, the two hemispheres are firmly united, and globes are formed, which are durable, firm, not liable to get broken, and which can be produced at a very cheap rate.

These globes are prepared for the reception of the maps by grinding off their surfaces, so that the same become smooth, and free from all fringes.

Having thus described my invention,

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

A school-globe, made of two layers, A, of pasteboard, cut out to form arms, *a*, and placed together and united by the aid of the mould B, all as shown and described.

Also, the strip *f*, pasted to the inner surface of one hemisphere, and serving to fasten and retain the second hemisphere, substantially as set forth.

EDW. WEISSENBORN.

Witnesses:

LEOP. STEIDEL,

E. F. KASTENHUBER.