

October 22, 1913.

DRAWING

4,132

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.

GEORGE W. SHAW, OF THOMPSON, CONNECTICUT.

## MANUFACTURE OF KEYED BUGLES.

Specification of Letters Patent No. 4,132, dated August 4, 1845.

*To all whom it may concern:*

Be it known that I, GEORGE W. SHAW, of Thompson, in the county of Windham and State of Connecticut, have invented a new and improved mode of cementing or welding tortoise or turtle shell and making or manufacturing keyed bugles from that article; and I do hereby declare the following is a full and exact description of the same.

10 My invention consists in the making and manufacturing the keyed bugle from the tortoise or turtle shell, and in getting and applying the necessary heavy pressure, to cement or weld the shell in the delicate and crooked form of the instrument. The instrument is first made, in five parts, from No. 1 to 5 according to the annexed drawing, which is a part of this specification. The pressure to weld the shell is got by having an iron pattern A precisely fitting and in the shape of each part. Then fit and mold the shell B, around the pattern, and wind over with dry cord or twine, C and then by applying steam it swells the shell and shrinks or contracts the cord or twine and the necessary heavy pressure is obtained to weld the shell. In putting the parts together begin with Nos. 4 and 5 press the pattern in No. 4, so as to enter No. 5, about  $\frac{1}{4}$  of an inch, then wind the twine over the two parts together so far as is to be welded, and then apply the steam as be-

fore directed, and you have two parts welded. Withdraw the pattern from No. 4 and enter the pattern of No. 3 about  $\frac{1}{4}$  of an inch into No. 4, then wind, and steam as before. Then take the pattern from No. 3 and let the pattern in No. 2 enter the same distance into No. 3, then wind and steam as before, take the pattern from No. 2, and let the pattern in No. 1 enter the  $\frac{1}{4}$  of an inch into No. 2, wind and steam as before. Then the proper shape of the instrument brings Nos. 1, and 5 in contact, as from D to D, and to weld them together put the pattern into No. 5, keeping No. 1 in its place and wind around No. 1, and 5, where they come in contact and steam as before and the instrument is perfect as drawing A.

The elevations to fix the keys to, and for the holes, are cemented on before the instrument is put together, by the same process.

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

The manner or method of cementing, or welding tortoise or turtle shell, in the shape or form of keyed bugles, by winding with cord or twine and steaming it, and making keyed bugles from that article as before described.

GEO. W. SHAW.

Witnesses:

SIMON DAVIS,  
EDWARD SHAW.