A.D. 1832 . . . . . N° 6325.

Sheathing for Ships, &c.

MUNTZ'S SPECIFICATION.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, GEORGE FREDERICK MUNTZ, of Birmingham, Metal Roller, send greeting.

WHEREAS His present most Excellent Majesty King William the Fourth, by His Letters Patent under the Great Seal of Great Britain, bearing date at Westminster, the Twenty-second day of October, in the third year of His reign, did, for Himself, His heirs and successors, give and grant unto me, the said George Frederick Muntz, His especial licence that I, the said George Frederick Muntz, my exors, admors, and assigns, or such others as I, the said George Frederick Muntz, my exors, admors, or assigns, should at any time agree with, and no others, from time to time and at all times during the term of years therein expressed, should and lawfully might make, use, exercise, and vend, within England, Wales, and the Town of Berwick-upon-Tweed, my Invention of "AN IMPROVED MANUFACTURE OF METAL PLATES FOR SHEATHING THE BOTTOMS OF SHIPS OR OTHER SUCH VESSELS;" in which said Letters Patent is contained a proviso, obliging me, the said George Frederick Muntz, by an instrument in writing under my hand and seal, particularly to describe and ascertain the nature of my said Invention, and in what manner the same is to be performed, and to cause the same to be inrolled His said Majesty's High Court of Chancery within six calendar months next and immediately after the date of the said Letters Patent, as in and by the same, reference being thereunto had, will more fully and at large appear.

NOW KNOW YE, that in compliance with the said proviso, I, the said George Frederick Muntz, do hereby declare the nature of my said Invention

to consist in making the said plates for sheathing of an alloy of zinc and copper, in such proportions and of such qualities as, while it enables the manufacturer to roll the said compound metal into plates or sheets fit for the said sheathing at a red heat, and thus makes the said plates or sheets less difficult to work, and consequently cheaper to manufacture, renders the said sheathing less liable to oxydation, and consequently more durable than the ordinary copper sheathing now in use, though at the same time it oxydates sufficiently to keep the bottom of the vessel clean.

And in further compliance with the said proviso, I, the said George Frederick Muntz, do hereby describe the manner in which my said Invention is to be performed, by the following statement thereof (that is to say):—

I take that quality of copper known in the trade by the appellation of "best selected copper," and that quality of zinc known in England as "foreign zinc," and melt them together in the usual manner, in any proportions between fifty per cent. of copper to fifty per cent. of zinc, and sixty-three per cent. of copper to thirty-seven per cent. of zinc, both of which extremes and all intermediate proportions will roll at a red heat; but as too large a proportion of copper increases the difficulty of working the metal, and too large a proportion of zinc renders the metal too hard when cold, and not sufficiently liable to oxydation to effect in the best manner the intended purpose, I prefer the alloy to consist of about sixty per cent. of copper to forty per cent. of zinc. This compound I cast into ingots of any convenient weight, and then heat them to a red heat, and roll them in the same manner as copper is rolled hot, only taking care not to overheat the metal so as to produce fusion, and not to put it through the rollers after the heat has left it too much, say, when the red heat goes off, otherwise it will split. If the surface of the sheet when brought from the hot rollers should not be thought fine or smooth enough, I leave the sheets from the hot rollers rather stronger than required, and afterwards roll them cold to the proper size. After the sheets are finished they must be well annealed, and then cleaned with a mixture of sulphuric acid and water, from which they should be well washed in clean water, and then dried.

Now, whereas it is evident that the said alloy may also be made from a compound of copper and calamine by cementation, taking care that the quantity of calamine shall be such that the zinc extracted from it will be in some of the same proportions to the copper as before mentioned; but as it is very difficult to make the copper take up the necessary quantity of zinc by this process, it is more expensive. It is equally evident that brass of very good quality, with the addition of zinc requisite to make the propers pro-

portion of copper and zinc, will likewise roll hot, and answer the purpose, but is again a more expensive mode.

But, whereas, I claim as my Invention the manufacture of metal plates or sheets, for the purpose aforesaid, of an alloy of copper and zinc in such proportions as will enable the manufacturer to roll the said alloy while at a red heat into sheets fit for the sheathing of ships or other such vessels, and which will be sufficiently ductile to dress close to the bottoms of the said vessels, at the same time that it is more durable than the copper sheathing now in use, and oxydates sufficiently to keep the said bottoms clean; and such my Invention being to the best of my knowledge and belief entirely new, and never before used within that part of His said Majesty's United Kingdom of Great Britain and Ireland called England, His said Dominion of Wales, or Town of Berwick-upon-Tweed, I do hereby declare this to be my Specification of the same, and that I do verily believe that this my said Specification doth comply in all respects, fully and without reserve or disguise, with the proviso in the said herein-before in part recited Letters Patent contained; wherefore I do hereby claim to maintain exclusive right and privilege to my said Invention.

In witness whereof, I, the said George Frederick Muntz, have hereunto set my hand and seal, this Twenty-second day of April, in the year of our Lord One thousand eight hundred and thirty-three.

GEORGE FREDERICK (L.S.) MUNTZ.

AND BE IT REMEMBERED, that on the Twenty-second day of April, in the year of our Lord 1833, the aforesaid George Frederick Muntz came before our said Lord the King in His Chancery, and acknowledged the Specification aforesaid, and all and every thing therein contained and specified, in form above written. And also the Specification aforesaid was stamped according to the tenor of the Statute made for that purpose.

WILSON.

Inrolled the Twenty-second day of April, in the year of our Lord One thousand eight hundred and thirty-three.

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