

UNITED STATES PATENT OFFICE.

GEORGE KÜBLER, OF AKRON, OHIO.

ENAMELING AND ENAMELED ARTICLES.

SPECIFICATION forming part of Letters Patent No. 246,791, dated September 6, 1881.

Application filed June 23, 1881. (Specimens.)

To all whom it may concern:

Be it known that I, GEORGE KÜBLER, of Akron, in the county of Summit and State of Ohio, have invented a new and useful Improvement 5 in Enameling and Enameled Articles, of which the following is a specification.

My invention relates to improvements in processes for enameling carriage-top bows and similar articles to give them the appearance of 10 being covered with enameled or patent leather, and wherein the enamel is not brought in direct contact with the article enameled.

Originally it was customary to cover such articles with enameled leather, closely fitted 15 and neatly stitched in place. The objections to this process were the great cost of material and the labor necessary to apply it, the unsightly seam, and the fact that no adequate provision was made to protect the article from the 20 effect of moisture or cause the covering to adhere closely to the article, from which it resulted that the covering soon became loose, and as soon as from any cause a slight hole was made therein, the article was exposed and the 25 covering rapidly torn or worn away. To obviate the first two objections processes were invented whereby the article was covered with split leather or "skivings," and these subsequently enameled; but this process still retained the objections to the other, and was subject to the additional objection of requiring expensive labor to produce a smooth surface to receive the enamel.

Processes have also been employed to apply 30 the enamel directly to the article, but these have been found defective in that the enamel is liable to become cracked by the expansion and contraction of the article from the effects of moisture, while, as it lacked an elastic substance between the article and enamel, the enameled surface was easily broken or cracked by slight bending or a sudden blow.

The objects of my invention are to produce 35 upon the article a surface resembling a covering of enameled leather, and which shall, in addition, be cheaply and expeditiously applied, durable in its character, completely protect the article from the effects of moisture, and which, by the interposition of an elastic substance between 40 the article and enamel, will protect the latter from liability to cracking from a sudden

blow or slight bending, and also secure such perfect adhesion between the article and covering substance that the former will only be exposed by complete wearing away of the latter. 55

My invention consists in first coating the article to be enamaled with a thin layer of rubber prepared for vulcanizing, or, preferably, with cloth or textile fabric coated with such rubber, a rubber cement being used to cause the rubber cloth or textile fabric to adhere to the article. By this means a smooth and even surface is obtained for the reception of the enamel. Upon the surface so formed is spread an enameling compound. For this purpose "bak- 60 ing Japan" or other suitable varnish may be used, although it should be of a kind that will solidify between the degrees of temperature required to vulcanize the rubber. The whole is then baked sufficiently to simultaneously 65 vulcanize the rubber and harden the enamel.

It is obvious that the rubber may be vulcanized before applying the enamel, if desired, although the other method will, in most cases, be found preferable; and in some cases it may 70 be found desirable to vulcanize the rubber, either in a sheet or coated upon textile fabric, before applying it to the article, either of which methods may be adopted without departing 75 from my invention.

By this process I rapidly and cheaply produce upon the article an exact representation 80 of a covering of enameled leather, which adheres so closely thereto that it can only be removed by wearing or scraping, thoroughly protects the article from the effects of moisture, and the layer of rubber offers a slight elasticity that prevents the cracking of the enamel from bending or sudden stroke.

Having thus described my invention, what I 85 claim and desire to secure by Letters Patent, is—

1. The process of enameling articles which consists in first coating the article with a layer of prepared unvulcanized rubber, placing thereon a suitable enameling compound, and simultaneously vulcanizing the rubber and hardening the enamel, substantially as described, and for the purpose specified. 90

2. The process of enameling articles which 95 consists in inclosing the article in a textile fabric coated with prepared unvulcanized rubber,

placing thereon a suitable enameling compound, and simultaneously vulcanizing the rubber and hardening the enamel, substantially as described, and for the purpose specified.

5 3. The process of enameling articles which consists in inclosing the article in a sheet of prepared unvulcanized rubber or a textile fabric coated with such rubber, vulcanizing the rubber, and subsequently placing thereon an 10 enameling compound and hardening the same, substantially as described, and for the purpose specified.

4. The process of enameling articles which consists in covering the article with a sheet 15 of vulcanized rubber or textile fabric coated with vulcanized rubber, and subsequently plac-

ing thereon an enameling compound and hardening the same, substantially as described, for the purpose specified.

5. The process of enameling articles which 20 consists in interposing between the enamel and the article a layer of vulcanized rubber, substantially in the manner and for the purpose hereinbefore set forth.

In testimony that I claim the foregoing I 25 have hereunto set my hand this 19th day of June, A. D. 1881.

GEORGE KÜBLER.

Witnesses:

C. P. HUMPHREY,
E. W. STUART.