composition is hard when cold, but when warmed can be moulded to any shape. 2. Mix 14 pounds of glue, 7 pounds resin, ½ pound pitch, 2½ pints linseed oil, 5 pints of water, more or less according to the quantity required. Boil the whole together, well stirring until dissolved, add as much whiting as will render it of a hard consistency, then press it into a mould which has been previously oiled with sweet oil. No more should be mixed than can be used before it becomes sensibly hard. Gold size is then put on, several coats being considered necessar then the gold leaf itself, which is burnished in course of time, and finally covered with finishing size.

(6870) E. G. P. says: Will you please let me know through your Notes and Queries column the farthest distance projectiles have been thrown from the large guns now in use? A. The longest distance that a shot has been fired is a few yards over 15 miles, which was the range of Krupp's well known monster 130 ton steel gun, firing a shot weighing 2,600 pounds. The 111 ton Armstrong gun has an extreme range of 14 miles, firing a shot weighing 1,800 pounds, and requiring 960 pounds of powder. These guns, however, proved too expensive, being unable to stand firing 100 times, and their manufacture has practically been abandoned. The 22 ton Armstrong gun hurls a solid shot for a distance of 12 miles, and the discharge of the gun cannot be heard at the place where the ball strikes. From 12 to 13 miles is the computed range of the most powerful guns now made, and to obtain that range an elevation of nearly 45 degrees is found to be necessary. Quick-firing guns are more depended upon at the present day than extreme length of range, and in this respect what is considered the most wonderful of guns, perhaps, is one of the Maxims, which can fire as many as 600 shots a minute, and yet is so light that a soldier can carry it strapped to his back.

(6871) E. D. J. says: As I am a reader of your valuable paper I would like to ask you if you can tell me what I can clean my white hat with. It is straw. A. Sprinkle with water and expose to the fumes of burning sulphur in a tight box. Or to renovate white straw hats the following method has been recommended. Prepare two solutions as given:

1. Sodium hyposulphite	G.	10
Glycerine	"	5
Alcohol	"	10
Water	"	75
2. Citric acid	G.	2
Alcohol	"	10
Water	"	90

First sponge the straw hat with solution No. 1, and lay aside in a moist room (cellar) for twenty-four hours; then apply solution No. 2, and treat similarly as before. Finally the hat should be gone over with a flatiron, not too hot. If very dirty, the hat must be cleaned with some detergent and dried before beginning the bleaching operation.

TO INVENTORS.

An experience of nearly fifty years, and the preparation of more than one hundred thousand applications for patents at home and abroad, enable us to understand the laws and practice on both continents, and to possess unequaled facilities for procuring patents everywhere. A synopsis of the patent laws of the United States and all foreign countries may be had on application, and persons contemplating the securing of patents, either at home or abroad, are invited to write to this office for prices, which are low, in accordance with the times and our extensive facilities for conducting the business. Address MUNN & CO., office SCIENTIFIC AMERICAN, 361 Broadway, New York.

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