COLOURING METALS.

It is frequently desirable to alter the natural colour of gold, brass, and other metals, either for the purpose of ornament, or to ren ter frequent polishing less necessary. For this end, the following recipes will be found very serviceable :—

TO HEIGHTEN THE COLOUR OF GOLD.

Place 4oz. of salpetre, 2oz. of common salt, and 2oz. of alum, in a crucible. Add sufficient water to cover the mixed salts. Now place the crucible on the fire and allow the mixture to boil. When this takes place, place the article to be coloured in the mixture, taking care that it is suspended by a hair. It may be left in the crucible for about 15 minutes, when it should be withdrawn, well brushed with a fine scratch-brush, and redipped if the colour is not intense enough.

For small gold articles, such as a keeper or plain ring, &c., a very good plan is to place them on a lump of charcoal and make them red-hot under the blow-pipe flame, and then to throw them into a pickle composed of about 35 drops of strong sulphuric acid to the ounce of water, allowing the articles to remain therein until the colour is sufficiently enhanced Washing the article in warm water, in which a little potash has been dissolved, using a brush, and finally rinsing and drying in boxwood sawdust, completes the operation

Another colouring mixture, which has been greatly recommended, consists of a mixture of 20gr. sulphate of copper, 50gr. French verdigris, 40gr. sal-ammoniac, and 40gr. salpetre, dissolved in one ounce of glacial acetic acid. The articles, suspended by a horse-hair, as before, are to be immersed into this mixture, withdrawn and heated on a piece of copper until black. They are then to be placed in a pickle of equal parts oil of vitriol and water, which removes the black coating, and brings up the colour. Washing in weak potash-water, rinsing and drying as before, terminates the treatment.

SILVER.

Silver which has become much tarnished may be restored to its primitive beauty by immersion in a warm solution of 1 part cyanide of potassium to 8 of water. (This mixture is extremely poisonous) Washing well with water, and drying will produce a somewhat dead-white appearance, which may be quickly changed to a brilliant lustre by polishing with a soft leather and rouge.

BRONZING IRON CASTINGS.

This may be done by giving them a superficial coating of copper by electrolysis, which can then easily be bronzed by means of an application of weak ammonia, which may be allowed to dry off, and the castings then brushed in the prominent portions. A layer of good, clear, spirit-varnish, greatly increases the durability of the bronzing.

Or, the finished coatings may be brushed over with a mixture of hard white varnish, and finely-ground bronze green, of an oily consistency. The castings must be slightly warmed, and be quite smooth and clean. When the first coat is dry, which soon takes place, another can be applied if required, taking care to lay on thinly each time, and to get body by repeated applications. This being satisfactorily coloured, a small quantity of gold bronze powder is taken up with a dry camel-hair pencil, and the prominent edges of the work lightly touched with another brush dipped in clear varnish; while still tacky the bronze powder is laid on with the dry brush. Again the work is allowed to dry thoroughly, when a final thin coating of the best hard varnish is given all over.

BRONZING FOR COPPER OR BRASS.

Copper or brass may be bronzed in various modes. The repeated applications of alternate washes of dilute acetic acid, and exposure to the fumes of ammonia, will give a very antique-looking green bronze, but a quick mode of producing a similar appearance is often desirable. To this end the articles may be immersed in a solution of 1 part perchloride of iron, in 2 parts of water. The tone assumed darkens with the length of immersion. Or the articles may be boiled in a strong solution of nitrate of copper. Or lastly, they may be immersed in a solution of 2oz. nitrate of iron, and 2oz. hyposulphite of soda in a pint of water. Washing, drying, and brushing, completes the process.

RAILWAY MATTERS.

Sir Hugh Allan has succeeded in contracting for the loan in aid of the Northern Colonization Railway Company in London, England.

Every passenger car on the Illinois railroads is by law compelled to be furnished with a woodman's axe, sledge-hammer, a hand saw and two leather buckets.

Port Dover, Ont, May 31 —The schooner "Erie Stewart," arrived to-day bringing 100 tons of railroad iron for the Port Dover and Lake Huron railway company. This is the first ship load of the 4,000 tons now lying in Buffalo. This section of the road will be opened on the first of July.

We learn from Cairo that the Soudan Railway is being rapidly pushed forward, and that various schemes are under consideration for the better irrigation of Lower Egypt. One proposal is for the construction of a series of locks and weirs on the existing canals, which during high Nile are so many deep and rapid rivers Another is for the construction of canals, taken from a high level on the river, in Upper Egypt, and distributing the water thus obtained over the surface of the Delta.

Perhaps the heaviest piece of main line traffic in the world is that on the London and North-Western Railway between London (Euston station) and Rugby—a section 83 miles long. On this section the following trains run through: 30 express mail trains at 40 miles an hour; 5 at 36 miles an hour; 29 passenger trains at lower speeds and stopping at all stations; 32 express goods trains at 20 to 25 miles an hour; 27 ordinary goods trains, and 23 local goods and mineral trains—a total of 64 passenger and 82 freight trains in 24 hours.

The United States Treasury returns for the last fiscal year (ending June 30th, 1874) show exports of 79 locomotives, having an invoice value of 1,147,366 dols., the average value being 14,524 dols. Of these the largest number, 19, went to Chili Russia took 14, Brazil 13, Cuba 12, Canada 9, Argentine Republic 4, Mexico and Central America each 3, and Peru 2. The number recorded as sent to Canada is undoubtedly less than the number really built for Canadian lines, as a large lot were built in the New England shops for the Grand Trunk, these, however, being probably delivered to that road at Portland, and not counted among the exports.

It will be interesting to know that fireless locomotives are in constant and successful operation on a city and suburban railway in New Orleans — namely, the New Orleans and Carrollton Railway, under the able management of Gen. G. T. Beauregard, who is a skilful engineer, and yet who is alive to, and keeps pace with, the improvements of the age This success has been achieved, too, under the most adverse and unpromising circumstances The road under other running arrangements had become nearly valueless, its stock having gone down to 7 cents; but it is now a paying and valuable road. The road is about six miles in length. From the centre to the outskirts of the city it is operated by mule power; there the mule is taken from the car and the little fireless locomotive is attached, which is accomplished in less time than would be occupied in attaching another mule. The train is then off like a rocket, the driver still on the platform of the car working the engine, managing the brakes, and making change, as usual; there is no other person on the train to attend these duties. The car is started and stopped quicker than when drawn by the mule. The railway (double track) is in the middle of a very wide street, and is a little raised, so that it cannot be crossed by carriages except at the street crossings; thus, being somewhat isolated, high speed is admissible. The locomotive is simply a cylinder of boiler iron, perhaps 3 ft. in diameter and 10 ft. long, mounted on four wheels, and partly filled with water. The engine—a double vertical—is attached to the end of the cylinder next the car, being within reach of the driver. The cylinder is then filled with steam at a proper pressure, from a stationary boiler at Carrollton, when the locomotive is ready, and it will run to the city and back without care or expense. There is no fire, no ashes, no pump, no danger, and less noise than from the hoofs of horses. The expense of this means of propulsion, General Beauregard assured me, is less than by mules. The cost of the locomotives is $1,250 each, which includes the builder's profit.