

(71) W. S. writes: I have a breech loading shot gun which has had the browning taken off by salt water. I would like to ask how to stain gun barrels a rich brown such as seen on our best guns. A. 1. Mix chloride of antimony to a thin cream with olive oil, and apply this uniformly to the warm iron. It should be left undisturbed until the requisite degree of color is developed. A few drops of nitric acid is sometimes added to the paste to hasten the operation. 2. Nitric acid,  $\frac{1}{2}$  oz.; sweet spirits of niter,  $\frac{1}{2}$  oz.; spirits of wine, 1 oz.; cupric sulphate (blue vitriol), 2 oz.; chloride of iron tincture, 1 oz.; water, 4 oz.; warm the water, dissolve in it the powdered copper salt, cool and add the other materials. Use the burnisher and scratch brush to produce the markings. For polishing a piece of hard wood is used. Finish while warm with rather thin pale shellac varnish (colored with dragon's blood if desired), polished after drying with the hard wood polisher. The time required to properly brown the iron is about 24 hours. The iron should be scoured or cleaned with moistened lime before applying the browning composition.

**MINERALS, ETC.**—Specimens have been received from the following correspondents, and examined, with the results stated:

A. C. O.—No. 1. A serpentine rock. No. 2. Contains quartz, orthoclase, magnetic pyrites, and traces of copper glance. No. 3. Serpentine rock containing much iron sulphide. No. 4. Quartzite and ferruginous earth or ochre.—G. H. P.—The silicious limestone (not shale) containing bituminous matters offers no positive indications that petroleum exists in the locality in paying quantities; on the contrary, thousands of dollars have been lost by oil seekers in this rock. See chapters on petroleum in Professor Winchell's "Sketches of Creation."—J. S. F.—It appears to be a wax of the paraffine series (ozocerite or hatchettite). If found in large quantities, of some value. Larger specimens are desirable to settle the question.

#### COMMUNICATIONS RECEIVED.

On Perpetual Motion. By J. K.  
On the Gery Motor. By W. W. G.  
On the Analysis of some Ancient Pieces of Metal. By E. H. S. B.  
A Simple Ellipsograph. By S. W. B.  
On the Telephone. By F. F. P.

[OFFICIAL.]

#### INDEX OF INVENTIONS

FOR WHICH

Letters Patent of the United States were  
Granted in the Week Ending

February 25, 1879,

AND EACH BEARING THAT DATE.

[Those marked (r) are reissued patents.]

A complete copy of any patent in the annexed list, including both the specifications and drawings, will be furnished from this office for one dollar. In ordering, please state the number and date of the patent desired, and remit to Munn & Co., 37 Park Row, New York city.

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Bolts, machinery for packing.—C. D. Rogers, Providence, R. I.  
Card setting machines.—J. Russell et al, Springfield, Mass.  
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Motors.—E. Molera et al, San Francisco, Cal.  
Mowing machines.—P. Mast et al, Springfield, Ohio.  
Paper for covering silver.—J. Torrey, New York city.  
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