

UNITED STATES PATENT OFFICE.

EDWARD L. NORDEN, OF ROCHESTER, NEW YORK.

PROCESS OF LITHOGRAPHING.

SPECIFICATION forming part of Letters Patent No. 683,572, dated October 1, 1901.

Application filed June 13, 1901. Serial No. 64,402. (No specimens.)

To all whom it may concern:

Be it known that I, EDWARD L. NORDEN, a citizen of the United States, residing at Rochester, Monroe county, New York, have invented an Improved Process of Lithographing, of which the following is a specification.

My invention relates to an improved process of lithographic printing on a sheet-metal base, which process is fully described in the following specification, the novel features thereof being specified in the claims annexed to the said specification.

In practicing my improved process of lithographic printing from sheet metal I take a plate of any required size of the ordinary commercial sheet-iron and treat its surface on one side with hydrochloric acid. The acid may be somewhat diluted; but it need not be chemically pure. As a matter of fact at the present time the brands of sheet-iron generally in use are really sheet-steel. The plate is washed after the acid has removed the rust or other colored appearances. The plate is then treated with nitric acid, diluted about one-half or one-third. The stronger acid the more marked the grain on the surface will be. In order to facilitate the action of the acid and the production of the grain, I brush the acid over the plate with a suitable clean brush until the grain appears distinctly. The plate should then have the acid thoroughly washed off of it as rapidly as possible and be then dried, either by a clean cloth or by heat. The impression is now transferred to the surface with any suitable ink, transfer-ink preferred, in any suitable press. The transferred im-

pression is gummed, dried, and rubbed up with commercial lithographic black ink and turpentine. It is then etched with one part, by measure, of phosphoric acid to twenty or twenty-five of gum-arabic. This acid is washed off and the plate gummed and dried. The gum is then washed off and the ink removed with turpentine. The transferred impression is rolled up with lithographic ink with a hand-roller. When the foundation is well protected with ink, the surface is powdered with ground resin. It is then etched with one part phosphoric acid and ten parts of gum-arabic and again washed off, gummed, and dried. Any required number of sheets may be printed, the treatment of the surface during the printing operations being in all respects the same as for ordinary lithographic printing from stone.

My improved process produces the best printing of all kinds, and it is very much cheaper than any of the ordinary processes.

I claim—

The herein-described lithographic process, consisting in cleaning sheet-iron by hydrochloric acid, in preparing the surface by the action of nitric acid, in transferring an impression in ink to the prepared surface, and in subsequently printing from the plate with lithographic ink, phosphoric acid and gum, as and for the purposes set forth.

EDWARD L. NORDEN.

Witnesses:

GEO. B. SELDEN,
C. G. CRANNELL.