UNITED STATES PATENT OFFICE.

HENRY GLYNN, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN THE MANUFACTURE OF PAPER-PULP.

Specification forming part of Letters Patent No. **12,361**, dated February 6, 1855.

To all whom it may concern:

Be it known that I, HENRY GLYNN, of Baltimore, in the State of Maryland, have discovered improvements in the manufacture of paper by which forgery by tranfers or attempts at alteration after obliteration of written or printed matter are prevented, and also the attacks of vermin and the effects of damp are resisted; and I hereby declare the following to be a full and exact description thereof.

My improvements are confined to the preparation of the pulp of which the paper is to be made. I impregnate the paper with fatty substances or wax to such a degree that the surface of the material employed by a forger to receive transfer-impressions shall be equally and uniformly acted on—that is to say, by the the blank parts of the document as by the written or printed parts—so that attempts to transfer to lithographic stones or to metallic plates written or printed impressions on my paper are frustrated..

Into two hundred and fifty pounds of pulp as usually made I introduce, while it is in the engine, nine pounds of hydrated soap, either potash or soda, previously dissolved in boiling water, and when this soap is thoroughly incorporated with the pulp I add a mineral or metallic salt in such quantities as to render the introduced soap insoluble. Six pounds of sulphate of copper I have found sufficient; but the quantity may be varied according to the qualities of the soap and the purposes for which the paper is designed.

Instead of metallic salts, I attain the desired results by a sulphate of magnesia, of which I have found two pounds sufficient for two hundred and fifty pounds of pulp. In addition to ordinary soaps I also use one in which bees or vegetable wax is introduced in place of fatty substances. When I use wax I dissolve it before introducing it into the pulp in a boiling solution of carbonate of soda or pearlash, adding the alkali till the wax is thoroughly dissolved. Paper treated with this soap resists the effects of damp and the attacks of vermin. It is well known that rats and other vermin in the tropics never attack wax candles or other objects of wax under the severest gnawings of hunger. Being indigestible, it would kill them, and hence instinct impels them to reject it.

Among the advantages I obtain from the introduction of insoluble soaps into the pulp are:

First, a greater quantity of fatty substances is embodied in the paper than is otherwise practicable.

Second, I get rid of the labor and machinery hitherto necessary to saturate the paper when soluble solutions are employed.

Third, while sizing with alum is incompatible, if not impossible, with such solutions, I am enabled to size with it in the ordinary manner and with the ordinary facility.

Fourth, by insoluble soaps I attain security against fraudulent transfers that is unattainable with soluble soaps.

Fifth, expensive phosphates have been proposed to render metallic salts insoluble in pulp; but by my process they are unnecessary, and I am enabled to manufacture papers possessing the advantages herein recited at a cost little exceeding that of ordinary papers.

Sixth, by the use of insoluble soaps of wax or fat a smoother surface is given to the paper, and I avoid the usual operation of washing the pulp and the accompanying loss of ingredients.

Seventh, paper-hangings made by my process are not subject to mold or mildew, and books made of it resist the ravages of vermin.

I claim—

Introducing into the pulpy mass soluble soaps of wax or fats, made as set forth, converting the same into insoluble soaps within the pulp by means of soluble salts, substantially as described, for the purposes of preventing forgery, mildew, and the action of insects, rats, and vermin.

HENRY GLYNN.

Witnesses:

JOHN F. CLARK,

W. S. CLARK.