

UNITED STATES PATENT OFFICE.

THOMAS HOLLIDAY AND ROBERT HOLLIDAY, OF HUDDERSFIELD, COUNTY OF YORK, ENGLAND.

PROCESS OF DYEING COLORS ON TEXTILE FABRICS.

SPECIFICATION forming part of Letters Patent No. 254,550, dated March 7, 1882.

Application filed August 30, 1881. (No specimens.) Patented in England July 6, 1880.

To all whom it may concern:

Be it known that we, THOMAS HOLLIDAY and ROBERT HOLLIDAY, subjects of the Queen of Great Britain and Ireland, both residing at
5 Huddersfield, in the county of York, England, have jointly invented certain new and useful Improvements in Dyeing Colors on Cotton or Textile Fabrics, (for which we have received Letters Patent in England, No. 2,757, dated
10 July 6, 1880;) and we hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

15 Our invention consists in forming on the fiber, whether in a raw or manufactured state, direct azo colors produced by the action of the naphthols upon the diazo compounds of amido-azo-benzole, or mixtures of them, or combina-
20 tions.

To carry this invention into effect we impregnate the fiber with a solution of any of the diazo-azo compounds above named alternately, with a solution of a naphthol or naphthols in al-
25 kali, or with naphthol and diazo-azo compounds simultaneously, developing the color with an alkali. The proportions used may be those of the chemical equivalents of the bodies, but can be greatly varied, still giving beneficial results.

30 We are aware that lakes or pigments have been produced by the action of naphthols on the diazo-azo compounds; but they have never been used for dyeing or other purposes without further treatment with sulphuric acid to bring
35 them to a more soluble state, and even then

they are not applicable to the dyeing of cotton without mordants; and we do not claim broadly the production of these colors, our invention being limited to producing them on the fiber.

Having thus fully described our said invention and the manner of carrying the same into effect, what we claim, and desire to secure by Letters Patent, is—

1. The direct production of the within-described azo colors upon cotton or other textile
45 fibers by the action of naphthols upon diazo-azo compounds of benzole or its equivalent, substantially as described.

2. The within-described process for forming
50 the within-described azo color directly in or upon a textile fiber, yarn, or cloth by impregnating the same with a solution of naphthol or naphthols and with a solution of a diazo-azo compound, substantially as described.

3. The within-described process for the direct production of the within-described azo color on cotton or other fiber by the action of
55 beta-naphthol on the diazo compounds of amido-azo-benzole, or on combinations or mixtures of
60 them, substantially as described.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

THOMAS HOLLIDAY.
ROBERT HOLLIDAY.

Witnesses:

WM. HY. IREDALE,
JOHN MICKLETHWAITE.