

UNITED STATES PATENT OFFICE.

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

PROCESS OF DYEING.

SPECIFICATION forming part of Letters Patent No. 362,835, dated May 10, 1887.

Application filed September 25, 1886. Serial No. 214,567. (No specimens.)

To all whom it may concern:

Be it known that I, THOMAS HOLLIDAY, a subject of the Queen of Great Britain, residing in Huddersfield, county of York, England, have invented certain new and useful Improvements in Dyeing Wool and other Animal Textile Fibers, of which the following is a specification.

My invention relates to the dyeing of wool and other fibers various shades of color by alternately treating the fibers with chrome, iron, copper, or lead salts to form mordants, and with the nitroso compounds derived from the naphthols.

As an example of the method of carrying this invention into effect, I boil, say, one hundred pounds of wool in water with about three pounds bichromate of soda or potash and one pound sulphuric acid for about one hour, then wash off well in water, and afterward pass it into a hot bath of water containing, say, three pounds of any of the nitroso compounds derived from alpha or beta naphthols, when the color will be formed and developed on the fiber.

Sulphates of iron or copper and acetate of lead can be substituted for chromate of potash, and the sulphuric acid left out in the above example when the iron, copper, or lead mordants are required. The operations given in the example can be reversed, entering the wool first into the nitroso bath and then into the mordant bath.

The quantities and nature of the metallic salt, acid, and nitroso compounds can be varied according to the result required, and the shades of color varied by using logwood, alizarine, or other dyeing or coloring matters along with or alternately with the nitroso compounds.

The fibers can be dyed either in a raw, spun,

woven, felted, or otherwise manufactured state. I prefer to use the nitroso compounds in the state of a precipitate paste, though they can be used combined with alkali or otherwise. Wool or animal fibers dyed by the means described can be distinguished by the ordinary methods of chemical analysis.

The present application refers specially to the treatment of fibers by nitroso naphthols, in contradistinction to the application of naphthols as described in Letters Patent Nos. 355,933 and 355,935, granted to me January 11, 1887.

I do not claim or confine myself to any particular manner of fixing the metallic mordants on the fiber, giving the example only as acting well; but

What I claim as my invention is—

1. The process of dyeing wool or other animal fiber by impregnating it with metallic mordants and immersing it in a bath containing one or more nitroso compounds of naphthols.

2. As a new article of manufacture, wool or other animal fiber impregnated with metallic mordants and nitroso naphthols.

3. As an improvement in the art of dyeing animal fiber, subjecting the fiber to the action of nitroso naphthols, as such.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

THOMAS HOLLIDAY.

Witnesses:

C. W. WHITMAN,
U. S. Consular Agent at Huddersfield.

THOMAS H. BARRON,
Market Place, Huddersfield.