UNITED STATES PATENT OFFICE.

RICHARD GARSED AND JOSHUA GARSED, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNORS TO RICHARD GARSED, OF SAME PLACE.

IMPROVEMENT IN DYEING COTTON YARNS.

Specification forming part of Letters Patent No. **151,694**, dated June 9, 1874; application filed March 31, 1874.

To all whom it may concern:

Be it known that we, RICHARD GARSED and JOSHUA GARSED, of Philadelphia, county of Philadelphia and State of Pennsylvania, have invented an Improved Mode of Manufacturing Colored Cotton Yarns; and we do hereby declare that the following is a full, clear, and exact description thereof.

The common and old mode of making cotton yarn when the cotton is dyed in the fiber—that is to say, before spinning, is either to dye the cotton direct from the bale or card, in order to get the heavy dirt out, after which it is put through the entire carding-department in the colored state. Under our process the cotton is not dyed until it has reached the slubbing or roving frame—that is to say, the cotton in all respects is treated, with the exception of dyeing it, the same as in the ordinary process up to a point when it is to be made into roving. At this point we make the slubbing or roving upon a perforated metallic tube instead of a wooden bobbin. The tube with the roving upon it is then placed in a tank or vat, and boiled or made thoroughly wet, the perforations of the tube allowing the water to freely permeate the roving. This imparts sufficient strength to the roving to enable it to be properly handled without stretching or breaking it. The roving is then reeled, in the usual manner of treating cotton yarn, into convenient-sized skeins, which are then dyed any desired color in the same manner as skein-yarn is dyed. After the roving has become thoroughly dry, it is then rewound from the skein on spools or bobbins, and the spinning finished by the usual process, same as uncolored roving, which last act completes our improved process of manufacturing colored cotton yarns.

The advantage of our process consists, first, in the saving of the dye which, under the old process, would be absorbed by the fly-leaf, seed, and other foreign substances found in cotton. Besides this, in working cotton in its natural or uncolored state we obtain a much larger production than can be obtained from the same machinery if worked on cotton which is colored in the fiber before carding, and on many colors we obtain a much evener and more perfect thread than can be produced by the old process. Another advantage by our process is, that much smaller quantities can be produced than by the old system, since by dyeing from the skein we have all the advantage in this respect as though we dyed the full-spun yarn, and without the expense of spooling or rewinding the full-spun fine thread, or its attendant waste.

Having described our invention, what we claim as new and desire to secure by Letters Patent, is—

In the process of manufacturing colored cotton yarns the dyeing of the cotton while in the condition of roving, substantially as and for the purpose described.

RICHD. GARSED.
JOSHUA GARSED.

Witnesses:
L. M. TROUTMAN,
JOHN TAYLOR.