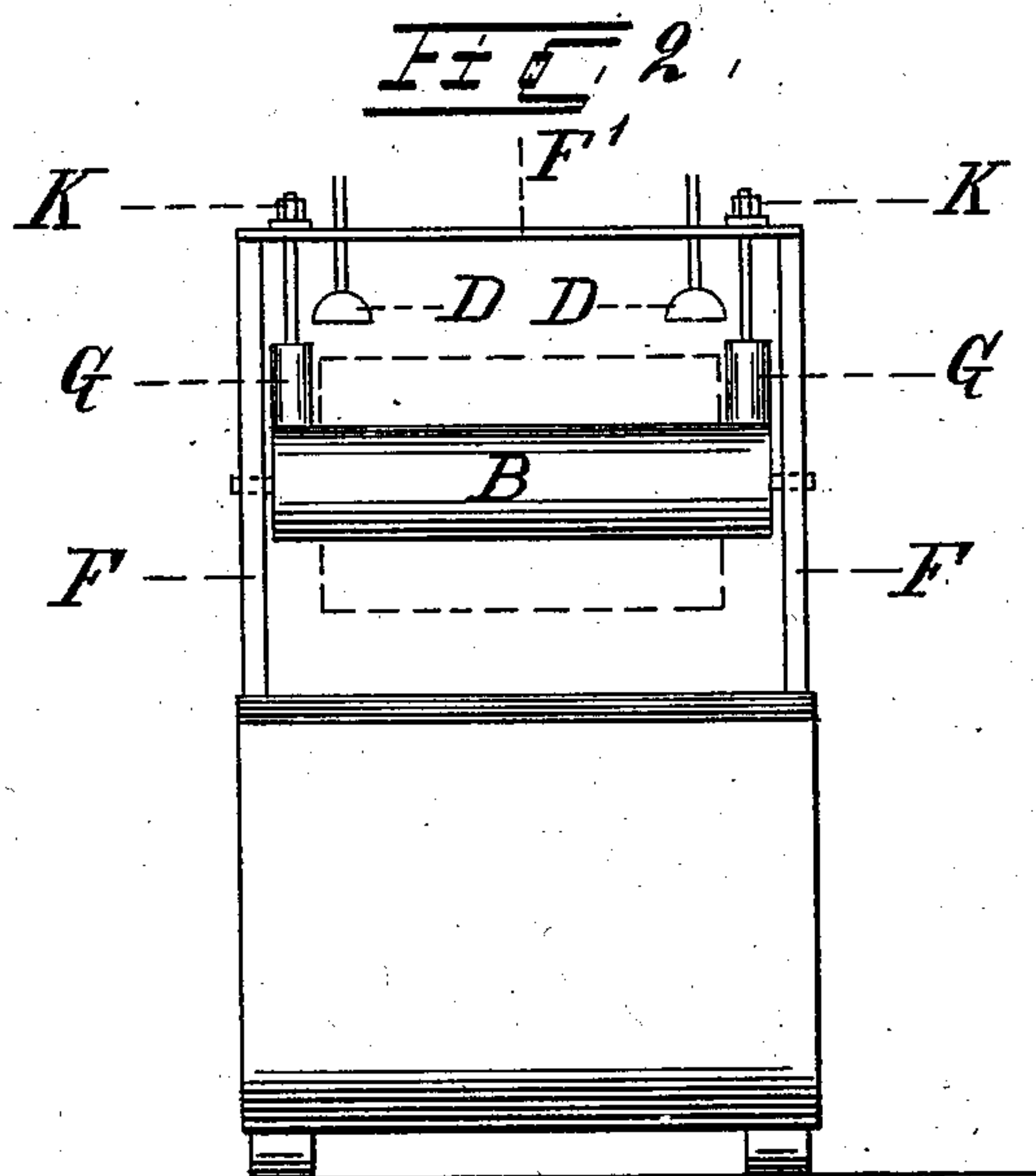
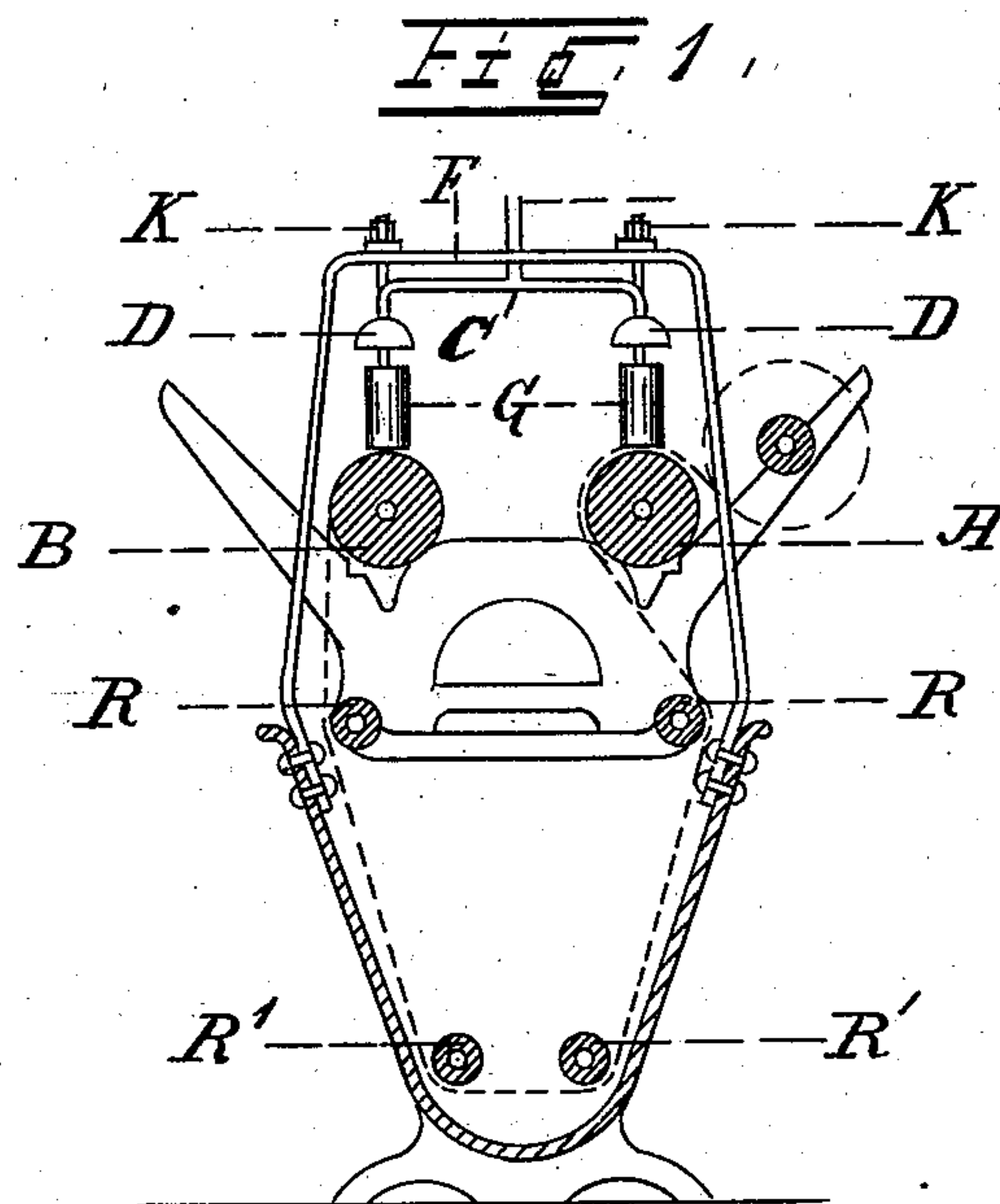


No. 724,631.

PATENTED APR. 7, 1903.

E. VOETTER.
PROCESS OF DYEING WITH SULFUR DYES.
APPLICATION FILED DEC. 4, 1901.

NO MODEL.



Witnesses:

J. Chebret.
A. Witt.

Inventor:

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UNITED STATES PATENT OFFICE.

ERNST VOETTER, OF UERDINGEN, GERMANY.

PROCESS OF DYEING WITH SULFUR DYES.

SPECIFICATION forming part of Letters Patent No. 724,631, dated April 7, 1903.

Application filed December 4, 1901. Serial No. 84,619. (No specimens.)

To all whom it may concern:

Be it known that I, ERNST VOETTER, a subject of the King of Würtemberg, residing at Uerdingen, Prussia, Germany, (whose post-office address is Dusseldorferstrasse 36, Uerdingen,) have invented a certain new and useful Dyeing Process by Means of Sulfur Dyes, of which the following is a specification.

Great difficulties are experienced in the application of the majority of sulfur dyes in the dyeing process upon the jigger. The goods show discolored edges, presumably caused by the oxidizing action of the air and by the drying of the edges, as well as by the high temperature. Experiments made with a view of obviating this difficulty have shown that the inconvenience may be overcome in a most simple manner by pouring cold water continuously upon the edges of the unwinding roll of goods, so as to keep these edges constantly wet and to decrease the high temperature. It is, however, essential that the liquid be kept cold and the admission of water is not interrupted, the water being admitted, preferably, by means of a spray connected to a water-conduit. In order to arrive at a better distribution of the water, a roller coated with an elastic covering and being so arranged as to cause a slight pressure upon the edges may be mounted beneath the spray. Instead of water may be used cold dyeing liquor, which may be suitably diluted with water, with or without addition of sulfid of soda, or a solution of the dyestuff or a solution of sulfid of soda.

The fact that it is possible to overcome the difficulty above referred to is of great importance in the art of dyeing, and it constitutes an important technical advantage in the application of this class of dyes, inasmuch as the presence of the discolored edges excluded the employment of the dyes upon the ordinary jigger.

In the drawings, Figure 1 shows a side view of a jigger. Fig. 2 shows a front view.

A and B are rolls over which the material to be dyed passes, and R and R' are guiding-rollers. Double sprays D are arranged in an ordinary jigger and connected with a water-pipe C. This is done, preferably, by two flat iron braces F and F'. Adjustable rollers G are fixed by bolts to the iron braces F and F', said rollers having for their purpose to divide the liquid over the edges of the piece to be dyed.

What I claim, and desire to secure by Letters Patent of the United States, is—

The process for dyeing with sulfur dyes upon the jigger which consists in keeping the edges of the goods constantly wet and decreasing the temperature by the application of a cooling liquid to the edges of the material, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

ERNST VOETTER.

Witnesses:

C. F. HENSLEY,
HANS M. MÜLLER.