

No. 801,871.

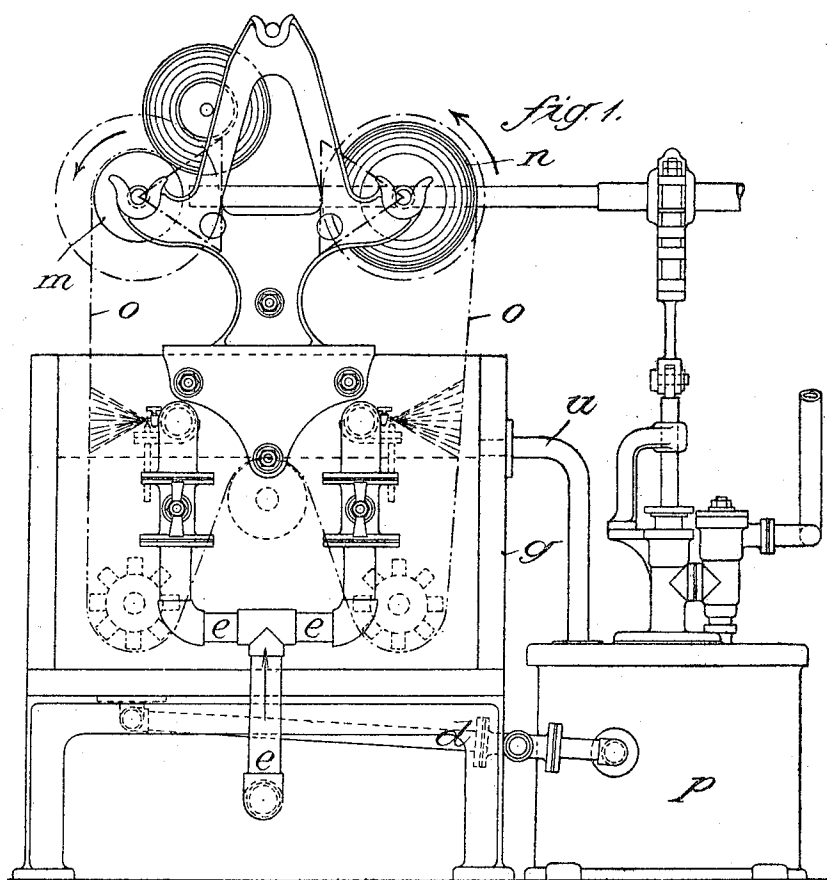
PATENTED OCT. 17, 1905.

C. HERMINGHAUS & C. GRUSCHWITZ.

DYER'S JIGGER.

APPLICATION FILED AUG. 2, 1904.

2 SHEETS—SHEET 1.



Witnesses

T. P. Brett

E. C. Duffey

Inventors.

Carl Herminghaus
Carl Gruschwitz.

J. E. Duffey & Son
PHYS.

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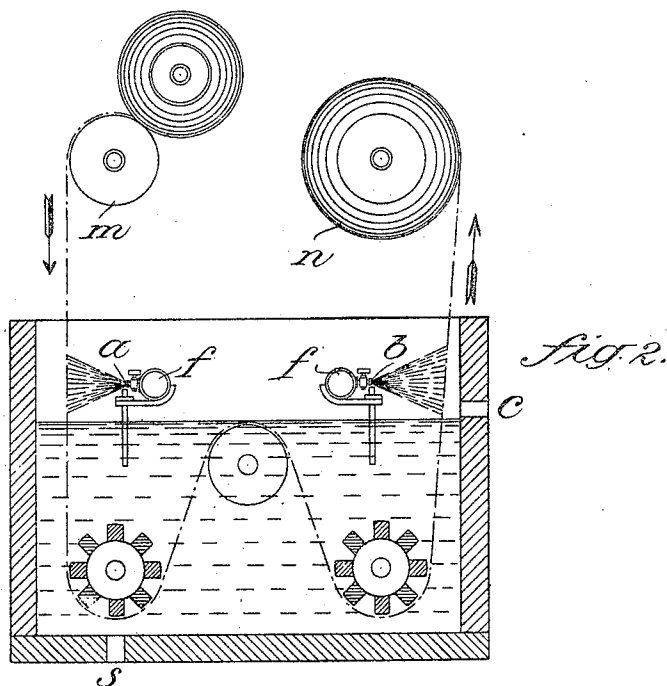
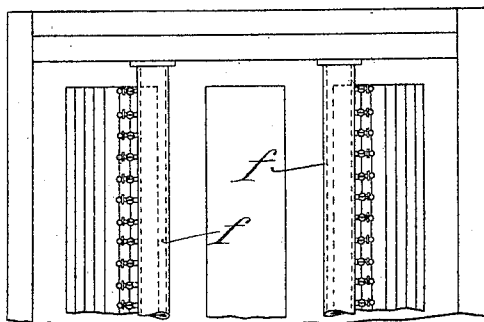


fig. 3.



Witnesses

J. O. Brett

E. C. Duff

Inventors.

Carl Herminghaus
Carl Gruschwitz

O. E. Duff & Son

Attys.

UNITED STATES PATENT OFFICE.

CARL HERMINGHAUS, OF HILDEN, AND CARL GRUSCHWITZ, OF
OLBERSDORF, GERMANY.

DYER'S JIGGER.

No. 801,871.

Specification of Letters Patent.

Patented Oct. 17, 1905.

Application filed August 2, 1904. Serial No. 219,193.

To all whom it may concern:

Be it known that we, CARL HERMINGHAUS, chemist, a subject of the King of Prussia, German Emperor, residing at 9 Benratherstrasse, Hilden, and CARL GRUSCHWITZ, manufacturer, a subject of the King of Saxony, residing at Olbersdorf b. Zittau, in the Kingdom of Saxony, in the Empire of Germany, have invented new and useful Improvements in Dyers' Jiggers, of which the following is a specification.

Our invention relates to improvements in jiggers as employed in dyeing fabrics in the open width. The machine differs from prior apparatus for the same purpose, inasmuch as the dye, prepared in the vat itself, is forced against the traveling fabric by means of nozzles which suck the dye directly from the vat. The jets play upon the fabric traveling past them until the dyeing process is completed.

Dyeing-machines of the usual constructions require a relatively large amount of space for their erection, a matter of much inconvenience in many cases, whereas the present machine can be set up anywhere, for prior machines necessitate special arrangements in erection, since for the supply of the liquor a tank is necessary above the machine, so that the supply may be effected by the high pressure. As it is necessary in order to secure the requisite pressure to arrange special tanks above the machine, there is the disadvantage that the temperature in the tanks sinks in the pipes, depending upon the length of the latter, so that the liquor which flows out is of a lower temperature than the dye as originally prepared.

The machine constructed according to our invention is much simpler to attend to than other apparatus, since no specially-trained workman is necessary for preparing the dye liquor for a tank above while another attendant is required for looking after the machine below.

By means of the new apparatus guaranteee is offered for perfectly uniform all-through dyeing, so that even small quantities of fabric can be dyed by means of our new machine, whereas with prior apparatus there is always the disadvantage that the edges and ends of the fabric show a different color to that of the remaining part.

Our invention is illustrated in the accompanying drawings, in which—

Figure 1 is an elevation of the entire machine, and Fig. 2 a vertical section through the vat and principal parts of the mechanism

employed in conjunction therewith. Fig. 3 is a plan of a portion of the apparatus, showing the arrangement of the nozzles.

The dye of the desired color is prepared in the vat *g* and is forced against the fabric *o* under treatment by means of the nozzles *a b*. The fabric unwinds from the roller *m* and winds onto the roller *n*. The vat is provided with an outlet *c*, out of which the waste dye liquor runs through the pipe *u* to the pump *p*, whence it is again forced through the pipe *d* into the vat again. This continuous circulation of the liquor insures much more thorough utilization than otherwise is the case.

The aperture *c* may be located at any suitable height and, if desired, fitted with a stop-cock.

The aperture *s* at the bottom of the dye-vat is adapted to receive a discharge-cock, so that after dyeing the liquor may be run off. *e* is a bifurcated pipe by means of which air is fed to the pipes *f*, carrying the suction-pipes and nozzles *a* and *b*, regulated by means of small cocks. The latter should be opened more or less, depending upon the width of the goods being dyed.

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

A jigger comprising a dye-vat and a dye-pump associated therewith, said dye-vat being constructed to hold a quantity of dye and provided with an overflow-aperture through which the dye in said vat passes into said dye-pump, a series of jet-pipes arranged above the surface of the dye in said vat and extending down into the dye, means for sucking up the dye through said jet-pipes and ejecting the dye therefrom upon the fabric to be dyed, a connection between said dye-pump and the bottom of said dye-vat, whereby the overflow of dye from said vat is forced back into vat at the bottom thereof causing a continuous circulation of the dye and preventing settling of the dye at the bottom of the vat, substantially as described.

In witness whereof we have hereunto signed our names, this 28th day of April, 1904, in the presence of two subscribing witnesses.

CARL HERMINGHAUS.

CARL GRUSCHWITZ.

Witnesses for Carl Herminghaus:

PETER LIEBER,

WILLIAM ESSENWEIN.

Witnesses for Carl Gruschwitz:

RICHARD HIRT,

HERBERT SMITH.