

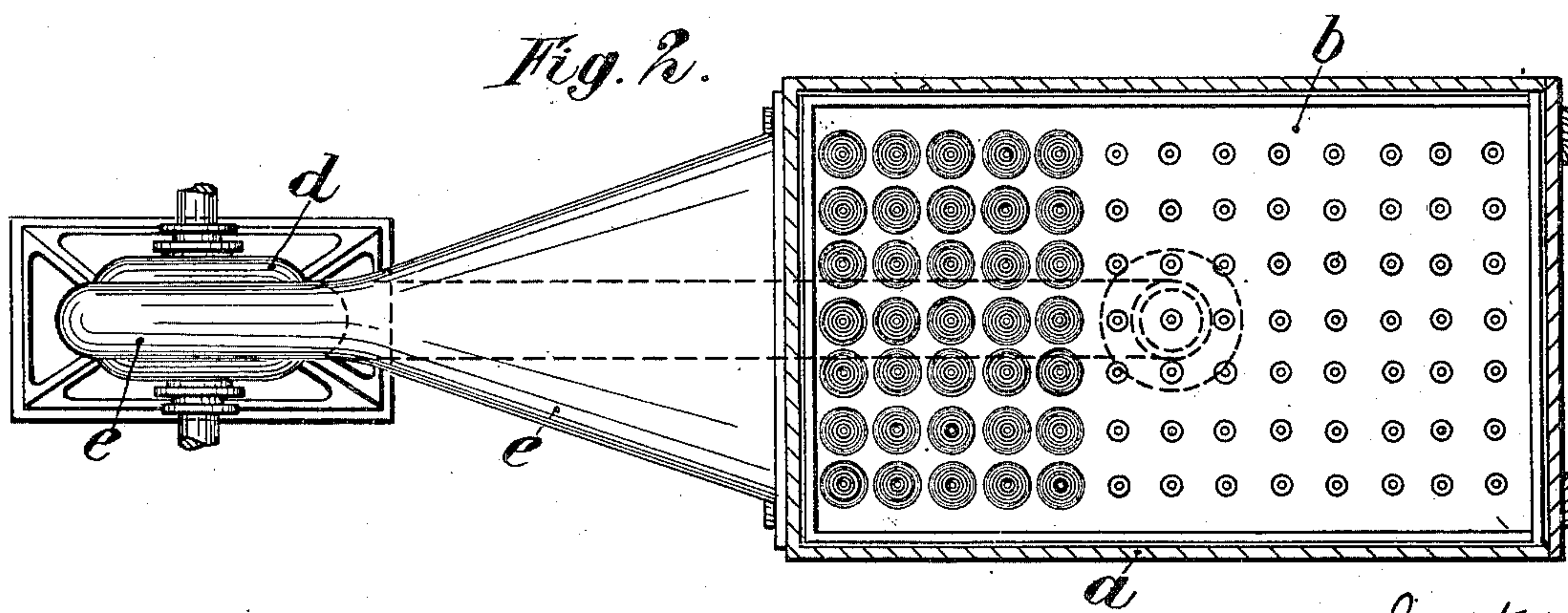
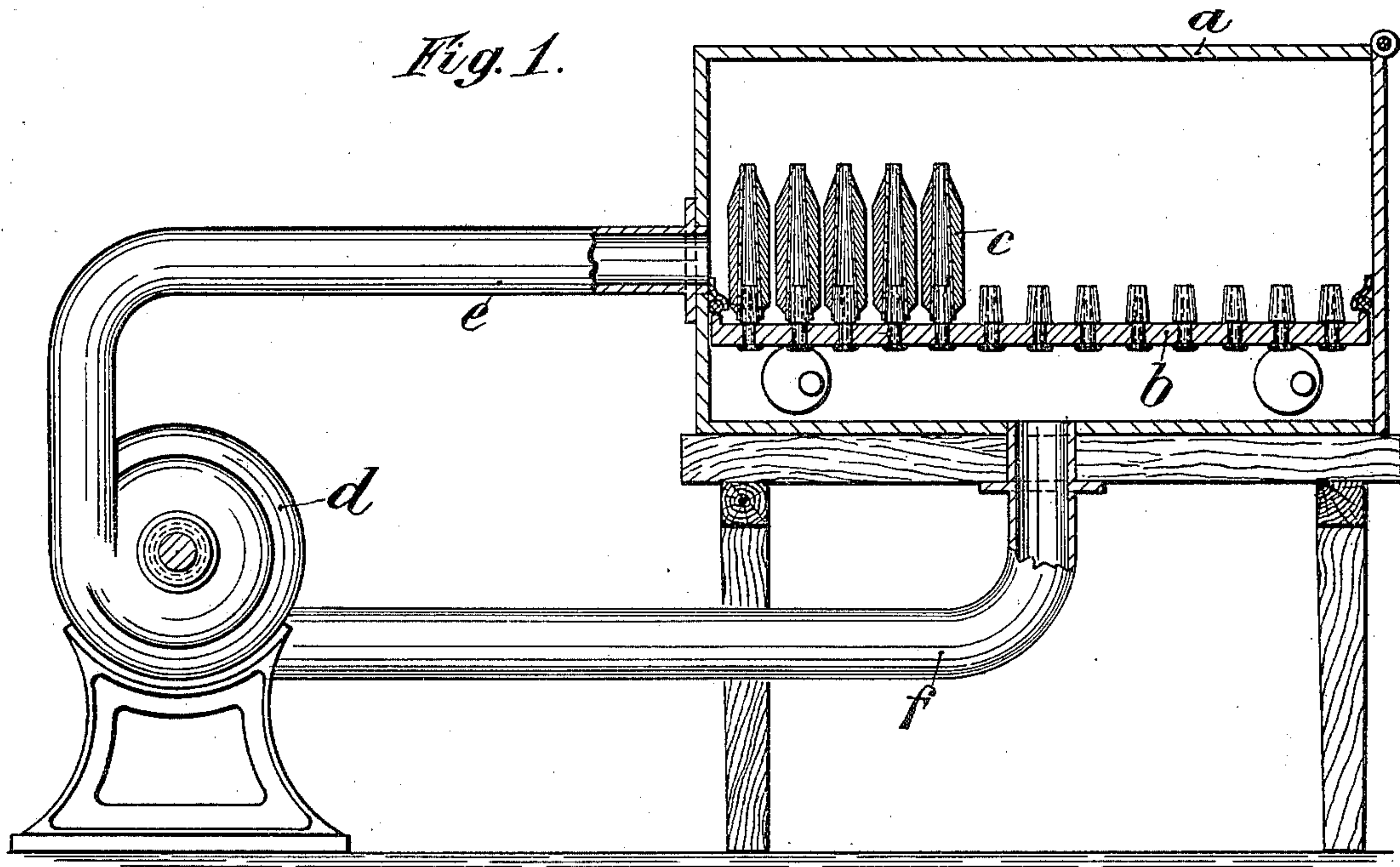
No. 701,444.

Patented June 3, 1902.

C. WOLF.
APPARATUS FOR DYEING YARN.

(Application filed July 18, 1901.)

(No Model.)



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UNITED STATES PATENT OFFICE.

CARL WOLF, OF SCHWEINSBURG-ON-THE-PLEISSE, GERMANY.

APPARATUS FOR DYEING YARN.

SPECIFICATION forming part of Letters Patent No. 701,444, dated June 3, 1902.

Application filed July 18, 1901. Serial No. 68,819. (No model.)

To all whom it may concern:

Be it known that I, CARL WOLF, a subject of the German Emperor, and a resident of Schweinsburg-on-the-Pleisse, Germany, have
5 invented certain new and useful Improvements in Apparatus for Dyeing Yarn in the Cop; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled
10 in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

15 This invention has relation to the art of dyeing yarn in the cop.

In dyeing yarn in the cop as practiced prior to my invention in apparatus in which the cops are stuck into a perforated false bottom
20 of the dye-vat and in which the dye liquor is caused to constantly circulate through the vat from a point above the false bottom through the same to a point below the same the yarn of those cops in the immediate vicinity of the point of inflow of the dye liquor is
25 not dyed either as rapidly or as strongly as the yarn on the cops more remote from the said inflow and where the dye liquor is more quiescent. This is attributable to the rapid
30 flow of the dye liquor at the point where it is admitted to the vat and is probably also due in part to the more or less loosening of the cops, causing the dye liquor to flow between the cops and the carriers in such a rapid man-
35 ner as not to penetrate into or saturate the yarn-threads as rapidly and effectually as is the case with the yarn of cops more remote from the inflow of the dye liquor.

My invention has for its object the provision of means whereby this difficulty is overcome; and it consists, essentially, in enlarging the outlet of the forcing-pipe, so as to embrace substantially the whole width of the dye-vat above its false bottom.

45 In the accompanying drawings, Figure 1 is a sectional elevation of an apparatus for dyeing yarn in the cop, and Fig. 2 is a top plan view thereof.

In the drawings *a*, indicates the vat; *b*, its

false bottom, provided with perforations for
the cop-shanks; *c*, the cops; *d*, a suitable rotary suction and forcing pump, having its
suction-pipe *f* connected about midway of its length to the bottom of the vat *a*, and *e*
indicates the forcing-pipe of said pump, hav-
55 ing a flattened fan-shaped or laterally-enlarged outlet *e'* extending nearly the full width of the vat *a*, above the false bottom *b* thereof, said vat being provided with a corresponding aperture. 60

By means of the construction described the dye liquor as it passes from the pipe to its enlarged discharge end *e'* is caused to spread laterally, the velocity of flow being correspondingly reduced, while said dye liquor enters the vat through a slot or aperture extending substantially over the full width of
65 said vat. A jet-like feed of the dye liquor is thus effectually avoided, the yarn on the cops along the feed-aperture in the vat—*i. e.*, along the enlarged mouth of the feed or forcing
70 pipe—being dyed as rapidly and as uniformly as the yarn on the cops more remote therefrom, as has been shown by practical experiments. 75

Having thus described my invention, what I claim as new therein, and desire to secure by Letters Patent, is—

1. Apparatus for dyeing yarn in the cop, comprising a polygonal vat, a false bottom
80 therein having apertured seats for the cops, an inlet-port at one end above the false bottom extending nearly across the vat, and an exhaust-port in the bottom thereof; in combination with a pipe connected with said
85 exhaust-port and having an outlet-terminal of gradually-increasing width connected to the aforesaid inlet-port and a suction and forcing device interposed in said pipe, substantially
90 as and for the purpose set forth.

2. Apparatus for dyeing yarn in the cop, comprising a polygonal vat, a false bottom therein having apertured seats for the cops, an inlet-port of uniform vertical cross-sectional area at one end above the false bottom
95 extending nearly across the vat, and an exhaust-port in the bottom thereof; in combination with a pipe connected with said ex-

haust-port and having an outlet-terminal of
gradually-increasing width and of substan-
tially the same vertical cross-sectional area
as and connected to the aforesaid inlet-port,
5 and a suction and forcing device interposed
in said pipe, substantially as and for the pur-
pose set forth.

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

CARL WOLF.

Witnesses:

ADOLPH FISCHER,
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