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PATENTED JULY 23, 1907.

M. BECKE.

COLOR FEEDING ATTACHMENT FOR MACHINES FOR DYEING OR PRINTING  
IN SHADED COLORS OR TINTS.

APPLICATION FILED JULY 3, 1906.

Fig: 1.

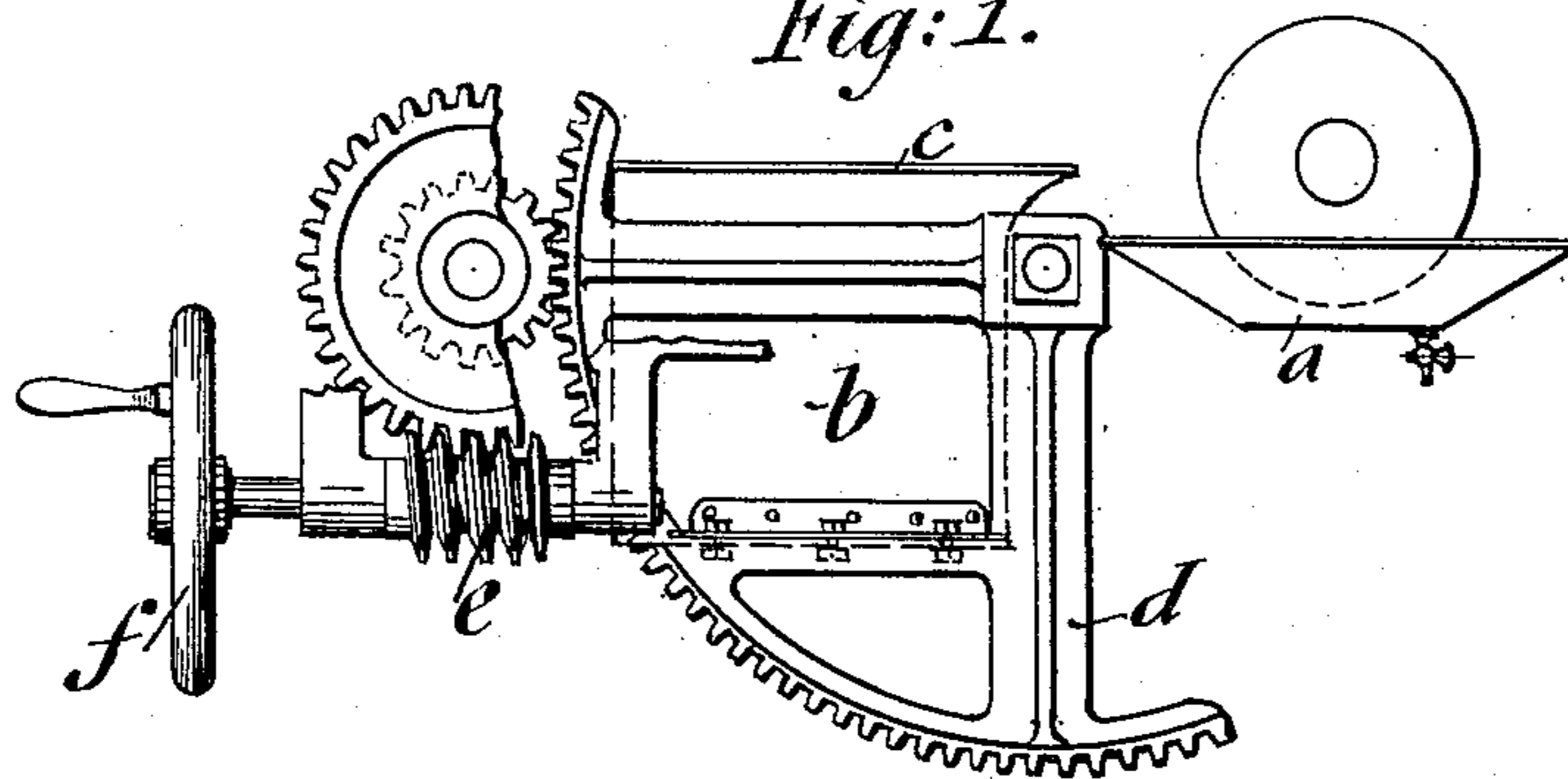


Fig: 2.

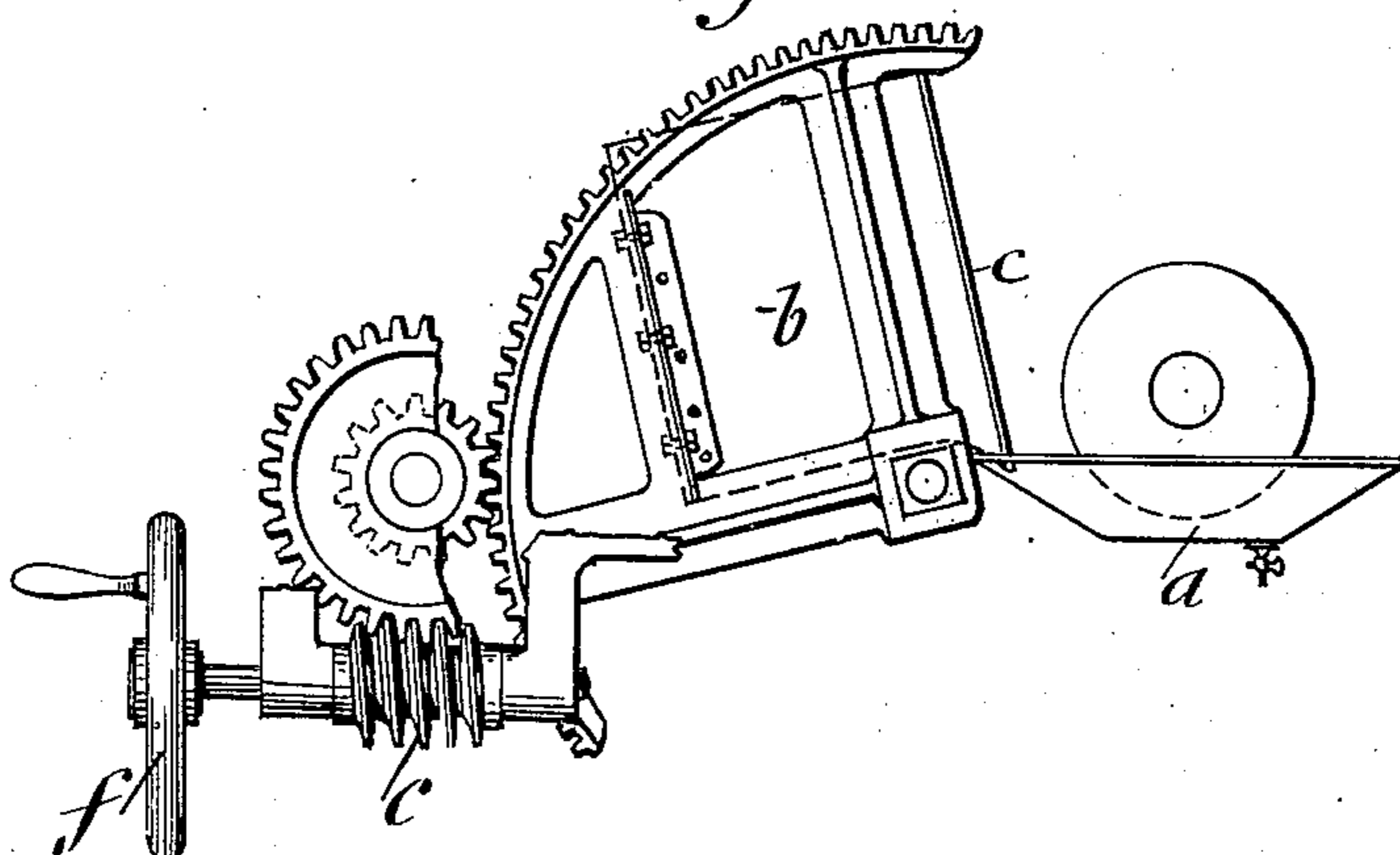
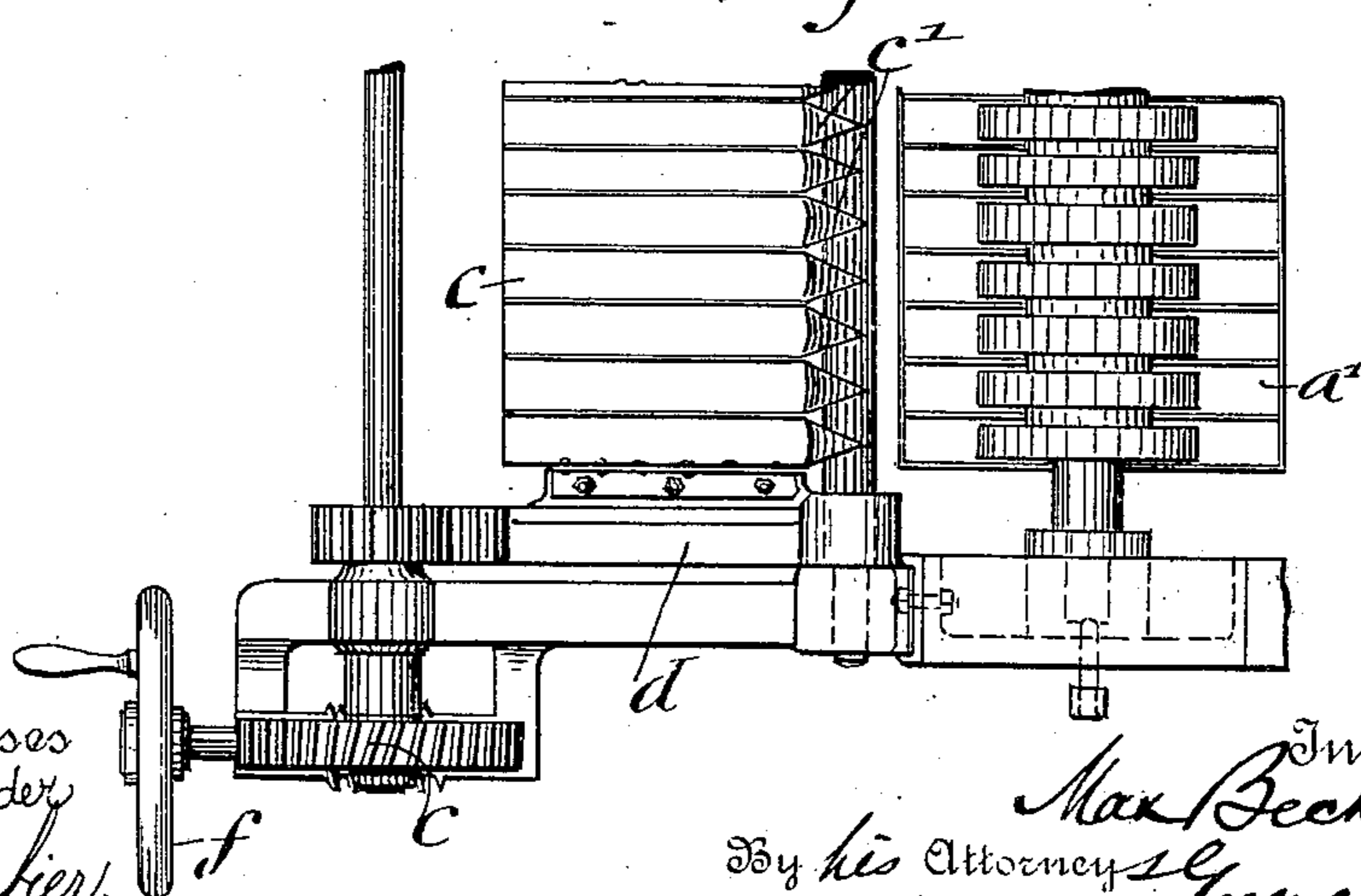


Fig: 3.



Witnesses  
H. Schneider  
H. Fuhrer.

Inventor  
Max Becke  
By his Attorney  
J. H. G. G. G.

# UNITED STATES PATENT OFFICE.

MAX BECKE, OF HÖCHST-ON-THE-MAIN, GERMANY, ASSIGNOR TO FARBWERKE, VORM. MEISTER LUCIUS & BRÜNING, OF HÖCHST-ON-THE-MAIN, GERMANY, A CORPORATION OF GERMANY.

## COLOR-FEEDING ATTACHMENT FOR MACHINES FOR DYEING OR PRINTING IN SHADED COLORS OR TINTS.

No. 860,893.

Specification of Letters Patent.

Patented July 23, 1907.

Application filed July 3, 1906. Serial No. 324,566.

*To all whom it may concern:*

Be it known that I, MAX BECKE, chemist, a citizen of the Empire of Austria-Hungary, residing in Höchst-on-the-Main, in the Empire of Germany, have invented certain new and useful Improvements in Color-Feeding Attachments for Machines for Dyeing or Printing in Shaded Colors or Tints, of which the following is a specification.

In the machines for dyeing or printing in shaded colors or tints the colors are transferred by means of a sub-divided roller to the dyeing or printing rollers proper. These machines have the disadvantage that the several subdivisions of the color-trough hold only a small quantity of color, so that after a comparatively short length of the goods is passed through the machine, the colors become exhausted so that the transfer-roller cannot take up and transfer any more color. The machines have therefore to be stopped so as to replenish the color-trough with a new supply of colors.

The object of this invention is to furnish a color-feeding attachment for the dyeing and printing machines referred to, by which the several subdivisions of the color-trough are supplied from time to time without interrupting the motion of the dyeing or printing machines, so that the latter can be operated continuously without any loss of time in stopping and refilling the color-trough of the transfer-roller of the same.

For this purpose the invention consists of a color-feeding attachment which comprises a large receptacle or tank that is divided by partition-walls into as many subdivisions or compartments as there are divisions in the color-trough, and means for raising or lowering said color-feeding receptacle so as to permit an intermittent supply of color to the different subdivisions of the color-trough of the transfer-roller and the continuous working of the dyeing or printing machine, as will be fully described hereinafter and finally pointed out in the claims.

In the accompanying drawings, Figure 1 represents a side-elevation of my improved color-feeding attachment for machines for dyeing or printing in shaded colors or tints, showing the color-feeding device in its lower or normal position, Fig. 2 is a side-elevation showing the color-feeding device in raised position for supplying color to the subdivisions of the color-trough of the transfer-roller, and Fig. 3 is a plan-view of Fig. 1.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings, *a* represents the color-trough of a machine for dyeing or printing in shaded colors or tints. The color-trough is divided into a

number of subdivisions or compartments by transverse partition-walls *a*<sup>1</sup> so as to supply colors of different shades or tints to a correspondingly-subdivided transfer-roller *a*<sup>2</sup> located above the color-trough. The color-trough *a* is provided with drain-cocks in its bottom for draining off the colors in the same when the machine is not required for use. Alongside of the color-trough *a* is arranged a color-feeding receptacle or tank *b* which is pivoted to the framework of the machine, and which is divided in the same manner as the color-trough *a*, by means of partition-walls *b*<sup>1</sup>, into a corresponding number of individual subdivisions or compartments *c* in line with the subdivisions of the color-trough. The upper edge of the supply-receptacle *b* is located at a higher level than the color-trough. The individual compartments *c* of the tank *b* are made much larger than the corresponding subdivisions of the color-trough *a*, so that each compartment is from fifteen to twenty times larger than the corresponding subdivision of the color-trough *a*. The compartments of the color-feeding receptacle or tank *b* are of equal size and are provided at the upper edge, adjacent to the rear-edge of the color-trough, with tapering or tubular spouts *c*<sup>1</sup>. By raising or tilting the color-feeding receptacle or tank on its pivot-shaft, the feed of the colors from the compartments *c* of the tank *b* into the subdivisions of the color-trough is produced, so that the same can be intermittently supplied with colors until the compartments *c* are empty.

The raising and lowering of the color-feeding receptacle *b* is accomplished by swinging it on its pivot-shaft *s*, which is supported in suitable journal-bearings of the dyeing or printing machines. To the pivot-shaft *s* is keyed the hub of a toothed segment *d* which meshes with a pinion *d*<sup>1</sup> that is rotated by a worm-gear *e*<sup>1</sup>, which latter is keyed to the shaft of the pinion *d*<sup>1</sup> and a worm *e*, the latter being turned by means of a hand-wheel *f* that is keyed to the shaft *e*<sup>2</sup> of the worm *e*. The shaft *e*<sup>2</sup> is also supported in journal-bearings of the supporting-frame of the machine and rotated in one or the opposite direction by turning the hand-wheel *f* to the right or left. By the power-transmitting mechanism described the color-feeding receptacle or tank *b* is gradually raised from the position shown in Fig. 1 to that shown in Fig. 2, and then returned again into its lower position for permitting the refilling of the individual compartments of the receptacle or tank. By the color-feeding attachment the fabrics that have to be dyed or printed in shaded colors or tints can be continuously supplied with the required colors by the transfer-roller as the color-trough is always supplied

with the colors from the receptacle or tank *b*, so that the continuous working of the machine is rendered possible, and any length of fabrics can be dyed or printed by keeping the color-feeding compartments, and by the successive raising of the same the subdivisions of the color-trough, supplied with the required quantity of color.

The essential feature of the feeding device consists therefore of the color-feeding tank which is provided with as many compartments as there are subdivisions of the color-trough, so that the transfer-roller can be continuously supplied with color. It is essential for the proper functioning of the color-feeding attachment that the different compartments of the supply-tank should be of equal size so as to deliver, when raised, a uniform quantity of color to the different subdivisions of the color-trough. The level of the color in the different feeding-compartments remains thereby the same and the resupplying of new colors to the same in uniform quantities can be accomplished when the contents of the same become gradually exhausted. The raising or lowering of the color-feeding receptacle may be accomplished by different mechanisms than that shown, or the feeding devices of the color-feeding compartments altered, and the discharge-spouts of the color-feeding receptacle provided with stop-cocks which may be simultaneously opened or closed by a suitable connection, and other constructional features may be arranged without departing from the spirit of the invention.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. In a color-feeding attachment for machines for dyeing or printing in shaded colors or tints, the combination, with a subdivided transfer-roller and a subdivided color-trough below the same, of a color-feeding receptacle or tank divided by partition-walls into as many compartments as there are subdivisions in the color-trough, and means for raising or lowering said color-feeding receptacle or tank so as to keep the color-trough supplied with color.

2. In a color-feeding attachment for machines for dyeing or printing in shaded colors or tints, the combination, with a subdivided transfer-roller and a subdivided color-trough below the same, of a color-feeding receptacle or tank divided by partition-walls into as many compartments as there are subdivisions in the color-trough, said compartments being provided with individual spouts at the upper end adjacent to the color-trough, and means for raising or lowering said color-feeding receptacle or tank so as to keep the color-trough supplied with color.

3. A color-feeding attachment for machines for dyeing or printing in shaded colors or tints, which comprises a receptacle or tank divided by transverse partition-walls into compartments, said compartments being provided with spouts at their upper ends adjacent to the subdivided color-trough of the transfer-roller, and means for raising or lowering said receptacle or tank for supplying color to the subdivisions of the color-trough.

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

MAX BECKE.

Witnesses:

JEAN GRUND,  
CARL GRUND.