

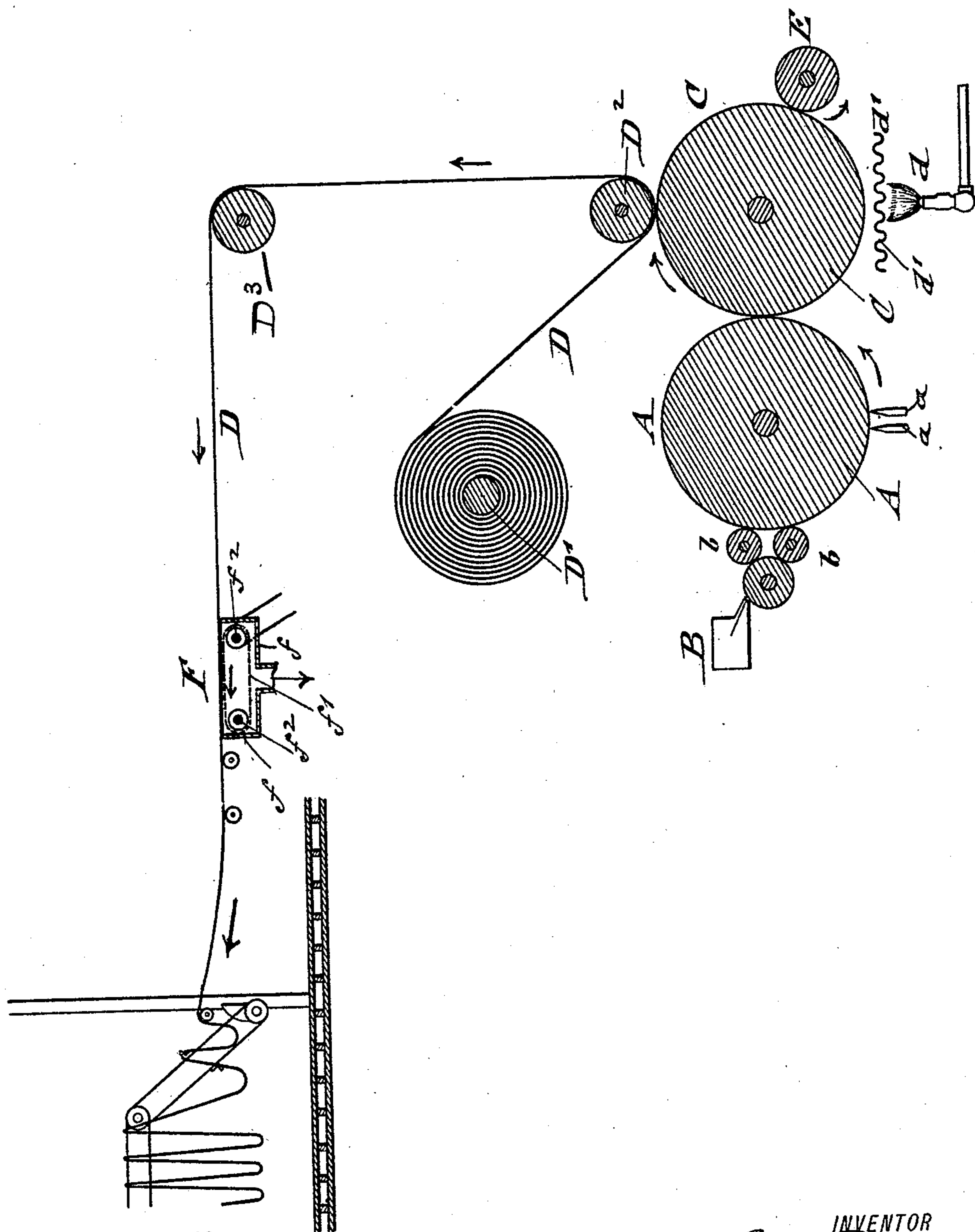
(No Model.)

C. DAHM.

MACHINE FOR MAKING TRANSFER GRAINING PAPER.

No. 463,442.

Patented Nov. 17, 1891.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## MACHINE FOR MAKING TRANSFER GRAINING-PAPER.

SPECIFICATION forming part of Letters Patent No. 463,442, dated November 17, 1891.

Application filed May 7, 1891. Serial No. 391,890. (No model.)

*To all whom it may concern:*

Be it known that I, CASPAR DAHM, a resident of Münster, in the Kingdom of Prussia and Empire of Germany, and a citizen of the German Empire, have invented certain new and useful Improvements in Machines for Making Transfer Graining-Paper, of which the following is a specification.

This invention relates to an improved machine for making transfer graining-paper for the use of painters and others, by which the expensive hand-graining in imitation of wood is dispensed with and by which any desired kind of grain can be produced at a considerable saving in time and labor; and it consists of a machine for making transfer graining-paper, which comprises a pattern-cylinder, a transfer-cylinder working in contact therewith, guide-rollers for the paper, a feed device for moving the paper over the transfer-cylinder, a cleaning-roller in contact with the transfer-roller, and a heating device below the transfer-roller, as will be fully set forth hereinafter, and finally be pointed out in the claim.

The accompanying drawing represents a vertical longitudinal section of my improved machine for making transfer graining-paper.

Referring to the drawing, A represents a pattern-cylinder, to which the required color is supplied from a color-fountain B by a number of distributing-rollers *b b*, which transfer the ink to the surface of the pattern-cylinder. At the lower part of the pattern-cylinder are arranged two blades or doctors *a a*, which are set close to the surface of the pattern-cylinder, so as to take up the surplus color from the same. The pattern-cylinder A is made of brass or other suitable material and is engraved according to the grain of the wood which is to be produced on the transfer-paper, the grain being engraved by hand or produced in any other approved manner on the surface of the pattern-cylinder. A transfer-cylinder C is rotated in contact with the pattern-cylinder A and at the same speed therewith, it being made of the same diameter as the pattern-cylinder. It is preferably made of elastic material similar to the inking-cylinders employed in printing-presses.

Below the transfer-cylinder C is arranged a heating device *d*, by which the surface of

the transfer-cylinder C is kept warm, a suitable guard device *d'*, of corrugated sheet metal or gauze, being interposed between the cylinder and the heating device, so as to prevent the direct contact of the flame with the transfer-cylinder and injury to the latter. The heating of the surface of the transfer-cylinder C has the advantage that the color is more readily taken up by the same from the engraved pattern-cylinder and transferred to the paper D, which is supplied from a suitable roll *D'*, and which is held in contact with the transfer-cylinder C by means of a guide-roller *D<sup>2</sup>*.

A cleaning-roller E is rotated in contact with the surface of the transfer-cylinder, preferably at a somewhat greater speed than the same. This roller is made of steel or other suitable metal, and serves by its contact with the transfer-cylinder to take up any color which remains thereon. This color is readily taken up by the roller E, owing to the difference of temperature between it and the surface of the transfer-cylinder, the higher temperature of the transfer-roller C permitting the ready transfer of the surplus color from its surface to the surface of the metal roller E, which is gradually covered with a thin film of color, that is removed therefrom from time to time. The transfer-cylinder C is thereby in a condition to be favorably acted on by the heating device below the same, so as to be ready for receiving and transferring the color supplied thereto by the pattern-cylinder A.

The paper D, to which the desired grain has been transferred in the proper color, is conducted from the guide-roller *D<sup>2</sup>* over a second guide-roller *D<sup>3</sup>* to a feed device F, which is arranged in contact with the underside of the paper and composed of an open box *f*, to which suction is applied by a suitable apparatus, and of an endless perforated belt *f'*, that is guided over suitable rollers *f<sup>2</sup>* in said box, one of the rollers being rotated by a belt-and-pulley transmission. By the suction exerted on the paper by the suction apparatus the paper is drawn into contact with the endless perforated belt *f'* and moved simultaneously forward by the motion imparted to the belt, so that a feeding device for the paper is obtained without the use of feed-roll-



ers, which are not applicable in this case, as the upper surface of the paper is covered with the moist grain transferred thereto. The feed motion of the paper is so regulated  
5 by varying the speed of the motion-transmitting belt that it is moved forward at the same speed as the transfer-cylinder, so that the design on the paper is not blurred or injured, but is transferred thereto in a clear and distinct manner.  
10

From the feed device F the paper is transferred to the drying-room, in which it is hung up on sticks supplied from a stick-box to an endless belt in the manner well known in the  
15 printing of wall-paper, glazed paper, and the like. The speed of the mechanism by which the paper is hung up in the drying-room is so timed that a regular forward feeding of the paper in the drying-room takes place.

20 The color employed in making the transfer graining-paper is of such a nature that a number of transfers can be made from the same, which is graduated by the depth of the pattern engraved on the pattern-cylinder A.

25 By my improved machine the transfer graining-paper for painters' use can be manufac-

tured by a continuous process, so that it can be furnished in rolls of considerable length and at a cheaper rate than by the methods heretofore in use.

Having thus described my invention, I claim as new and desire to secure by Letters Patent— 30

A machine for making transfer graining-paper, consisting of an engraved pattern-cylinder, a color feeding and distributing device, a transfer-cylinder rotating in contact with the pattern-cylinder, a heating device below the transfer-cylinder, a metallic cleaning-roller rotating in contact with the transfer-cylinder, guide-rollers for the paper to be printed, and a feed device applied to the under side of the grained paper, substantially as set forth. 35 40

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses. 45

CASPAR DAHM.

Witnesses:

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A. M. BAKER.