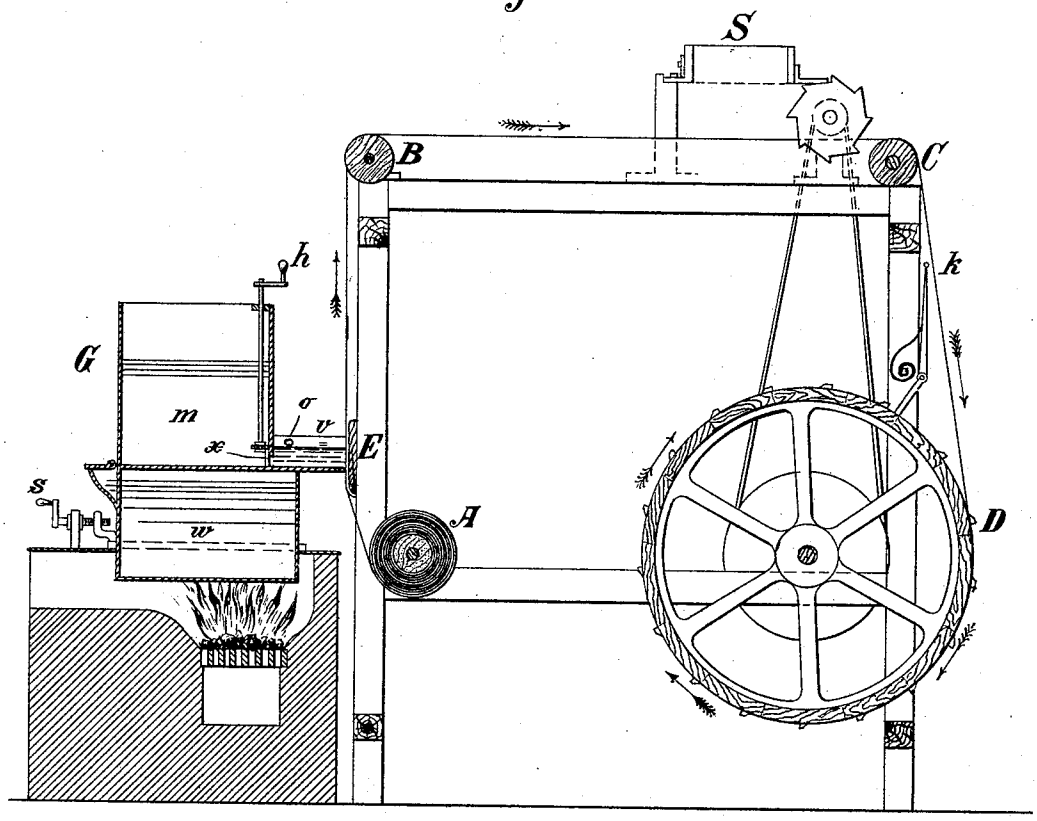
(No Model.) 2 Sheets—Sheet 1.

J. PRASCH.

MACHINE FOR COATING PAPER.

No. 410,921. Patented Sept. 10, 1889.

Fig. 1.



Witnesses:
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George G. Wooster

Josef Prasch,
Inventor:
by Louis Bagger & Co.
his Att'ies

N. PETERS, Photo-Lithographer, Washington, D. C.

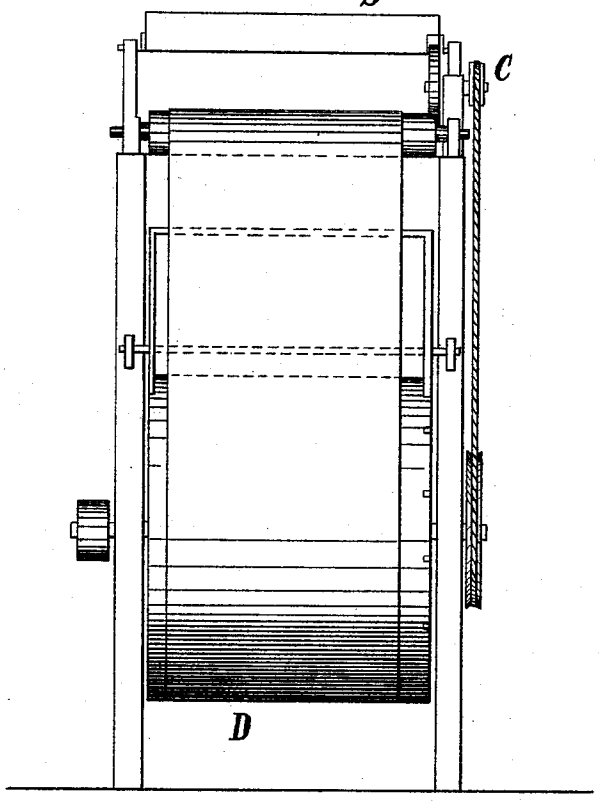
(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.



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UNITED STATES PATENT OFFICE.

JOSEF PRASCH, OF VIENNA, AUSTRIA-HUNGARY.

MACHINE FOR COATING PAPER.

SPECIFICATION forming part of Letters Patent No. 410,921, dated September 10, 1889.

Application filed June 15, 1889. Serial No. 314,391. (No model.)

To all whom it may concern:

Be it known that I, JOSEF PRASCH, engineer, of Vienna, in the Empire of Austria-Hungary, have invented new and useful Improvements in Machines for Coating Paper and the like with Fluids, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to what is termed "hectograph-paper," by means of which numerous copies of writings or drawings can be made from one original without the aid of apparatus. Such paper is continuous, thin, and strong, and is coated on one side with a very fine layer of one of the ordinary gelatinous copying substances which possess the quality of absorbing soluble intense coloring-matter—such as, for instance, concentrated aniline-ink—and from which a number of impressions of the transfer may be taken on paper or other suitable material.

The composition of the copying substance employed forms no part of the present invention. Any of the ordinary preparations—such as those containing glue, gelatine, and glycerine—may be used.

The essential features of this invention consist in the application of the copying film or coating to continuous paper, in the method whereby such coating is applied, and in apparatus specially adapted for effecting such application.

In the accompanying drawings, Figure 1 represents in vertical section and side elevation the apparatus I prefer to employ for coating the paper, Fig. 2 being an end elevation thereof.

In a suitable frame-work are mounted an axle A, two rollers B and C, and a drum D, parallel to each other and in the order shown. The roll of endless paper to be coated is carried by the axle A, one end being led over the guide-rollers B and C to the drum D, upon which the paper, then in the form of hectograph-paper, is wound. A vessel G, consisting of three separate compartments *w*, *m*, and *v*, is placed over a fire, the compartment *w* containing water and serving as a heating-bath for the other two compartments. The copying substance is placed in the reservoir *m*, and is liquefied by the hot bath underneath. The third compartment *v* communicates with the reservoir *m* through an aperture *x*, which can be closed by means of a slide actuated by the handle *h*. This compartment is formed with three side walls only, the fourth side being closed by a fixed screen E, between which and the compartment the paper is passed. That side of the screen in contact with the paper is lined with felt or other soft substance. By turning the screw *s* the vessel G can be so adjusted that the open side of the compartment *v* presses to the requisite degree against the screen E or the paper thereon, and is tightly closed thereby, the movement of the paper being, however, uninterrupted on account of the yielding nature of the screen aforesaid. When the aperture *x* is opened, the liquefied substance passes into the compartment *v* and arrives in contact with the paper, an orifice *o* in one of the side walls serving to regulate the level of the substance in this compartment. If the drum D be set in motion in the direction indicated by the arrows, any motive power being employed for the purpose, the paper is wound from the axle A and passes upward past and in contact with the liquefied substance, a thin layer of the latter being deposited on that side of the paper which is turned toward the vessel G. The thickness of the coating or layer of the copying substance so deposited is regulated by reducing or increasing the rate of motion of the paper, thus giving more or less time for the surplus copying substance to flow away. As the liquefied substance when coagulated is adhesive, the paper coated therewith cannot be rolled up and kept in that condition. Its adhesiveness must, therefore, first of all be removed. This is effected by sprinkling over the coating on the paper a fine insoluble powder—such as stone-alum—which adheres to the copying substance, and is washed off before use with a damp sponge. The powder is contained in a sieve S, placed between rollers B and C. The sieve is constantly agitated by any appliance connected with the motive mechanism, such as the notched wheel shown in the drawings. A small bar *k*, pivoted to the frame-work in the space between roller C and drum D, is caused by projections on

the drum D to strike lightly and repeatedly against the back of the paper, thus serving to knock off any excess of powder.

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

1. The combination, with a vessel containing liquefied substance, of a frame, an axle journaled in one end thereof and carrying the paper to be coated, guide-rollers journaled in opposite upper portions of said frame over which the paper is passed, a shaft carrying a suitable drum, said drum also having the paper secured thereto and the shaft further provided on one end with a band-pulley and on the opposite end with a grooved wheel, a sieve mounted in standards in the upper portion of the frame, a shaft having mounted upon its inner end a toothed wheel and on its outer end a pulley-wheel, an endless pulley-band passing around the upper and lower pulleys, and a fixed screen secured to the frame, substantially as set forth.

2. The combination, with a vessel containing a liquefied substance, of a frame, an axle journaled at one end thereof and carrying the paper to be coated, guide-rollers journaled in opposite upper portions of said frame and over which the paper passes, a shaft carrying a suitable drum, to which the paper is secured, said drum provided with a series or radial projections or fingers, a bar pivoted in the frame-work adapted to engage said projections, a sieve arranged upon the upper portion of the frame, means for actuating said sieve, and a fixed screen secured to the frame, substantially as set forth.

3. The combination, with a frame provided with suitable rollers, over which the paper to be coated is passed, of a vessel consisting of a lower compartment or water-containing receptacle, an upper reservoir or liquid-containing receptacle, and a communicating laterally-extending open-ended vessel, into which the liquid passes and comes in contact with the paper as it moves over the rollers, and a fixed screen secured to the frame, substantially as set forth.

4. The combination, with a frame provided with suitable rollers, over which the paper to be coated is passed, and also provided with a fixed screen, of a vessel consisting of a lower compartment or water-containing receptacle, an upper reservoir or liquid-containing receptacle, and a communicating laterally-extending and open-ended vessel, the paper to be coated passing between this open-ended vessel and the fixed screen, substantially as set forth.

5. The combination, with the frame provided with suitable rollers, over which the paper to be coated is passed, and also provided with a fixed screen, of a vessel consisting of a lower compartment or water-containing receptacle, and an upper reservoir or liquid-containing receptacle, said latter receptacle having an open side, so that the liquid will come in contact with the paper as the same is moved, and also provided with an orifice for regulating the level of the substance in the compartments, substantially as set forth.

6. The combination, with a frame provided with suitable rollers, over which the paper to be coated is passed, and also provided with a fixed screen, of a vessel consisting of a lower compartment or water-containing receptacle, an upper reservoir or liquid-containing receptacle, and a communicating open-ended laterally-extending vessel in which the liquid passes and comes in contact with the paper as it moves over its rollers, and a slide or valve for closing communication between the reservoir and laterally-extending vessel, substantially as set forth.

7. The combination, with a frame provided with suitable rollers, over which the paper to be coated is passed, and also provided with a fixed screen, of a vessel consisting of a lower compartment or water-containing receptacle, an upper reservoir or liquid-containing receptacle, and a communicating laterally-extended open-ended vessel in which the liquid passes and comes in contact with the paper as it moves over its rollers, and means for adjusting the vessel, so that the open side of the laterally-extending portion thereof presses to the requisite degree against the paper, substantially as set forth.

In witness whereof I have hereunto set my hand in presence of two witnesses.

JOSEF PRASCH.

Witnesses:
B. ROI,
PAUL FISCHER.