

No. 728,608.

PATENTED MAY 19, 1903.

A. K. PHILLIPS.  
SPOOL BLUING.

APPLICATION FILED OCT. 5, 1901.

NO MODEL.

Fig. 1.

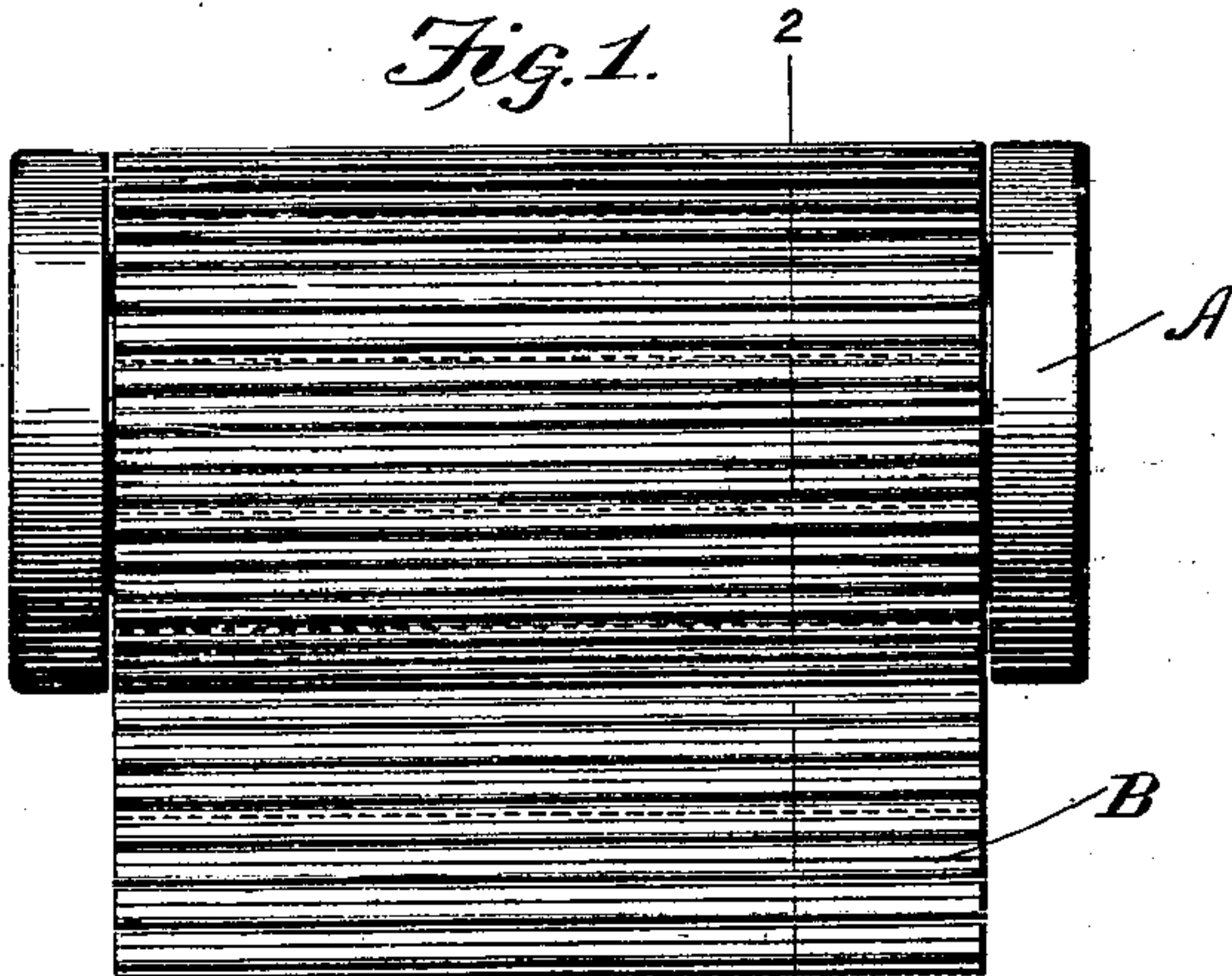


Fig. 2.

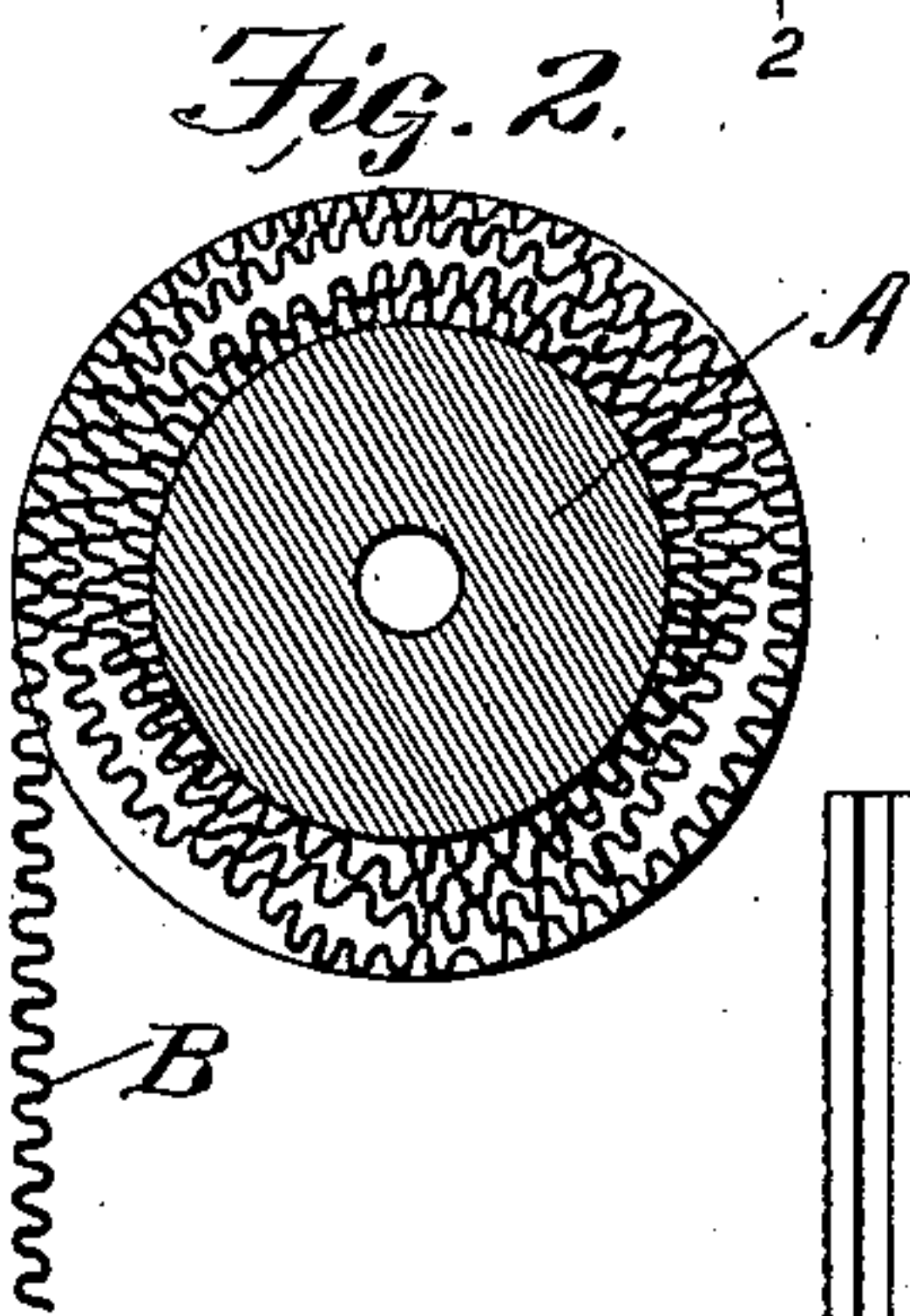


Fig. 3.

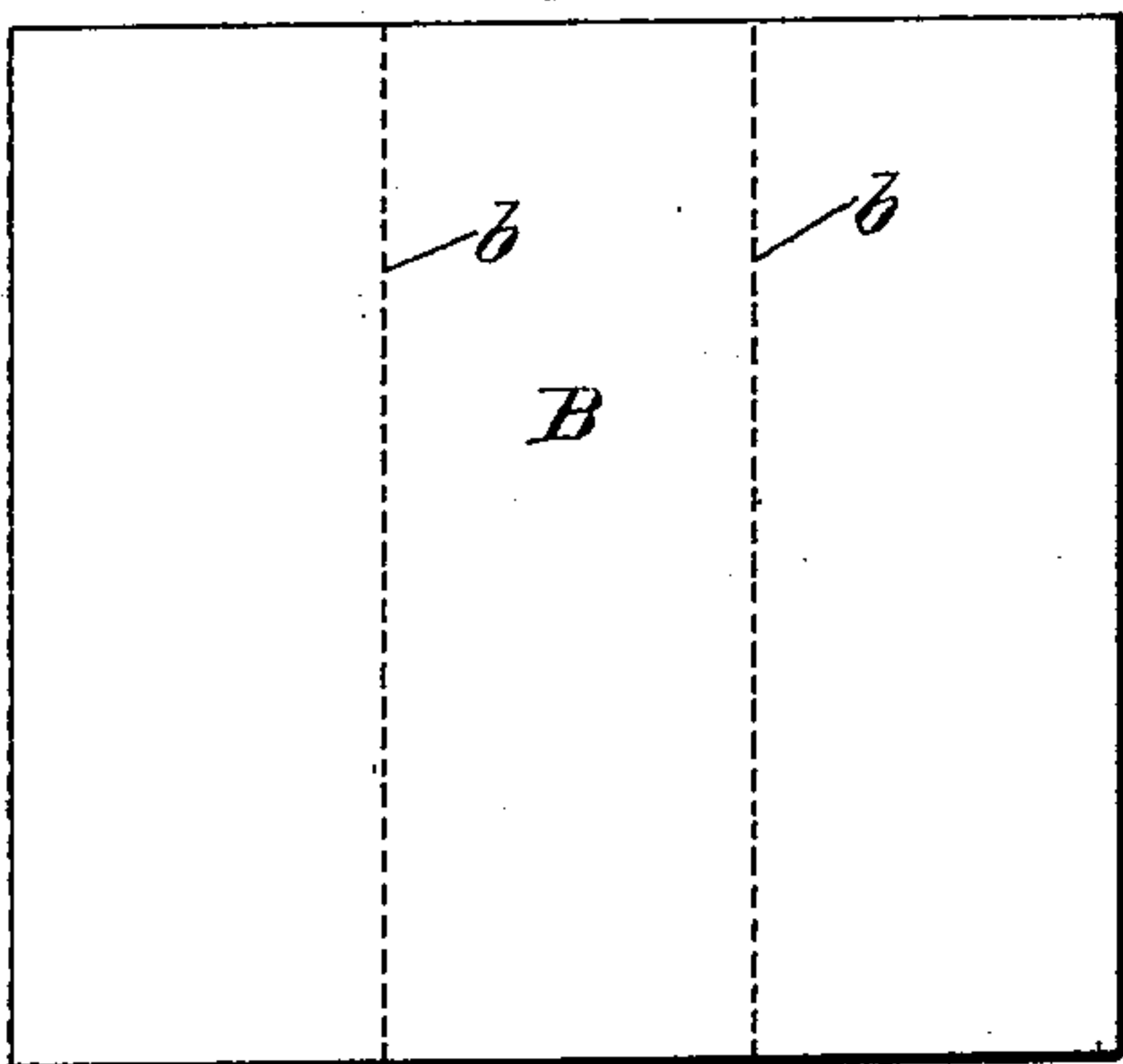


Fig. 4.

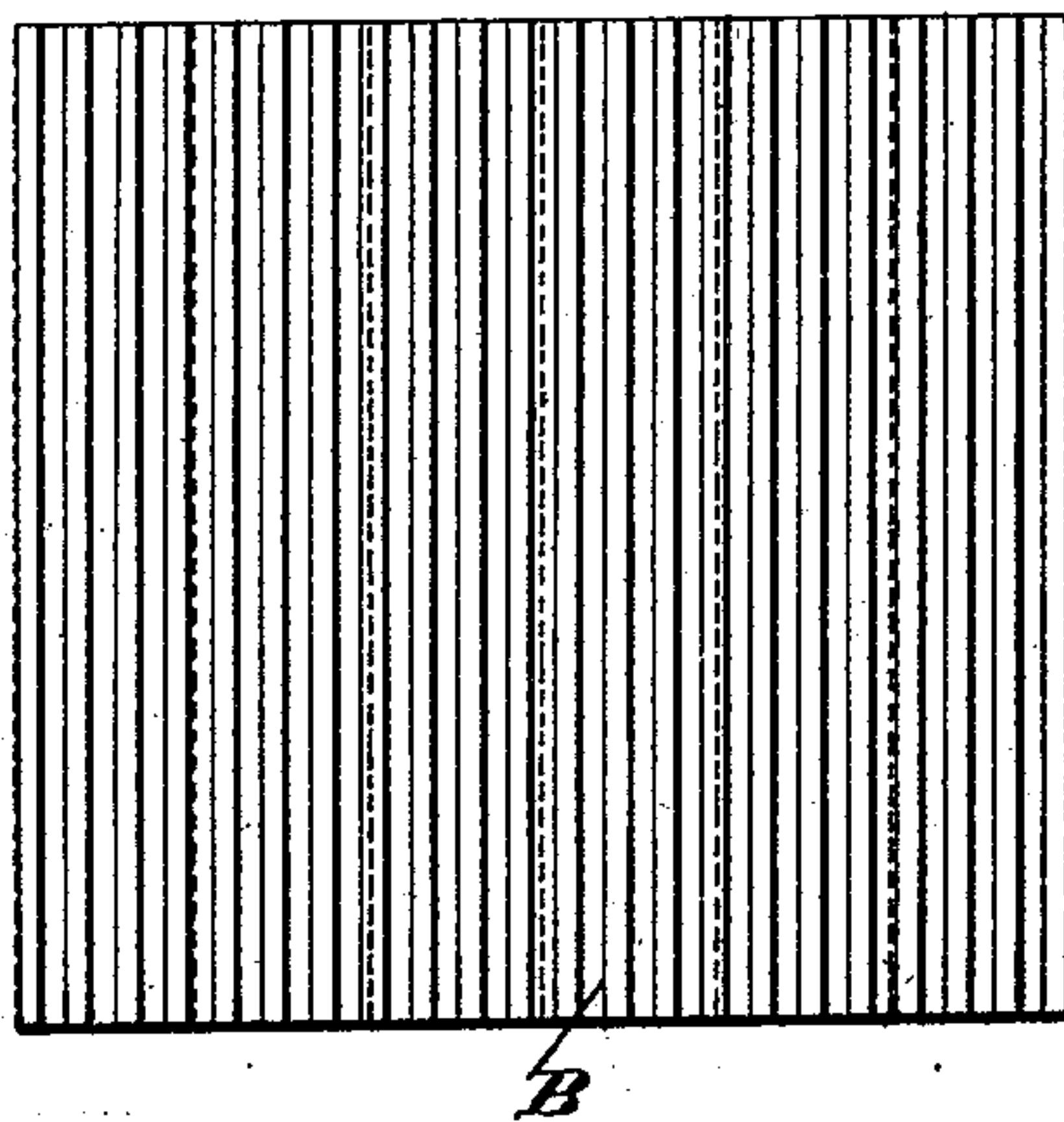


Fig. 5.

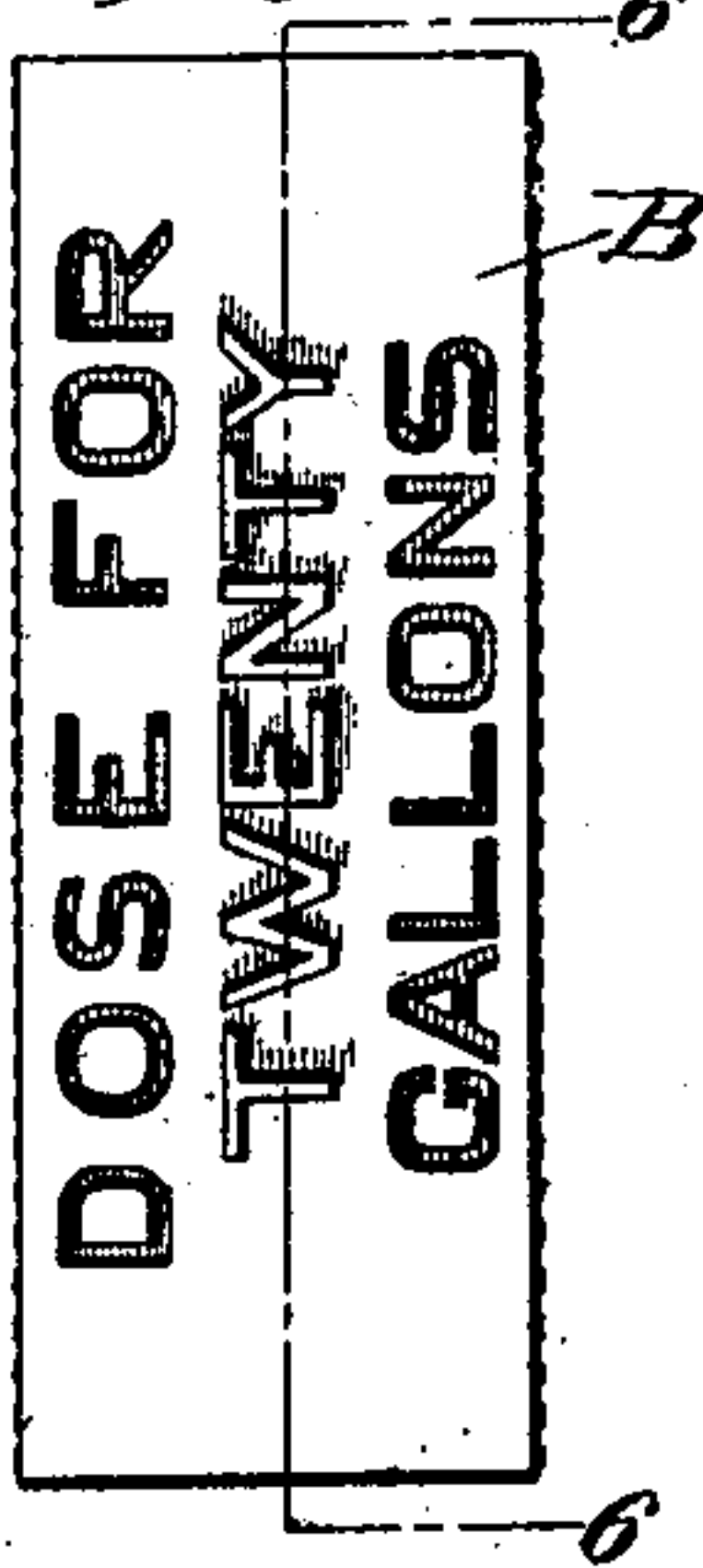


Fig. 6.

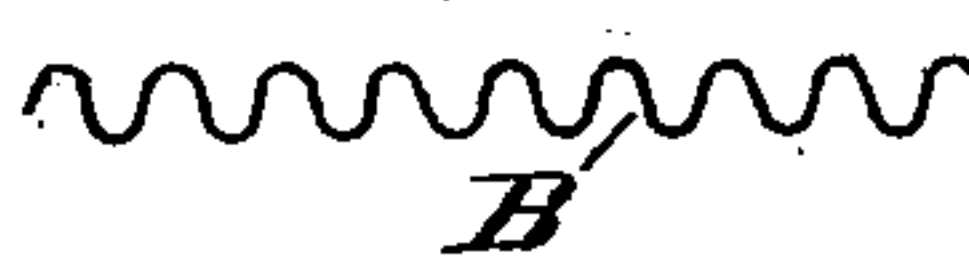


Fig. 7.



Witnesses:  
G. A. Pennington  
George Kewell

Fig. 8.



Inventor:  
Augustus K. Phillips,  
by Kewell Cornwall  
Attys.



# UNITED STATES PATENT OFFICE.

AUGUSTUS K. PHILLIPS, OF ST. LOUIS, MISSOURI.

## SPOOL-BLUING.

SPECIFICATION forming part of Letters Patent No. 728,608, dated May 19, 1903.

Application filed October 5, 1901. Serial No. 77,680. (No model.)

*To all whom it may concern:*

Be it known that I, AUGUSTUS K. PHILLIPS, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Spool-Bluing, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevational view of a spool having bluing-paper wound upon it. Fig. 2 is a sectional view through the same on line 2 2, Fig. 1. Fig. 3 is a detail view of a piece of bluing-paper, showing the same rouletted or perforated without being crimped. Fig. 4 is a similar view showing a piece of corrugated or fluted bluing-paper. Fig. 5 is a detail view showing the paper embossed by letters, so as to elevate or depress certain portions of the surface thereof. Fig. 6 is a sectional view on line 6 6, Fig. 5. Fig. 7 is a detail edge view showing a form of crimped paper, and Fig. 8 is a detail edge view showing the preferred form of corrugated or fluted paper.

This invention relates to a new and useful improvement in spool-bluing of that character wherein the fugitive pigment is carried by a paper or any other suitable base, the same being preferably made in strip form and for convenience of use is perforated or rouletted, so that portions thereof may be conveniently detached for use.

I am aware that paper has been used to carry bluing for laundry purposes. This has been done by saturating and coating the paper with a proper pigment by simply dipping the paper in the pigment, laying the pigment on by brush or by means of rollers, the application being made to both sides or to one side of the paper, as desired, the paper being arranged in sheets or strips, which are placed in envelopes or gathered into book form.

In the instances above referred to there has not been fixed an exact and convenient measure of the quantity or portion of the product which would enable the user to color without previous experimentation any special amount of water—say, for instance, the contents of an average-sized washtub of twenty-gallon

capacity—so as to give to the rinsing-water of the wash that subtle tinge of blue that is required to produce the best results. By the use of the paper-bluing referred to in this particular the operator is no better off than when using liquid bluing, the common bluing-bag, or other existing forms of this staple. Where a suggestion is made as to the quantity of bluing-paper required for use, it calls for a square inch of the coated paper to each gallon of water, thus requiring twenty square inches of the bluing product to tinge a tub containing twenty gallons of water. This proportion is obviously large, inconvenient, and objectionable, and practically prohibits the acceptance of such a product by the public over old forms.

The bluing-pigments which are put upon paper for laundry purposes as a commercial product are generally prepared by a method which does not entirely dissolve all of the ingredients of the pigment, and consequently particles of blue not entirely dissolved come off upon immersion in water and upon scattering streak the clothes, frequently rendering it necessary to rewash the clothes to remove these blue streaks. The paper used in connection with existing forms of bluing-paper is generally common thick paper which becomes saturated. At least no effort is made to prevent the saturation. It therefore follows that the pigment with which the paper is saturated is not given off quickly and at once or even quickly on its immersion and agitation in water, so that the paper stock is left practically clean of the pigment, the bluing being imparted to the water and giving to it the precise tinge desired. On the contrary, where the paper is saturated the degree of saturation retards in proportion to the saturation the dissolving action, and if the paper is removed from the water before it has fully yielded its charge the desired result is not obtained. Furthermore, the length of time that the paper shall remain in the water is left to experiment and conjecture, and even when the paper is removed it is not known that it has yielded all of its coloring-pigment. The bluing-paper referred to is objectionable in that the pigment may be easily rubbed off, and consequently stains whatever it touches, nor can the layers of such



product be wound or laid directly upon the other and so remain without uniting or sticking together in a short time, which tendency is induced by moisture attracted and held by the pigment and the lack of further treatment at the time of manufacture to forestall the occurrence of such a condition.

The objects of my present invention are, first, to coat or put upon paper or other suitable medium a bluing-pigment which will dissolve and give off at once the coloring-matter held by it upon being immersed or agitated in water without risk of soiling or streaking the clothes in the water; second, to provide as a finished product a roll or a spool of bluing. In the case of a spool the strip of bluing-paper is wound upon a suitable spool or mandrel, whereby it is cleanly and convenient to handle and will be preserved without deterioration. The strip of bluing-paper is perforated or marked to designate what portions thereof may be detached to provide the proper quantity to be placed in water and enable the proper and desired tinge of blue to be imparted to the water for bluing purposes.

With these objects in view the invention consists in the construction and arrangement of my improved roll or spool of bluing-paper, all as will hereinafter be described and afterward pointed out in the claims.

In the drawings, A indicates a spool, which is preferably of wood or other suitable material, and B indicates a strip of paper, which is coated, preferably, on both sides, said strip being wound upon the spool. As shown in Fig. 3, this strip of paper is flat and provided with a series of perforations or rouletting *b*, by which portions thereof may be conveniently severed.

Fig. 4 shows the paper fluted or crimped, whereby when the same is wound upon the spool, as shown in Fig. 2, the greater portion of the surface of the paper is held out of contact with the next adjacent layer. Figs. 5 and 6 show the same effect produced, together with the spacing of the layers of the paper, by embossing the paper with letters or emblems. In Fig. 7 is shown a form of crimping. In Fig. 8 corrugations or flutes are shown.

The paper which I prefer to use in carrying out my invention is very thin and strong, being of such weight, texture, and finish that especially adapts it to the purposes at hand. The paper receives the coating of blue evenly and in a perfectly-united condition, said bluing adhering closely to the paper, being so treated, as will hereinafter be described, that it will not rub off in handling. The paper used is also non-absorbent, yielding itself clean of all the pigment it is made to carry upon immersion in water. The pigment is applied to the paper preferably by immersing the sheets or strips of paper in a bath of the pigment placed in a box or vat. The method of coating the paper may be that com-

monly employed—to wit, arranging a roller in the bath under which the paper is drawn, the coated end of the paper passing through scrapers, rollers, or other devices for the purpose of evenly distributing the coating and removing the surplusage.

My preferred method of handling the paper in the coating thereof is to take a supply of paper in the form of a roll, the paper being preferably from two to two and one-half feet wide. The paper is led from over the roll by its free end into the bath and under the submerged roller, then out of the bath, after which it is hung up to dry. Both surfaces when dry are clouded or dusted with powdered starch, which ingredient, as is well known, is impervious to atmospheric moisture, and thus aids to protect the product from the effects of the same and to prevent the layers from sticking together when in rolled form. The paper treated as above is then cut into strips of desired length and width. These widths have marked upon them by perforations, indentations, or transverse rows of fluting or crimping the size of a piece or coupon to use in a given quantity of water. By regulating the consistency of the mixture and the thickness of the coating of the pigment, the quantity of coloring-matter to be deposited can be so controlled that different sizes of coupons may be adopted for tingeing a given quantity of water, the natural size marked off in Fig. 3 being the size I preferably use. Where the paper is crimped, directions are given as to the number of crimps to be torn or cut off for use in given quantities of water. This crimping or fluting may be done in conjunction and used in connection with the indentations or perforations just mentioned, as also in connection with the embossed form.

The fluting or crimping of the paper is advantageous in that when the product is in rolled form its surfaces will not touch each other over the whole area, but at intermediate points, lessening the surface-contact and admitting air in the open spaces between the flutes contingent on the winding, and is essentially the safeguard against deterioration of the product.

To use the product, a portion selected is immersed in a cup of water in the water to be treated, when the pigment is at once dissolved, giving off its bluing matter and imparting to that quantity of water the needed tinge of blue to be distributed in the tub quantity, and this without soiling the hands. If preferred, a portion can be cast into the tub-water and the water then stirred with the hand or with a stick with the same quick and desirable result.

It is obvious that the strip of bluing-paper can be wound in roll form without the use of a spool or mandrel.

I am aware that many minor changes in the construction and arrangement of my invention may be made and substituted for



those herein shown and described without in the least departing from the nature and principle of my invention.

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

10 1. As an article of manufacture, a roll of bluing-paper provided with means for spacing the respective layers of the roll at closely-related points to form air-spaces therebetween; substantially as described.

15 2. A bluing-strip of the character described provided with surface projections for forming air-spaces between the respective layers of the strip when the same is wound into roll form; substantially as described.

20 3. A bluing-strip of the character described formed with surface projections on both the front and rear thereof; substantially as and for the purpose described.

4. A bluing-strip of the character described provided throughout its extent with transverse corrugations whereby the same may be wound into roll form; substantially as and for the purpose described.

25 5. A bluing-strip of the character described formed with surface projections and coated with a protecting substance; substantially as described.

30 6. A bluing-strip of the character described formed with surface projections and coated with a powdered protecting substance; substantially as described.

In testimony whereof I hereunto affix my signature, in the presence of two witnesses, 35 this 20th day of September, 1901.

AUGUSTUS K. PHILLIPS.

Witnesses:

GEORGE BAKEWELL,  
RALPH KALISH.