

963,014.

Patented June 28, 1910.

Fig. 1

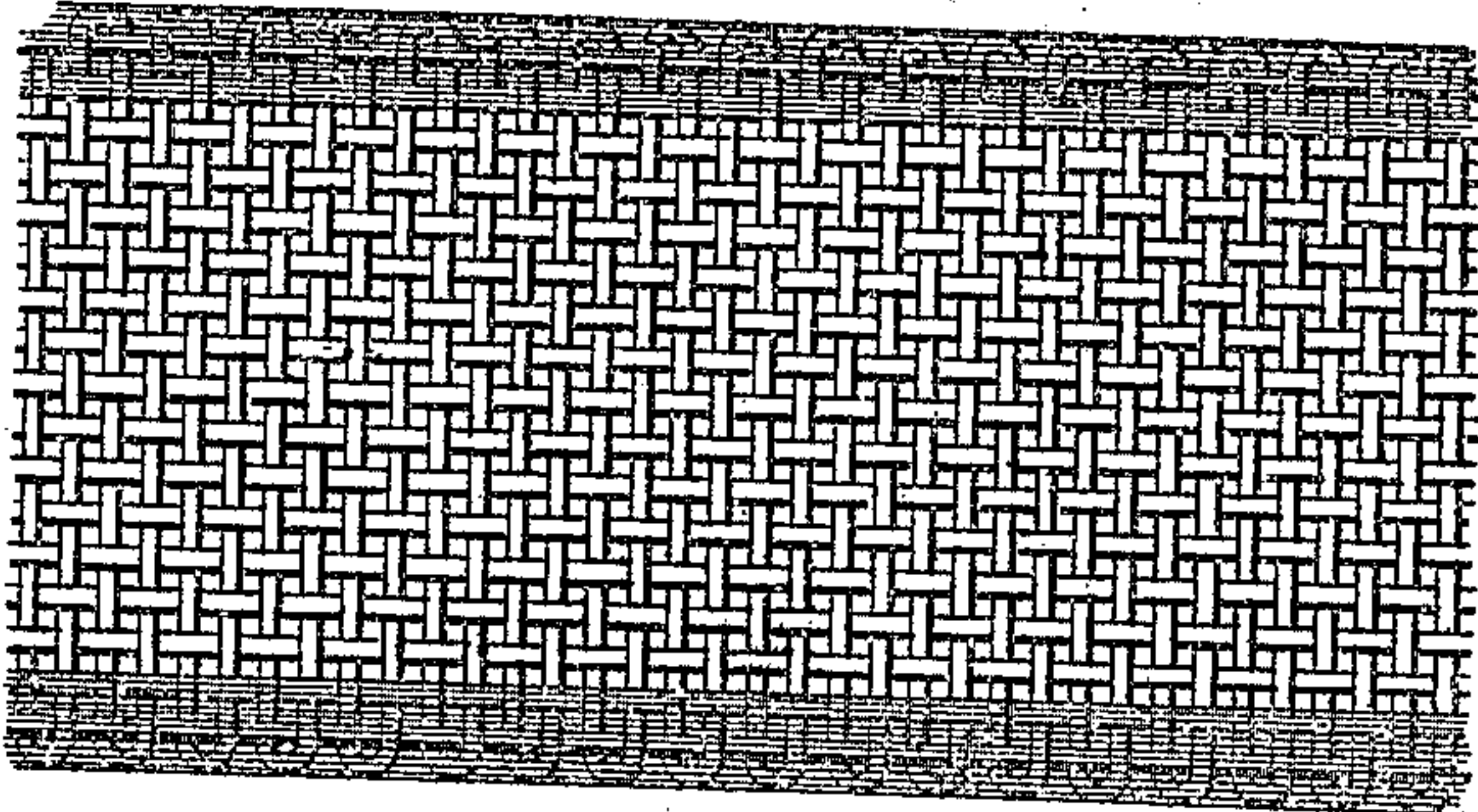
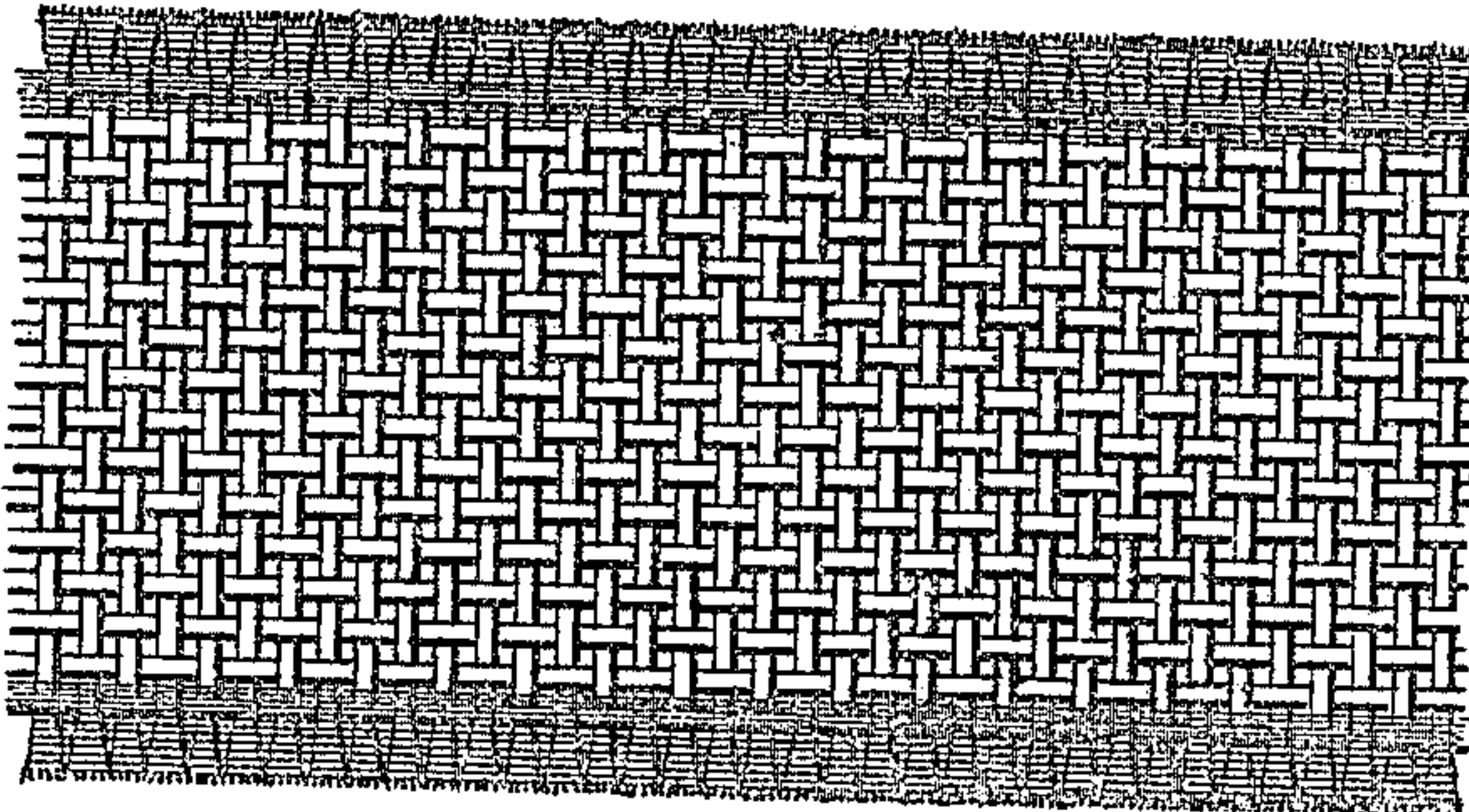


Fig. 2



Witnesses:

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UNITED STATES PATENT OFFICE.

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TEXTILE FABRIC.

963,014.

Specification of Letters Patent. Patented June 28, 1910.

Application filed April 13, 1906. Serial No. 311,414.

To all whom it may concern:

Be it known that I, GEORGE HILTON SMITH, a subject of the King of Great Britain, residing in Easton, county of Northampton, and State of Pennsylvania, have
5 invented a certain new and useful Improvement in Textile Fabrics.

The present invention has for its object the production of a textile fabric which can
10 be used to manufacture a belt used for transmitting power and for transporting materials, which will have superior advantages over those heretofore made.

Further objects are the production of a
15 belt which will not wear at the edges, and in which the friction at the edges when used for transmitting power and transporting materials will be greatly reduced.

The invention, either in its entirety or
20 partially, can be applied to other uses than belts such as, for instance, for tire protectors for the wheels of vehicles, for shoes for brakes, and for conveying materials.

The accompanying drawings show in Fig-
25 ure 1 a plan view of a portion of a belt, made according to my invention, and Fig. 2 a modification thereof.

In both of the several views, like parts
30 are designated by the same reference characters.

In carrying out my invention, I provide a textile fabric, which may be formed of one or more plies and made of any material, although I prefer to use one made in accord-
35 ance with the disclosure contained in my co-pending applications for patent, Serial No. 207,416, filed May 11th, 1904, and Serial No. 311,415, filed April 13, 1906, although any other form of fabric may be
40 employed.

Fig. 1 represents the invention as applied to a section of belt which has ordinary sel-
vage edges; Fig. 2 represents the invention as applied to a belt having a pile edge such
45 as disclosed in my application for patent, Serial No. 311,415.

In carrying out my present invention, I take the textile fabric and saturate it with asphaltum. I prefer to saturate the cotton
50 with the asphaltum in liquid form, although the invention is not limited to the form of the asphaltum. The fabric saturated with asphaltum possesses many advantages—it is waterproof, not affected by heat, and will

wear much longer than fabrics heretofore 55 known.

The invention may be modified in many ways; one of these is as follows: Asphaltum melts and becomes liquid at about 420 de-
grees Fahrenheit, while cotton is destroyed at 60 a temperature of about 280 degrees Fahrenheit. Therefore it is advantageous to provide means to permit a cotton fabric to be saturated with liquid asphaltum without de-
stroying the cotton. This end is attained 65 by melting the asphaltum and mixing it with an oil. I prefer to use linseed oil, but other oils may be used, if desired. In order to give the mixture of oil and asphaltum the necessary body, and prevent stickiness and 70 other objectionable qualities of the belt, I add to the mixture of oil and asphaltum a certain amount of wax. Any form of wax may be used, but I prefer to use paraffin wax, or beeswax. This mixture of asphal- 75 tum with other materials, such as oils or wax, or both, may be used in connection with other fabrics used in lieu of cotton. As a typical manner of making this part of the invention, I may use 5 parts of asphaltum 80 with 10 parts of linseed oil, and $2\frac{1}{2}$ parts of beeswax, or paraffin wax. The asphaltum is first melted and mixed with the oil and wax, and the temperature of the mixture is then brought down to below 280 degrees Fahren- 85 heit. It is then put upon the fabric so that the latter becomes thoroughly saturated with the mixture. When used in connection with carrying hot cement, the asphaltum mixture may become soft, but it will not be- 90 come sticky. In connection with the fabric thus treated, I provide for lubrication of the edges by means of a coating of plumbago or graphite. This coating is best put on in powdered form. In connection with the pile 95 edged belt shown in Fig. 2, the coats may be applied by being thickly spread upon the pile, which will hold it in place, without the addition of any other means. When the coating is added to a selvage belt such as is 100 shown in Fig. 1, it is necessary first to prepare the belt so that the coating will stick to it, and be held in place. To permit this to be done, I first cover the edge of the belt with a water-proof glue, mixed with the lu- 105 bricant, and afterward put upon the mixture as much extra lubricant as will stay in place. Any form of waterproof glue may be

employed, but I prefer to use a mixture of glue, with chromic acid, which upon being exposed to light will become waterproof. As a typical formula I may use $\frac{1}{2}$ lb. of glue with $\frac{1}{4}$ oz. of chromic acid, mixed with as much graphite as it will carry. The glue is first melted and is then mixed with the chromic acid and graphite. The selvage edges of the belt are then coated with the mixture and additional graphite is added so that the edges will thoroughly be protected by the graphite. In use, such a belt will stand a great amount of wear without being injured, and it can be used in certain situations, in which the edges are subjected to frictional action, without readily wearing out.

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

1. As a new article of manufacture, a textile fabric having an edge coated with graphite and glue.

2. As a new article of manufacture, a tex-

tile fabric having an edge coated with 25 graphite and waterproof glue.

3. As a new article of manufacture, a textile fabric having a pile edge coated with graphite.

4. As a new article of manufacture, a textile fabric saturated with asphaltum, and having an edge coated with waterproof glue and graphite. 30

5. As a new article of manufacture, a textile fabric coated with a mixture of asphaltum and oil, and having an edge coated with graphite. 35

6. As a new article of manufacture, a textile fabric saturated with a mixture of asphaltum, oil and wax, and with an edge coated with graphite. 40

This specification signed and witnessed this second day of April, 1906.

GEORGE HILTON SMITH.

Witnesses:

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