

No. 763,737.

PATENTED JUNE 28, 1904.

W. H. DRURY.

WOVEN FABRIC FORMED CHIEFLY OF FIBERS OF LEATHER.

APPLICATION FILED MAY 23, 1904.

NO MODEL.

Fig. 1

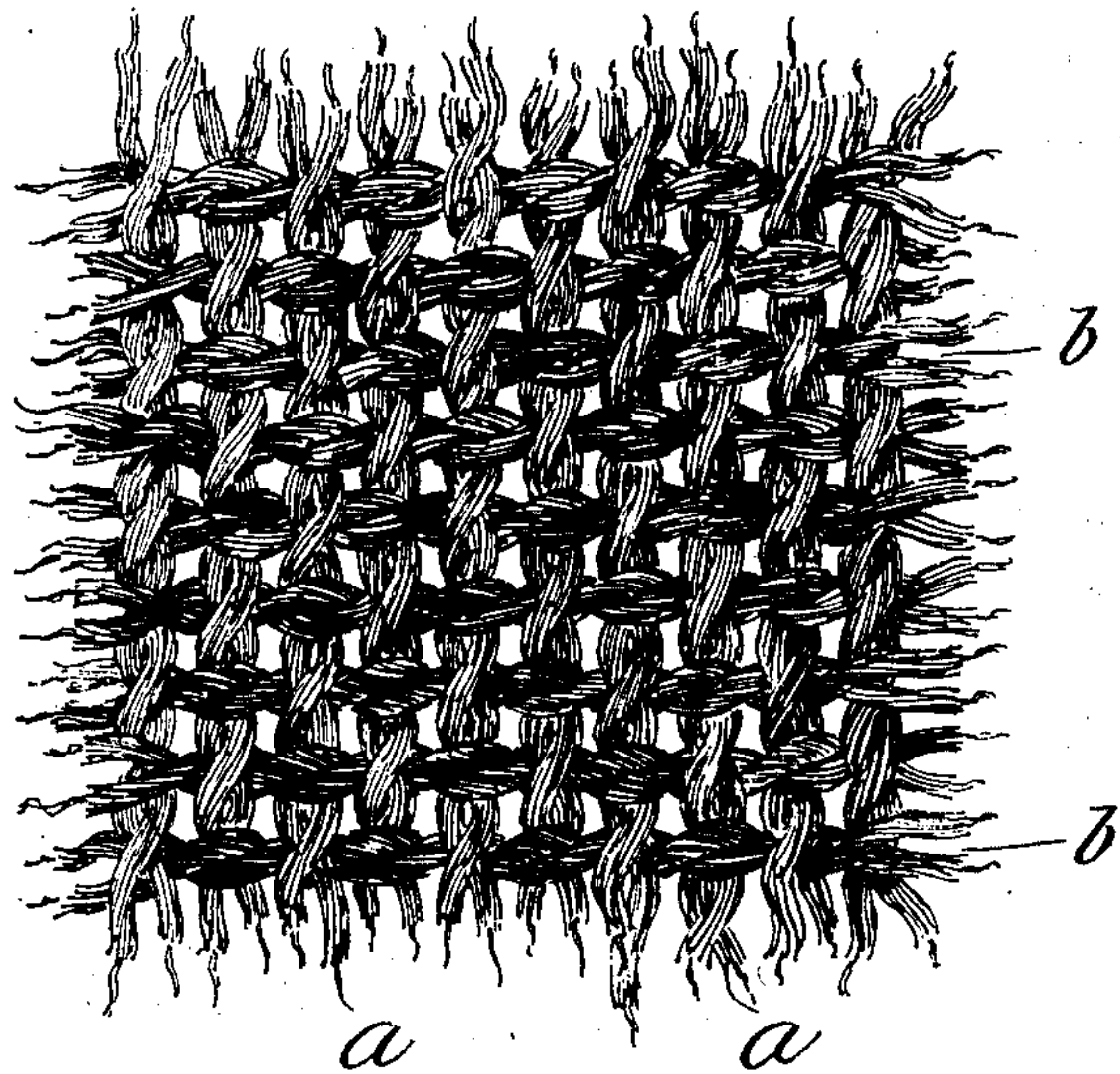


Fig. 2

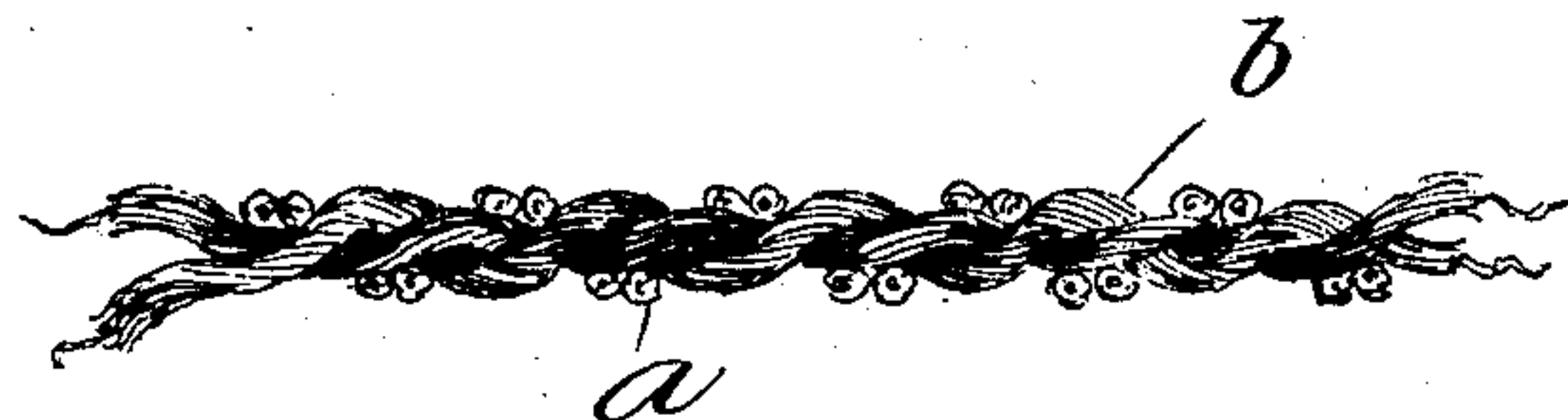
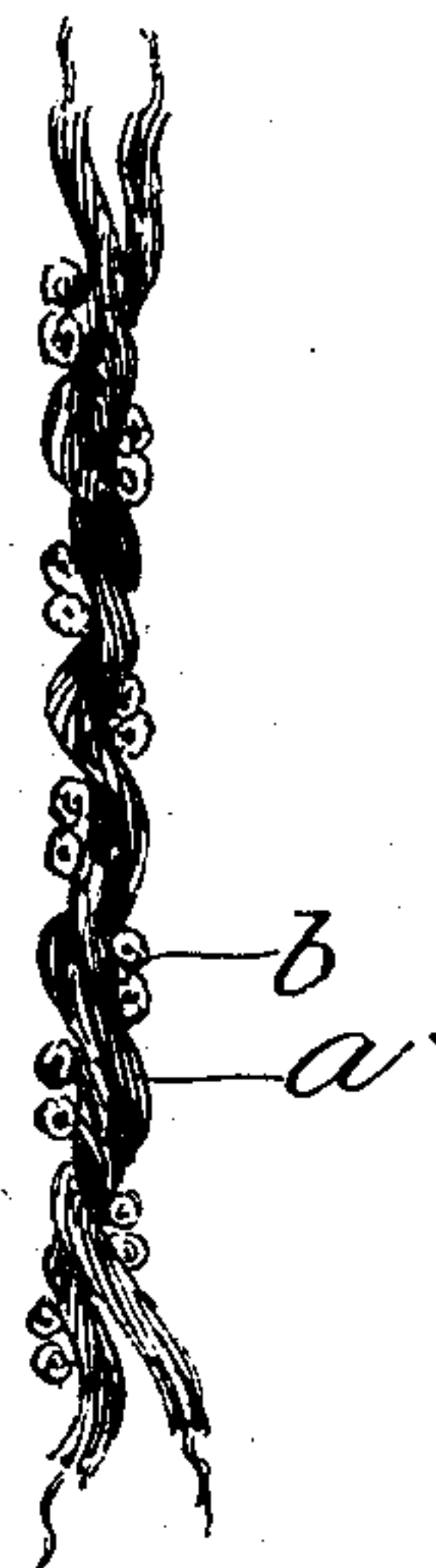


Fig. 3

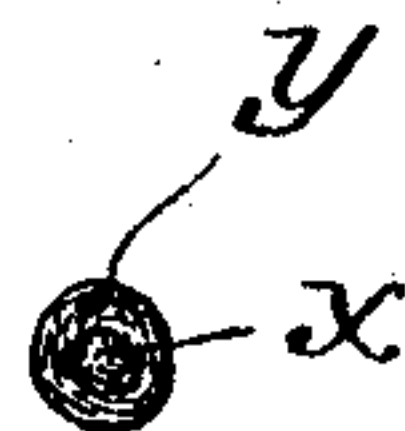


Fig. 4

WITNESSES

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UNITED STATES PATENT OFFICE.

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WOVEN FABRIC FORMED CHIEFLY OF FIBERS OF LEATHER.

SPECIFICATION forming part of Letters Patent No. 763,737, dated June 28, 1904.

Application filed May 23, 1904. Serial No. 209,238. (No specimens.)

To all whom it may concern:

Be it known that I, WILLIAM HENRY DRURY, a citizen of the United States, residing in Waltham, in the county of Middlesex and State of Massachusetts, have invented a new and useful Woven Fabric Formed Chiefly of Fibers of Leather, of which the following is a specification.

The object of my invention is to produce a woven fabric of such continuous length and width as desired, whose surface portion and principal weight and bulk shall consist, essentially, of fibers of leather or "fibrillated" leather, as it may be termed, such fabric being useful for portières, shades, screens, interior wall-coverings, furniture-coverings, and various other purposes.

My invention consists in a woven fabric whose warp and weft threads, or either thereof, are composed of core-yarn having a central relatively strong and previously-spun core to hold and bind the fibers enveloping it and to form the interior of the fabric and also having material essentially of fibers of leather enveloping and spun upon such core to cover up the interior and to constitute the surface portion of the fabric.

When leather is separated into its fibers, it forms a fluffy fleecy sort of woolly mass of fibrous material whose fibers are too short to admit of being spun into yarn by ordinary methods. Such fibrous material may be produced from leather by hand with a hand-card whose teeth are sharp-pointed, stiff, and close together. Drawing such card frequently across the surface of the leather will soon separate the leather into its fibers and form the fibrous leather material above mentioned. Such fibrilliform or fibrillated leather, however, is usually produced from scrap or refuse leather by machinery and being compounded and consolidated with other material is sometimes used in making some parts of boots and shoes. The present invention has nothing to do with the machinery by which such fibrous material is produced, and it is sufficient to say here that such material is a known form of leather. I have found it practicable to produce to good advantage strong woven fabrics whose

surface portion and principal weight and bulk are essentially of such fibrous leather material and whose interior portion covered up by said material binds to itself the said material and renders the fabric strong and durable. Preparatory to making the yarn of which such fabric is composed I mix with said fibrous leather material a percentage of cow-hair or horsehair—say anywhere from twenty to thirty per cent. of the hair with from seventy to eighty per cent. of the leather. Other proportions may be used and other fibrous material than such hair may be used to mix with the leather, if desired; but I prefer the hair, because it is somewhat allied to the leather by nature and growth and is cheap. The purpose of the mixing is to aid in the processes of carding and spinning the fibrous leather material. The hair and leather having been intermixed, they are run through a carding-machine, known as a "breaker-card," and combed from the doffer of the card. The result is to more thoroughly and evenly intermix said ingredients, make them light or lofty, and render them suitable to be run through what is known as the "finisher-card." Next the mixed and carded hair and leather are run through the finisher-card and the core-yarn composing the woven fabric is made directly from this card, as set forth in my applications filed in the United States Patent Office, December 13, 1902, Serial No. 135,157, and November 2, 1903, Serial No. 179,631, using strong two-ply cotton or other strong yarn previously spun for the core and the fibrous mixture of hair and leather for the enveloping portion which evenly surrounds and is spun upon said core.

Preferably two or more strands of such composite yarn are twisted together to form the warp-threads of the woven fabric, because such structure serves to hold and bind the mixed fibers; also, to minimize chafing them off by the weaving process and to increase strength and durability of the fabric. For like reasons the same core-yarn of this doubled and twisted structure is preferred for the weft-threads also; but a single strand of said composite yarn may be used advantageously for

each of the weft-threads, if desired. The core-yarn thus made and prepared is woven like ordinary yarn, and for most purposes the weave is close and compact and the strands lie close together. The woven fabric coming from the loom has on the surface the appearance of being composed wholly of the leather fibers, the hair being scarcely, if at all, distinguishable.

It is not possible to represent exactly by drawings my fabric in the form in which it comes from the loom, and the illustration thereof must necessarily be somewhat diagrammatic.

It is so in the accompanying drawings, Figure 1 of which is an enlarged view, mainly diagrammatic, of a piece of the fabric, showing the warp and weft widely spread apart, whereas in the actual fabric the weave for most purposes is close and compact and the strands lie close together. Fig. 2 represents a section of the fabric in the direction of the warp. Fig. 3 represents a section of the same in the direction of the weft. Fig. 4 is a section, diagrammatic, enlarged of one of the composite yarns, showing the previously-spun core x of relatively strong fibrous material and the envelop y composed, mainly or essentially, of fibers of leather evenly surrounding and spun upon said core.

In Figs. 1, 2, 3, a are the warp-threads, each of which is composed of two strands of the composite yarn, such as illustrated in Fig. 4, twisted together, and each of the weft-threads b are also shown as of that structure. After the woven fabric comes from the loom it is subjected to great pressure by passing it as many times as desired between calender-rollers to render its surface smooth and to compact its fibers closely together. By such pressing the fabric is rendered in condition to receive such subsequent finishing process as will suit the user. It may be dressed, stamped, figured, embossed, enameled, or finished in various other ways. This woven fabric has some advantages over leather in its usual form. One is that it may be of any continuous length

or width desired, without splicing or patching. Another is that while better for some decorative purposes it is cheaper.

Of course the yarn above described may be used for either the weft or the warp only, while yarn of some other character may be used for the other, and such style of weaving may be adopted as will cause the filling of leather-covered core-yarn only to show on what is called the "face" of the fabric and will cause the other yarn to show on only what is called the "back" of the fabric, as will be understood by the skilled weaver. Such fabric would have on its face the appearance of being composed wholly of the leather fibers, or substantially so, and would be within the principle of my invention; but it would be inferior for some purposes to the one having on both faces the appearance of being composed wholly of leather fibers. I desire to be understood as including any such modifications in my claims.

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

1. A woven fabric composed of yarn having a central relatively strong and previously-spun core to hold and bind the fibers enveloping it and to form the interior of the fabric, and an envelop consisting essentially of fibers of leather surrounding and spun upon said core to cover up the interior and to constitute the surface portion of the fabric, substantially as hereinbefore set forth.

2. As a new manufacture a woven fabric having a surface portion essentially of fibrillated leather, constituting the spun exterior of core-yarn which enters into the composition of the fabric, substantially as hereinbefore set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM HENRY DRURY.

Witnesses:

JOHN B. NEWHALL,
E. LULA RICH.