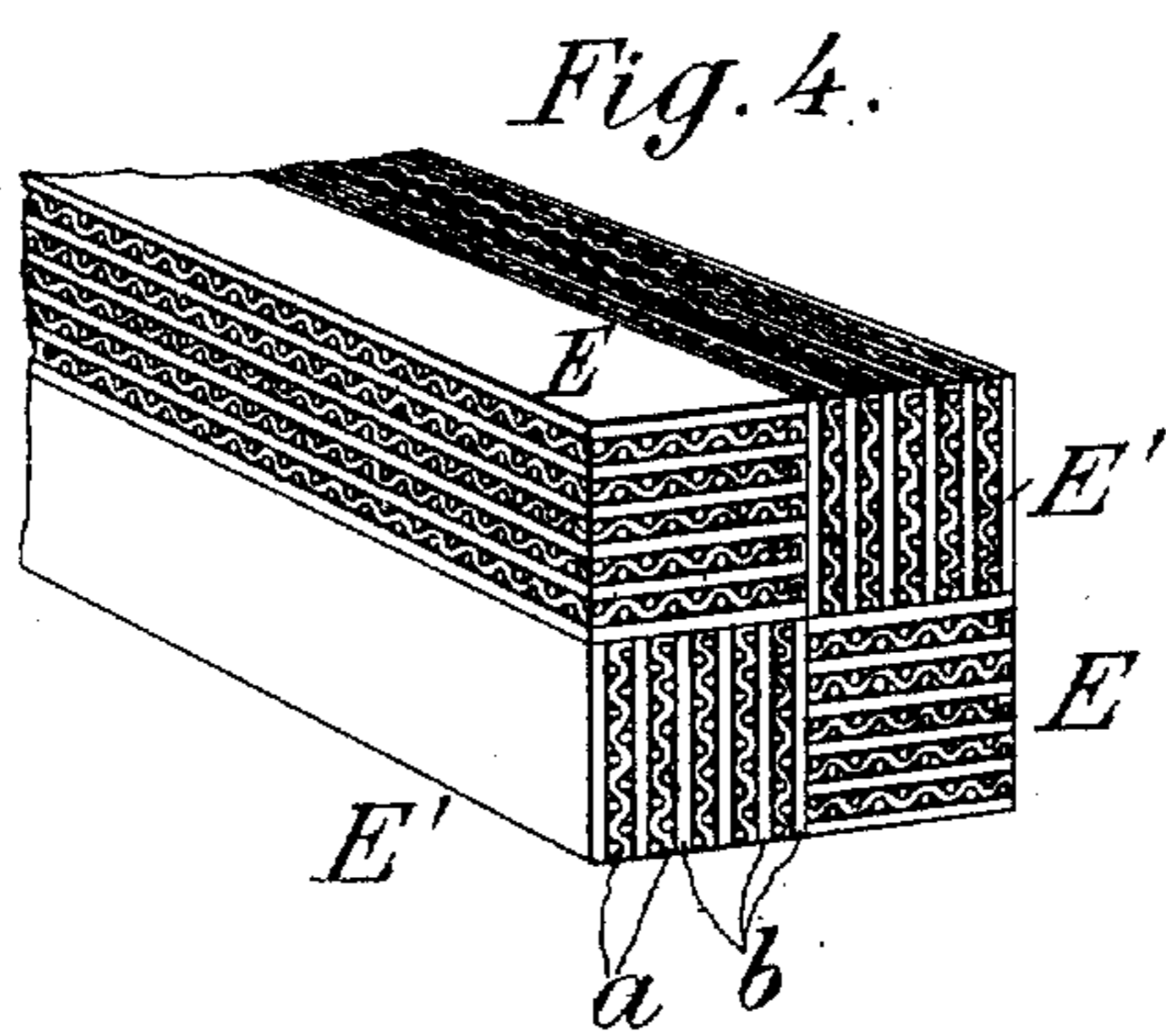
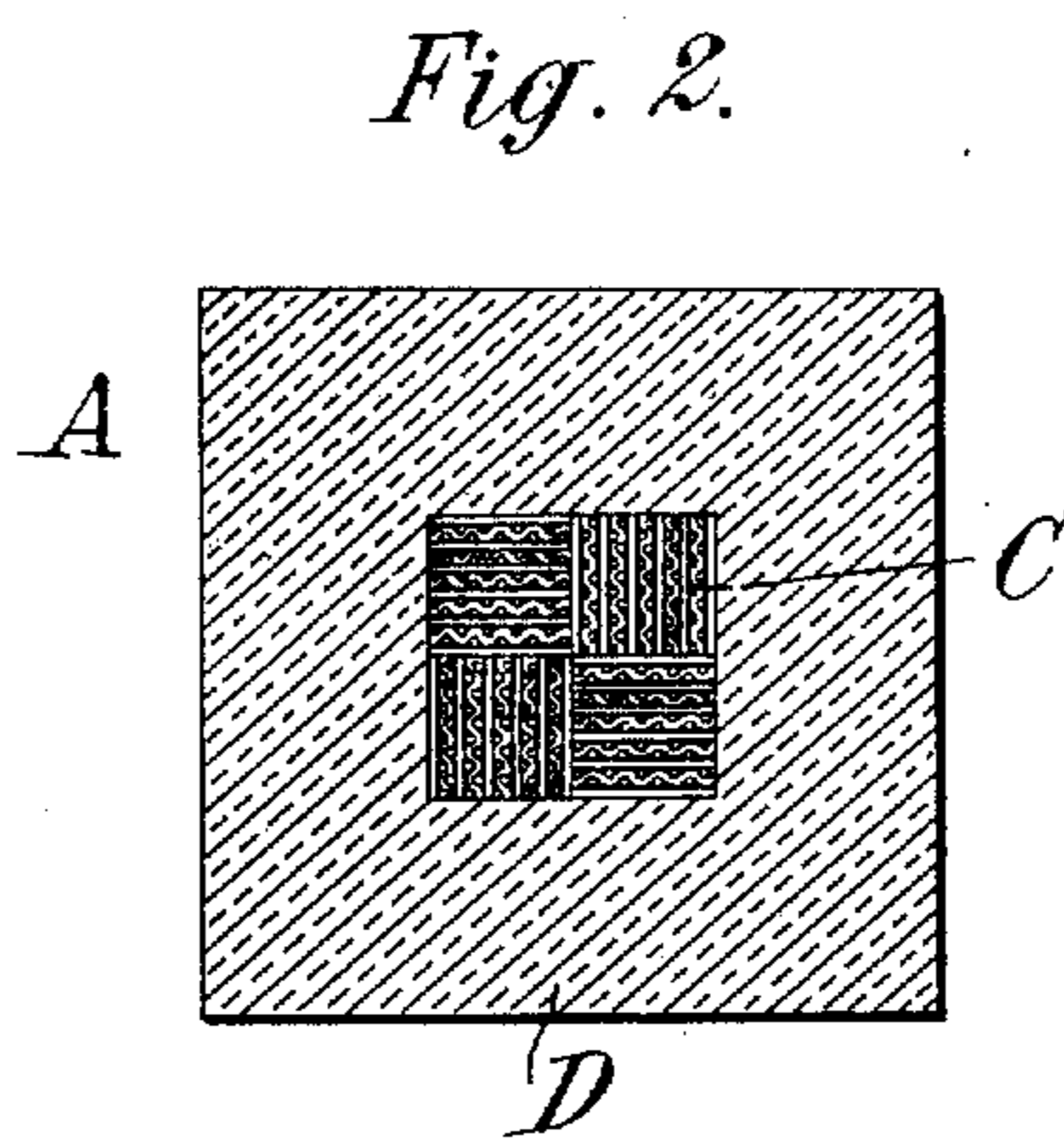
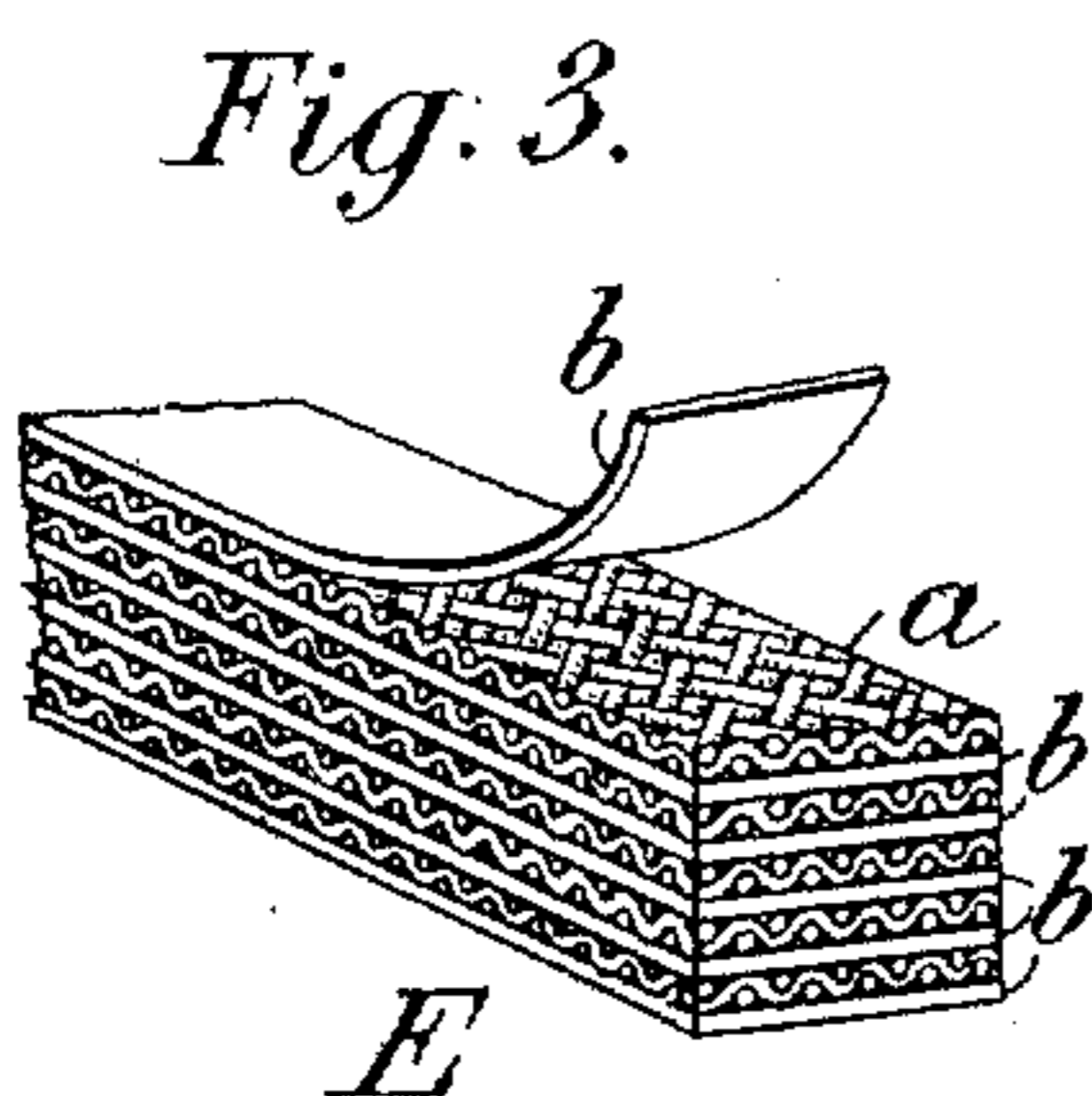
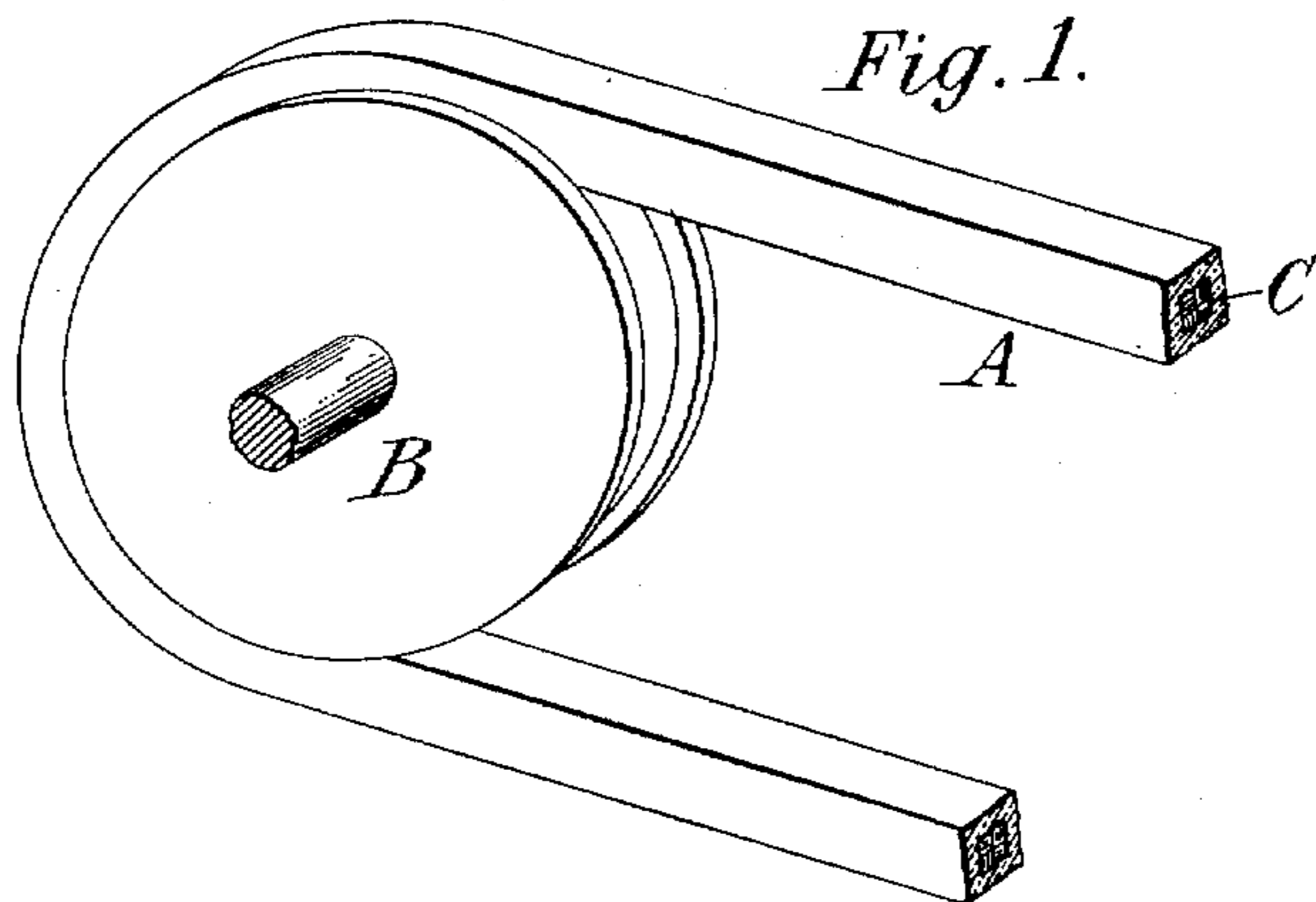


J. S. PATTERSON.
DECKLE STRAP.
APPLICATION FILED JAN. 10, 1910.

989,796.

Patented Apr. 18, 1911.



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DECKLE-STRAP.

989,796.

Specification of Letters Patent.

Patented Apr. 18, 1911.

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To all whom it may concern:

Be it known that I, JOHN S. PATTERSON, a citizen of the United States, residing at Chelsea, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Deckle-Straps, of which the following is a specification.

This invention relates to deckle straps forming the sides of the wire apron or trough of a paper making machine. Deckle straps are commonly made of an endless band of flexible rubber, square in cross-section and having a central strengthening core built up of layers of textile fabric. The deckle strap is so applied that the layers of fabric constituting the core lie parallel to the axes of the carrying wheels or pulleys, so that they readily flex in passing around these pulleys. Consequently a strap so constructed has two wearing surfaces so that the strap when worn on one side may be turned completely over and used until the opposite side is worn, but by reason of the lateral stiffness of the core which precludes the proper flexing of the strap around the pulleys when turned on either side, it results that the other two of the four sides are unavailable for wear.

It has long been the desire of users of deckle straps to be able to use all four sides of the strap, thereby doubling its utility and saving much inconvenience by reason of the less frequent necessity of sending the straps to be reground. To attain this result it is necessary to make the core equally flexible in all four directions, so that the strap may be able to flex around the pulleys with equal readiness whichever side up it may be turned. Efforts in this direction have been made with some success, but the deckle straps produced have not been in all respects satisfactory.

My present invention provides an improved construction of deckle strap which is characterized in the provision of a square core as distinguished from either a cylindrical core or a symmetrical plurality of cores. A square core has the advantage of maintaining an equal thickness of the flexible rubber on all sides instead of the flexible rubber being thinner at the middle of the sides and thicker toward the corners. The square core provided by my invention is equally flexible when bent either upward or downward or to right or left. To this end

the core is constructed of four quarter sections, each of which is built up of layers of textile fabric alternated with rubber, and in assembling the four quarter sections the layers in two opposite sections are arranged vertically, and in the other two sections are arranged horizontally, so that the layers in each quarter are in planes perpendicular to those of the two next adjoining quarters. The textile fabric is preferably duck, and to give the maximum lateral flexibility, the duck is cut on the bias.

Figure 1 of the accompanying drawings shows a fragment of the deckle strap passing over one of the supporting rollers or pulleys; Fig. 2 is a transverse section of the deckle strap; Fig. 3 is a perspective view showing one of the quarter sections of the core built up; Fig. 4 is a perspective showing the entire core assembled.

In Fig. 1, A shows the deckle strap and B one of the pulleys or wheels carrying it. The deckle strap consists of a fabric core C and a soft rubber envelop D, both being square in cross-section, as shown in Fig. 2, and the core located centrally so that the rubber envelop is of uniform thickness all around the core.

The core is built up of four quarter sections E E', as best shown in Fig. 4, one of these quarters being shown in Fig. 2. Each quarter section is built up of layers of duck *a*, preferably alternated with layers of rubber *b*. The duck may be frictioned or treated with rubber in any way commonly practiced, or merely alternated with sheets of rubber, all of which in the subsequent vulcanizing are united integrally. The strips of duck *a* are preferably cut bias in order to give the maximum lateral flexibility; or this flexibility may be imparted by the use of tapes or strips woven, braided or otherwise united in any suitable manner to secure the requisite strength, together with a suitable degree of flexibility. The four quarter sections having thus been built up, are then united in the manner shown in Fig. 4, that is to say, with the layers of each quarter turned perpendicularly to those of the next adjoining quarter. The quarter sections E E are shown as turned with their layers horizontal, while E' E' have their layers vertical. The quarter sections are thus cemented together to form the complete core, and this core is inclosed in the soft

rubber envelop D, and the whole is vulcanized in the usual manner. The deckle strap thus produced has equal flexibility when run with any one of its four faces against the wire. The core affords all need-
5 ful flexibility in each direction. The core is confined to the center of the strap, and is surrounded on all sides with an equal thickness of the soft rubber. The result of these
10 conditions is that my improved deckle strap more perfectly answers to the desired conditions than any construction heretofore applied.

The deckle strap of my present invention
15 is distinguished from that set forth in my Patent No. 826,739, granted July 24, 1906, in that the core is square and built up of layers of fibrous material, whereas in my said patent, instead of a single core a plu-
20 rality of cores or cords of textile material are provided, these cords being separated from each other symmetrically. The construction embodied in my said patent was designed like my present invention to render
25 the deckle strap equally flexible in either direction, but in aiming at this result my former invention provided an entirely different construction from that now disclosed.

I claim as my invention:—

30 1. A deckle strap consisting of a band of flexible rubber, square in cross section, having a square core of superposed strips of fibrous material disposed in planes parallel

to the respective sides of the band, and of equal flexibility when bent in the planes of either of the sides of the band. 35

2. A deckle strap consisting of a band of flexible rubber, square in cross-section, having a square core of layers of textile fabric cut bias to afford lateral flexibility, and said
40 layers arranged in planes parallel to the respective sides of the band to give equal flexibility when bent in the planes of either of the sides of the band.

3. A deckle strap consisting of a band of flexible rubber, square in cross-section, having a square core built up of four quarter-
45 sections each formed of layers of fibrous material, the layers in each quarter being in planes perpendicular to those of the two
50 next adjoining quarters.

4. A deckle strap consisting of a band of flexible rubber, square in cross-section, having a square core built up of four quarter
55 sections each formed of layers of textile fabric cut bias, the layers in each quarter being in planes perpendicular to those of the two next adjoining quarters.

In witness whereof, I have hereunto signed my name in the presence of two subscribing
60 witnesses.

JOHN S. PATTERSON.

Witnesses:

WALTER F. JONES,
WILLIAM H. TUCKER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
