B. B. FARNHAM.

COUCH ROLL.

APPLICATION FILED AUG. 3, 1910.

1,002,251. Patented Sept. 5, 1911.

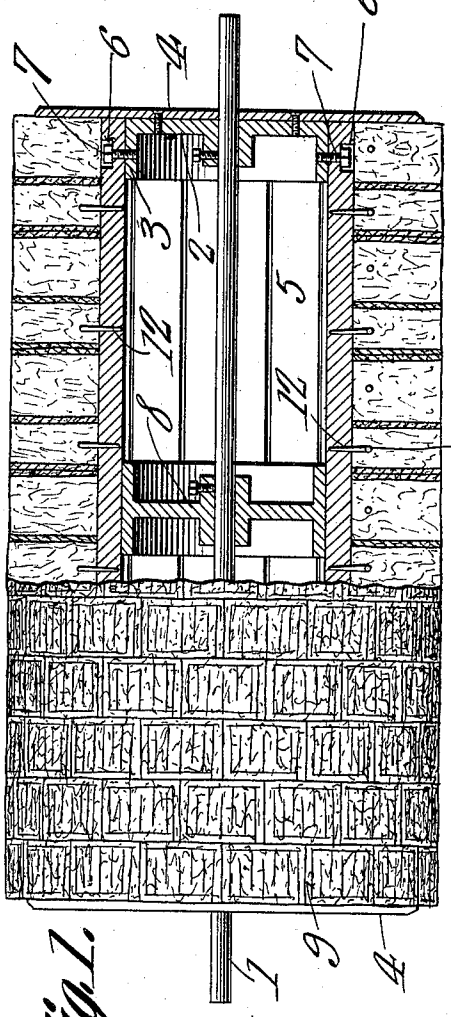

Fig. 1.

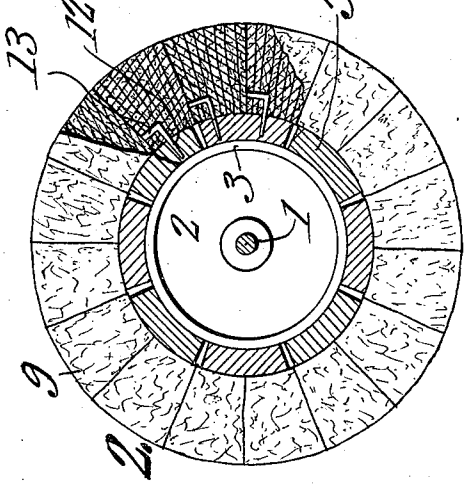

Fig. 2.

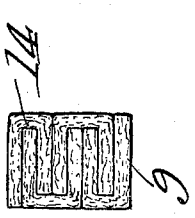

Fig. 4.

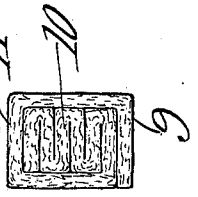

Fig. 3.

Witnesses

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COUCH-ROLL.

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To all whom it may concern:

Be it known that I, BION B. FARNHAM, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented a new and useful Couch-Roll, of which the following is a specification.

This invention relates to couch rolls such as used in the process of paper making and is more particularly an improvement upon the structure disclosed in Patent No. 800,282, issued to me on September 26, 1905. Heretofore these rolls have been constructed with substantially cylindrical bundles of felt or the like placed on end upon the peripheral portion of the core but this has been found objectionable because it has been impossible to obtain a uniformly smooth surface and objectionable spaces have been formed between the bundles. Moreover the roll thus obtained has not been as soft as desired.

One of the objects of the present invention is to provide a couch roll, the working face of which is formed of a series of bundles of felt or the like which are so shaped as to present a continuous smooth surface which is free of objectionable spaces between the bundles and which possesses the desired degree of softness.

A further object is to provide a core which will not yield to an undesirable extent and the parts of which can be readily assembled.

With these and other objects in view the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims.

In the accompanying drawings the preferred forms of the invention have been shown.

In said drawings:—Figure 1 is a view partly in elevation and partly in section of a couch roll constructed in accordance with the present invention. Fig. 2 is a transverse section through the roll. Fig. 3 is a transverse section through one of the bundles secured upon the roll. Fig. 4 is an end view on an enlarged scale of a modified form of bundle.

Referring to the figures by characters of reference 1 designates a shaft having circular heads 2 secured thereto in any desired manner, each of the heads being provided with an annular flange 3. A circular plate 4 is secured to the outer face of each of the heads 2 and extends beyond the peripheries of the heads, these plates thus constituting flanges for the purpose hereinafter set forth. Slats 5 are arranged between the plates 4 and are secured, at their ends, upon the flanges 3, there being recesses 6 within the end portions of these flanges and which are designed to receive the heads of the fastening bolts 7 or the like for securing the slats in position. The middle portions of the slats are held properly spaced from the shaft by a spider 8 which is secured to said shaft.

The working face of the roll is formed of annular series of bundles of felt or other suitable material, these bundles being indicated at 9. Each bundle is formed by folding one end portion of a strip of material to produce a sinuous core such as disclosed at 10, this strip being then folded to form a jacket 11 which incloses the core and gives the entire bundle a substantially rectangular cross sectional contour. These bundles are arranged in series extending around the core formed of the slats 5 and heads 2, each bundle being attached to one or more of the slats by means of a nail 12 or other fastener having a laterally extending head 13 which serves to prevent the bundle from pulling off of the fastener. The inner ends of the bundles are preferably compressed, as shown particularly in Fig. 2, so that, when all of the bundles of each series are secured to the core, each bundle will be the frustum of a pyramid and the outer ends of said bundles will form a continuous surface extending around the core. Each series of bundles is contacted by the bundles of the adjoining series, and all of the bundles are preferably arranged in staggered relation.

As all of the bundles are substantially rectangular in cross sectional contour, it will be apparent that when they are assembled upon the core, a smooth unbroken surface will be produced thereby, all objectionable spaces being eliminated. Moreover by folding the material in the manner described, the bundle produced has the proper degree of softness.

Instead of forming each bundle of a single strip of material, it can be made up of a series of U-shaped pieces 14, such as shown in Fig. 4. These pieces are arranged to interengage and, when assembled, form a bundle of the desired shape.

Various changes can of course be made in

the construction and arrangement of the parts without departing from the spirit or sacrificing any of the advantages of the invention as defined in the appended claims.

What is claimed is:—

1. A couch roll having a working face formed of a plurality of frusto pyramidal bundles of soft material, each bundle including a strip folded longitudinally of the bundle to present an angular contour.

2. A couch roll having a working face formed of a plurality of bundles of soft material, each bundle being formed of a strip folded to form a sinuous core and a jacket extending around the core.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

BION B. FARNHAM.

Witnesses:
GEO. F. ROOT,
RICHARD H. TEMPLETON.