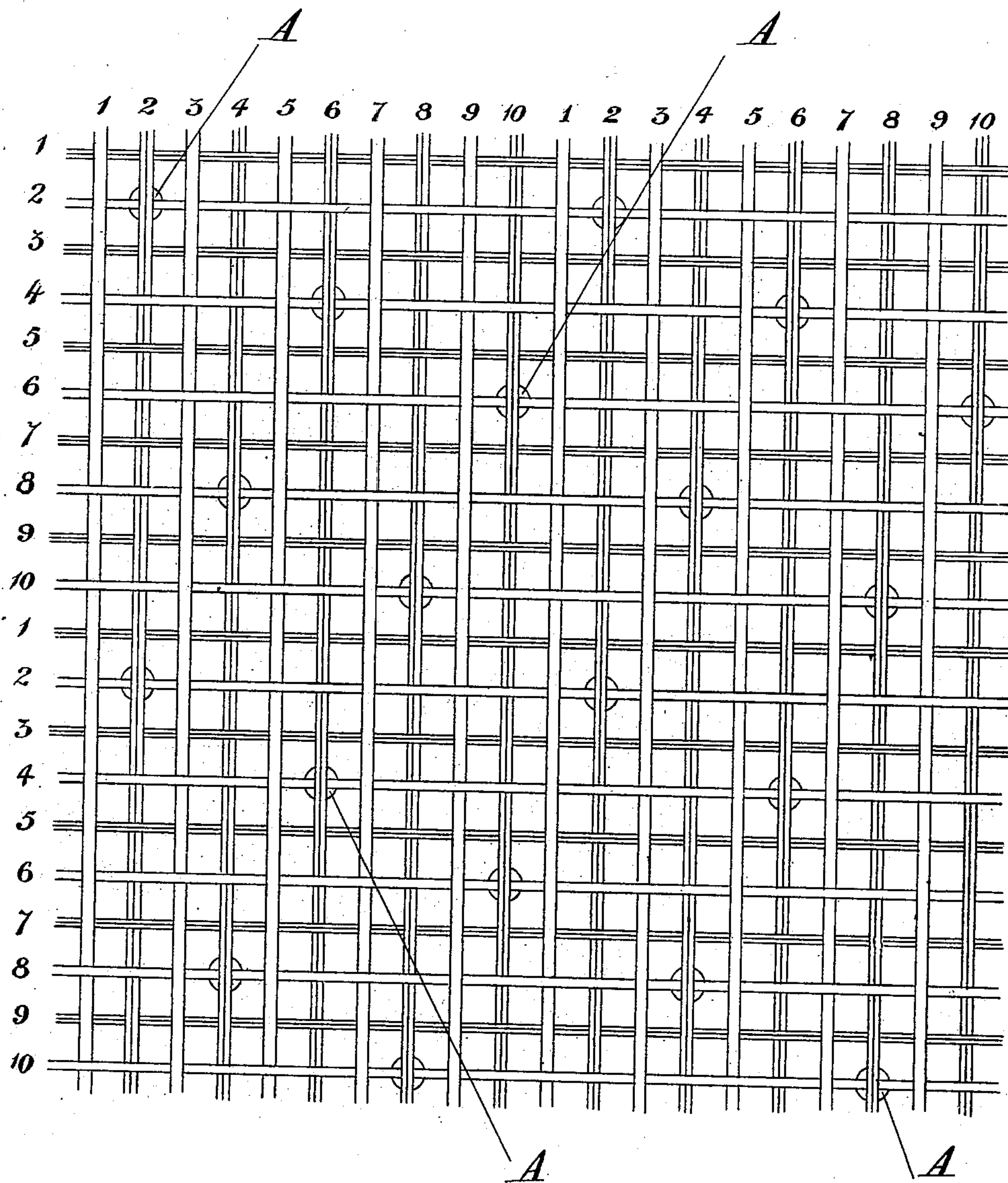


No. 863,780.

PATENTED AUG. 20, 1907.

T. N. BURBERRY.
MANUFACTURE OF CLOTH.
APPLICATION FILED NOV. 7, 1905.



Witnesses

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THOMAS NEWMAN BURBERRY, OF LONDON, ENGLAND.

MANUFACTURE OF CLOTH.

No. 863,780.

Specification of Letters Patent.

Patented Aug. 20, 1907.

Application filed November 7, 1905. Serial No. 286,259.

To all whom it may concern:

Be it known that THOMAS NEWMAN BURBERRY, a subject of the King of Great Britain, residing at 30 Haymarket, London, England, have invented certain
5 new and useful Improvements in the Manufacture of Cloth, of which the following is a specification,

The object of this weave is the protecting of the interstices of the cloth, and is made on the plan of the back threads coming in between the face threads. To
10 effect this, a departure from the ordinary method of passing all the threads through one reed has had to be made, and I employ two reeds in one frame, so that the back or protecting threads come in between the face threads during weaving. By this weave, the face of
15 the cloth is protected from friction by the back, so that there is the advantage of a reversible cloth, without the disadvantage of two separate cloths tacked together in the weaving. As an example, supposing the weave extends 10 threads across, and 10 threads down. The
20 annexed diagram consists of 20 threads either way, but the last ten are a repetition of the first. The double thin lines running up and down represent warp face threads, the treble heavy lines running up and down represent warp back threads. These pass through a
25 double reed, made by placing two sets of wires between the laths, so that the wires of one set come opposite the spaces of the other set. By this arrangement, the warp or rain resisting portion of the top cloth comes over the weft portion of the bottom cloth, and fills up the
30 interstices of the cloth where the warp and weft meet, thus forming as rain resisting a cloth as can be made. The double thin lines running across represent weft face threads, and the treble heavy lines running across represent weft back threads.

35 Where the double thin or treble heavy warp lines are not crossed, this means the warp threads are not crossed by weft threads. Where the double thin or treble heavy weft lines cross the double thin or treble heavy warp
40 threads, this means the weft threads pass over the warp threads. For the warp face threads the indicating numbers are odd, and for the warp back threads the indicating numbers are even. For the weft back threads, the indicating numbers are odd, and for the weft face threads, the indicating numbers are even.

45 To ascertain how the threads work it is only necessary to follow the warp threads downwards. Take for example warp face thread No. 1:—

Weft back thread 1 goes under it.

" face	" 2	" " "	
" back	" 3	" " "	50
" face	" 4	" " "	
" back	" 5	" " "	
" face	" 6	" " "	
" back	" 7	" " "	
" face	" 8	goes over it.	55
" back	" 9	goes under it.	
" face	" 10	goes over it.	

The next 10 threads (weft) are a repetition of above.
Next take warp back thread No. 2:—

Weft back thread 1 goes under it.	
" face	" 2 " " "
" back	" 3 " " "
" face	" 4 goes over "
" back	" 5 " " "
" face	" 6 " " "
" back	" 7 " " "
" face	" 8 " " "
" back	" 9 goes under it.
" face	" 10 goes over it.

70 The circles A show where the connection of the back and the face to each other takes place. At these points the back warp threads rise, and the face weft threads pass under them. This connection, it will be seen, is spread equally over the whole weave, and
75 fastens the threads firmly together, making the cloth as if it were a single cloth.

The following advantages are claimed for this new weave:—In an ordinary twill single cloth, there is the twill portion of the surface formed by the warp alone
80 and this portion resists the action of water in trying to penetrate. But between the warp twill and the weft twill there is a slight opening through which water can find its way. Now an ordinary double cloth is just a single cloth duplicated. A double-
85 cloth is woven with face cloth exactly on the top of the back cloth, the warp twill of the face cloth over the warp twill of the back cloth. There are thus through the ordinary double-cloth, exactly the same interstices as there are through a single-cloth, and
90 through these water can penetrate. But in this cloth, the warp of the face cloth lies over the interstices of the back cloth, thus filling up these spaces, and producing a cloth as impervious to water as can be made.

This is accomplished, first, by the weave as may be seen in the annexed drawings, but more especially by the novel expedient of using two sets of wires between the laths so that the wires of one set comes opposite the spaces of the other set. The ordinary double-cloth is woven in one reed and the yarns of the face and back cloths are kept in the same positions. In this cloth a double reed is used, one set of wires for the face threads, and one set for the back threads. 10 The double reed is so placed that the warp twill of the face is always kept exactly over the interstices of the back, thus filling up the spaces, and presenting a continuous water resisting surface.

What I claim and desire to secure by Letters Patent is:— 15

A two-ply woven fabric having face warp threads and back warp threads, the face warp threads lying over the spaces between the back warp threads, with face weft threads and back weft threads arranged in a like relative manner, the two plies being tied at intervals by a face weft passing under a back warp. 20

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

THOMAS NEWMAN BURBERRY.

Witnesses:

WILLIAM ROBERTSON,
LYNWOOD FERDINAND GARDNER.