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No. 826,989. PATENTED JULY 24, 1906.

B. VON BUSSE.

FABRIC FOR CEMENT PLASTERING AND CONCRETE.

APPLICATION FILED FEB. 6, 1906.

Fig. 1.

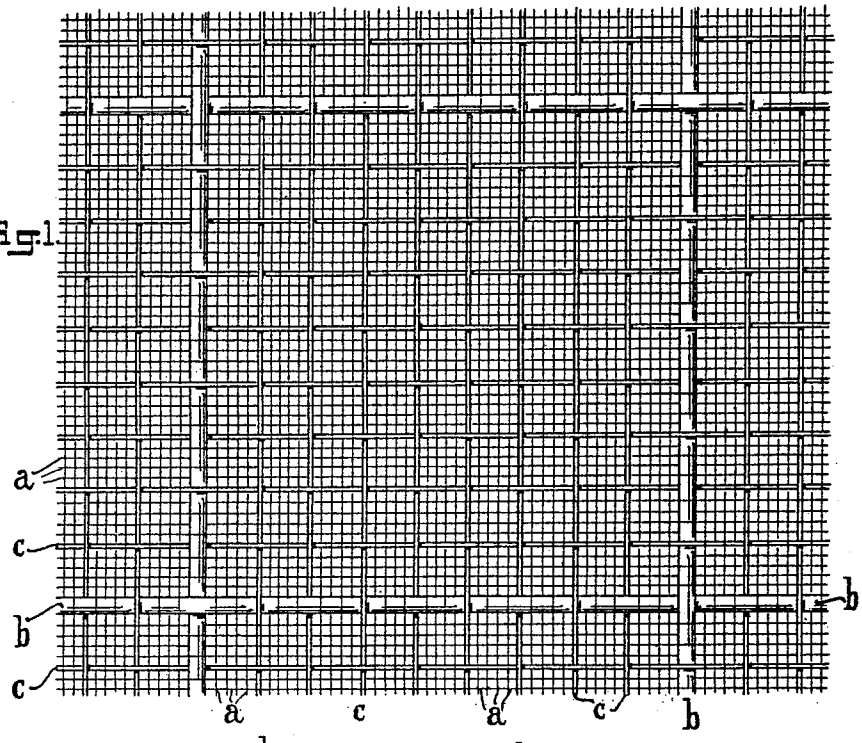
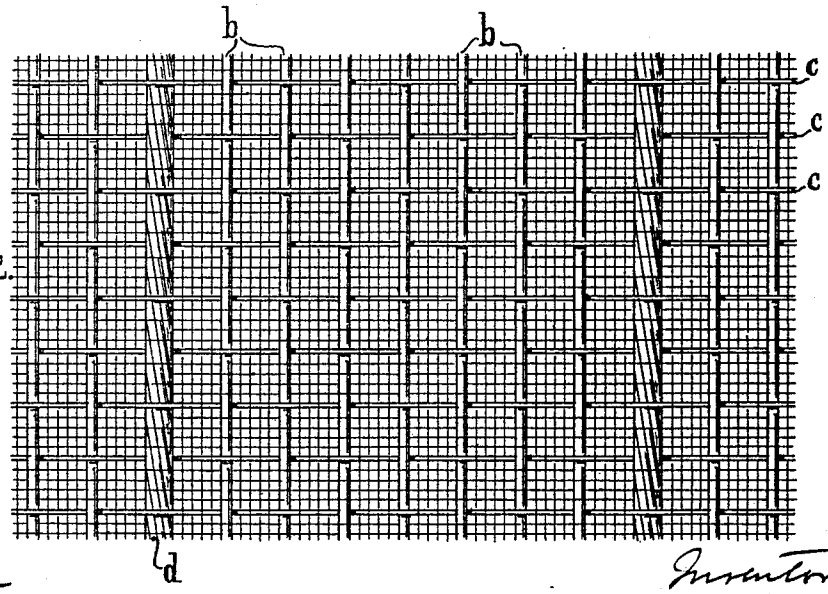


Fig. 2.



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~~485~~

~~120~~

Witnesses:
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UNITED STATES PATENT OFFICE.

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FABRIC FOR CEMENT PLASTERING AND CONCRETE.

No. 826,989. Specification of Letters Patent. Patented July 24, 1906.

Application filed February 5, 1906. Serial No. 299,575.

To all whom it may concern:

Be it known that I, BUSSO VON BUSSE, a subject of the German Emperor, and a resident of 5 Kaiserstrasse, Marienwerder, in the Kingdom of Prussia, Germany, have invented new and useful Improvements in Fabric for Cement Plastering and Concrete, of which the following is a specification.

This invention relates to a new fabric chiefly consisting of any desired fabric (jute) having bare iron wires or rods, wire cables, &c., woven into it or formed in the fibrous fabric in some other way, the said fabric being intended to form a support for cement plastering and concrete.

It is well known to make walls and the like with insertions of fabric and wire-netting in such manner that the wire-netting is produced on the spot by stretching two layers of wire at right angles to each other and weaving fabric strips into the meshes of the said netting.

That well-known process differs from the process according to this invention by the fact that in the latter there is a finished fabric which can be stretched as a wall-surface or as a ceiling, the fibrous fabric stiffened by the wire insertions allowing the mortar mass to adhere easily or, in the case of ceilings and the like, supporting the same, so that the bottom covering, which is otherwise necessary, becomes superfluous. Moreover, the fabric in itself has sufficient stiffness in order to be given any desired shape in which it remains. The fabric can be covered with mortar or with concrete on one or on both sides, or it can be filled with concrete as a mold. The mass of mortar penetrates so far into the loose fibrous fabric that by stripping it off on the other side the wires will be completely embedded into the mortar mass, and thus rendered suitable for resisting tensional strains in the construction.

In the accompanying drawings, Figure 1 is a plan of a fabric according to this invention, Fig. 2 being a plan of a modified construction.

In the drawings, *a* represents the jute threads, *b* the thick iron wires, and *c* the thin iron wires. In the construction shown in Fig. 1 thick and thin wires are alternately used both in the longitudinal and in the transverse direction. In the construction shown in Fig. 2 the thick wires *b* are arranged at a right angle to the thin wires. In this way the fabric is rendered more suitable for rolling up, and, if desired, a specially strong construction could be obtained by placing two fabrics on each other at a right angle.

Wires and fibrous fabric can be combined in the new fabric in various manners. Either wires of the same thickness are arranged at regular intervals or, as shown in the drawings, thick wires are arranged at certain intervals, and their place can also be taken by metal bands or rods, wires, cables *d*, &c., which, more particularly in ceiling constructions, are intended to take up the tensional strains, while the thin wires arranged between them, together with the fibrous fabric, have for their chief object to support the fresh mortar mass until it solidifies.

The fabric can be rolled up into rolls or plates, made flat or corrugated. For rolls only flexible wires or hoop iron or wire cables would of course be used in longitudinal direction.

The new fabric can be used for many purposes.

In combination with a coating of cement mortar of thin consistency it is used as fireproof covering for sheds and barns instead of the usual covering of boards, (stretched between wooden, concrete, or iron columns;) also for light roofs which are not intended to be walked upon; for covering wooden and clay walls and ceilings; for weirs and snow-fences, sign-boards, fireproof doors, (stretched on iron frames;) insulated covering for outer walls; support for ordinary tile roofs, (instead of the boards or cardboard strips;) for roof connections, air-shafts, and the like.

Covered with mortar it can be used for outer and inner walls of all kinds, more particularly for unsupported walls, (stretched and plastered;) also for insulating-walls, (more particularly in corrugated form;) for wires, roofs, gutters; as plastering for walls and ceilings, more particularly for clay walls and ceilings; for window and cornice gutters, for lining damaged wells; for vessels and tanks, ash and refuse tanks, columns and masts, (cylindrical fabric or helically-wound narrow strips with mortar coating,) signboards, air-flues, fireproof doors, covering of iron parts, and the like.

As a support for concrete it is used for manufacturing girderless ceilings, (fabrics with thick insertions are stretched from wall to wall, crosswise, if necessary, either taut or hanging down, sometimes with additional insertions, more particularly adjacent to the

supporting-wall;) further, for double ceilings independent of each other; for girder ceilings of wood, iron, or cement, (the fabric stretched over the girders either taut or sagging through, or plates of fabric, sometimes in corrugated form, placed between the girders;) also for hollow floors insulated from the ground; further, for massive roofs intended for walking on; for bridges; for lining pits, ponds, and canals; for streets, and the like.

As a mold for concrete body it can be used for the manufacture of massive girders and columns, (fabric produced in cylindrical shape or suitably bent, if desired, with an insertion of a separate tension-rod, being filled up, hammered, or compressed to the desired cross-section;) iron sleepers, (as before, but with a special device for securing the rails;) masts, (cylindrical fabric or strips helically wound and filled up;) for securing banks, walls of all kinds in buildings of all kinds, or free walls; for weirs, artificial fish-ponds, and the like, (wooden, concrete, or iron columns driven or rammed in or pipes put in, the fabric stretched at both sides of the columns and the intermediate space filled with concrete or rubble;) for artificial foundations, (at the upper end of piles reaching down into good building ground, fabrics with concrete filling, as before;) factory-chimneys, (outer and inner walls from helically-wound fabric strips covered with cement mortar, the hollow space filled with concrete,) and the like.

Having now particularly described and ascertained the nature of the said invention and in what manner the same is to be performed, I declare that what I claim is—

1. A fabric for manufacturing constructions of all kinds, comprising bare wires of different thicknesses, the smaller wires being interwoven among themselves and among the larger wires to form squares, and threads of fibrous material interwoven between said squares, substantially as described.

2. A fabric for manufacturing constructions of all kinds having bare wires of different thicknesses inserted in a fabric of fibrous material, the heavier wires being spaced a certain distance and interwoven and the smaller wires being interwoven among themselves and among the larger wires, substantially as described.

3. A fabric for manufacturing constructions of all kinds having bare wires of different thicknesses inserted in a fabric of fibrous material, the smaller wires being interwoven among themselves and among the larger wires to form squares, and the larger wires being spaced at certain distances to form squares of substantially greater diameters than those formed by the smaller wires, substantially as described.

4. A fabric for manufacturing constructions of all kinds, comprising bare wires of different thicknesses, the smaller wires being interwoven among themselves and among the larger wires to form squares, and the larger wires being spaced at certain distances to form squares of substantially greater diameter than those formed by the smaller wires, and threads of fibrous material closely interwoven through the wires thus placed, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 23d day of January, 1906.

BUSSO VON BUSSE.

Witnesses:
HUGO NEUMANN,
GUSTOW MATTKE.