

F. HAIGH.
PROCESS OF MAKING METAL COATED PAPERS.
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1,101,178.

Patented June 23, 1914.

Fig. 1.



Fig. 2

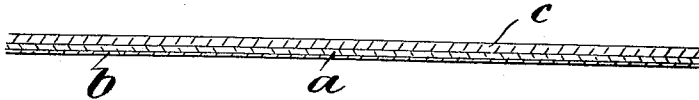
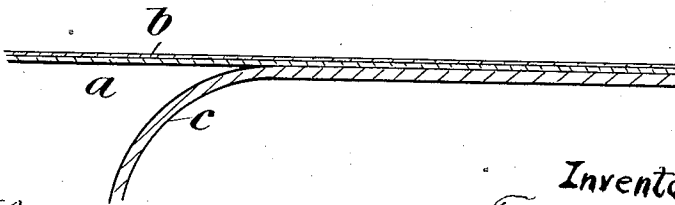


Fig. 3



Witnesses

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FREDERICK HAIGH, OF CHEDDLETON, ENGLAND.

PROCESS OF MAKING METAL-COATED PAPERS.

1,101,178.

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To all whom it may concern:

Be it known that I, FREDERICK HAIGH, a subject of the King of Great Britain, residing in Cheddleton, in the county of Stafford, England, have invented certain new and useful Improvements in the Process of Making Metal-Coated Papers, of which the following is a specification.

This invention relates to improvements in and relating to metal coated papers and refers more particularly to paper such as is employed in the construction of condensers for induction coils or for telephone installation and the like, and which condensers are formed by placing sheets of tin coated paper together, the paper forming the insulating medium. Hitherto in producing such papers it has not been possible to employ a very thin paper owing to the fact that such paper does not of itself possess the necessary tensile strength to permit of the necessary handling when the metal coating is being applied.

The present invention has for its object to produce a very thin paper with a metal coating, by this means greatly increasing the electrical efficiency of the condenser and reducing the bulk thereof.

Now according to the present invention, I employ a very thin paper to which the metal is applied in any suitable known manner. As, however, the paper itself in consequence of its extreme thinness does not possess the necessary tensile strength to permit of its being properly handled during the application of the metal coating, the said paper is provided with a backing or strengthening body formed of paper, which paper, however, is much stronger than the aforesaid thin paper. As it is necessary that the backing paper shall be removed before the metal coated paper is used, it is necessary that the said backing and said metal coated paper be connected together in a manner which will enable their separation to be readily effected. The desired cohesion of the two paper bodies is therefore secured by bringing them together while one is in a moist condition, and then subjecting them to pressure. This can readily be done during the process of manufacturing the thicker backing paper. The metal is then applied to the paper and

when the coating process has been completed the strengthening or backing sheet is removed, and the coated paper is ready for use.

In order that the invention may be the better understood, drawings are appended illustrating the various stages in the formation of the paper, in which:—

Figure 1 shows a sectional view to a greatly enlarged scale of the thin paper after the application of the strengthening of backing paper. Fig. 2 is a similar view with the tin foil coating. Fig. 3 is a view showing the stripping of the backing paper after the metal has been applied.

Referring to the accompanying drawings, *a* indicates a length or piece of thin paper to which the metal coating *b* is applied in any convenient manner. In order that the said paper, which in itself possesses very little strength, may withstand the necessary amount of handling incidental to the application of the metal coating, the said paper has applied to it before the metal coating is applied, a backing of stouter paper, indicated by *c*. In order that there may be sufficient cohesion between the paper *a* and backing *c*, to avoid their separation during the operation of applying the metal coating to the paper, the cohesion at the same time not being of such a nature to prevent the backing being readily removed, the said thin paper and backing are brought together while one of them is in a moist condition and sufficient pressure applied to effect the desired cohesion. In practice the web of pulp when it leaves the couch rolls is transferred to a woolen felt on which it is carried through the first pair of press rolls, together with the thinner paper. At this stage the pulp is very moist and the pressure causes the desired cohesion of the thinner paper. The combined papers are then dried over the drying cylinders and are there after treated as one for the coating process. The backing *c* is removed as shown in Fig. 3, after the coating operation.

As will be readily understood, by producing a metal coated paper such as herein described, the electrical efficiency of condensers is increased and the bulk or size of said condensers may be much less than under the present system of construction.

I claim:

A process of making a metal coated paper wherein a thin paper web is caused to adhere to a backing paper by pressing both papers together in a moist condition in the web; then applying a thin film of metal paste to the tissue side of the foregoing double or duplex paper and thereafter stripping off the backing paper thereby leaving

the thin web of tissue paper with a metal coating on the surface. 10

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

FREDERICK HAIGH.

Witnesses:

PATTIE PLANT,
JOHN N. COPESTAKE.