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Patented Sept. 19, 1899.

G. H. NUSSEY & W. B. LEACHMAN.  
METHOD OF PRESSING CLOTH.

(No Model.)

(Application filed Dec. 27, 1898.)

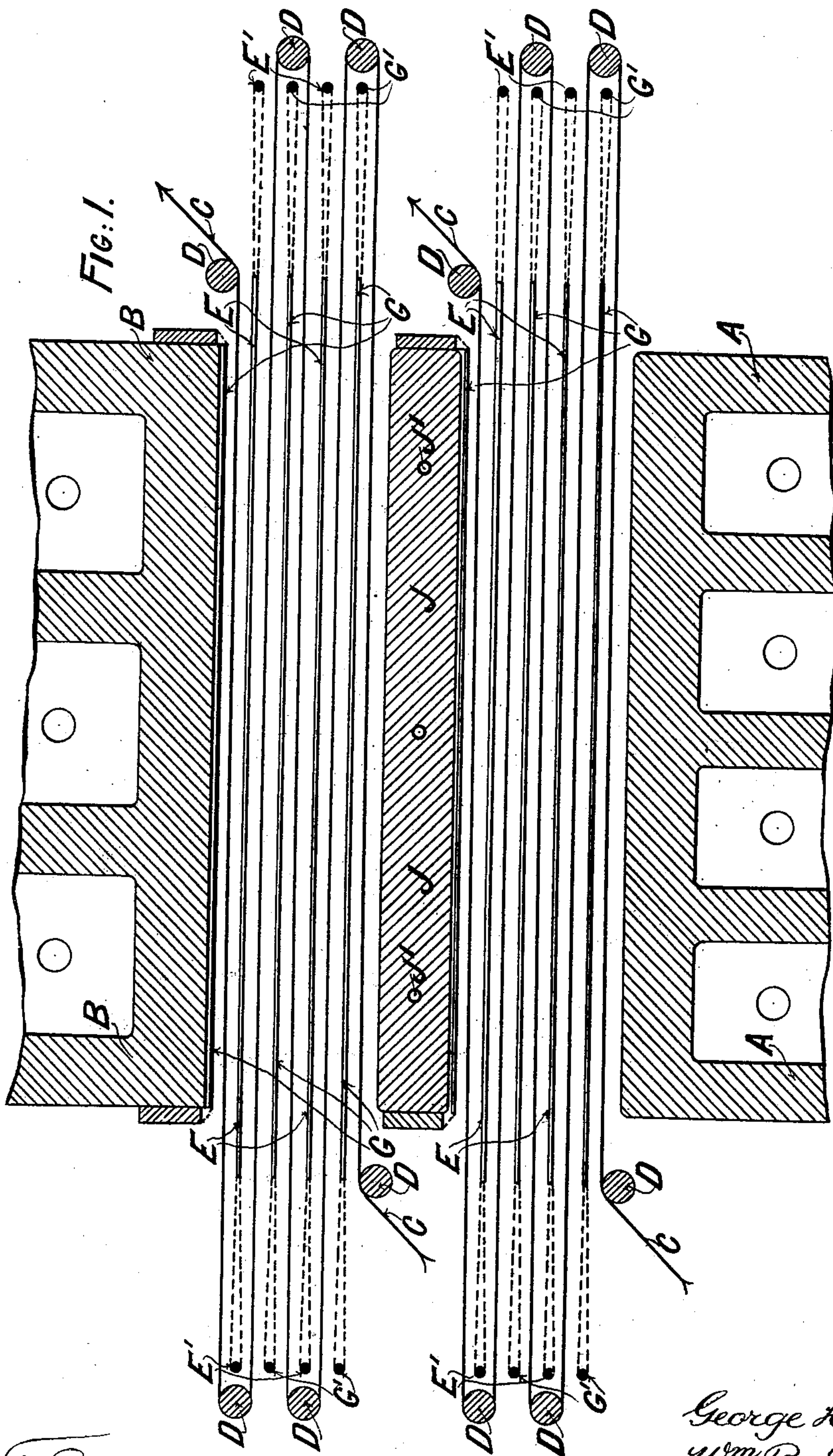
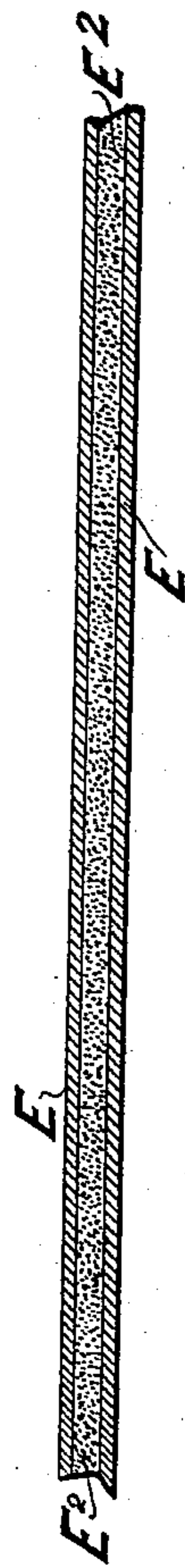


FIG. 2.



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# UNITED STATES PATENT OFFICE.

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## METHOD OF PRESSING CLOTH.

SPECIFICATION forming part of Letters Patent No. 633,388, dated September 19, 1899.

Application filed December 27, 1898. Serial No. 700,365. (No specimens.)

*To all whom it may concern:*

Be it known that we, GEORGE HENRY NUSSEY and WILLIAM BRADSHAW LEACHMAN, subjects of the Queen of Great Britain, residing at Leeds, in the county of York, England, have invented a certain new and useful Improved Method or Process of Pressing and Finishing Cloth and other Textile Fabrics, (for which we have made application for patent in Great Britain, dated October 25, 1898, No. 22,439,) of which the following is a specification.

This invention refers to pressing and finishing cloth and other textile fabrics by a new or improved method or process, as hereinafter described, which is simpler, speedier, and less expensive than the methods or processes hitherto employed and gives a greatly-improved result or product.

According to our invention we press the cloth or other textile fabrics, hereinafter referred to as "cloth," in a completely-saturated state, the face of the cloth being placed in contact with a smooth metal plate, an absorbent elastic pad being placed at the back of the cloth, while the table and head of the press are maintained at a temperature of above 212° Fahrenheit, and preferably at about 240° Fahrenheit, and a pressure of about three hundred and eighty pounds to four hundred and eighty pounds to the square inch is employed, the result of such wet pressing under the conditions, as stated, at such high temperature and such pressure being to impart a permanent glossy and luster-like surface to the cloth far superior to anything that has been hitherto obtained in mechanical pressing.

According to our invention the cloth is fed direct from the washing-machine to the pressing-machine while thoroughly wet, the tenting and drying of the cloth before pressing being dispensed with. In the press we employ plates or sheets of zinc, tin, or other metal not liable to corrosion by the action of heat or moisture, hereinafter termed "metal plates," and we arrange such metal plates so that the face surfaces of the cloth are in direct contact therewith during the pressing operations, while we employ absorbent elastic pads, hereinafter termed "pads," com-

posed of some material unaffected by heat or moisture, such as cotton or a mixture of cotton and wool known as "fustian," which are located at the back of the cloth during the said pressing operation. Before and during the pressing operations, which take place immediately the cloth is in position, the table and the head of the press or those parts of the press acting on the cloth are maintained in the heated condition before stated.

The press which we employ is or may be similar in general construction to those described in the specification of British Patents No. 242, A. D. 1876, and No. 4,815, A. D. 1880, and an example of the arrangement of the metal plates and elastic or absorbent pads in the press in relation to the cloth under treatment is shown in vertical section at Figure 1 of the drawings accompanying this specification. Fig. 2 is a sectional view of a construction of compound metal-surfaced plate, the drawings being shown to an enlarged scale.

Referring to Fig. 1, A is the table of the press, and B the head, both being so constructed that they may be maintained in a heated condition during the pressing operations, say, by being internally chambered and formed with apertures to admit steam, as shown. C is the cloth to be pressed, the latter being carried between rollers D, which are revolutely supported in suitable stationary bearings in the frame of the machine. The metal plates E are supported from stationary rods E', carried in the framework of the machine, or from the stationary head B, and the elastic absorbent pads G are carried from similar rods G'. In all cases the arrangement is such that each portion of the length of cloth C when in position to be submitted to pressure has its face surface contiguous to a metal plate E, while the back surface is contiguous to a pad G.

In the example shown at Fig. 1, where a considerable number of plies of cloth are in position to be pressed or two separate lengths of cloth are to be simultaneously acted upon, we may provide an intermediate metal plate J, fitted with steam pipes or passages J', by which it can be maintained in a heated condition during the pressing operations. The



pieces of cloth C C entering the press travel in the direction of the arrows, being fed directly from the washing-machine to the press, where upon the table A of the press being  
5 forced upward by hydraulic or other pressure the cloth is subjected to direct pressure with a force of about three hundred and eighty pounds to four hundred and eighty pounds to the square inch, which pressure  
10 may be repeated one or several times, if required, and during this pressure or pressures the table A and head B of the press are maintained at a temperature of 240° Fahrenheit, as is also the intermediate plate J. In the  
15 press shown as an example two separate pieces of cloth are simultaneously treated, the pieces being divided by the intermediate plate J. When the table A of the press is lifted, the plate J rises and the pieces of cloth  
20 are pressed between the table and the head of the press and the intermediate plate J, and a permanent luster-like surface is so imparted to the cloth.

When only one piece of cloth is treated, the  
25 intermediate plate J could be dispensed with.

Each of the metallic plates E aforesaid may be composed of a compound structure, as shown in section at Fig. 2, two thin metal plates E being used with a layer of some more  
30 or less soft or resilient material E<sup>2</sup>, such as india-rubber or the padding material before mentioned, the exterior thin plates of metal E and the interposed thickness of soft or resilient material E<sup>2</sup> being secured together,  
35 and when so constructed we employ such plates as and for the purposes previously de-

scribed with reference to the metal plates E of Fig. 1.

The cloth having been pressed by a wet process, as before stated, we are able to dis- 40 pense with the subsequent process of boiling or blowing hitherto commonly used, which had the effect of making the cloth tender and so damaging it.

What we claim as our invention, and de- 45 sire to secure by Letters Patent, is—

The herein-described process of pressing and finishing cloth, consisting in completely saturating the cloth with water, then placing the cloth in position between the table and 50 head of a press, which table and head have been brought to and are maintained at a temperature of about 240° Fahrenheit, arranging a smooth metal plate in contact with the face of the cloth, and an elastic absorbent pad at 55 the back of the cloth, and then pressing the cloth so placed with a pressure of about three hundred and eighty pounds to four hundred and eighty pounds to the square inch, the cloth treated being thus, while in a thor- 60 oughly wet condition, subjected simultaneously to the aforesaid heat and pressure between the smooth metal surface and elastic absorbent pad, whereby an improved glossy surface is produced upon the face of the 65 cloth, as set forth.

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