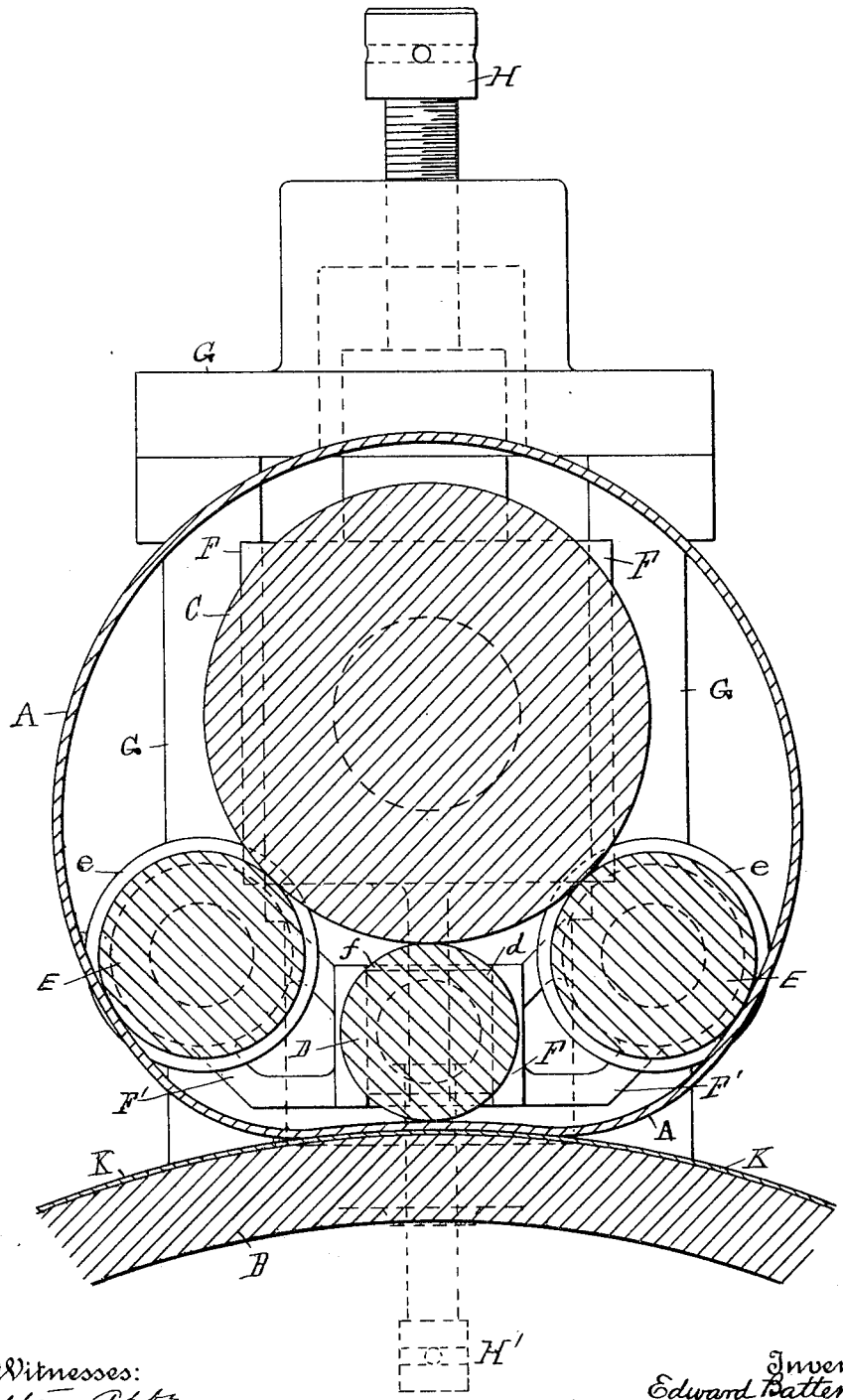
E. BATTEN.

PRESSING MACHINERY.

APPLICATION FILED MAY 4, 1914.

1,120,588. Patented Dec. 8, 1914.



Witnesses:
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C

UNITED STATES PATENT OFFICE.

EDWARD BATTEN, OF BECKENHAM, ENGLAND, ASSIGNOR TO THE NAIRN LINOLEUM COMPANY, OF KEARNY, NEW JERSEY, A CORPORATION OF NEW JERSEY.

PRESSING MACHINERY.

Specification of Letters Patent. **Patented Dec. 8, 1914.**

1,120,588.

Application filed May 4, 1914. Serial No. 836,308.

To all whom it may concern:

Be it known that I, EDWARD BATTEN, a subject of the King of Great Britain and Ireland, residing in Beckenham, Kent county, England, have invented certain new and useful Improvements in Pressing Machinery, of which the following is a specification.

My invention relates to pressing machinery, more especially such as is used in the manufacture of inlaid patterned linoleum, for consolidating the fabric by producing cohesion of the tesseræ to each other and their adhesion to the backing.

The object of my invention is to so construct the rotary pressing means as to effect such consolidation of the fabric with less liability to deformation of the pattern by the pressing action than is the case with pressing rolls as used at present, such as the rolls in which an endless rubber sheet is employed. This object I attain by combining with the usual rotary heated drum over which the fabric passes an elastic hollow metal pressure cylinder open at its ends and arranged to bear upon the fabric and means to temporarily distort the hollow pressure cylinder so that the latter is in contact with the fabric through an arc or segment of considerable size, say 15 degrees, instead of along a mere line of contact, as would be the case in the absence of distortion.

The figure in the accompanying drawing is a vertical section through sufficient of such a pressing machine to illustrate my invention.

The rotary hollow heating drum is indicated at B, carrying the fabric K with its tesseræ in the usual manner. My improved pressure cylinder A, which is to bear upon the fabric on the roll B, is in the form of a hollow metal cylinder open at its ends and of sufficient thinness to be yieldingly elastic and so capable of a certain degree of distortion under pressure. Steel is a suitable metal of which to make this cylinder. I prefer to produce this distortion by means of rolls mounted within the cylinder, although they may be otherwise mounted. I provide a positively driven roll C, which may be mounted to turn in suitable vertically adjustable bearing blocks F in the frame G. This roll C in turn bears upon two rolls E, E, which bear against the inner face of the cylinder A. The bearing block F^1 may be set to any desired adjustment with relation to the axis of the drum B by means of adjusting screw bolts H, H^1, or any other suitable means. In this way the rolls E, E can be made to bear against the inner face of the elastic cylinder A with any desired degree of pressure with result of distorting that side of the cylinder which is momentarily bearing against the fabric on the drum B into a reversed curve, thus giving a relatively wide surface of pressure through the length of the cylinder. The width of this area of pressure may correspond to as much as 15 degrees reckoned upon the axis of the drum B.

To aid in securing an equalization of the pressure throughout the distorted area, I may provide between the two side rolls E, E, a third roll D in contact on one side with the roll C and on the other with the inner face of the cylinder A. The positively driven roll C imparts its rotary motion to the rolls D and E, E, and so to the cylinder A through frictional contact, and the speed of the roll C is such that the surface speed of the hollow cylinder A shall be the same as the surface speed of the outer face of the fabric upon the drum B.

The rolls D, E, E may be mounted in bearings free to slide in guides radiating from the axis of the roll C in brackets F^1, forming part of or attached to the bearing blocks F. Thus in the drawing I have indicated by dotted lines at *d* a bearing block for the roll D, free to slide in a guideway *f* in the bracket F.

I prefer to provide one or more of the rolls D, E, E with flanges, such as shown at *e*, *e*, to guide the cylinder A and prevent endwise movement of the latter in the direction of its axis.

By the described construction of hollow distortable pressure cylinder A, I am able to distribute the pressure upon the fabric and tesseræ over an extent of surface such as to practically avoid that deformation of the pattern which commonly occurs with the pressing machinery ordinarily used.

I claim as my invention:

1. Pressing machinery for patterned linoleum and the like, comprising a rotary drum carrying the material, in combination with a hollow open-ended elastic cylinder of metal and pressure means to distort said

cylinder with one side reversely curved against the material on the drum, for the purpose described.

2. Pressing machinery for patterned linoleum and the like, comprising a rotary drum carrying the material, in combination with a hollow elastic metal cylinder and pressure rolls to bear against the cylinder to distort into a reversed curve that side of the cylinder bearing against the material on the drum.

3. Pressing machinery for patterned linoleum and the like, comprising a rotary drum carrying the material, in combination with a hollow elastic metal cylinder and pressure rolls within the latter to distort into a reversed curve that side of the cylinder bearing against the material on the drum.

4. Pressing machinery for patterned linoleum and the like, comprising a rotary with a hollow elastic cylinder of metal and within the latter three pressure rolls, one a driven roll, and the other two in frictional contact with the inner face of the cylinder and rotated by the driven roll and adapted to distort into a reversed curve that side of the cylinder bearing against the material on the drum.

5. Pressing machinery for patterned linoleum and the like, comprising a rotary drum carrying the material, in combination with a hollow elastic cylinder of metal and within the latter four pressure rolls, one a driven roll, and the other three in frictional contact with the inner face of the cylinder and rotated by the driven roll and adapted to distort into a reversed curve that side of the cylinder bearing against the material on the drum.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses.

EDWARD BATTEN.

Witnesses:
WALTER ABBE,
HUBERT HOWSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."