J. & J. E. SCHUMACHER.

PROCESS OF MAKING PLASTER BOARD.

APPLICATION FILED AUG. 6, 1915.

1,176,860.

Patented Mar. 28, 1916.

2 SHEETS—SHEET 1.

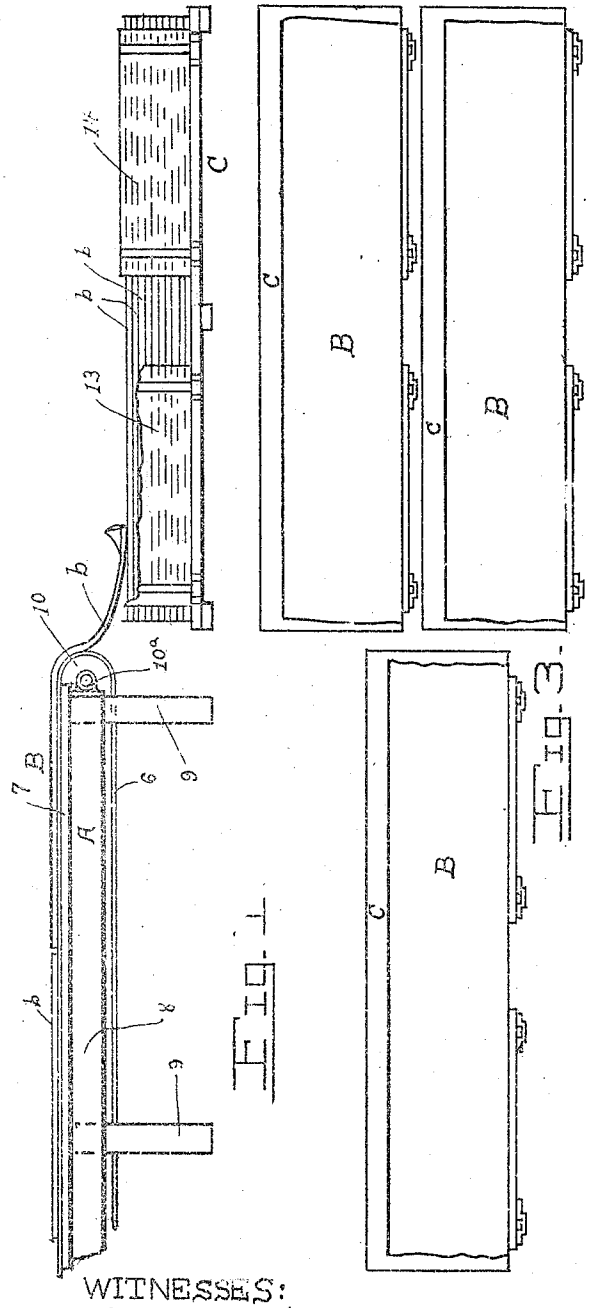


FIG. 1.

FIG. 3.

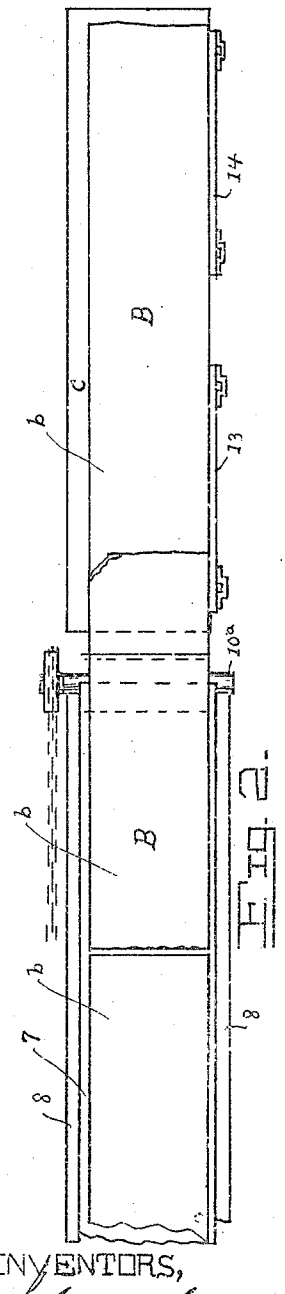


FIG. 2.

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2 SHEETS—SHEET 2.

Fig. 5.

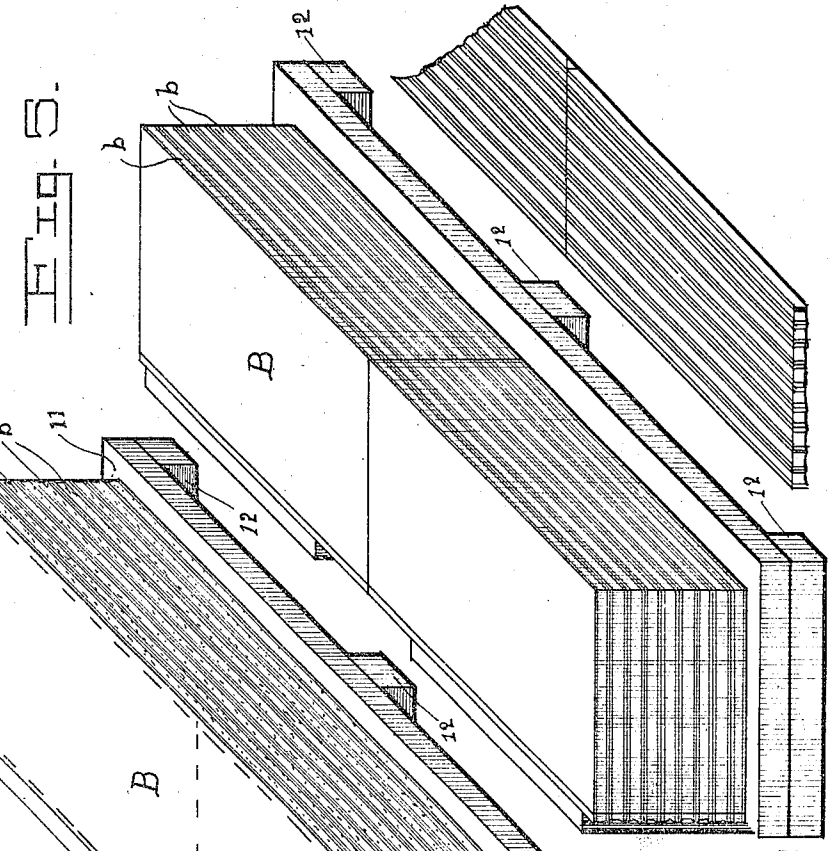
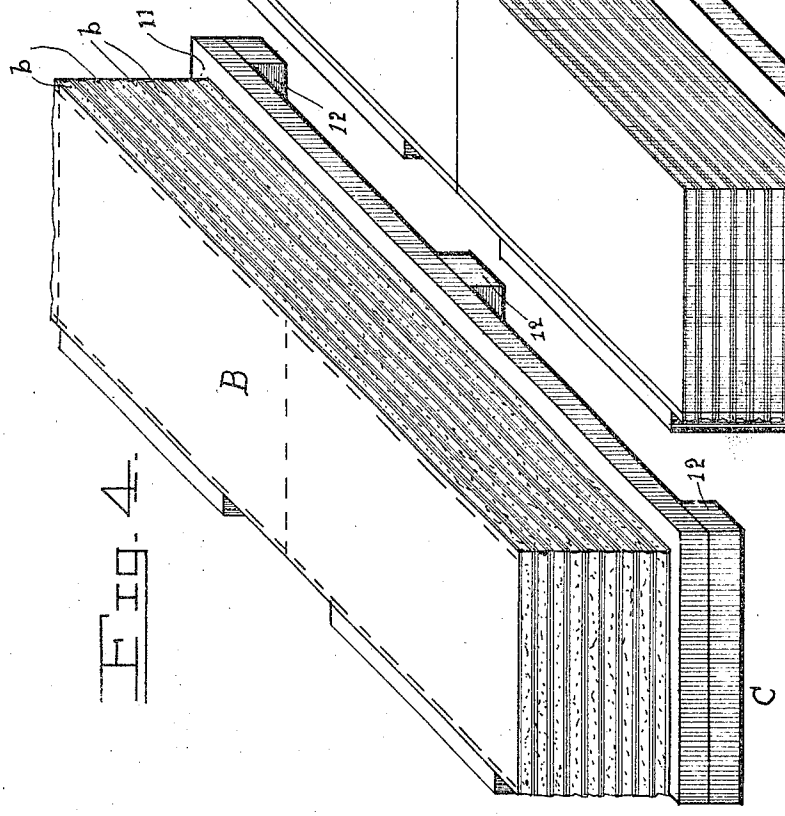


Fig. 4.



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PROCESS OF MAKING PLASTER-BOARD.

1,176,869. Specification of Letters Patent. Patented Mar. 28, 1916.

Application filed August 6, 1915. Serial No. 43,943.

To all whom it may concern:

Be it known that we, JOHN SCHUMACHER and JOSEPH E. SCHUMACHER, both citizens of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have jointly invented a new and useful Process of Making Plaster-Board, of which the following is a specification.

This invention relates to improved processes of making plaster-board such as is used in the building arts, both for internal and external walls; such plaster-board is usually formed of strips or sheets of paper, paper board, or the like, between which is provided a suitable plastic material which may be of any desired composition, as for instance, plaster, cement or compositions of the same, including finely divided materials of various sorts.

In the manufacture of such plaster-board, as ordinarily carried on, it is difficult to prevent warping of the product, and the same must be handled with great care immediately after the component parts of the same are assembled, due to the fact that the sheets are singly formed, the plaster allowed to set, and the sheets then removed, these steps being coupled with an extraordinary absorption of time and labor. Further difficulties arise from the fact that ordinarily the paper or paper stock between which the plastic layer is interposed, and with which it afterward unites, becomes saturated with moisture from the wet plastic composition, peeling and tearing if attempts to handle the same are made before sufficient time has elapsed for the plaster to set and the paper to dry and regain its firmness.

In accordance with the present invention, a plurality of the sheets of plaster-board, each comprising the two sheets of paper with the interposed layer of plastic material, are stacked upon suitable beds or trays, being fed or advanced successively thereto while internally moist and externally dry, allowed to remain in such stacked condition while the paper coatings of each sheet of plaster-board becomes saturated with moisture, the plastic composition of such sheets of plaster board allowed to set or harden, the entire mass of sheets so stacked expanding evenly. The paper having thus become stretched or expanded to its limit, will not further stretch, expand, warp or curl, should moisture be applied to the same after it has been applied to the wall or walls or otherwise put in use. Furthermore, the paper or paper stock used will preferably have been so treated or impregnated with such proper substance or substances, previously to the formation of the plaster-board sheets, that the saturation of the paper by moisture from the plastic substance is delayed, permitting the several plaster-board sheets to be built up and handled in flexible condition during the stacking operation. After each tray has been loaded with a plurality of sheets of the plaster-board still in flexible condition, such tray, remaining in horizontal position is set aside that the plastic composition may set or harden and the entire mass dry out. After such setting and drying of the mass on each tray, the entire mass still in position on its respective tray may be trimmed at the edges, the cut being taken through all of the sheets of plaster-board comprising such mass, this resulting in a perfectly smooth edge, no further trimming of the product being required before marketing and putting into use such product, as perfect butt joints can be made with the units so treated. Each tray with its load of separate units may now be raised on edge and the sheets of plaster-board removed one by one for final drying in spaced relation.

With the above and other objects in view, the invention consists in the novel and useful combination or association of steps and procedures above pointed out, and which may be carried on with any suitable apparatus, as exemplified in the showing of the accompanying drawings, and as hereinafter particularly pointed out with reference to such drawings, and finally pointed out in claims.

The drawings disclose one form of apparatus susceptible to the carrying on of the improved process, it being understood that the process is in no sense limited in its utilization to such particular design or construction as illustrated.

In the drawings: Figure 1 is a fragmentary side elevation of apparatus suitable for carrying out certain steps of the process; Fig. 2 is a plan view of the showing in Fig. 1; Fig. 3 is a plan view of a plurality of trays loaded with the stacked plaster-board sheets; Fig. 4 is an enlarged isometric view of one of the trays with its respective stack of plaster-board sheets before the trimming operation, and after the plastic composition

has set; and, Fig. 5 is a view similar to Fig. 4, but showing the plaster-board as trimmed with the sheets ready for removal from the tray, one by one.

Corresponding parts in all the figures are designated by the same reference characters.

The manner of carrying on the improved process constituting this invention with particular reference to the apparatus shown in the drawings, will be readily understood from the foregoing description taken in connection with the accompanying drawings and the following statement.

Referring with particularity to the drawings, A designates advancing or feeding means for the plaster-board while in flexible condition, B designates the plaster-board, and trays for receiving the plaster-board are designated by C.

The advancing or feeding means A preferably comprises an endless conveyer belt 6, the upper side of which rides over a table top 7, such table top 7 being supported on a suitable framework 8 supported upon uprights 9, it being understood that the belt passes about rollers 10 journaled in the framework as at 10^a, only one such roller being shown, suitable driving means for the belt, not shown, being provided. The plaster-board B fed by such conveyer, as hereinbefore described, comprises the several units *b*, each of which is composed of two sheets of flexible paper, paper board or the like, preferably previously treated to delay saturation, with the interposed layer of plastic composition, such sheets being fed successively by the conveyer to the trays C, each tray being removed after receiving its stack of plaster-board units *b* and the next succeeding tray put into its place.

The trays C preferably each comprise a flat horizontal table top 11 supported on suitable transverse members 12, and provided with a side wall *c*, divided into two portions 13 and 14, such side wall acting as a guide member against which the sheets may be placed to properly aline the same on the tray. This wall also serves to support the mass of units *b* when the tray is later tilted on edge for singly removing the sheets.

It will be understood that the plaster-board B, that is, the successive units thereof, may be applied or fed to the tray in other manners than by the conveyer illustrated, the plaster-board units being so applied to the tray in rough or first cuts or approximately the same length, and the side edges of such boards as they are applied to the tray are as formed in the process of applying the plastic composition to the lower sheet of paper, and applying the upper sheet of paper over the plastic composition, and consequently ordinarily require further final trimming. This trimming is done after the plastic composition is set and the massed or stacked units *b* have dried sufficiently to be firm, the trimming operation being performed without removal of the mass from its respective tray, thus giving a clean cut, as illustrated in Fig. 5.

Having thus disclosed our invention, we claim and desire to secure by Letters Patent:

1. The herein disclosed process of making plaster-board and the like, consisting in applying a sheet of the same to a suitable surface, and superposing other sheets of the same thereon to form a stack of such sheets all internally moist but initially externally dry and each in superficial contact with the next adjacent sheet or sheets in which position they are caused to harden or set.

2. The herein disclosed process of making plaster-board and the like, consisting in applying a sheet of the same to a suitable surface, superposing other sheets of the same thereon to form a stack of such sheets all internally moist but initially externally dry and each in superficial contact with the next adjacent sheet or sheets in which position they are caused to harden or set, and then trimming the same while still in stacked relation.

3. The herein disclosesd process of making plaster-board comprising paper surface sheets and plastic composition, consisting in advancing to a suitable tray or the like a plurality of internally moist flexible sheets of the same before permeation by moisture of the paper surfaces invading from the plastic composition of such sheets, and stacking the same in superposed relation and superficial contact upon the tray in which position they are caused to harden or set.

4. The herein disclosed process of making plaster-board comprising paper surface sheets and plastic composition, consisting in advancing to a suitable tray or the like a plurality of internally moist flexible sheets of the same before permeation by moisture of the paper surfaces invading from the plastic composition of such sheets, stacking the same in superposed relation and superficial contact upon the tray in which position they are caused to harden or set, and then trimming the same while still in stacked relation upon the tray.

In testimony whereof, we have signed our names to this specification in the presence of two subscribing witnesses.

JOHN SCHUMACHER.
JOSEPH E. SCHUMACHER

Witnesses:
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FRANCIS L. ISGRIGG.