(No Model.)

G. QUIGLEY.

MACHINE FOR MAKING PAPER BOARD.

No. 333,781. Patented Jan. 5, 1886.

Fig. 1.

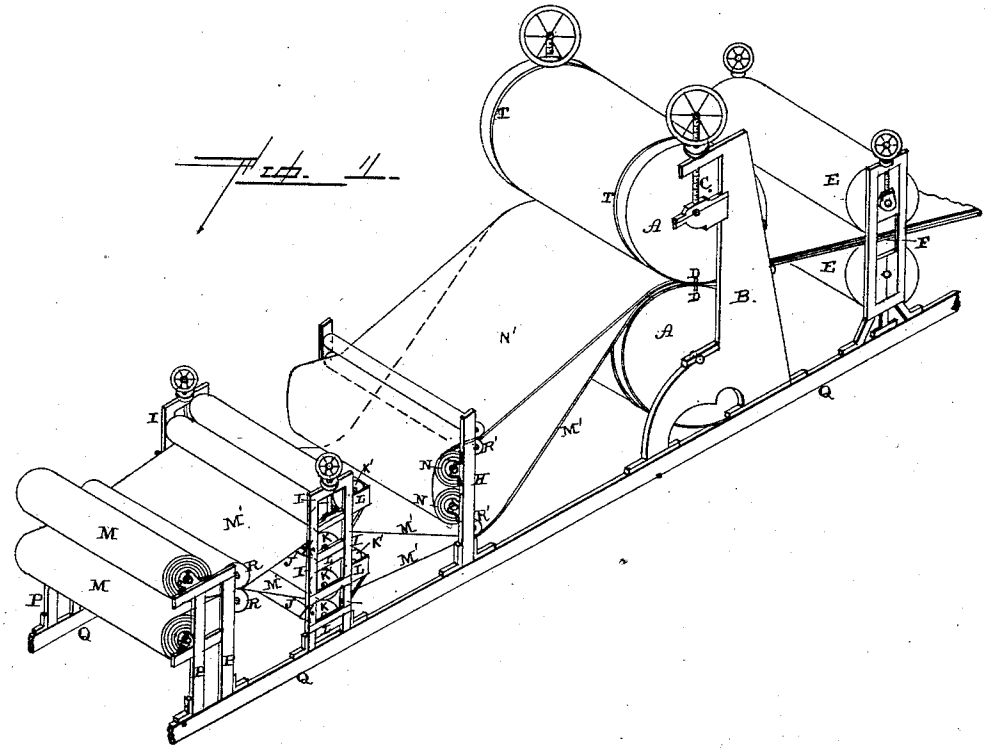
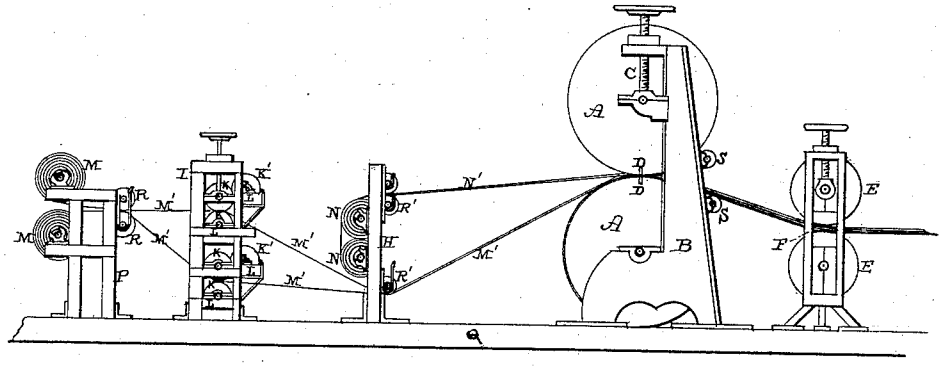


Fig. 2.



Witnesses.
K. F. Gardner
Jno. E. Prospere

Inventor.
Geo. Quigley,
per F. A. Lehmann,
Atty.

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

GEORGE QUIGLEY, OF ST. LOUIS, MISSOURI.

MACHINE FOR MAKING PAPER BOARDS.

SPECIFICATION forming part of Letters Patent No. 333,781, dated January 5, 1886.

Application filed August 13, 1885. Serial No. 174,305. (No model.)

To all whom it may concern:

Be it known that I, GEORGE QUIGLEY, of St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Machines for Making Paper Boards; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to improvements in machines for making paper plastering and sheathing boards; and it consists in the arrangement and combination of parts, which will be more fully described hereinafter, whereby sheets of paper are run directly from rolls and made into boards for plastering or sheathing surfaces, and of any desired length and thickness.

Figure 1 is a perspective of a machine embodying my invention. Fig. 2 is a side elevation of the same.

Q represents a suitable base or support, at one end of which is mounted the frame-work P, to receive the rolls M of paper; also journaled upon this frame P are the rolls R, which serve to regulate the supply of paper from the rolls M.

At any suitable distance from the frame-work P is a second frame, I, in which are mounted a number of pasting-rolls, K. Under the two lower rolls in the frame I, and under the two rolls K′, which supply the top rolls, K, with paste, are formed the troughs or boxes L, in which the rollers revolve for the purpose of becoming covered with paste. Both the top and bottom rolls, K, being covered with paste, the sheets of paper M′, which are passed between them, are thoroughly pasted on each side. The paste-rollers K′ K are made of a number of pieces of wood, which are wedge-shaped, running with the grain of the wood, and are secured together and until a circle is formed. Any desired number of these circles will be secured together, leaving an opening of suitable size through the center of each one, so that the shaft upon which the roll is placed can pass through all of the circles. All of these circles or wooden formations are tightened up by means of screw-threads and suitable nuts, so as to make the rolls perfectly rigid. All of the pieces which are used in forming these circles are fastened to the circle next to it by means of nails or wooden pins. Rolls thus made supply the paste more evenly and wear better and longer than rolls of any other description. Should any of the rolls at any time become imperfect at any point, or wear unevenly, the defective part can be removed and replaced by others. Applied to each one of the pasting-rollers K is either a scraper or roller, J, which has a motion of about an inch from side to side, and which roller or scraper regulates the distribution of the paste to be supplied to the paper passing through the pasting-rolls.

At a suitable distance from the frame I is a frame or support, H, upon which the two rolls N of unpasted paper are placed, and the paper which comes from these rolls is guided in the desired direction by means of the guiding-roller R′. The two sheets of paper M′, which have been pasted on both sides, also pass down under the guiding-rollers R′, placed in the lower portion of the frame H, and these two sheets M′ then separate and each one is then wound around its respective cylinder A until any desired thickness of material is attained.

On beyond the frame H is another frame, B, in which the forming-cylinders A A are journaled. These cylinders A also form driers, and are heated by steam or in any manner that may be desired. Any desired pressure can be exerted upon the board or paper that is passing between the cylinders by means of the regulating-screw C, the boxes of the upper cylinder being made movable. In these cylinders A are made grooves T, which extend around the cylinders and into which the edges of the trimming devices S catch. These trimming devices S are made like circular saws, or given any construction that may be preferred, and which are made to run faster than the cylinders, so as to trim the edges of the paper or the board which is being passed through between the cylinders. Extending horizontally the length of each cylinder is a slot, D, for the purpose of allowing the formation of the board

or paper around the cylinders to be cut so as to run the formations together face to face or back to back.

Beyond the frame B is another frame, F, in which are journaled the calendering-rolls E, and which can be moved apart or forced together, so as to bring any desired pressure upon the paper or board that is passing between them. These rolls E serve to calender or move the faces of the boards which are being formed.

All of the rolls and cylinders above described will be run or driven by gears or belts, so as to have a uniform rate of speed, with the exception of the trimmers, which are run more rapidly than any other part.

The operation of the machine is as follows: Enough of unpasted paper N′ is run around the forming-cylinders A to cover their entire circumference, and to form an outside layer of the thickness required. These layers N′ are not allowed to stick to the cylinders, and may be of a different kind of paper, so as to show the board being formed to a better advantage. The pasted paper M′ is conducted between the cylinders A and run around each one as often as necessary to make all but the last thickness, and then the formations on the cylinders are cut asunder along the grooves D D. The pasted surfaces are then run together at the same time that the pasted sheets are run between, so as to join the whole mass together. The mass when joined is then run between the rollers E, which rollers may be reversed in motion one or more times, so as to run the board back and forth until the proper dryness and finish have been obtained.

No claim is here made to the process of forming the boards, because this will be made the subject of another application. By means of the construction here shown the boards suitable for plastering, of any desired length or width and thickness, can be rapidly and cheaply made.

Having thus described my invention, I claim—

1. In a machine for making paper boards, the combination of a series of rollers, K K′, and the troughs L, whereby the paper M, which is passed between them, is pasted on both sides alike, substantially as shown.

2. The combination of the pasting-rollers K K′ with the endwise-moving scrapers J, which are applied thereto for evenly distributing the paste upon the rollers, substantially as described.

3. The combination of the forming-cylinders A, having grooves T extending around them, with the trimming devices S, which are run at a higher rate of speed than the cylinders, substantially as set forth.

4. The combination of the forming-cylinders A, having the grooves D cut in their sides, so as to enable the formations upon the cylinders to be cut, substantially as specified.

5. In a machine for forming paper boards, the combination of the frame A, holding the rolls of paper, the pasting-rollers K K′, the scrapers or rollers J, for distributing the paste, the frame H, for holding the unpasted paper N, and the guiding-rollers R R′, the cylinders A, the forming devices, and the calendering-rollers E′, the parts being combined to operate substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE QUIGLEY.

Witnesses:
EDWARD A. PRIMEAU,
CHARLES H. BLAKE.