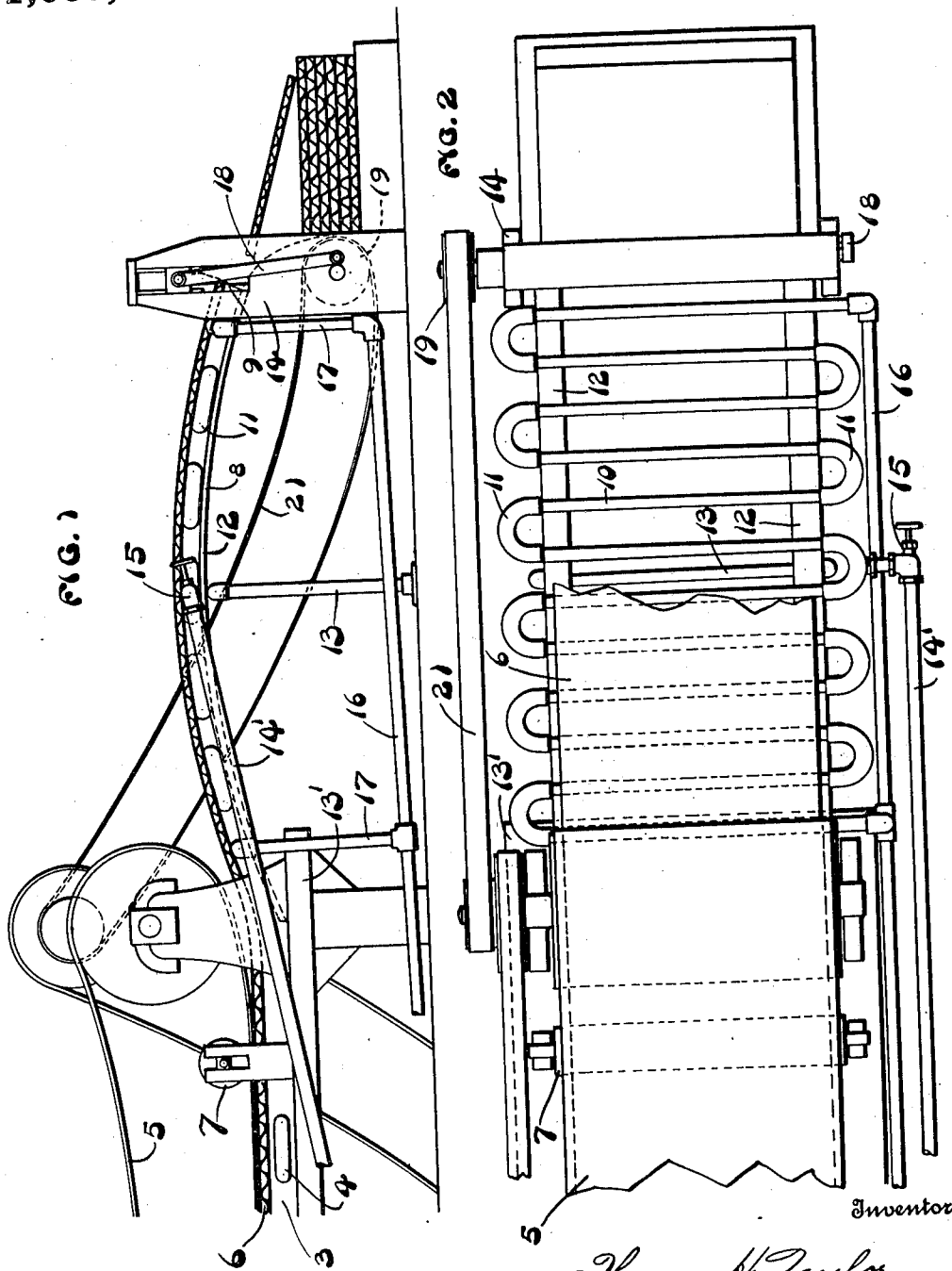


T. H. TAYLOR.  
CELLULAR BOARD MACHINE.  
APPLICATION FILED APR. 12, 1911.

Patented Aug. 13, 1912.

1,035,266.



Witnesses

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# UNITED STATES PATENT OFFICE.

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## CELLULAR-BOARD MACHINE.

1,035,266.

Specification of Letters Patent.

Patented Aug. 13, 1912.

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*To all whom it may concern:*

Be it known that I, THOMAS H. TAYLOR, a subject of the King of Great Britain, and a resident of Cincinnati, county of Hamilton, and State of Ohio, have invented certain new and useful Improvements in Cellular-Board Machines, of which the following is a specification.

This invention relates to machines for manufacturing cellular board, and particularly to means for backing the strip of cellular board and for cutting the finished strip into desired lengths.

An object of my invention is to produce improved means for drying the cellular board, after the backing strip has been secured in place.

A further object is to produce improved means for drying the finished strip, and for cutting it into desired lengths.

These and other objects I attain in a machine embodying the features herein described, and illustrated in the drawings accompanying and forming a part of this application.

In the drawings, Figure 1 is a fragmental side elevation of a backing machine, provided with improvements embodying my invention. Fig. 2 is a plan view of the apparatus illustrated in Fig. 1.

The operation of backing cellular boards is somewhat as follows:—The corrugated strip of paper, to which a facing has been previously secured, is passed through a backing machine, together with a backing strip. The backing machine applies glue to the corrugated strip, presses the two strips together, and applies heat to the strips, during the time that they are subjected to pressure.

One of the features of my invention is to produce means for heating the strip, after it is relieved of the pressure imposed on it by the backing machine while it is passing over the cutting table, so that the steam and moisture may freely escape from the strip and the strip may be more thoroughly dried, before it arrives at the cutting knives.

The apparatus illustrated as an embodiment of my invention is adapted to secure a backing strip on a strip of corrugated board and to cut the finished boards into desired lengths. After the glue is applied to the strip of corrugated paper, and the backing strip is in place on the paper, the paper

is fed to the backing machine, where it travels across a heating plate 3, and is subjected to sufficient pressure to secure the backing strip in place. The heating plate consists of a flat metal plate, below which a series of steam coils 4 are located. The strip is moved across the plate, by means of a heavy endless belt 5, which runs over two pulleys, and is so located that the lower leg of the belt contacts with the strip located on the plate. Any suitable means may be employed for driving the belt 5. Additional pressure may be applied to the strip of corrugated board 6 as it passes over the plate, by means of rollers 7, which rest upon the belt, and which may be spaced at equal distances apart along the plate. After the strip 6 has passed across the plate 3, it is passed over an arched cutting table 8 to a knife 9, employed for cutting it into desired lengths. The table is arched for the purpose of providing an initial arch or bow in the strip located on it, so that the strip will not be crushed, or bent and broken, during the cutting period, when the severed end of the strip is held against forward motion by the knife 9. By providing the arched table, the only effect that the cutting operation has on the strip passing across the table, is to increase the arch or curvature of that portion of the strip on the table, during the comparatively short time that the forward end of the strip is checked by the cutting knife 9.

I have provided an arched cutting table, which consists of a series of steam coils, across which the cellular board 6 passes on its way to the knife, after it has passed over the plate 3. The steam coils illustrated, consist of parallel steam pipes 10, which extend transversely across the path of the strip of cellular board 6, and which are connected together in series by means of U-joints 11. The coils are supported on arched metal strips 12, located near opposite ends of the pipes, and which are supported at their centers by a standard 13. One end of each strip is supported by the frame portion 13' of the backing machine, and the other portion is supported by the frame 14 of the knife 9. Steam is delivered to the central coil of the arched series through a pipe 14', which is provided with a valve 15. Each end of the series of coils connect with a discharge pipe 16, through a separate branch pipe 17. With this arrangement, steam is delivered to the

highest coil of the arched series, and the water of condensation is discharged from each end of the series. This insures a free discharge of the water of condensation, and  
 5 also insures a thorough circulation of the steam through the coils.

The cutting knife, illustrated, is located at the outer end of the arched table, and is mounted in vertical ways formed in the  
 10 frame 14. The knife is actuated by an eccentric rod 18, which is actuated by a pulley 19. The pulley may be driven by any suitable means, as, for example, a belt 21, which is driven by the operating mechanism of the  
 15 belt 5.

With my invention, the finished cellular board contacts with the hot surfaces of the coils of the cutting table, and the steam and moisture escapes freely while the strip is  
 20 traversing the cutting table. Under these conditions, the cellular board is more thoroughly dried, and consequently the knife 9 can easily cut it into desired lengths..

What I claim is:—

25 1. A cutting table for a machine of the character described comprising an arched series of heating coils, located one beside the other.

30 2. A cutting table for machines of the character described comprising an arched series of heating coils.

3. A cutting table for machines of the character described comprising an arched series of steam coils, a steam supply pipe

communicating with the central coil of said 35 series, and a discharge pipe communicating with each end of said series.

4. In combination with a cellular board backing machine, a cutting knife, and an arched cutting table located between said 40 knife and said machine and comprising a series of steam coils over which the board passes.

5. In combination with a cellular board backing machine, a cutting knife, and a cutting table located between the machine and the knife and comprising an arched series of steam coils, a steam supply pipe communicating with the central coil of said series, and a discharge pipe communicating with 50 each end of said series.

6. In combination with a cellular board backing machine, a cutting knife, an arched cutting table located between said knife and said machine, and means for heating the 55 surface of the cutting table.

7. In combination with a cellular board backing machine, a cutting knife and a cutting table located between the knife and the machine and over which the board moves in 60 passing to the knife, and means for heating the board as it passes over the table and thereby permitting the free escape of moisture therefrom.

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Witnesses:

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