No. 824,086. PATENTED JUNE 26, 1906.

E. D. ALVORD & H. R. KNOX.

MACHINE FOR MAKING LEATHER BOARD.

APPLICATION FILED DEC. 9, 1905.

3 SHEETS—SHEET 1.

Fig. 1.

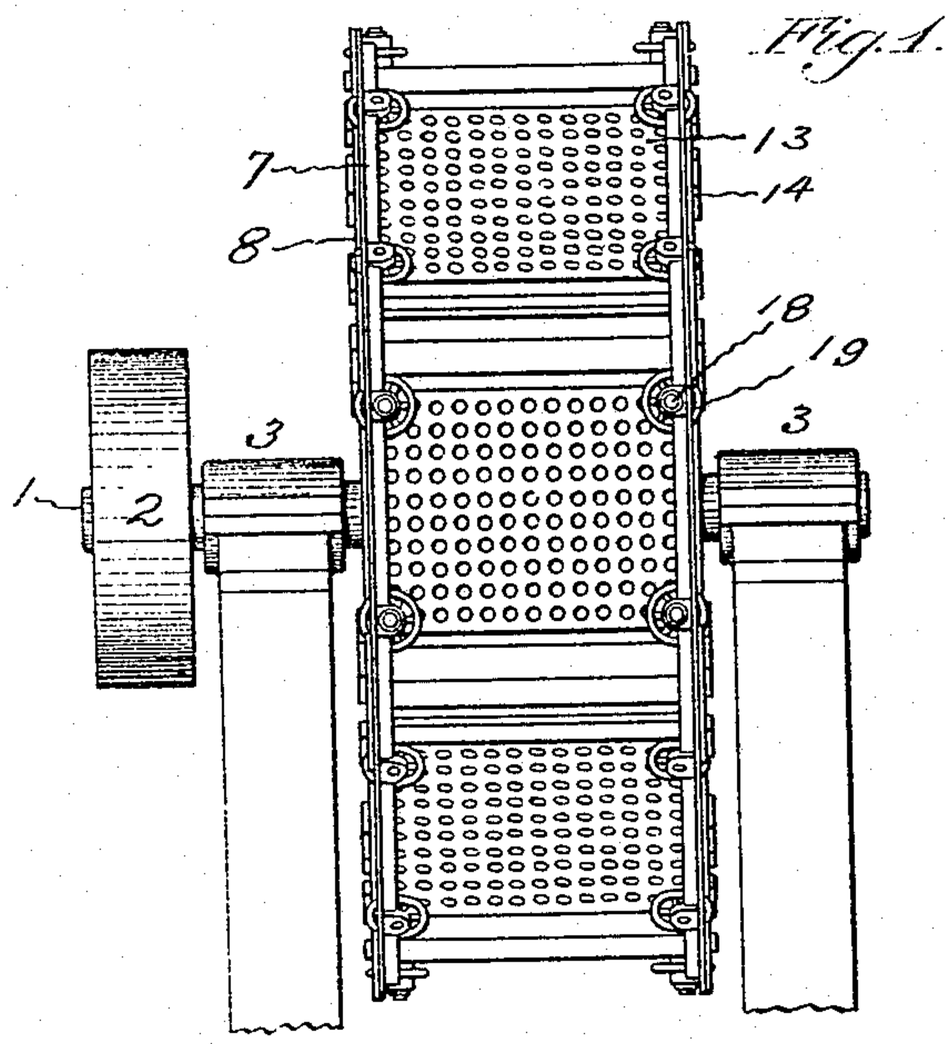
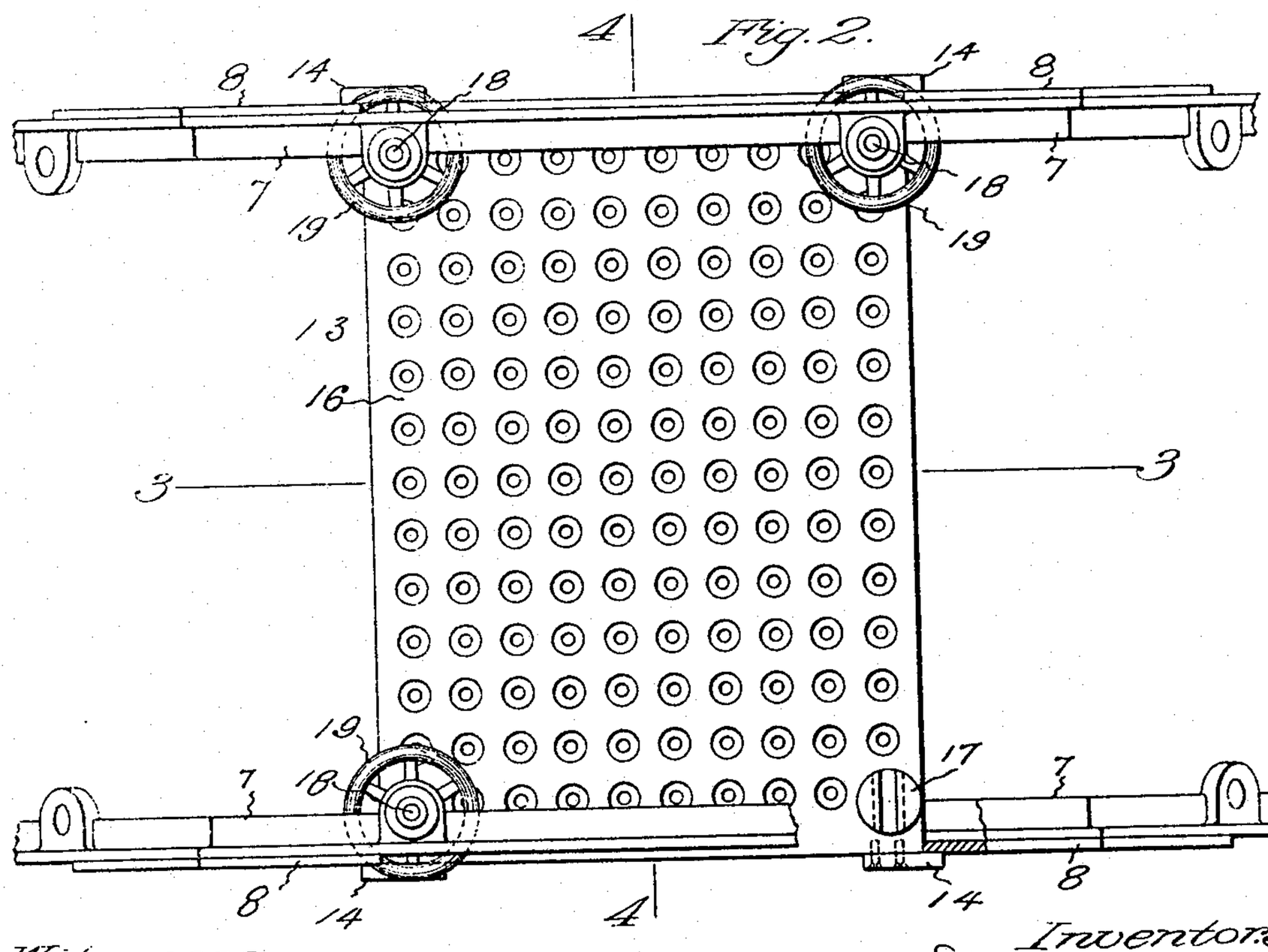


Fig. 2.



Witnesses:

C. F. Storm.

Ethel M. Lowe.

Inventors:

Edwin D. Alvord

Harry R. Knox

per Harry P. Williams

Attorney.

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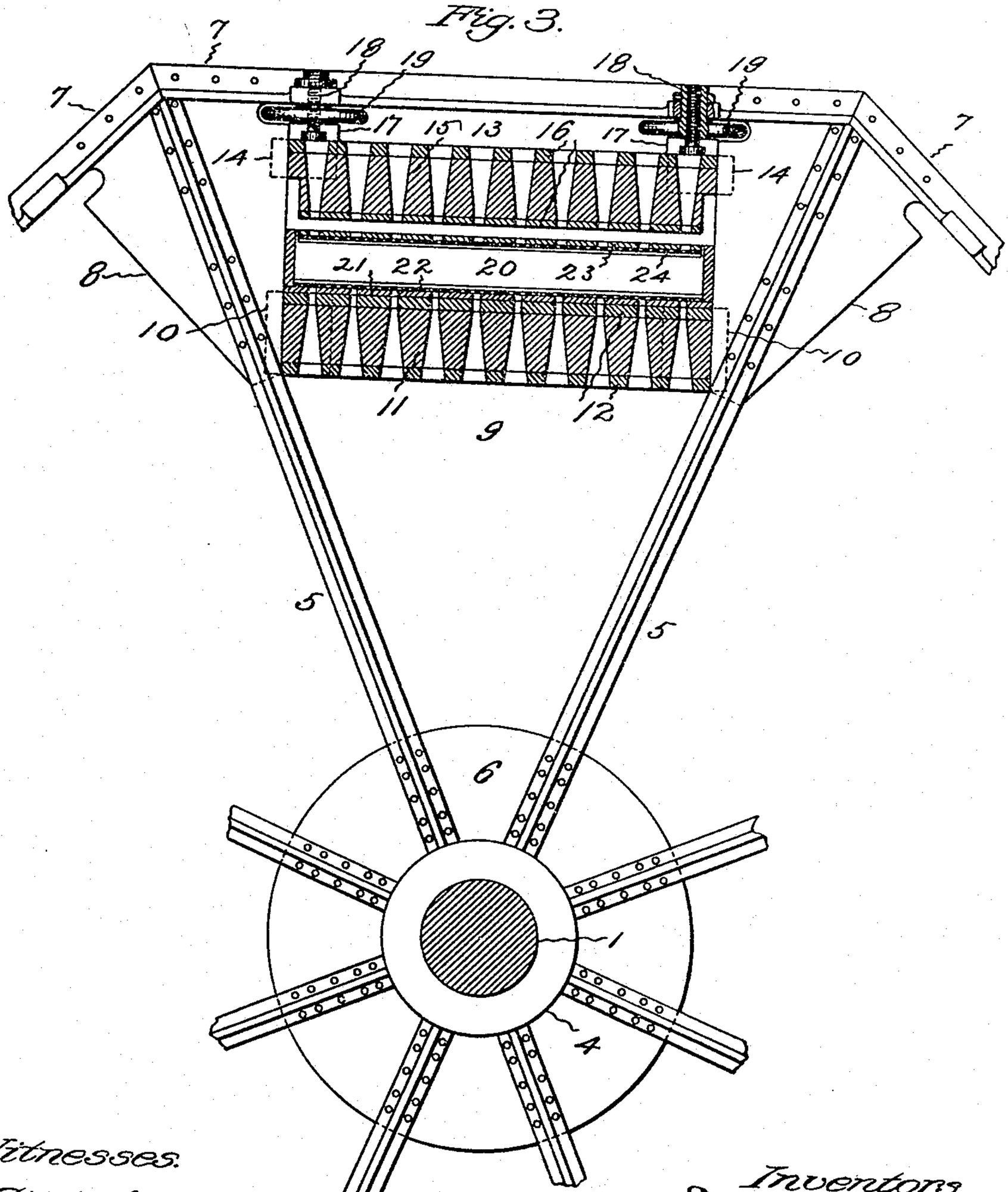
Fig. 3.



Witnesses.
C. F. V. Storrs.
Ethel M. Lowe.

Inventors.
Edwin D. Alvord &
per Harry R. Knox
Harry P. Williams.
Attorney.

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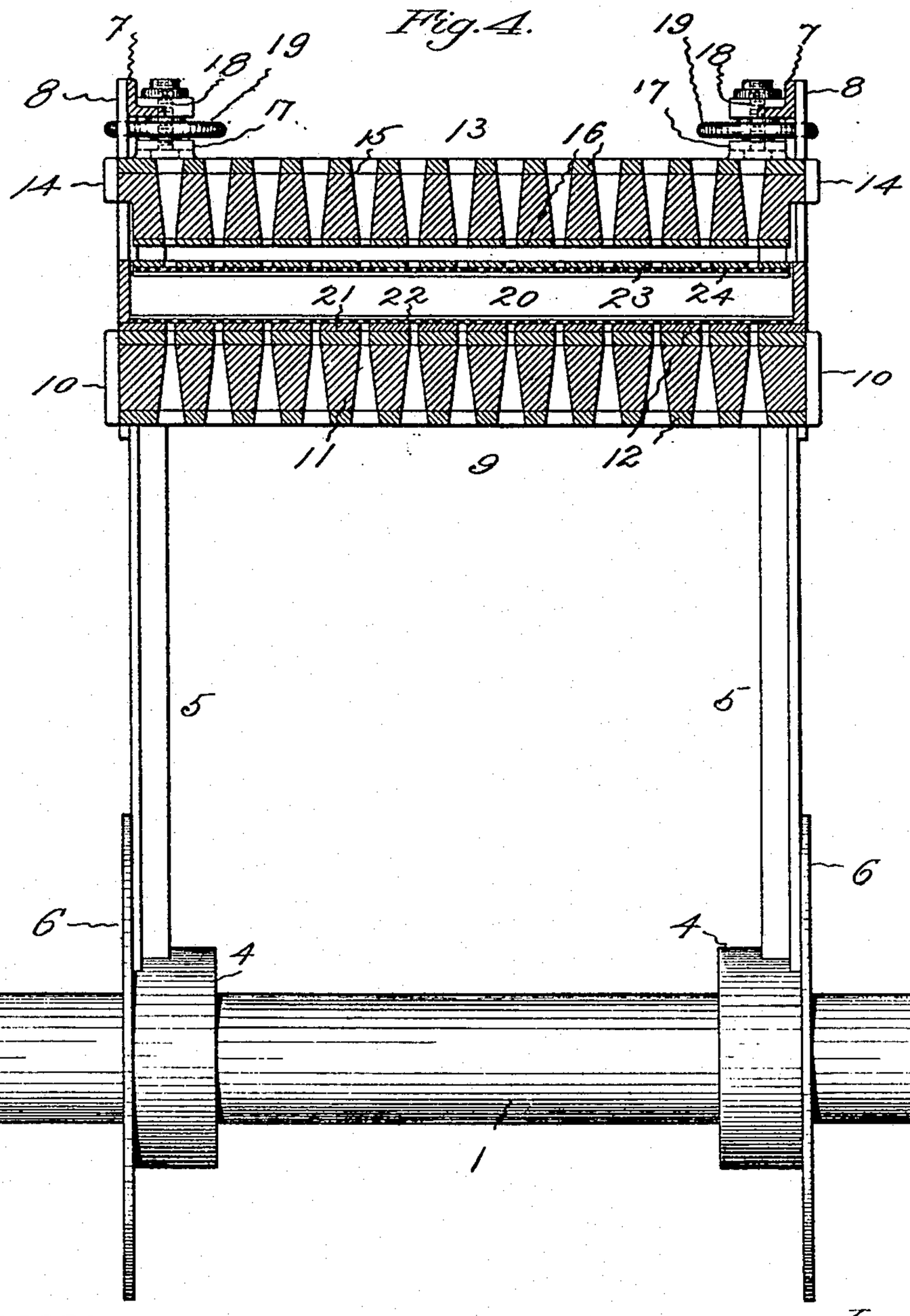
3 SHEETS—SHEET 3.

Fig. 4.



Witnesses.

C. F. Storrs.

Ethel M. Lowe.

Inventors.

Edwin D. Alvord &

Harry R. Knox

per Harry R. Williams

Attorney.

UNITED STATES PATENT OFFICE.

EDWIN D. ALVORD AND HARRY R. KNOX, OF HARTFORD, CONNECTICUT.

MACHINE FOR MAKING LEATHER-BOARD.

No. 824,086. Specification of Letters Patent. Patented June 26, 1906.

Application filed December 9, 1905. Serial No. 291,114.

To all whom it may concern:

Be it known that we, EDWIN D. ALVORD and HARRY R. KNOX, citizens of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented a new and useful Machine for Making Leather-Board, of which the following is a specification.

This invention relates to a machine in which by the utilization of centrifugal action pulp containing leather or similar fiber that is more or less coarse and greasy is freed from moisture and condensed into sheets.

The object is the production of a machine of this character which is simple, strong, efficient, and easily manipulated.

Figure 1 of the drawings shows an elevation looking toward the edge of such a machine. Fig. 2 shows, on much larger scale, a face view of one section of the machine. Fig. 3 shows a vertical section on the plane indicated by the line 3 3 on Fig. 2. Fig. 4 shows a vertical section on the plane indicated by the line 4 4 on Fig. 2.

The shaft 1, provided with a driving-pulley 2, is journaled horizontally in common bearings 3, mounted in any convenient manner. Two collars 4 are secured to the shaft at some distance from each other, and extending radially from each of the collars are eight T-irons 5. The inner ends of these irons are riveted to plates 6, that are fastened to the collars. The outer ends of each set of these radial irons are joined by eight angle-irons 7. A plate 8 is riveted to the outer end of each radial iron, also to the butting ends of the circumferential irons for securing the irons together. These plates are so shaped that the edges in each section are parallel.

A bed 9 is located in each section. The sides of the beds fit the parallel edges of the fastening-plates, and gibs 10, fastened to the ends of the beds, extend outside of the plates, so as to retain the beds in position without interfering with their movement outwardly when the machine is in action. Each bed preferably has a perforated wooden body 11 and perforated inner and outer metallic plates 12.

Outside of each bed is an adjustable head 13. The heads are guided in their movements in and out by the edges of the fastening-plates and are retained in place by gibs 14, which extend outside of the fastening-plates. Each head preferably has a perforated wooden body 15, with perforated inner and outer metallic plates 16. On the outer face at each of the four corners of each of the outer head-plates is a lug 17, with a T-shaped groove, and in this groove is the head of a screw 18. Each of these screws extends through the threaded hub of a hand-wheel 19, which hub is supported by a boss on the circumferential angle-iron. By turning these wheels the heads may be moved in or out from the beds.

A mold 20, containing suitably-mixed pulp, is placed upon each bed. The molds shown are formed of a rectangular frame of wood, with a perforated sheet-metal plate 21 and a gauze lining 22 at the bottom. The covers for the molds are perforated plates 23, with gauze lining 24. The filled molds are brought to the machine and placed upon the beds, the machine being turned so as to bring each bed successively into a horizontal position for receiving a mold. When a mold has been placed on a bed, the hand-wheels are turned so as to force the head and the cover down into the mold and give the pulp a preliminary press. After all of the molds have been placed in the machine and given a preliminary press the machine is rapidly rotated. Centrifugal action due to the revolution of the molds throws off the water and compacts the pulp. This action is aided by the weight of the bed, which is free to move outwardly under centrifugal action and is of sufficient weight to greatly assist in expressing the moisture and compressing the pulp. When the pulp has been sufficiently condensed and compacted, the heads one at a time are lifted by rotating the hand-wheels and then the molds are removed. The molds are removed from the top of the machine one at a time, the beds carrying the molds dropping down by gravity, so as to free the molds from the heads.

The invention claimed is—

1. A machine for making board from pulp having a horizontal shaft, a frame supported by the shaft, perforated beds free to move in and out on the frame, perforated heads adjustably held outside of the beds, and molds with perforated bottoms and covers located between the beds and the heads, substantially as specified.

2. A machine for making board from pulp having a horizontal shaft, a radial frame supported by the shaft, a circumferential frame fastened to the radial frame, perforated beds

loosely supported by and movable in and out on the radial frame, perforated heads adjustably supported by the circumferential frame, and molds with perforated bottoms and covers located between the beds and the heads, substantially as specified.

3. A machine for making board from pulp having a horizontal shaft, a radial frame supported by the shaft, a circumferential frame fastened to the radial frame, perforated beds movable in and out on the radial frame, perforated heads movable in and out on the radial frame, and hand-wheels and screws for supporting and adjusting the heads, substantially as specified.

4. A machine for making board from pulp having a horizontal shaft, radiating irons carried by the shaft, circumferential irons connected with the outer ends of the radial irons, plates securing the radial irons and the circumferential irons, beds movable in and out and guided by the edges of the plates, heads movable in and out and guided by the edges of the plates, hand-wheels and screws for holding and adjusting the heads, and molds with perforated bottoms and covers located between the beds and the heads, substantially as specified.

EDWIN D. ALVORD.
HARRY R. KNOX.

Witnesses:
HARRY R. WILLIAMS,
ETHEL M. LOWE.