F. M. CHAPMAN.

FELTLESS WET PRESS FOR PAPER MAKING.

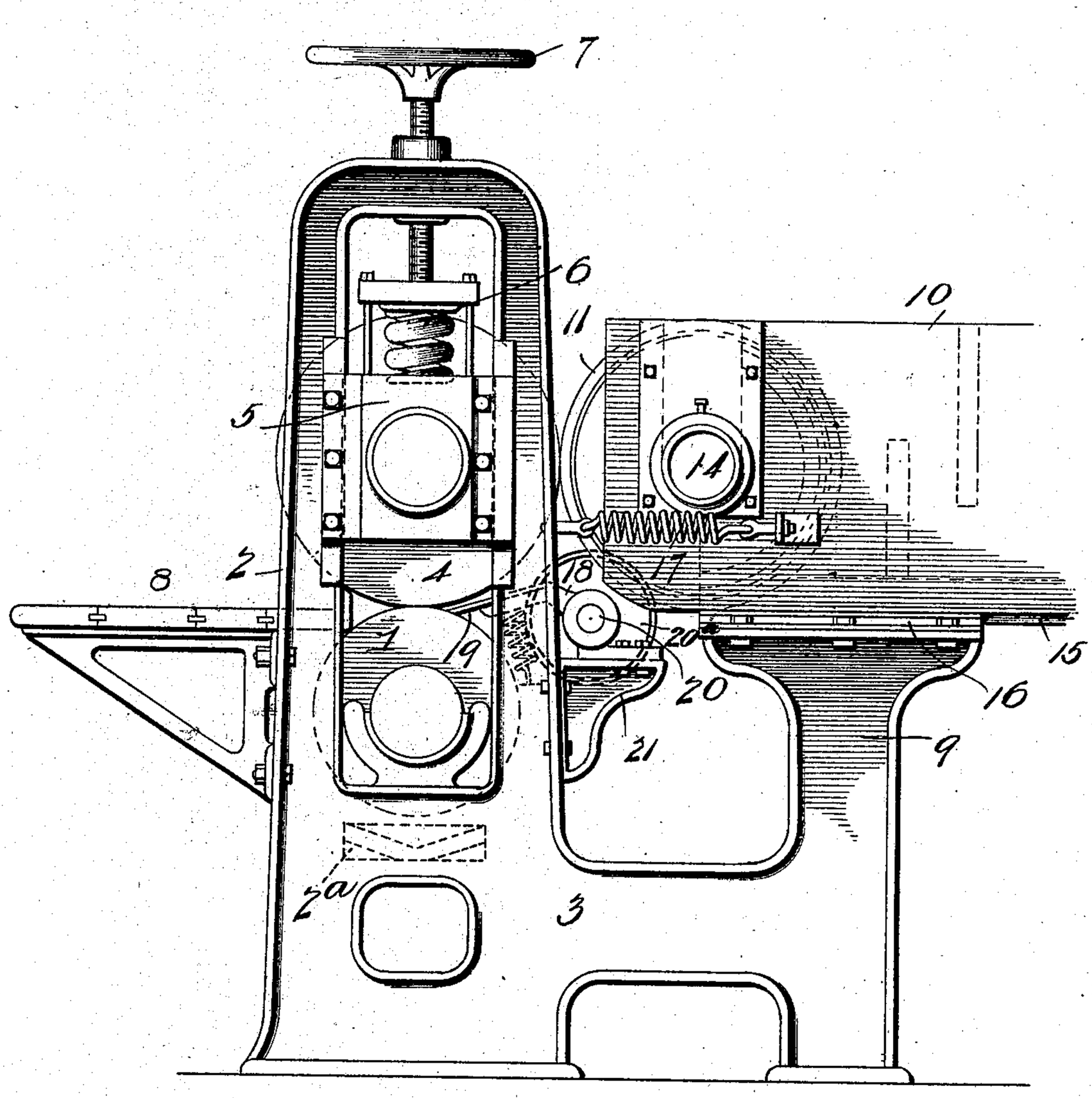
APPLICATION FILED SEPT. 14, 1907.

905,053.

Patented Nov. 24, 1908.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses

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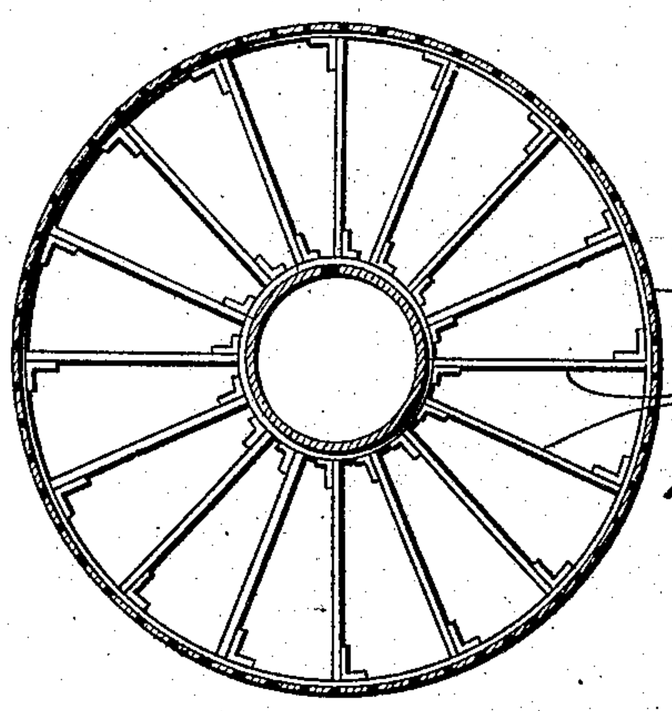


Fig. 3.

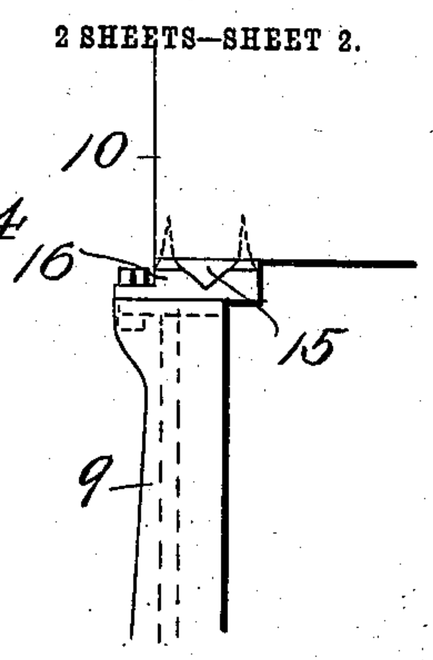
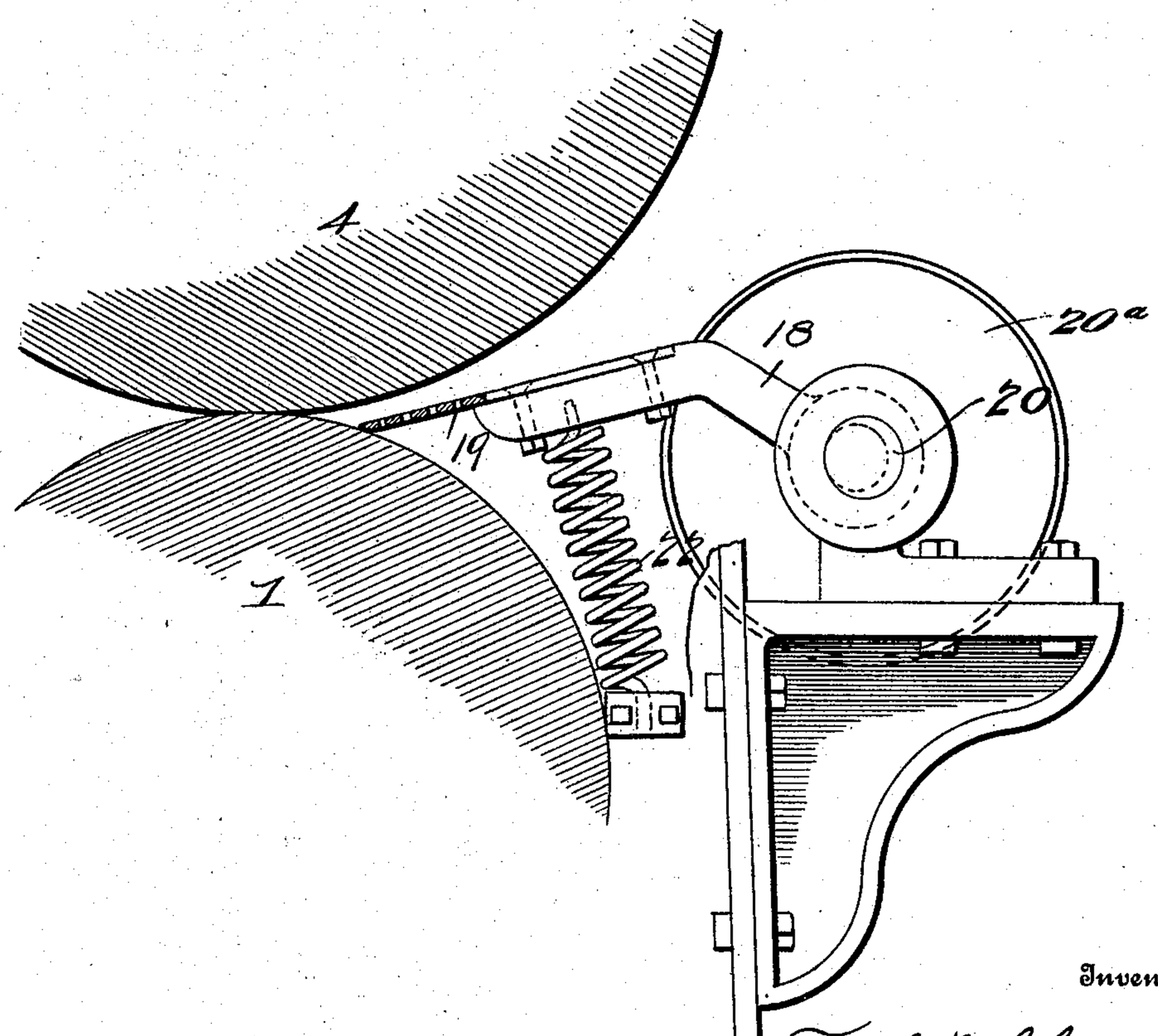


Fig. 4.

Fig. 2.



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UNITED STATES PATENT OFFICE.

FRANK M. CHAPMAN, OF FORT EDWARD, NEW YORK, ASSIGNOR OF THREE-FOURTHS TO ORVILLE C. ROBINSON AND ONE-FOURTH TO COURTLAND T. ROBINSON, OF FORT EDWARD, NEW YORK.

FELTLESS WET-PRESS FOR PAPER-MAKING.

No. 905,053. Specification of Letters Patent. Patented Nov. 24, 1908.

Application filed September 14, 1907. Serial No. 392,852.

To all whom it may concern:

Be it known that I, FRANK M. CHAPMAN, a citizen of the United States, residing at Fort Edward, in the county of Washington and State of New York, have invented certain new and useful Improvements in Feltless Wet-Presses for Paper-Making; 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 appertains to make and use the same.

My invention relates to improvements in pulp and paper making machinery and particularly to a novel construction of feltless wet press or machine for forming pulp board.

The object of the invention is to secure the proper draining and feeding of the pulp as it passes between the press rollers from the cylindrical mold which is arranged in the end of the vat.

Other objects of the invention will become apparent from the following description.

The invention consists in the features of construction and combinations of parts hereinafter described and specified in the claims.

In the accompanying drawings, illustrating the preferred embodiment of my invention: Figure 1 is a side elevation of a machine or press constructed in accordance with my invention. Fig. 2 is an enlarged broken sectional view showing the kicker more clearly. Fig. 3 is a cross section of the cylindrical mold, and Fig. 4 is a broken detailed view showing the sliding feature of the vat.

Referring more particularly to the drawings, 1 designates the lower press roller which is mounted in fixed bearings in uprights 2 on side frames 3 and is driven in any suitable manner. The upper press roller 4 is hung in bearings 5 which are vertically slidable in said uprights. Said upper press roller is normally held down upon the lower roller by means of a spring 6, the tension of which may be varied by means of the hand wheel 7. A press table 8 is secured to the uprights 2 for folding the pulp on after it is taken off of the upper press roller. A trough 2^a is arranged below the press roller to catch the water pressed from the pulp. Supported on other uprights 9 on said side frame 3 is the vat 10 in which the pulp is placed in a liquid form. At the end of said vat adjacent to the press rollers is mounted a revoluble cylindrical mold 11, the surface of which contacts with the upper press roller. A certain amount of water from the pulp in the vat passes through said mold, which is formed of a perforated casing 12 supported upon radial braces 13 as shown in Fig. 3, and out at 14. This leaves a wet sheet of pulp on the outside of the mold which is passed to the upper press roller which in turn carries said pulp between it and the lower press roller. The vat has rails 15 on its bottom which fit and are adapted to slide in ways 16 in the uprights 9. Spring 17 connecting the vat and the uprights 2 hold said vat in position, so that the cylindrical mold engages the upper press roller. Said springs also permit said vat to move away from said upper press roller as the felt is wound thereon.

To drain the pulp and to force it between the pressure rollers, I employ the kicker 18 comprising a perforated plate 19 mounted on an eccentric shaft 20 supported by brackets 21 secured to the edges of the uprights 2, adjacent to the vat. Said kicker is held down upon the lower press roller by the spring 22. The kicker is actuated by means of a drive pulley 20^a on the shaft 20 or in any other suitable manner. When in operation, said kicker forces the pulp between the press rollers, the water from said pulp passing down through the perforations in the plate 19. When the pulp has reached the desired thickness on the upper roller it is removed from the front side over the folding table in the usual manner.

I claim:

1. In a machine of the character described, the combination, with lower and upper press rollers, of a vat, a cylindrical mold in said vat, and means which are distinct from said rollers and mold, to force the pulp between said rollers.

2. In a machine of the character described, the combination, with lower and upper press rollers, of a vat, a cylindrical mold in said vat, and a kicker adapted to be moved in and out to force the pulp between said rollers.

3. In a machine of the character described, the combination, with lower and upper press rollers, of a vat, a cylindrical mold in said

vat, and a kicker mounted on an eccentric shaft and adapted to force the pulp between said rollers.

4. In a machine of the character described, the combination, with lower and upper press rollers, of a vat, a cylindrical mold in said vat, and a perforated kicker adapted to be moved in and out to drain and force the pulp between said rollers.

5. In a machine of the character described, the combination, with lower and upper press rollers, of a vat, a cylindrical mold in said vat, a kicker adapted to be moved in and out to force the pulp between said rollers, and means to hold said kicker down upon said lower roller.

6. In a machine of the character described, the combination, with lower and upper press rollers, of a vat, a cylindrical mold in said vat, a perforated kicker mounted on an eccentric shaft and adapted to drain and force the pulp between said rollers, and means to hold said kicker down upon said lower roller.

7. In a machine of the character described, the combination with lower and upper press rollers, of a vat, a cylindrical mold in the end of said vat adjacent to said rollers, said vat being mounted to slide to and from said rollers, and yieldable means for holding said vat in position whereby said mold contacts with the upper press roller.

8. In a machine of the character described, the combination, with lower and upper press rollers, of a vat, a cylindrical mold in the end of said vat adjacent to said rollers, said vat having tracks fitting and adapted to slide in ways in its supports whereby said vat is adapted to move to and from said rollers, and yieldable means for holding said vat in position whereby said mold contacts with the upper press roller.

9. In a machine of the character described, the combination, with lower and upper press rollers, of a vat, a cylindrical mold in the end of said vat adjacent to said rollers, said vat being mounted to slide to and from said rollers, yieldable means for holding said vat in position whereby said mold contacts with the upper press roller, and means to force the pulp between said rollers.

10. In a machine of the character described, the combination, with lower and upper press rollers, of a vat, a cylindrical mold in the end of said vat adjacent to said rollers, said vat being mounted to slide to and from said rollers, yieldable means for holding said vat in position whereby said mold contacts with the upper press roller, and a kicker held down upon the lower roller and adapted to be moved in and out to force the pulp between said rollers.

11. In a machine of the character described, the combination, with lower and upper press rollers, of a vat, and a cylindrical mold in said vat in contact with said upper roller, said mold comprising a perforated casing supported from its hub on radial braces.

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

FRANK M. CHAPMAN.

Witnesses:

COURTLAND T. ROBINSON,

J. H. CHEESMAN.