

No. 773,660.

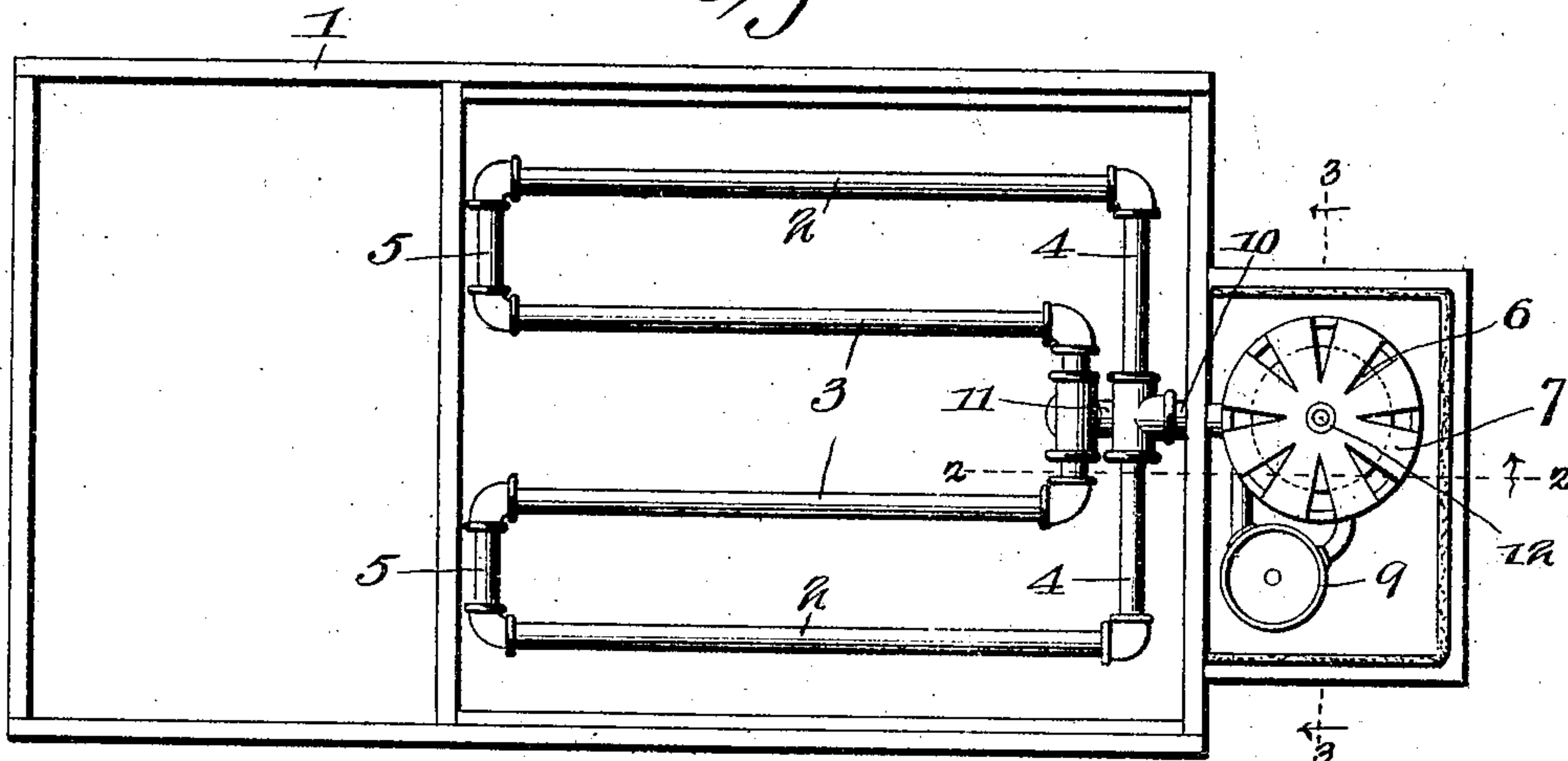
PATENTED NOV. 1, 1904.

J. MALMGREN.  
BROODER.

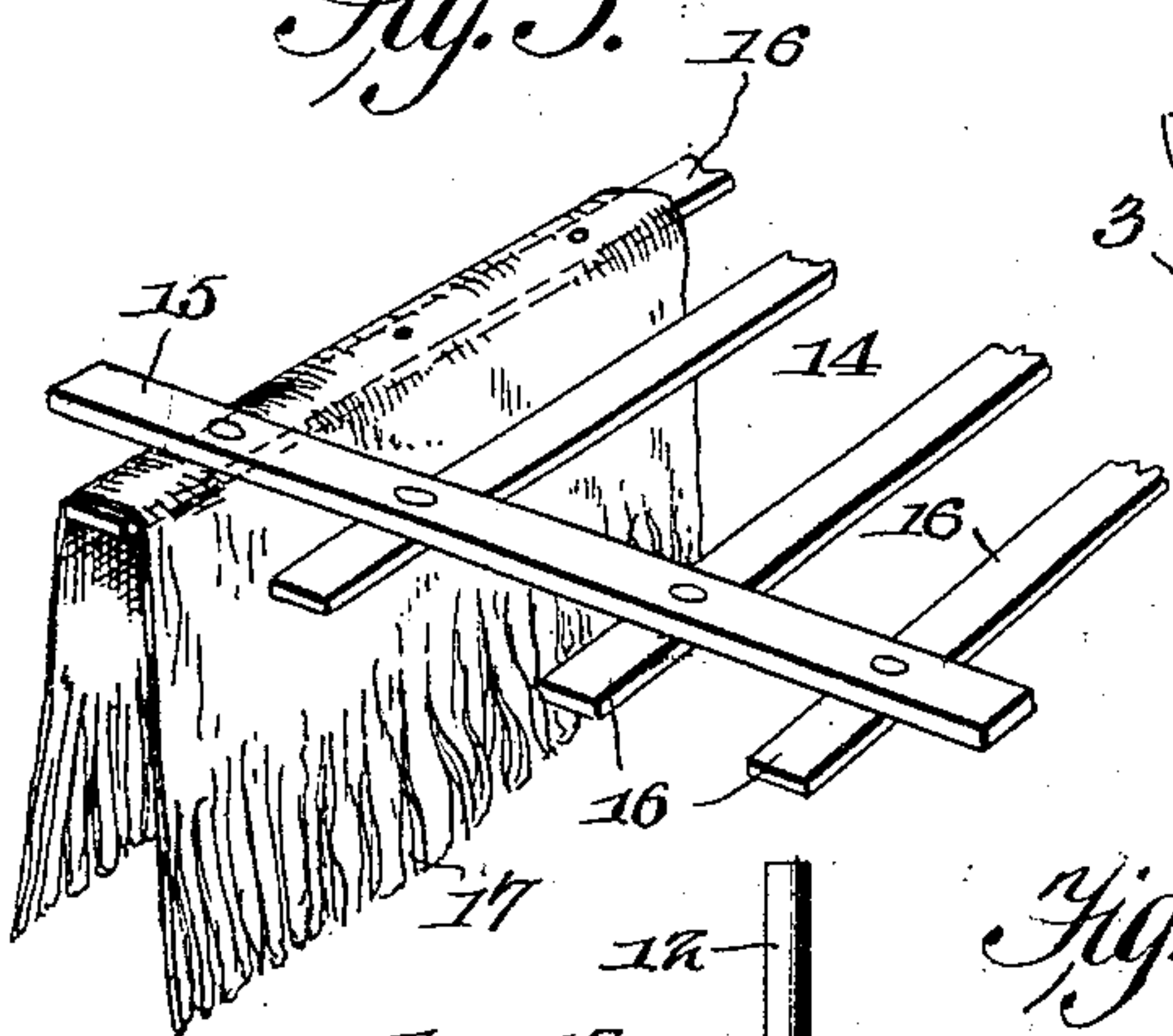
APPLICATION FILED MAY 26, 1904.

NO MODEL.

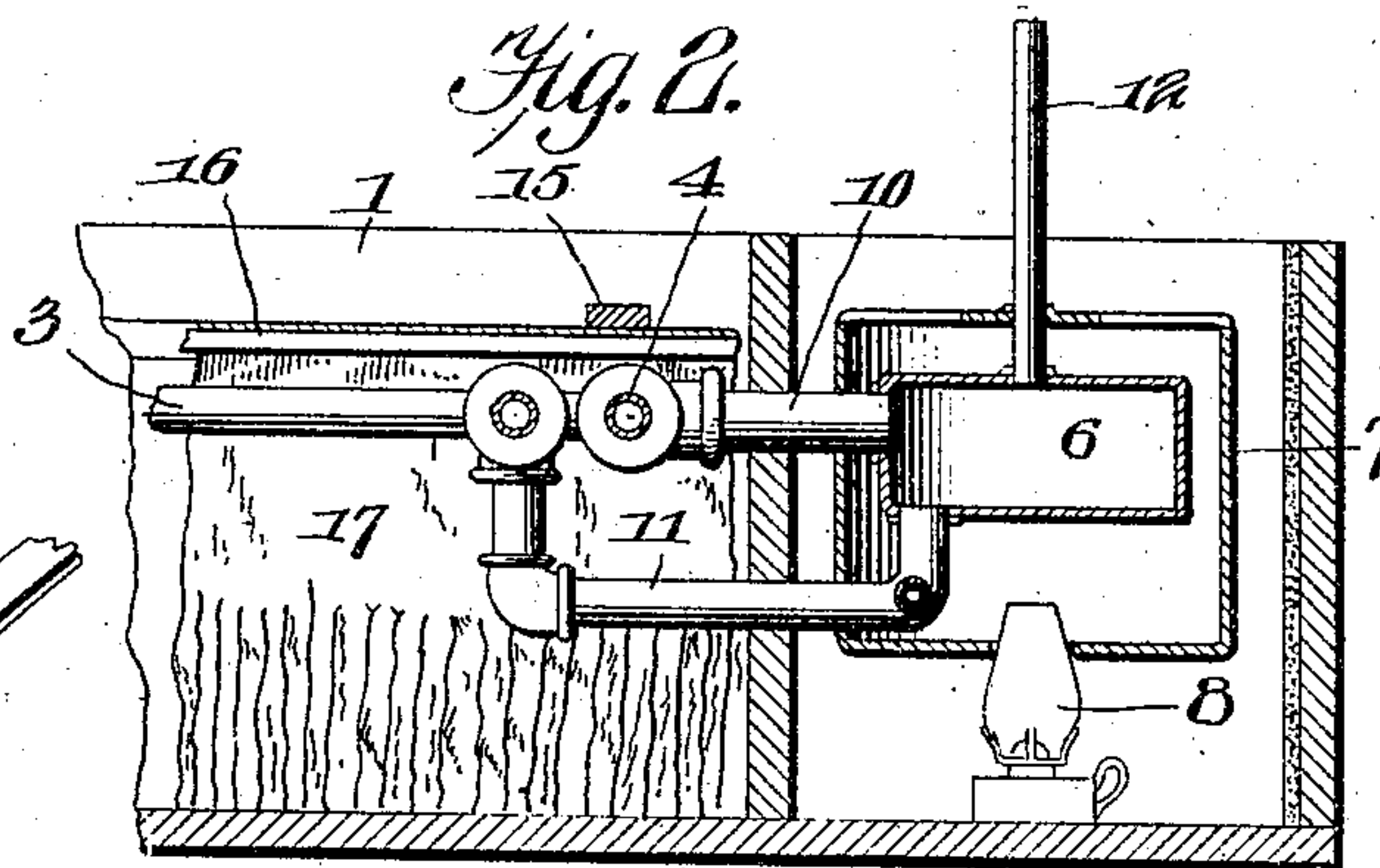
*Fig. 1.*



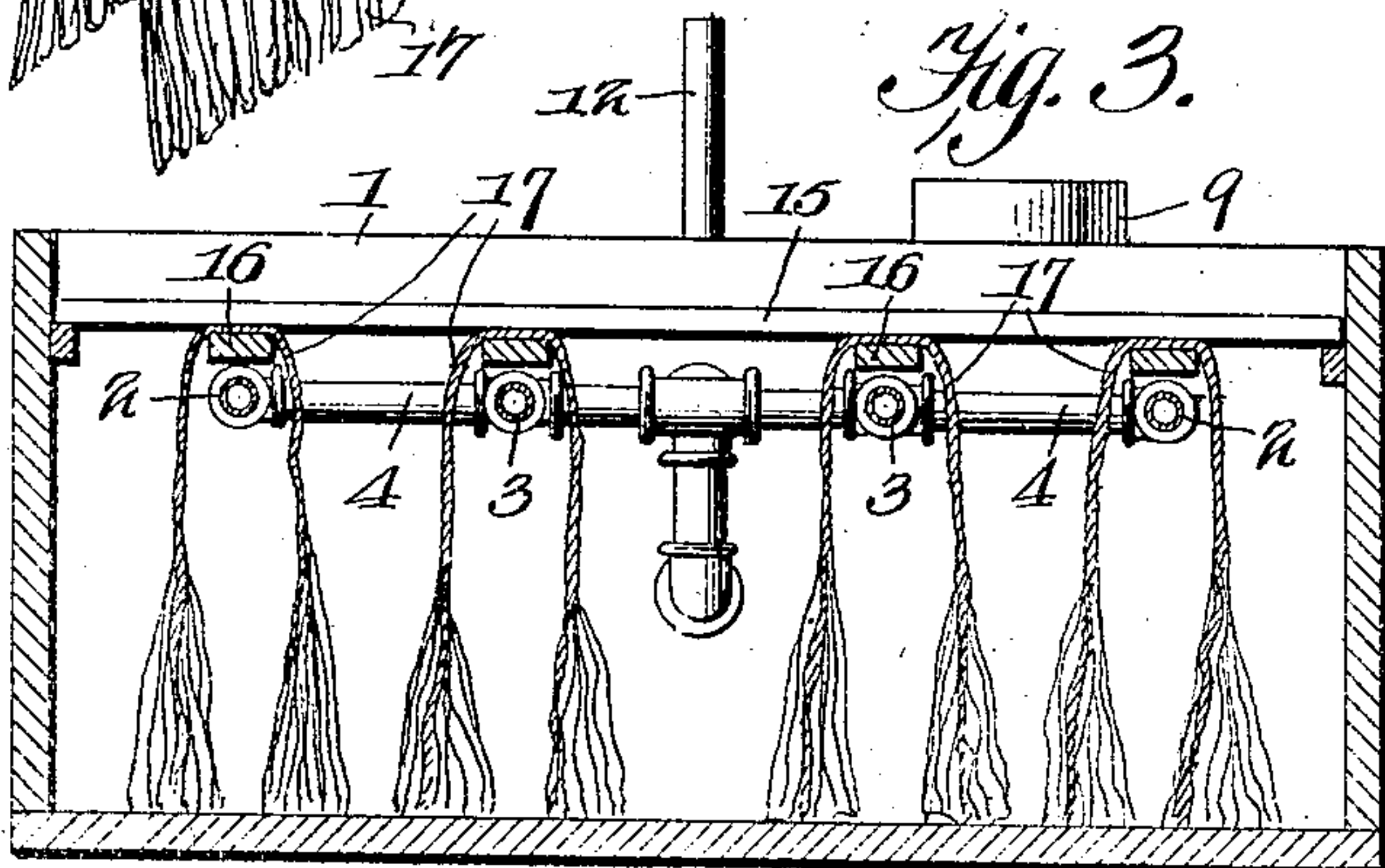
*Fig. 5.*



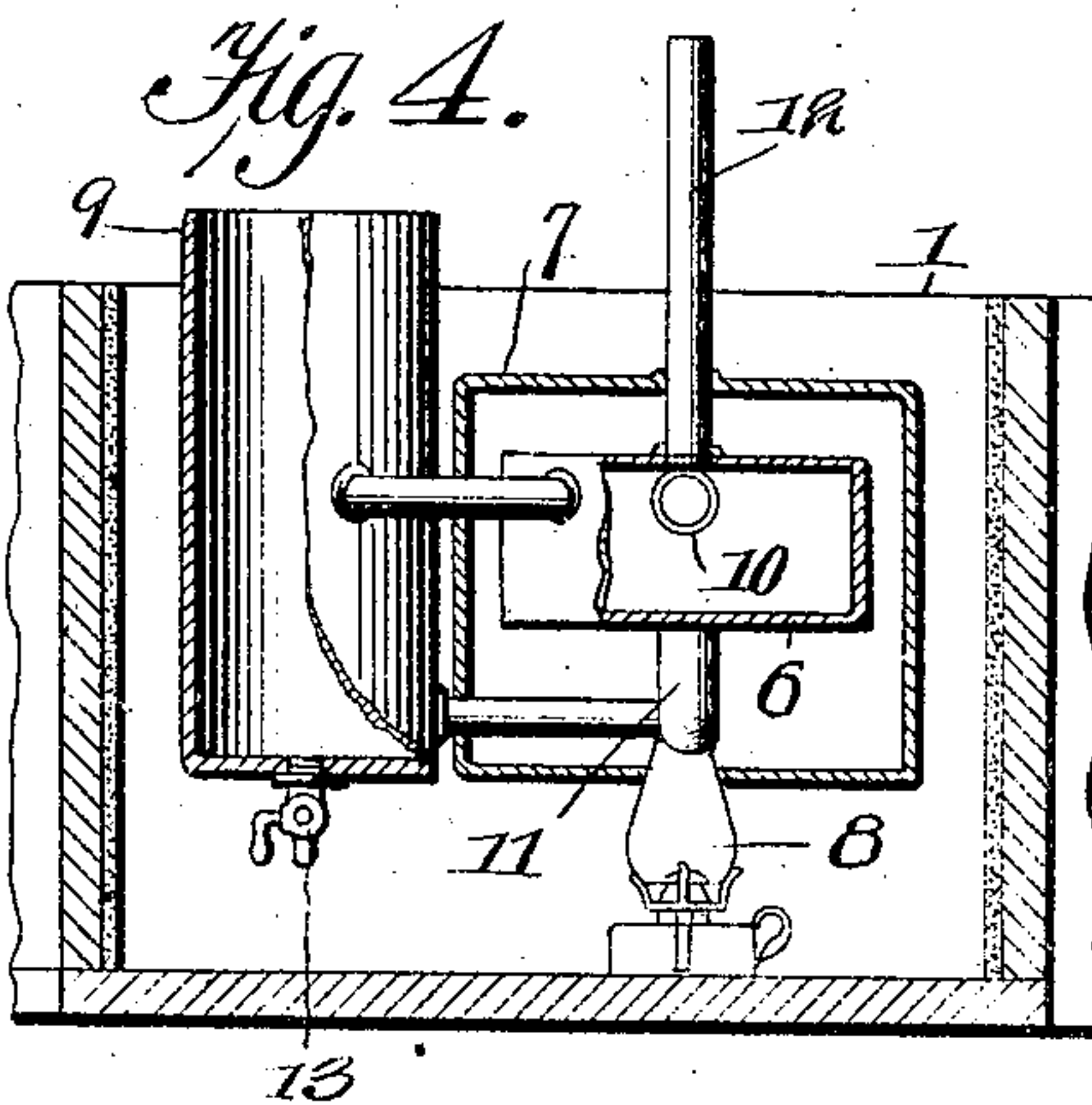
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



Witnesses

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# UNITED STATES PATENT OFFICE.

JOHN MALMGREN, OF CERESKO, NEBRASKA.

## BROODER.

SPECIFICATION forming part of Letters Patent No. 773,660, dated November 1, 1904.

Application filed May 26, 1904. Serial No. 209,894. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN MALMGREN, a citizen of the United States, residing at Ceresko, in the county of Saunders and State of Nebraska, have invented a new and useful Brooder, of which the following is a specification.

My invention relates to brooders, and has for its objects to produce a simple inexpensive device of this character in which there will be a steady even circulation of the heating medium and a uniform distribution of the heat and one in which the improved hoverer will afford a soft covering in which the young chickens may nestle, thereby preventing them from wandering about the brooder or crowding or smothering one another.

To these ends the invention comprises the novel features of construction and combination of parts more fully hereinafter described.

In the accompanying drawings, Figure 1 is a plan view of the improved brooder with the cover and hoverer removed. Fig. 2 is a detail sectional elevation, on an enlarged scale, taken on the line 2 2 of Fig. 1 with the hoverer in place. Fig. 3 is a vertical transverse sectional elevation of the brooder, on an enlarged scale and looking toward the forward end. Fig. 4 is a sectional elevation of the heating apparatus, on an enlarged scale and taken on the line 3 3 of Fig. 1. Fig. 5 is a detail perspective view of the hoverer.

Referring to the drawings, 1 designates the body of the brooder, composed of wood or other suitable material and preferably of the box-like form shown, there being sustained within the body 1 in any appropriate manner a system of heating pipes or ducts comprising a pair of outer feed-pipes 2, disposed adjacent to and parallel with the side walls of the body, and a pair of inner parallel return-pipes 3, formed continuous with and arranged between the outer pipes, the pipes of the system being spaced substantially equal distances apart and connected at their forward ends by branch pipes 4 and at their rear ends by branch pipes 5, which branch pipes lie, respectively, along the front and rear end walls of the body.

Sustained at the forward end of the brooder

is a boiler 6, disposed within an outer protecting casing 7 and adapted to be heated, as usual, by a lamp 8, said boiler being in communication with a supply vessel or reservoir 9 and also connected adjacent to its top by a coupling-pipe 10 with the feed-pipes 2 and adjacent to its bottom by a coupling-pipe 11 with the return-pipes 3, a suitable air-escape pipe 12 being provided at the top of the boiler, while the vessel 9 is provided at its lower end with a discharge-tap 13 and is connected by a suitable duct with the return coupling-pipe 11. Attention is directed to the fact that the coupling 10 is of somewhat larger diameter than that of the branches 4 and feed-pipes 2, whereby as the water heats and expands within the boiler 6 it will flow freely through the feed-pipes for circulation around the interior of the brooder and will be returned by the pipes 3 to the boiler for reheating, the supply in the boiler being replenished from time to time, as required, by water drawn from the vessel 9 through the return-pipe coupling 11. It is to be noted that under this heating system there will be a continuous circulation of the heating medium and that, owing to the circulating-pipes extending into the corners of the brooder and being equally spaced thereover, a uniform distribution of the heat will result.

My improved hoverer comprises a plurality of portions or sections 14, spaced equal distances apart and adapted to seat, respectively, over the heating-pipes 2 3, the sections 14 being connected by means of strips of board or other appropriate connecting elements 15, arranged, respectively, adjacent to the opposite ends of the hoverer and adapted in turn to bear at their ends upon the walls of the brooder for supporting the hoverer therein. The sections 14 each consist of a supporting member or board 16 of suitable width and of a length substantially equaling the length of the steam-pipes and a piece or sheet of flannel or other appropriate soft fabric 17, attached to the supporting member and depending therefrom on opposite sides, the depending portions of the fabric being cut into strips in imitation of feathers.

In practice the hoverer will be seated into



the brooder with the pipes of the heating system extending respectively through and in close proximity to the tops of the hoverer-sections 14, while the slitted side portions of the fabric 17 will extend downward into contact with the bottom of the brooder. Under this arrangement it is apparent that the hoverer will afford a soft covering closely resembling feathers, in which the chickens nestle, thereby being kept warm and comfortable and prevented from straying around the brooder and from crowding in the corners of the latter and smothering one another. Moreover, the hoverer is supported upon the heating-ducts in direct contact therewith, whereby the hoverer is heated by direct conduction from the ducts, which is a very important feature of the present invention.

From the foregoing it is apparent that I produce a simple inexpensive device admirably adapted for the attainment of the ends in view and one in which the hoverer may be readily removed for purposes of cleansing or the like, it being understood that minor changes in the details herein set forth may be resorted to without departing from the spirit of the invention.

Having thus described the invention, what is claimed is—

1. In a device of the class described, the combination with a receptacle, of ducts disposed therein for the circulation of heating medium, and a hoverer comprising a plurality of sections seated respectively over the ducts.

2. In a device of the class described, the combination with a receptacle, of a plurality of ducts disposed therein for the circulation of a heating medium, and a hoverer comprising a plurality of sections each composed of a supporting member and a piece of pliable fabric, said sections being designed to seat respectively over the ducts.

3. In a device of the class described, the combination with a receptacle, of heating-ducts

within the receptacle, and a hoverer supported by and in direct contact with the ducts, whereby the hoverer is heated by conduction from the ducts.

4. In a device of the class described, the combination with a receptacle, of heating-ducts within the receptacle, and a hoverer including a slatted frame supported upon the ducts and sheets of fabric hung from the slats of the frame and fringed at their lower edges.

5. In a device of the class described, the combination with a receptacle, of ducts disposed therein for the circulation of a heating medium, a hoverer comprising a plurality of supporting members adapted to seat respectively over the ducts and pieces of fabric carried severally by and designed to depend upon opposite sides of the supports, and means for connecting the supporting members.

6. In a device of the class described, the combination with a receptacle, of ducts disposed therein for the circulation of a heating medium, and a hoverer comprising a plurality of sections, said sections each consisting of a supporting member and a piece of pliable fabric, the supporting members being adapted to seat respectively over the ducts and the fabric to depend upon opposite sides thereof.

7. In a device of the class described, the combination with a receptacle, of feed and return pipes arranged therein for the circulation of a heating medium, a boiler communicating with the feed-pipes, a coupling-pipe connecting the return-pipes with the boiler, a supply vessel communicating with the boiler, and a pipe connecting the supply vessel with the return-pipe coupling.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN MALMGREN.

Witnesses:

C. G. DAHLSTROM,  
J. A. NELSON.