

(No Model.)

2 Sheets—Sheet 1.

R. R. P. SCHMIEDECKE & E. O. GADE.  
MALTING DRUM.

No. 535,560.

Patented Mar. 12, 1895.

Fig. 2.

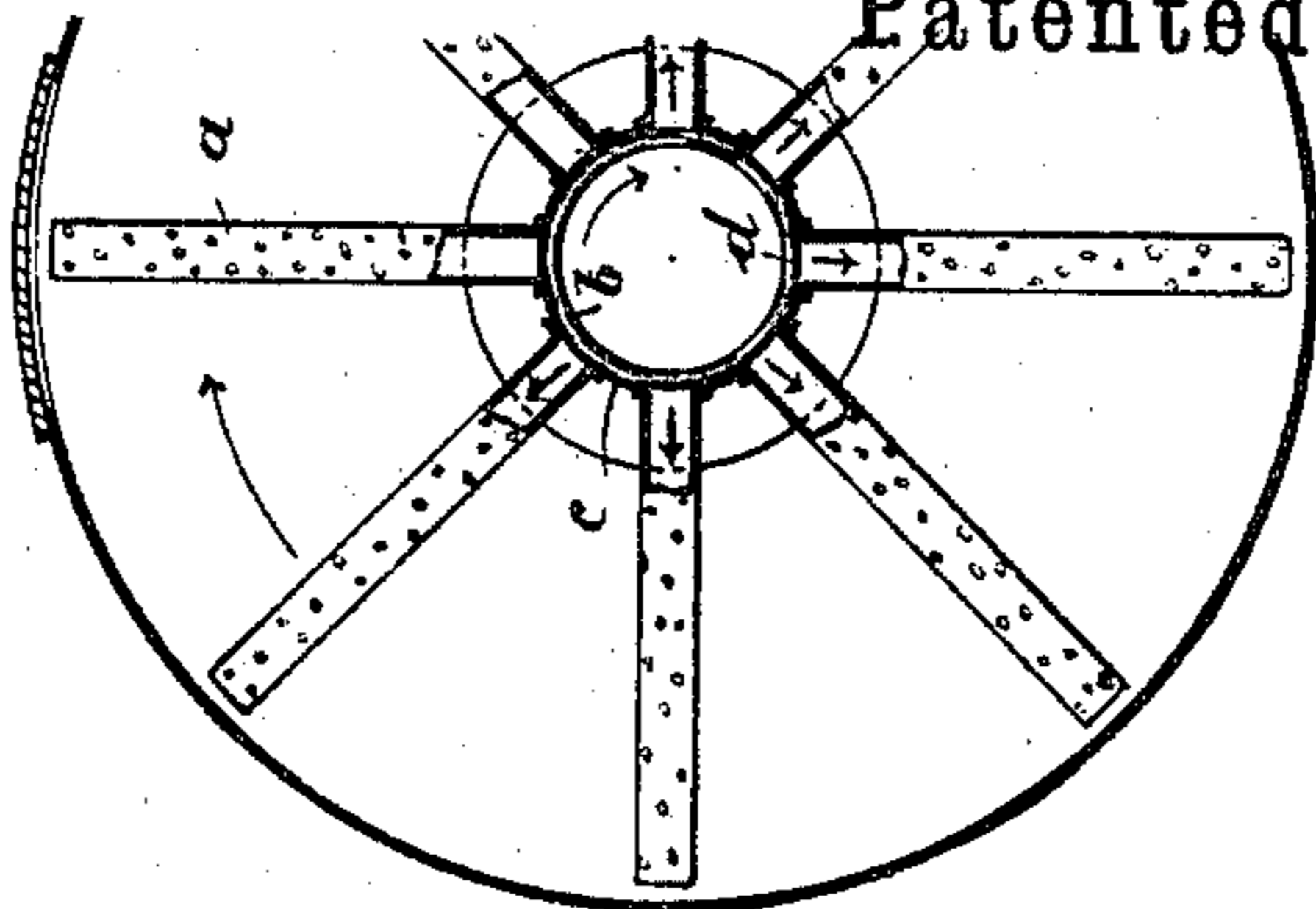
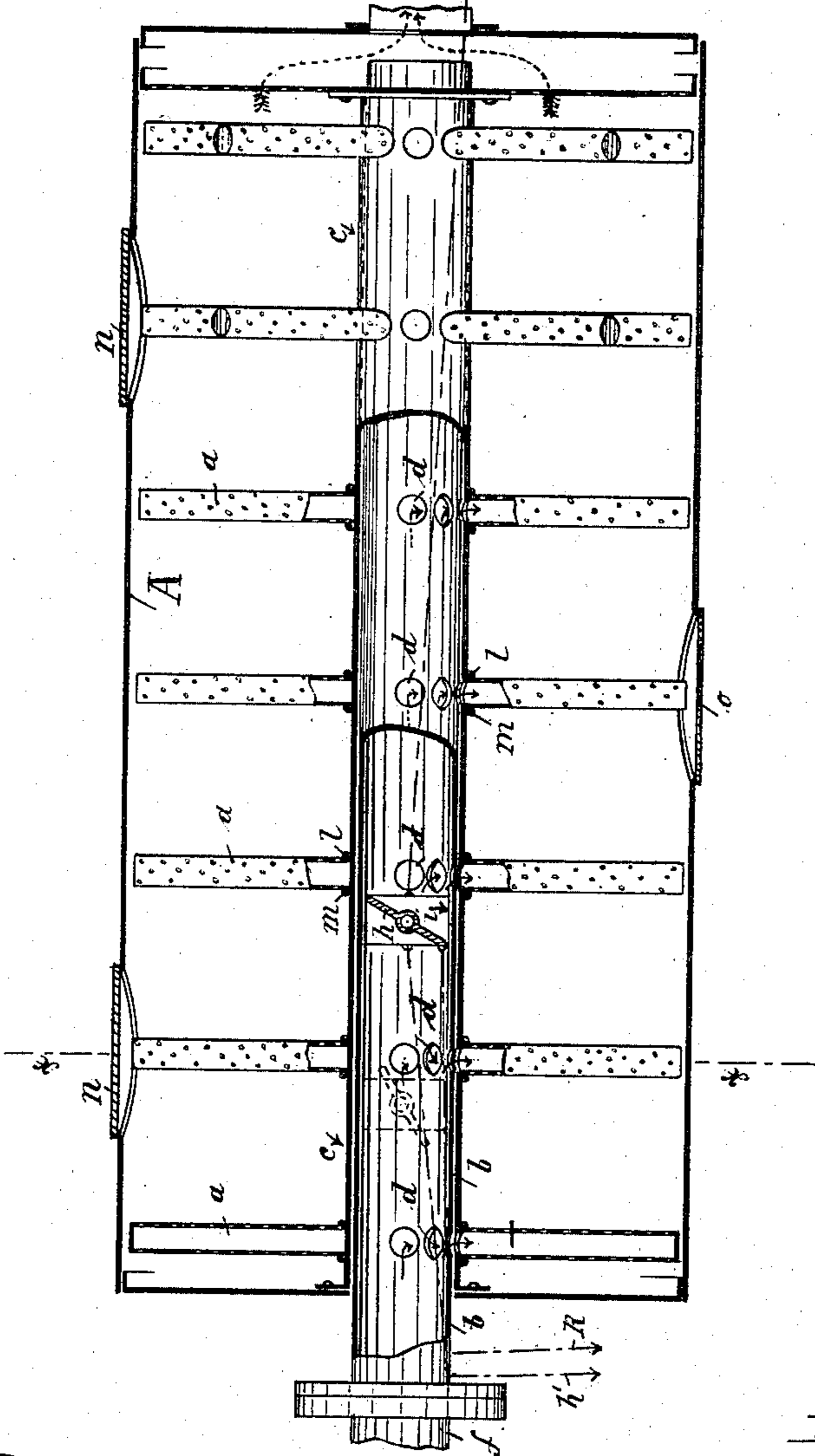


Fig. 1.



Attest  
Malvern malden  
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Richard R. P. Schmiedcke  
Emil Oscar Gade  
by Richards & Co. Attys.

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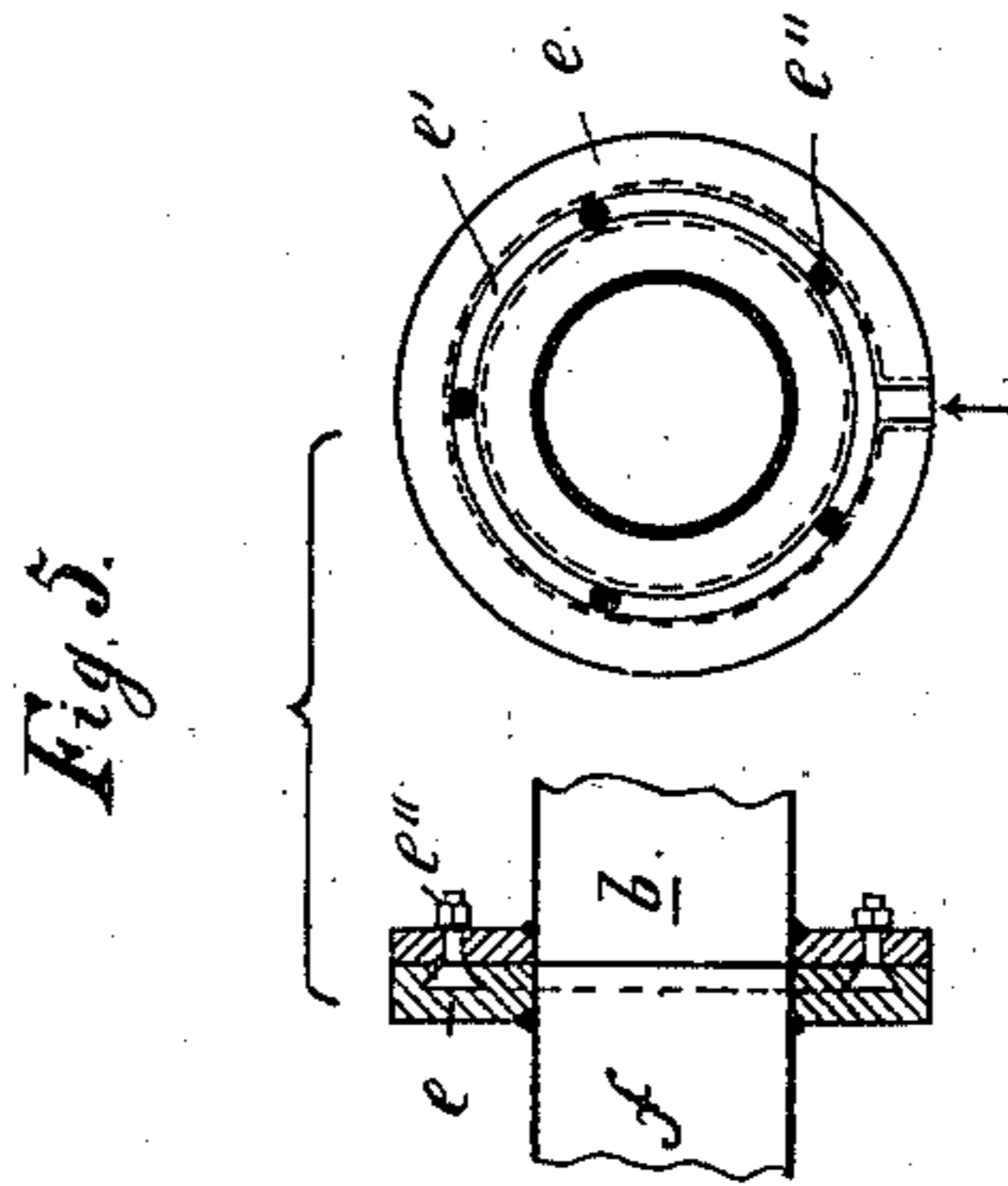


Fig. 3.

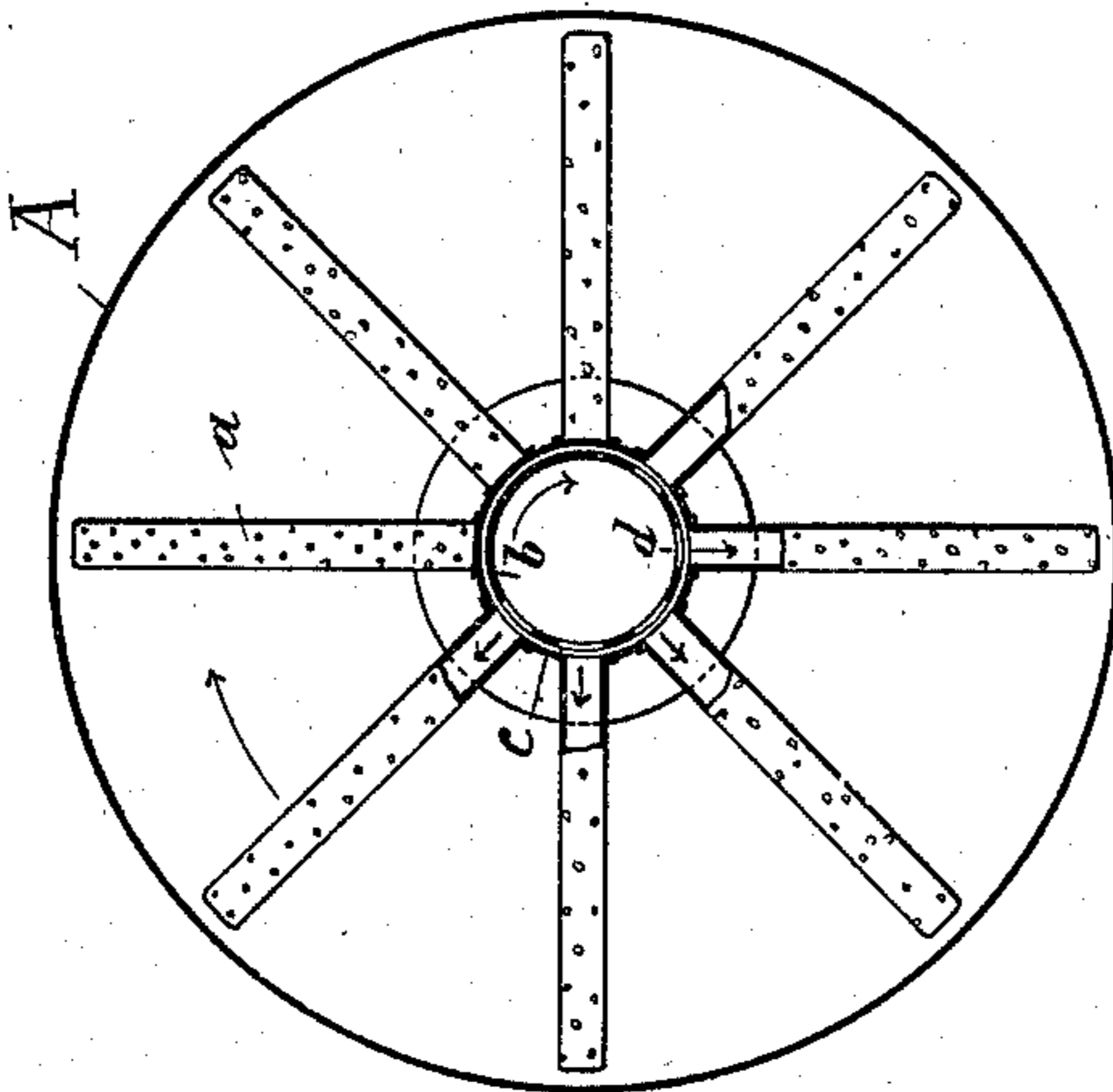
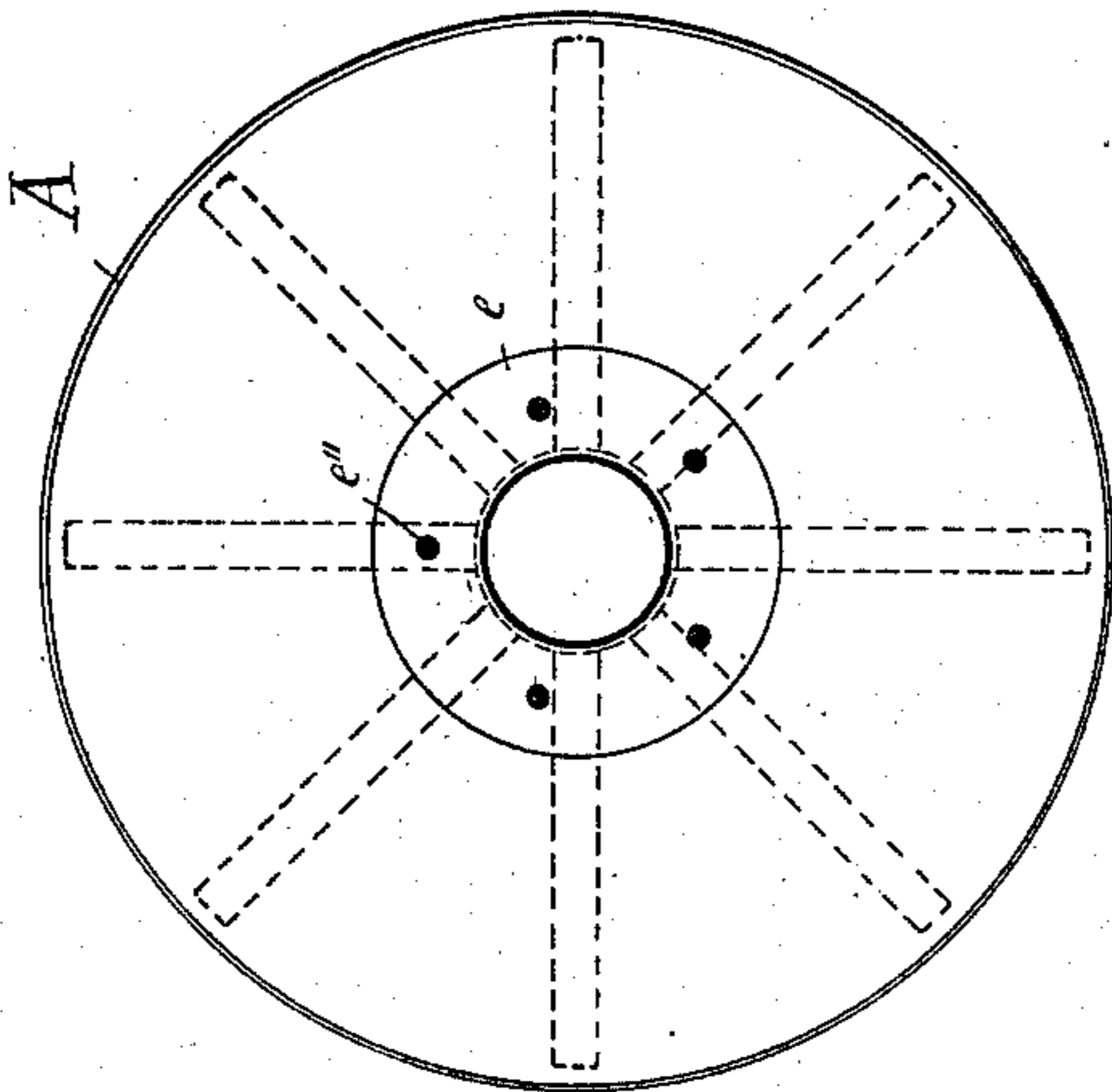


Fig. 4.



Attest  
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Inventors  
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# UNITED STATES PATENT OFFICE.

RICHART RUDOLF PAUL SCHMIEDECKE, OF CHARLOTTENBURG, AND EMIL  
OSKAR GADE, OF BERLIN, GERMANY.

## MALTING-DRUM.

SPECIFICATION forming part of Letters Patent No. 535,560, dated March 12, 1895.

Application filed March 3, 1894. Serial No. 502,276. (No model.)

*To all whom it may concern:*

Be it known that we, RICHART RUDOLF PAUL SCHMIEDECKE, residing at the city of Charlottenburg, and EMIL OSKAR GADE, residing at the city of Berlin, in the Kingdom of Prussia, Germany, subjects of the King of Prussia, German Emperor, have invented certain new and useful Improvements in Malting-Drums, of which the following is a specification.

Our invention relates to malting drums and its object is to provide for feeding air to the malt within the drum to conform with the angle of inclination of the malt contained in the drum, and to obtain a perfectly uniform airing, while making it possible at the same time, in case of overheating at certain points in the malting drum to conduct a greater quantity of air to that point until it is cooled off; and further to render the cleansing of the air distributing pipes much easier.

In the drawings:—Figure 1, is a longitudinal section of the drum. Figs. 2 and 3, are transverse sectional views following the line  $x-x$  of Fig. 1, showing the construction of the air feeding devices in two positions corresponding to two different angles of inclination of the malt contained in the drum. Fig. 4, is a front view of the same. Fig. 5, shows means for adjusting of the central air conduit pipe.

In order to be able to give to the air feeding device a position corresponding to the angle of inclination of the malt contained in the drum A and in order to be able to shut off single rows of the air tubes  $a$  in the beginning of the germinating, so that no moist air shall unnecessarily flow into the empty space above the malting material but that all the air introduced into the interior of the drum shall pass through said material, the central air inlet pipe  $b$  which is stationary during the process, is adapted to be rotated within the pipe  $c$  which is rigidly connected with the ends of the drum and carries the air inlet pipes  $a$ . The air inlet pipe  $b$  is provided with air inlet openings  $d$  adapted to register with the openings to the air pipes  $a$ .

In Fig. 2, no air flows into the rows of air exit pipes  $a$  located on the upper half of the

tube  $c$  while in Fig. 3, the interior pipe  $b$  is turned for the distance of one more space against the surrounding tube  $c$  so that the tubes on the left of Fig. 3 receive air while the right hand horizontal pipes  $a$  are shut off.

To turn the pipe  $b$ , the flange  $e$  of the inlet pipe  $f$  is provided with a dove-tail shaped groove  $e'$  in which the heads of the screws  $e''$  slide and after having been loosened follow the motion of the pipe  $b$  while the latter is turned until the desired location has been reached after which said screws  $e''$  are screwed up again. This construction has the great advantage of enabling us to regulate the supply of air to the separate rows of pipes  $a$  in such a manner that account can be kept of the varying angles of inclination of the malting material during the process of germination and enough air can be supplied to the parts of the malting material that are higher than the other. It is necessary also to furnish a greater supply of air to some parts of the inside of the malting drum than to others if it is desired to obtain malt of a uniform quality, and this is especially necessary when the malting material becomes heated at certain points in the drum. Such heating occurs easily in the front part of the drum and causes an uneven germination and consequently an incomplete malting. If therefore such heating is not remedied in due time the malt obtained will not be uniform and of much less value. Such heating is prevented by inserting a throttle valve  $h$  into the inside of the pipe  $b$  which can be regulated by means of a cord  $h'$ . If for instance the malting matter becomes heated in the front part of the drum the throttle valve  $h$  located in the fore part is more or less closed and thereby a greater supply of air is let into the pipes  $a$ , in the front part of the malting matter for such a length of time as is required to make the temperature normal.

In order that the throttle valve  $h$  can be used to produce its effect at different places in the pipe  $b$  said valve is fitted to a ring  $i$  adjustable in pipe  $c$  and by pulling the front cord  $k$  or the rear cord  $k'$  this ring can be moved forward or backward.

For the purpose of better and easier cleans-

ing of the pipes *a*, the same are adapted pivotally in hinges *l* upon the pipe *c* and are fixed by means of pins after having been cleansed.

Man-holes *n*, *n* enable the loading, the unloading and the cleansing of the drum A as well as that of the air distribution pipes.

We claim—

1. In combination, the drum, the central pipe *c*, the series of air distributing pipes extending therefrom and the air supply pipe within the central pipe *c*, said pipe *c* with the air distributing pipes being removable about the air pipe *b* and said air pipe *b* being revolvably adjustable within the central pipe *c*, substantially as described.

2. In combination with the drum, a central tube *c*, carried thereby, the series of perforated air tubes carried by the tube *c*, the air pipe within the pipe *c* to supply air to the radial perforated pipes and a valve adjustably ar-

ranged within the pipe *b* for cutting off the air supply to any desired number of tubes, substantially as described.

3. In combination, the drum, the central tube *c* carried thereby, the series of perforated radial air pipes *b* extending from the central tube *c*, the pipe *b* within the tube *c* and the valve movable longitudinally within the tube *b*, substantially as described.

4. In combination, the drum, the tube *c* carried thereby, and the air distributing pipes carried by the said tube and hinged thereto, substantially as described.

In witness whereof we have hereunto set our hands in presence of two witnesses.

RICHART RUDOLF PAUL SCHMIEDECKE.

EMIL OSKAR GADE.

Witnesses:

W. HAUPT,

G. WILLNER.