

No. 731,315.

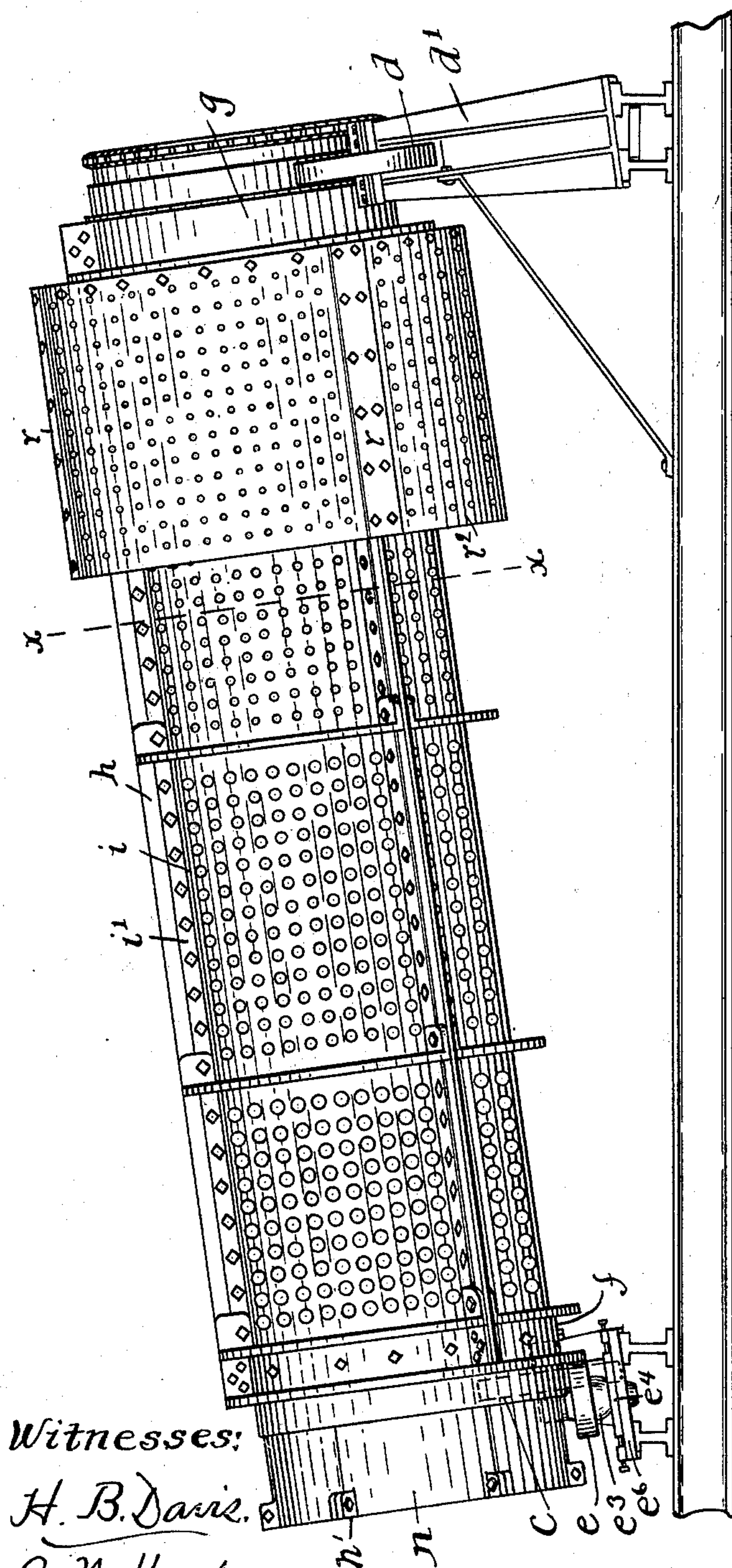
PATENTED JUNE 16, 1903.

V. W. MASON, JR.  
REVOLVING SCREEN.

APPLICATION FILED NOV. 29, 1901.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses:

H. B. Davis.

C. N. Wade.

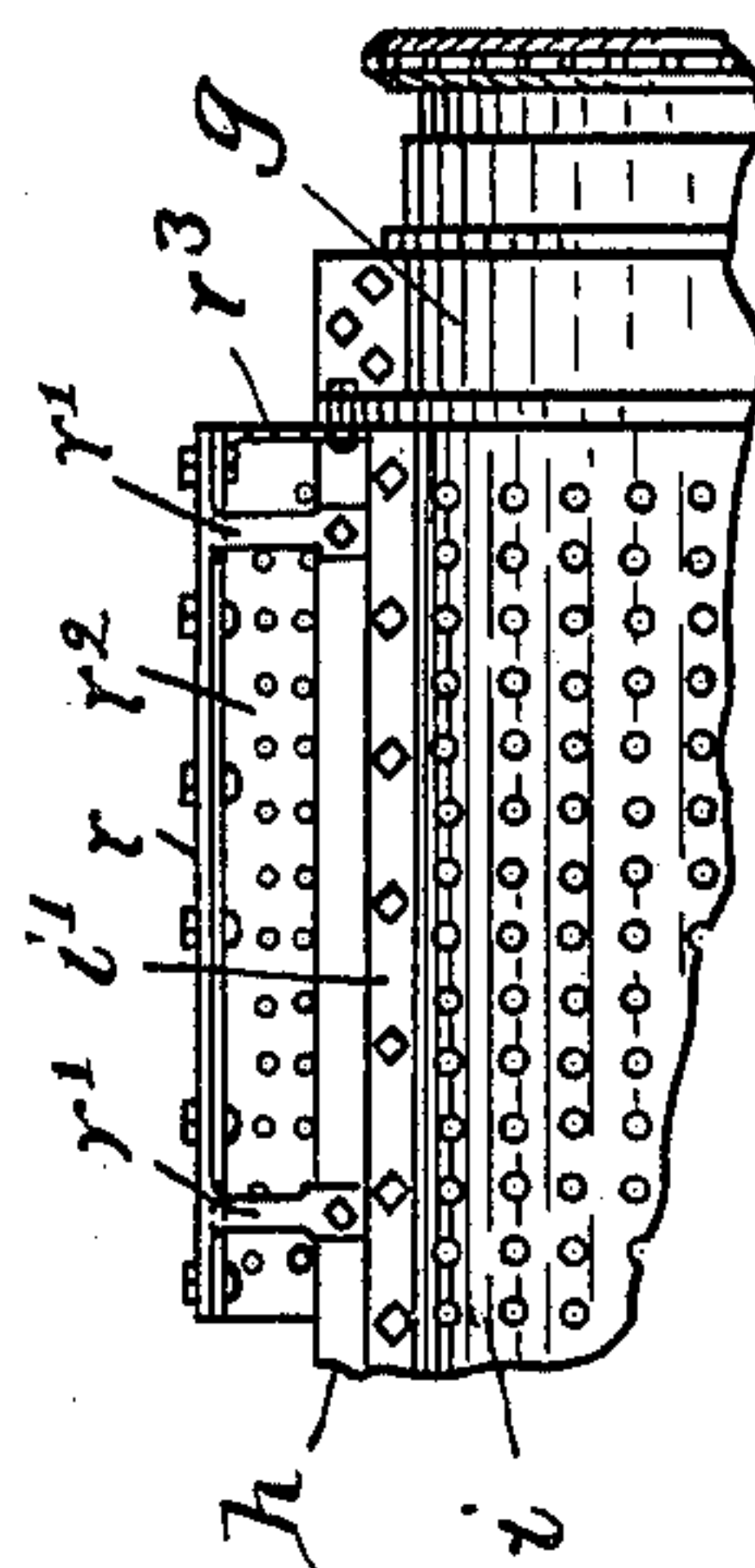


Fig. 3.

Fig. 1.

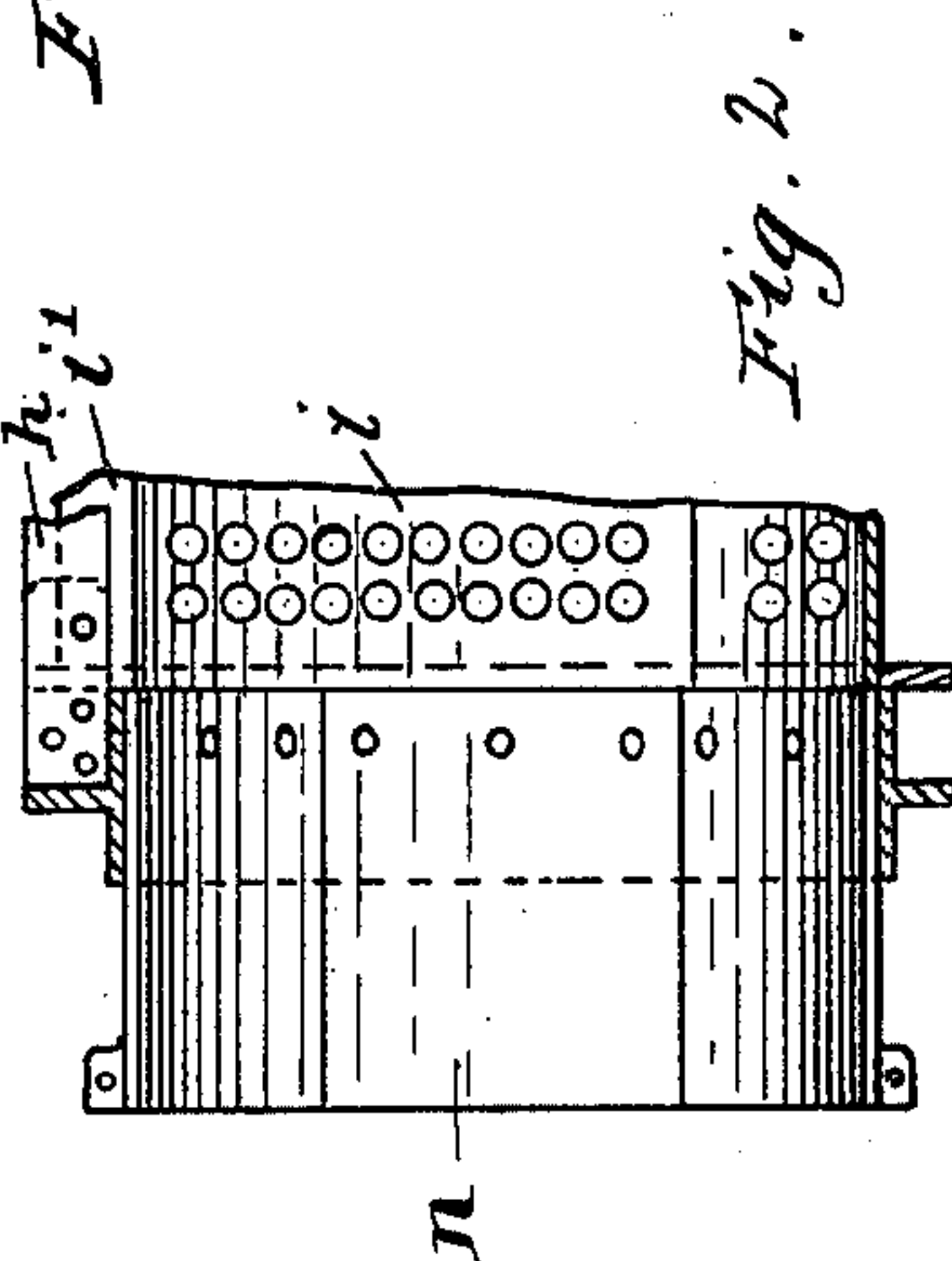


Fig. 2.

Inventor:

Volney W. Mason Jr.

By B. J. Hayes  
Att'y

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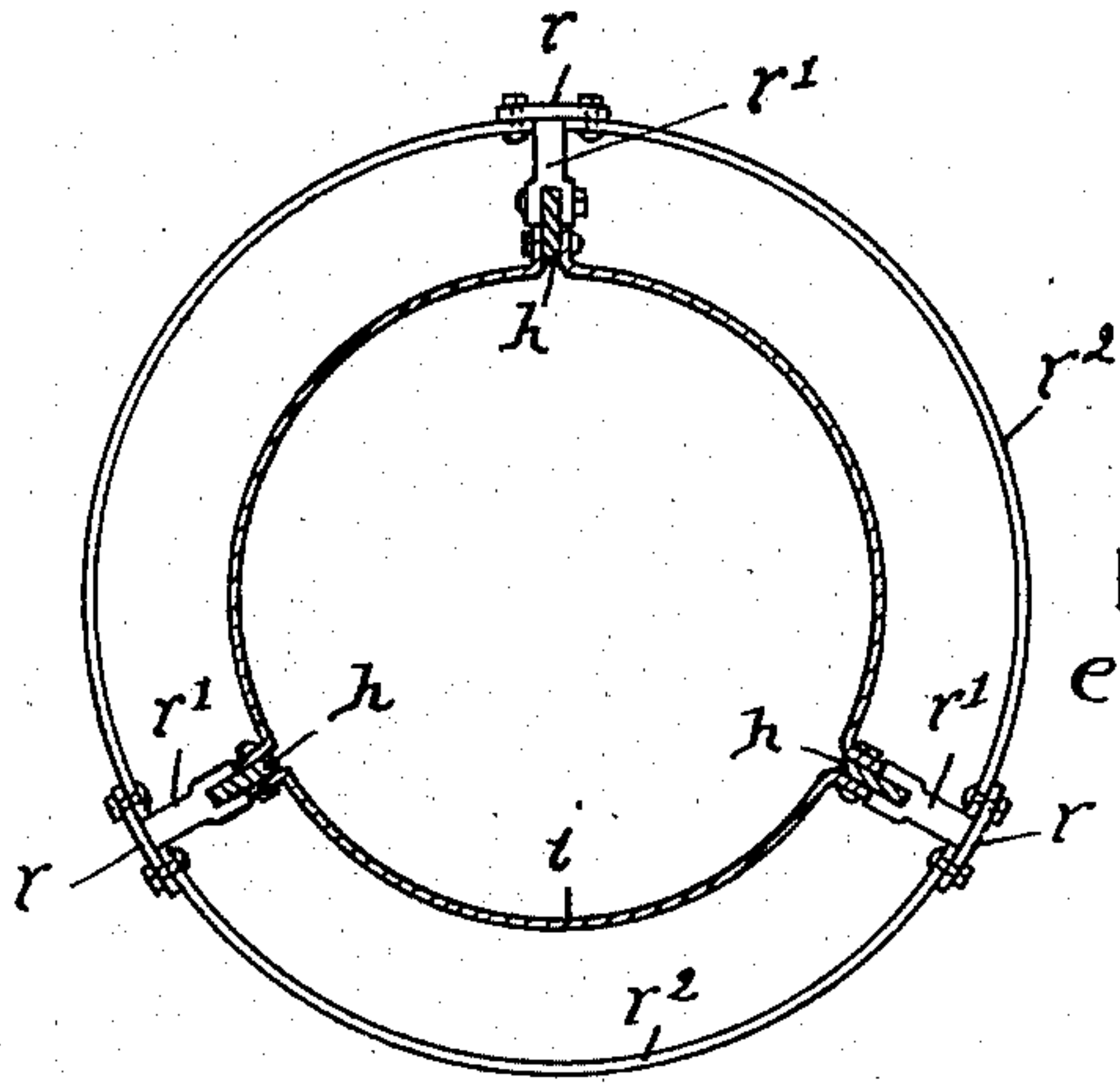


Fig. 4.

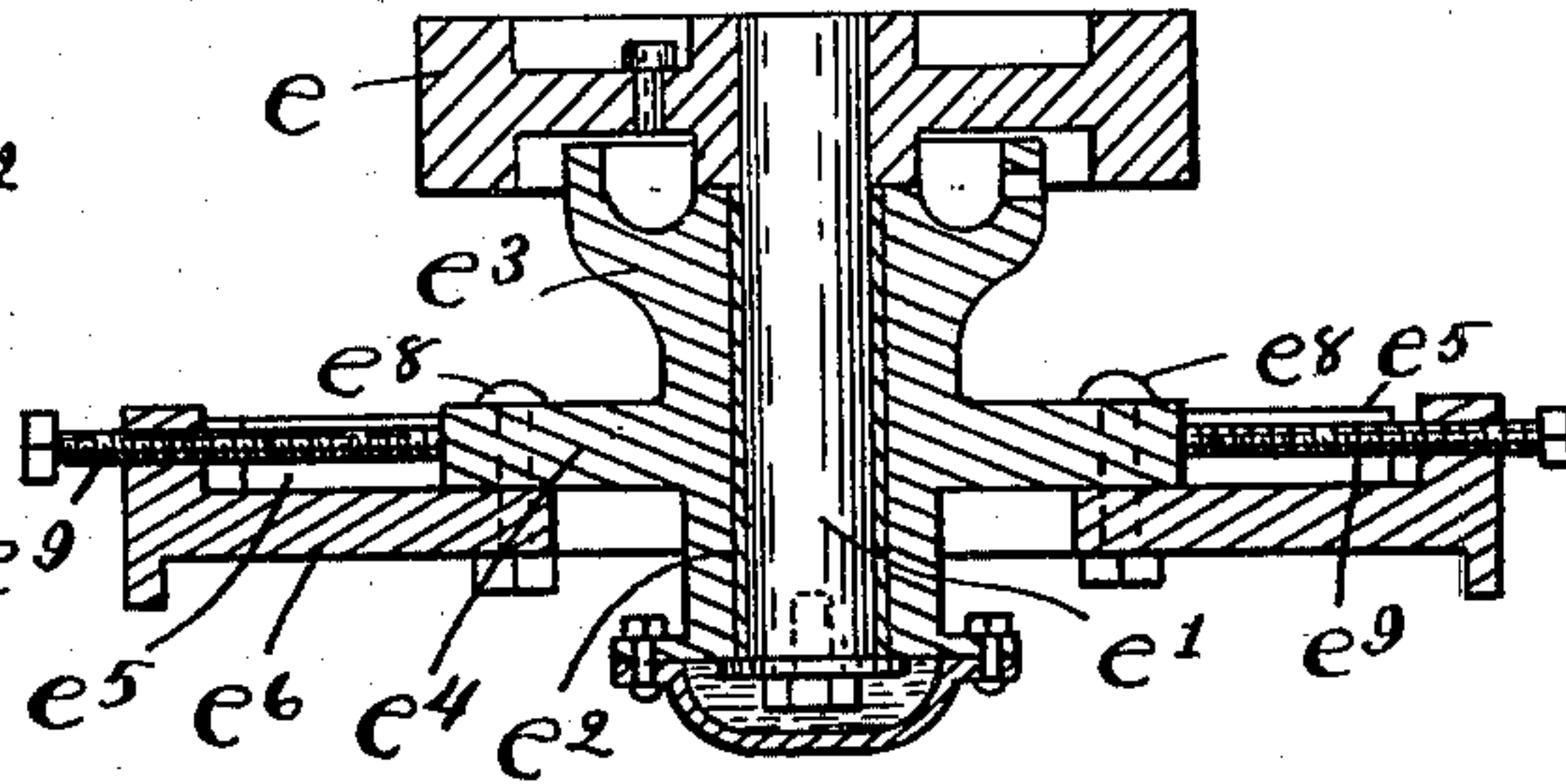


Fig. 5.

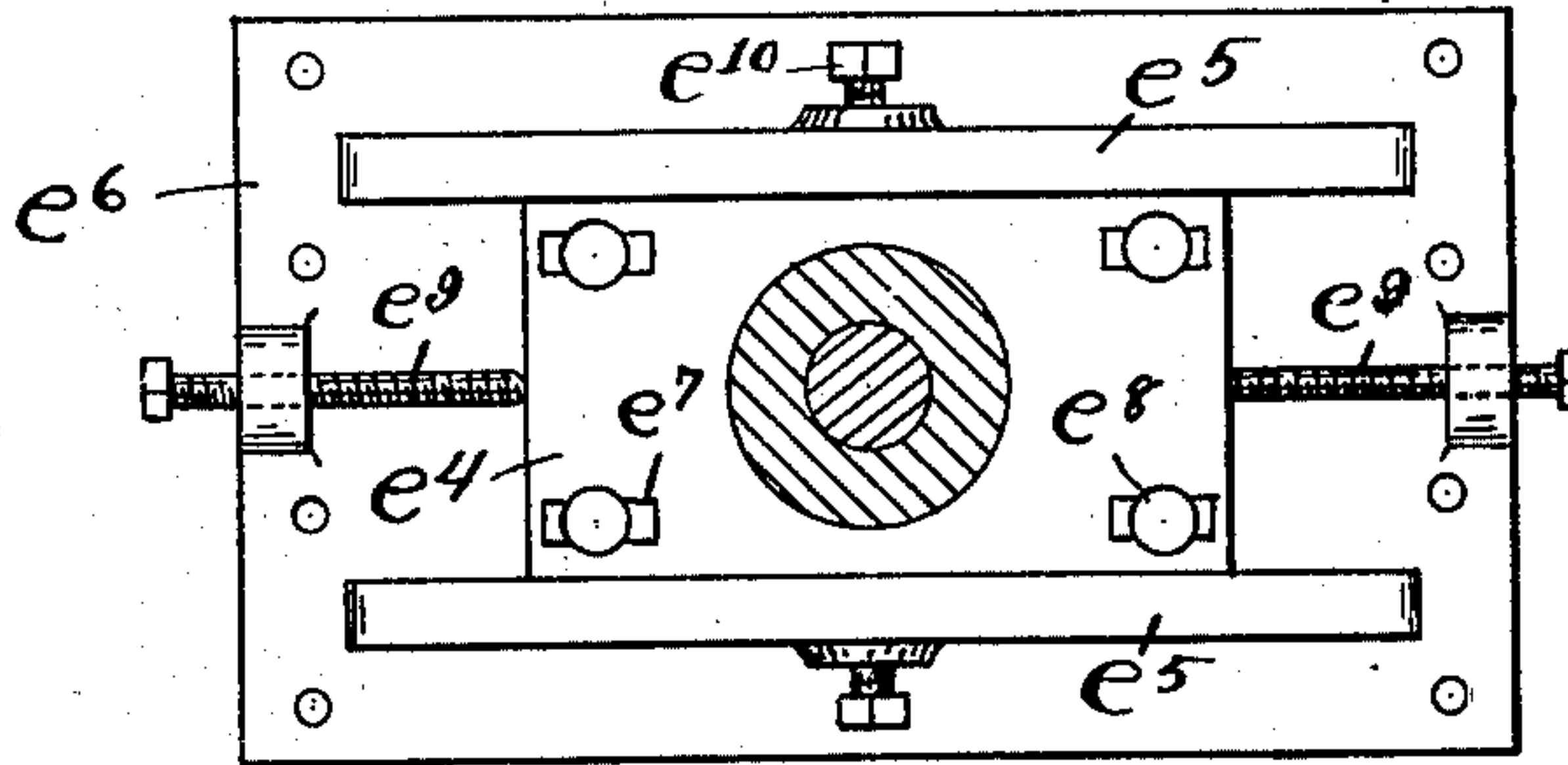


Fig. 6.

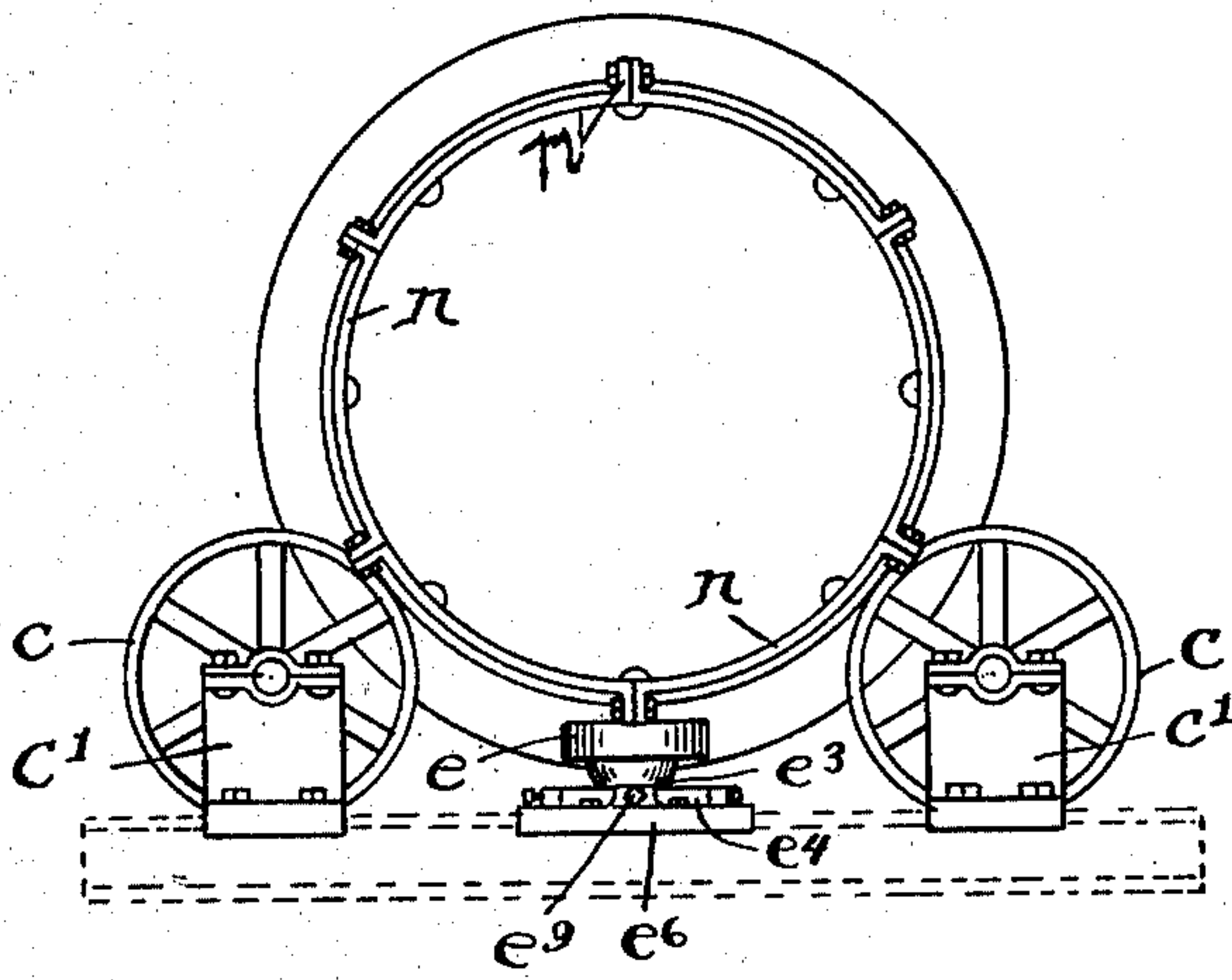


Fig. 7.

Witnesses:  
H. B. Davis  
C. N. Wade.

Inventor:  
Volney W. Mason Jr.  
by B. J. Hayes  
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# UNITED STATES PATENT OFFICE.

VOLNEY W. MASON, JR., OF NEW YORK, N. Y.

## REVOLVING SCREEN.

SPECIFICATION forming part of Letters Patent No. 731,315, dated June 16, 1903.

Application filed November 29, 1901. Serial No. 84,049. (No model.)

*To all whom it may concern:*

Be it known that I, VOLNEY W. MASON, JR., a citizen of the United States, residing in New York, county and State of New York, have invented an Improvement in Revolving Screens, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention relates to revolving screens, and is intended as an improvement upon the revolving screen shown and described in my application for Letters Patent, Serial No. 734,757, filed October 25, 1899.

The invention has for its object to provide a revolving screen such as shown in my said application with an improved form of thrust-roll, which is located between the end supports at one end of the screen and is adapted to receive the end thrust of the screen; also to provide means for adjusting the thrust-roll in a direction lengthwise the screen; also to provide the screen with an imperforate cylindrical section at its outlet end which projects over and beyond the end thrust-roll thereat.

The invention consists in a parallel-sided thrust-roll adapted to receive the end thrust of the inclined screen, turning on an axis at right angles to the axis of the screen, and a support therefor located between the end supports at one end of the screen; also in a parallel-sided thrust-roll adapted to receive the end thrust of the inclined screen, a stud on which said roll turns disposed obliquely to the perpendicular, whereby said roll turns on an axis at right angles to the axis of said screen, and a support for said stud located between the end supports at one end of said screen; also in a thrust-roll adapted to receive the end thrust of the inclined screen, a stud on which said roll turns, and means for adjusting said stud in a direction lengthwise said screen; also in the particular construction of the support for the thrust-roll; also in an imperforate cylindrical section secured to the outlet end of the screen which projects over and beyond the end thrust-roll thereat.

Figure 1 shows in side elevation a revolving screen embodying this invention, one of the end supports at one end being shown in dotted lines. Fig. 2 is a longitudinal sec-

tional detail of a portion of the screen, showing particularly the dust-separating section. Fig. 3 is a longitudinal sectional detail of a portion of the screen, showing particularly the imperforate cylindrical section at the outlet end of the screen. Fig. 4 is a cross-section of the screen shown in Fig. 1, taken on the dotted line  $xx$ . Fig. 5 is a vertical section of the thrust-roll and its support. Fig. 6 is a plan view of the thrust-roll support, showing particularly the means for adjusting the thrust-roll in a direction lengthwise the screen, said figure being taken on the dotted line  $yy$ , Fig. 5. Fig. 7 is a detail showing in end view the imperforate cylindrical section at the outlet end of the screen, also the end supports and thrust-roll for the screen.

The cylindrical screen comprises, essentially, end rings  $f g$  and longitudinal bars  $h$ , secured thereto at the ends, and curved screen-plates  $i$ , secured to said longitudinal bars.

At the entering end of the screen a dust-separating cylindrical section is secured, and as herein shown said section comprises a number of like longitudinal bars  $r$ , each having at each end a support  $r' r'$ , the extremity of which is bifurcated to embrace one of the longitudinal bars  $h$  of the screen, and said supports  $r' r'$  are secured to said longitudinal bars  $h$  by bolts or otherwise. Said section also comprises a number of curved screen-plates  $r^2$ , which are secured to the longitudinal bars  $r$  by bolts or otherwise. The cylindrical dust-separating section is open at one end and closed at the opposite end by a ring or plate  $r^3$ . The dust-separating section will be made as long and as large in diameter as desired.

At each end of the revolving screen end supports are provided, and as herein shown the end supports at each end of the screen will be made substantially alike and consist, essentially, of a pair of antifriction-rolls.

The antifriction-rolls  $d$  at the inlet end of the screen are made as parallel-sided rolls, which are mounted upon or secured to axles disposed in suitable bearings in stands  $d'$ , and said rolls turn on axes in parallelism with the axis of the screen.

The antifriction-rolls  $c$  at the outlet end of the screen are likewise made as parallel-sided



rolls, which are mounted upon or secured to axles disposed in suitable bearings in stands  $c'$ , and said rolls turn on axes in parallelism with the axis of the screen.

5 The thrust-roll  $e$  is mounted upon or it may be secured to a stud  $e'$ , set in a bushing  $e^2$ , having its bearings in a suitable frame or support  $e^3$ . The frame or support  $e^3$  is formed integral with a base  $e^4$ , made as a rectangular  
10 flat plate, and said base or plate  $e^4$  is placed between ribs  $e^5$   $e^5$ , formed or provided on top of a plate  $e^6$ , which is mounted upon suitable upright supports. The plate  $e^4$  is movable back and forth, so that the thrust-roll  $e$ , sup-  
15 ported by it, can be adjusted in a direction lengthwise the screen. As a simple manner of adjusting the plate  $e^4$  and of securing it in position on the plate  $e^6$  said plate  $e^4$  is formed or provided with slots  $e^7$ , through which bolts  
20  $e^8$  pass, which secure the plate in position, the slots providing for a limited movement of the plate, and adjusting-screws  $e^9$   $e^9$ , having their bearings in ears on the plate  $e^6$ , are employed, which bear against the opposite  
25 ends of the plate  $e^4$  and assist in holding it in adjusted position. In addition to these means set-screws  $e^{10}$   $e^{10}$  are also provided supported by ears on the plate  $e^6$ , which are adapted to bear upon or against the side edges of the  
30 plate  $e^4$ , and thereby also assist in holding said plate in position. The plate  $e^4$  may be adjusted by loosening the bolts and set-screws and turning the adjusting-screws  $e^9$ . The support which is thus provided for the thrust-  
35 roll  $e$  will also be provided with means for supplying its bearing with oil.

The support for the plate  $e^6$  is of suitable construction to hold said plate in an oblique position to thereby hold the stud  $e'$  also in a  
40 position oblique to the perpendicular, and when the stud is so held the thrust-roll  $e$ , which is parallel sided, will occupy a position to turn on an axis at right angles to the axis of the screen.

45 The thrust-roll  $e$  is supported at one end of the screen in a plane between the end supports or antifriction-rolls, and herein it is shown as located at the outlet end of the screen.

50 In practice I find that by making the thrust-roll cylindrical and mounting it on a stud which is set oblique to a perpendicular, so that said thrust-roll turns on an axis at right

angles to the axis of the screen, that the screen runs very easy.

To provide for the delivery of the material at the outlet of the screen at a point free from the end supports and thrust-roll, I have attached to the outlet end of the screen an imperforate cylindrical section, which projects  
60 beyond the end supports and thrust-roll far enough to deliver the material beyond them. As herein shown, said imperforate cylindrical section consists of a number of curved plates  
65  $n$  abutted together and attached at their inner ends to the end ring or frame of the screen, and at the outer ends of said plates ears  $n'$  are formed, which project outwardly and bolts pass through the ears of the adjacent plates.

It is important when using the end supports and thrust-roll that an imperforate cylindrical delivery-section be employed, unless the material is delivered inside said supports and roll.

I claim—

1. In a revolving screen, an inclined revolving cylindrical screen and supports therefor at each end, combined with a thrust-roll adapted to receive the end thrust of said inclined screen, a stud on which said roll turns  
80 and means for adjusting said stud in a direction lengthwise said screen, substantially as described.

2. The combination of the roll  $e$ , a stud bearing said roll, a bushing surrounding said  
85 stud, a bearing for said bushing projecting upward and also downward from a supporting-plate, and means for adjusting said supporting-plate in the direction of its length, substantially as described.

3. The combination of the roll  $e$ , a stud bearing said roll, a bushing surrounding said  
90 stud, a bearing for said bushing projecting upward and also downward from a supporting-plate, a support for said plate having a pair of guide-ribs thereon for the opposite sides of the plate and adjusting-screws bearing against the ends of said plate for adjusting it lengthwise, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

VOLNEY W. MASON, JR.

Witnesses:

B. J. NOYES,  
H. B. DAVIS.