

W. E. OVERTON & A. C. KETCHAM.
EXPANDING OR ADJUSTABLE PRESS FOR FERTILIZING MATERIAL, &c.
APPLICATION FILED MAR. 5, 1910.

975,990.

Patented Nov. 15, 1910.

2 SHEETS—SHEET 1.

Fig. 1.

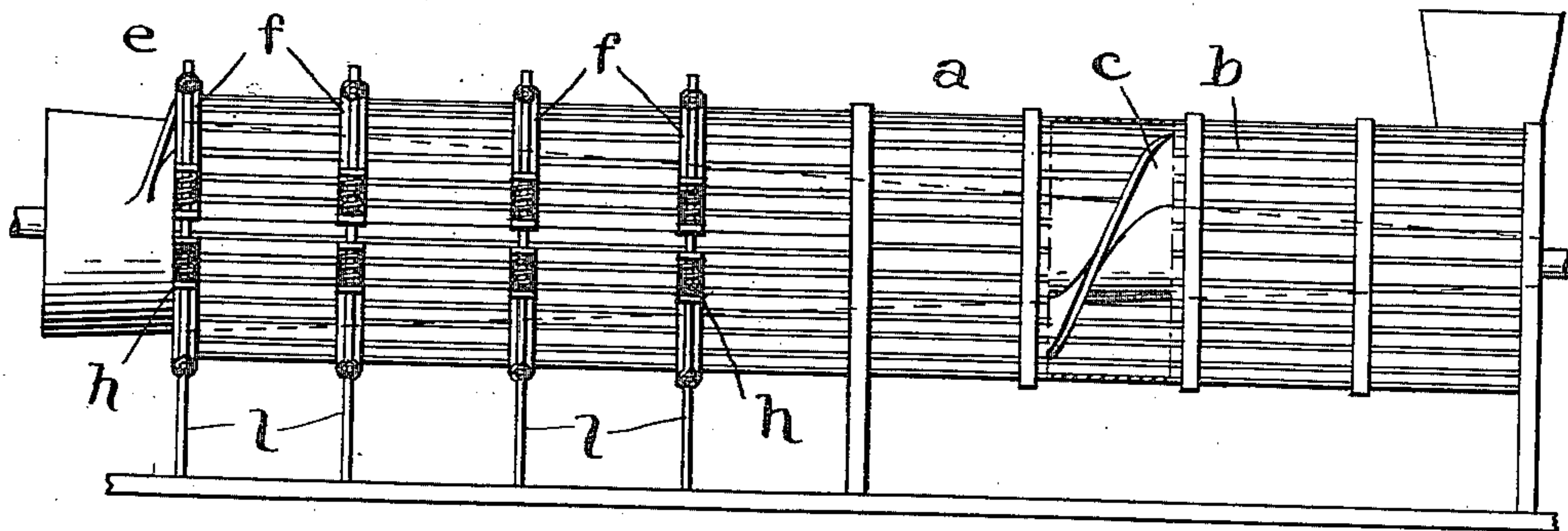


Fig. 2.

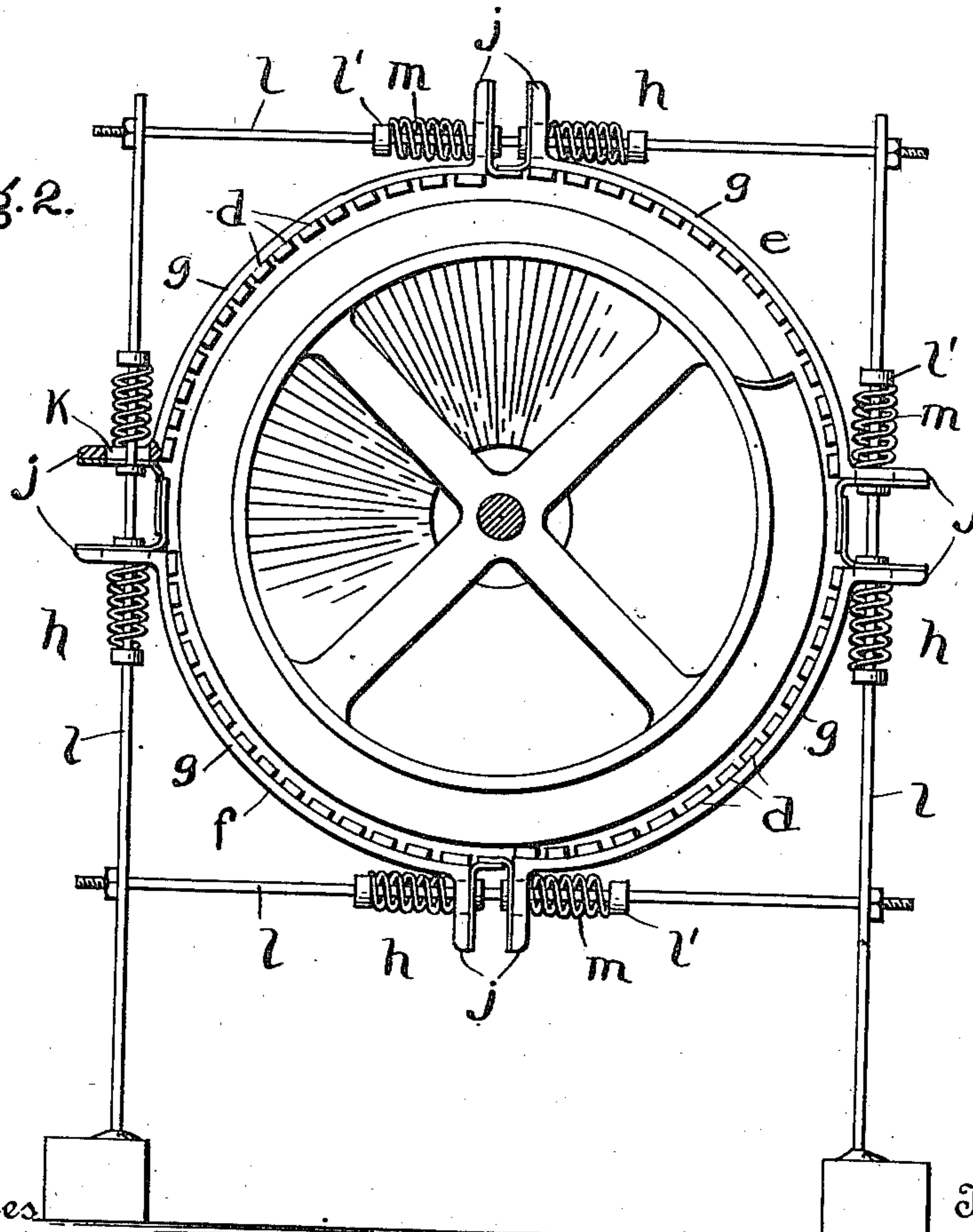
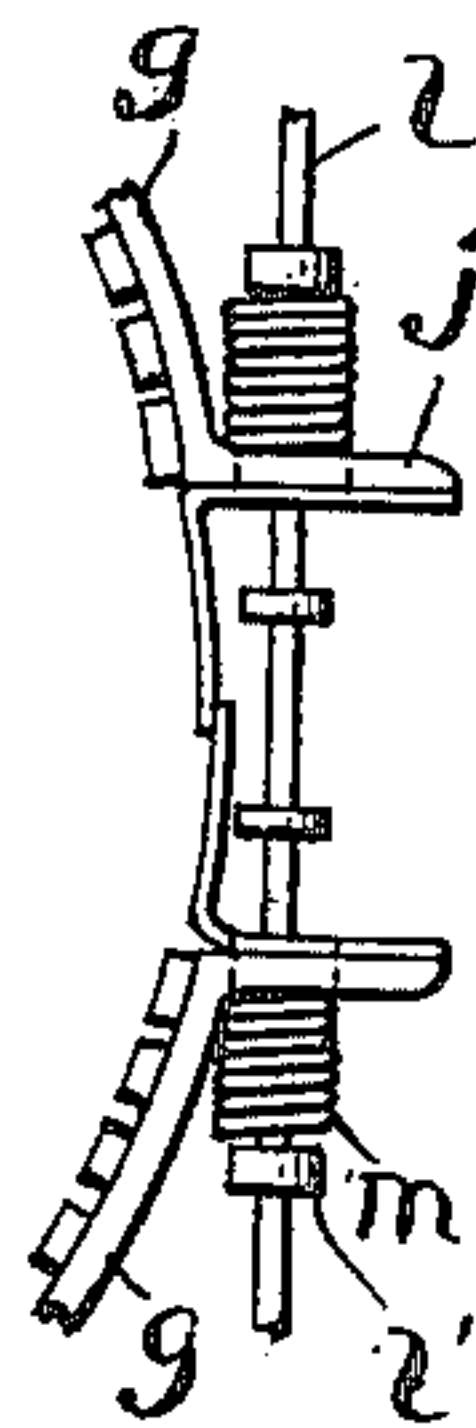


Fig. 3.



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2 SHEETS—SHEET 2.

Fig. 4.

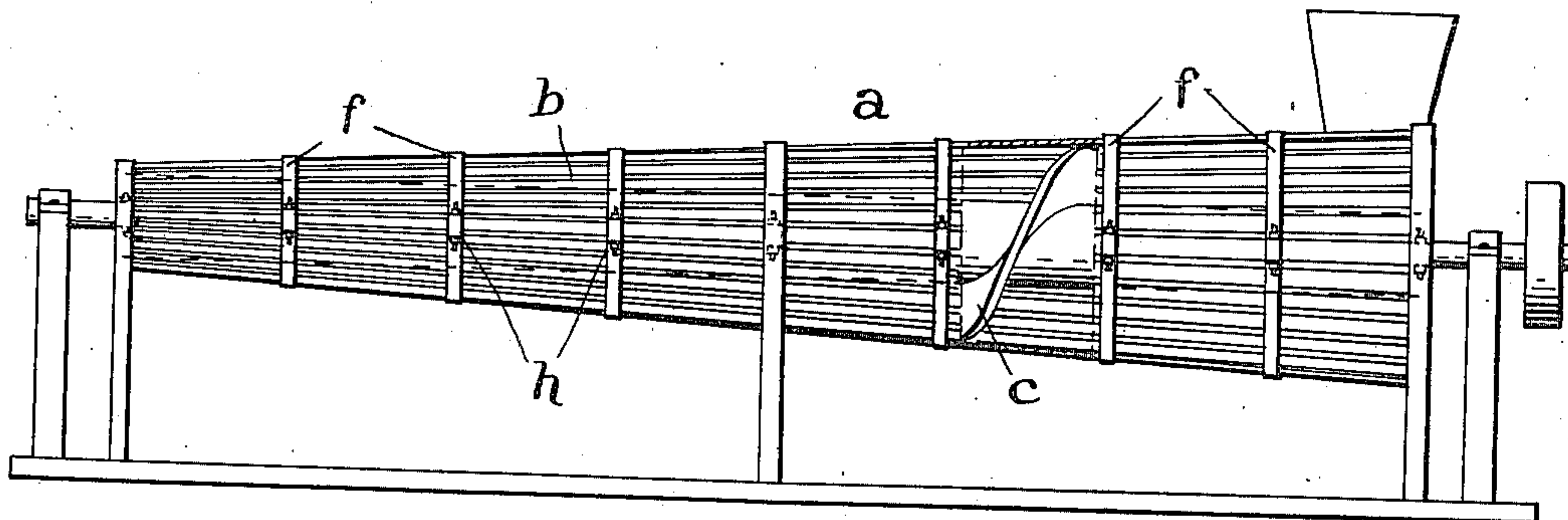


Fig. 5.

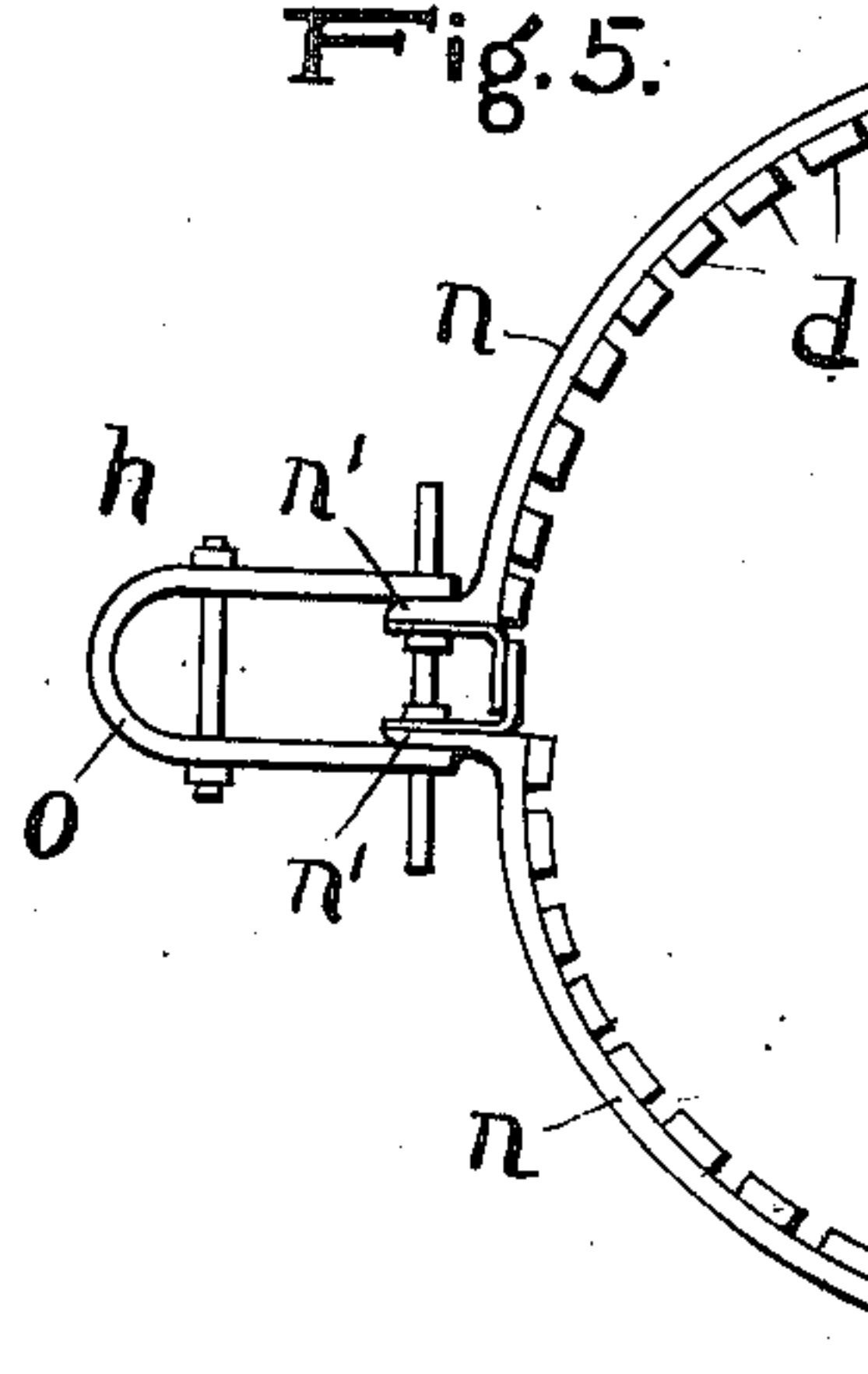


Fig. 6.

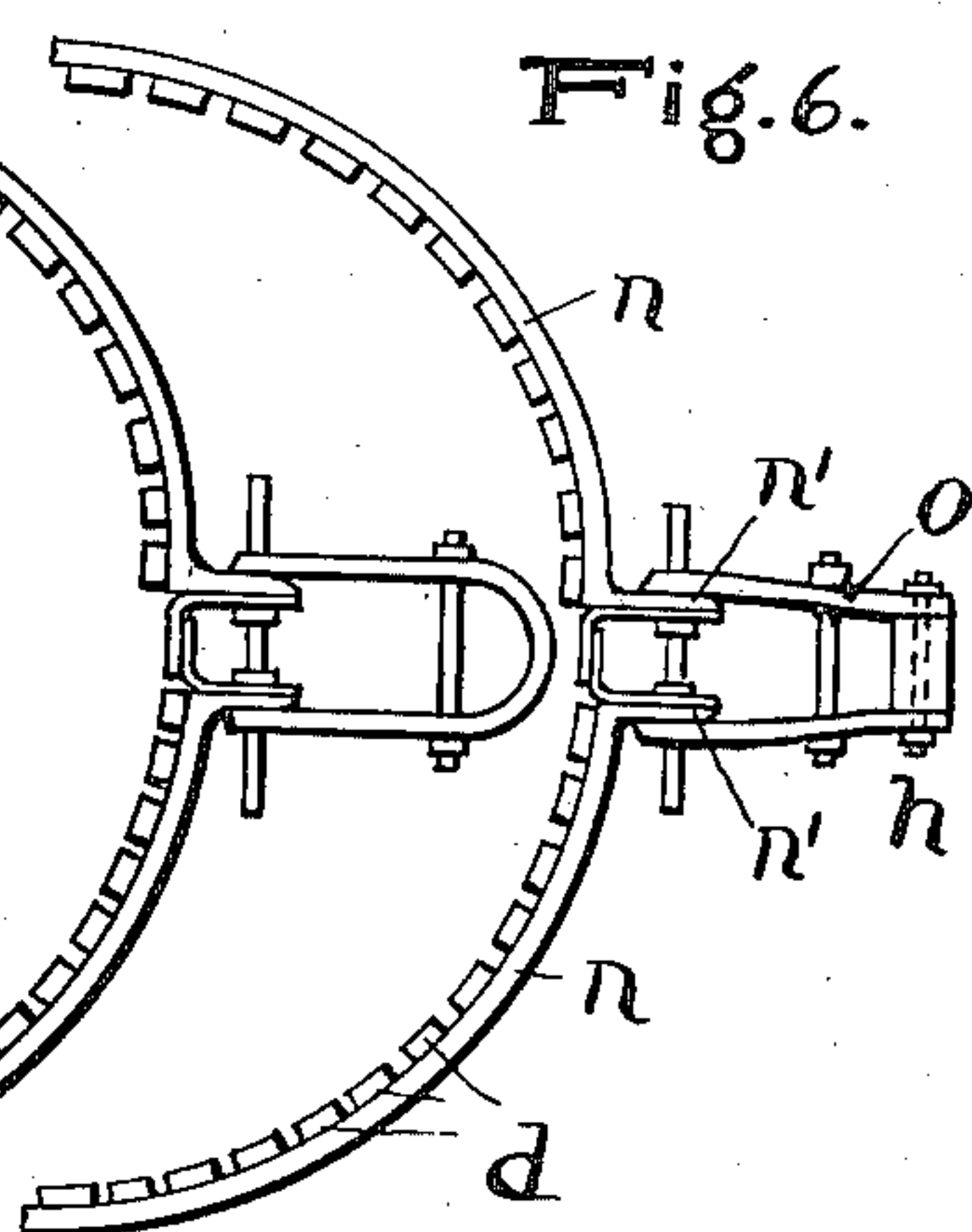


Fig. 7.

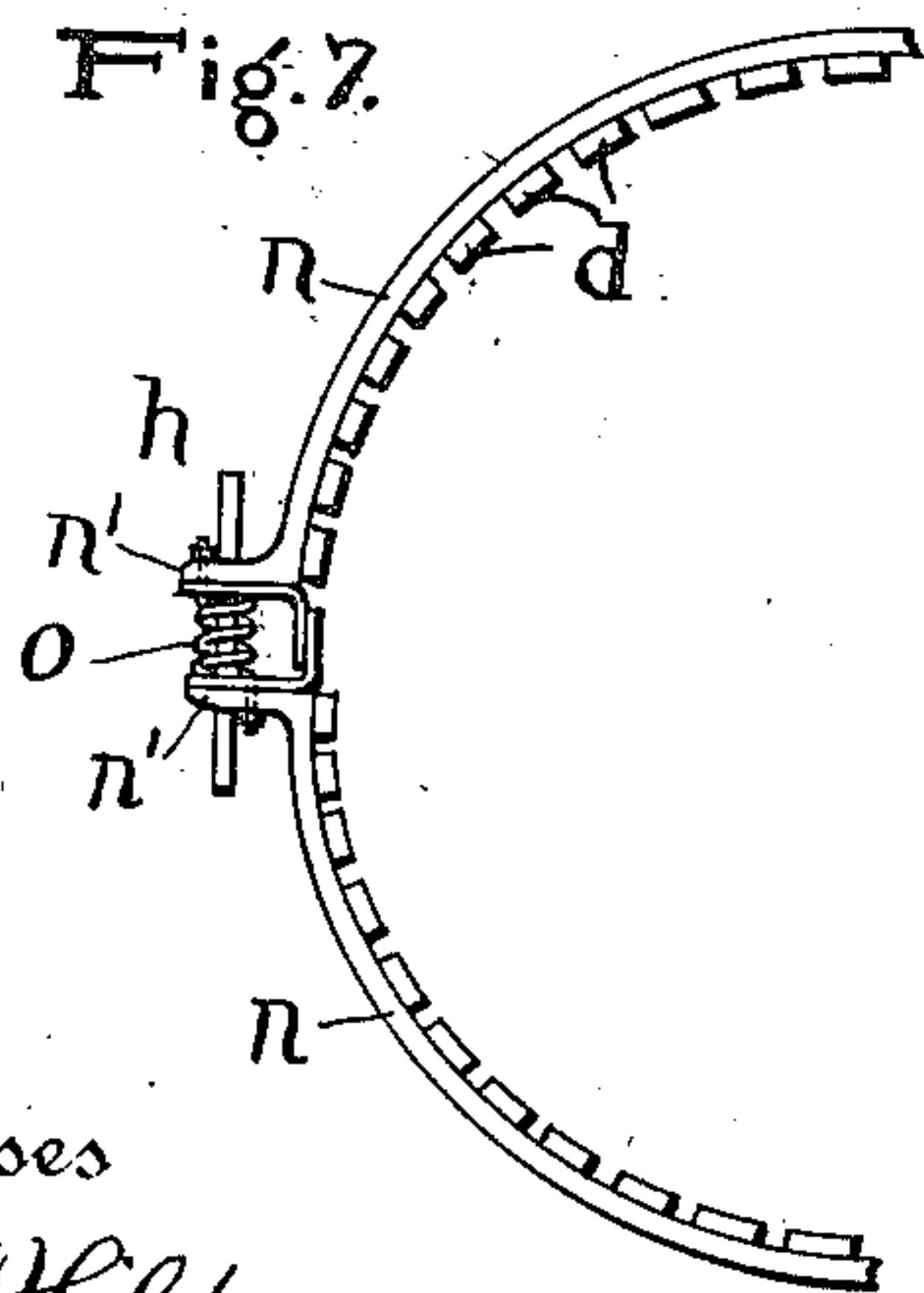
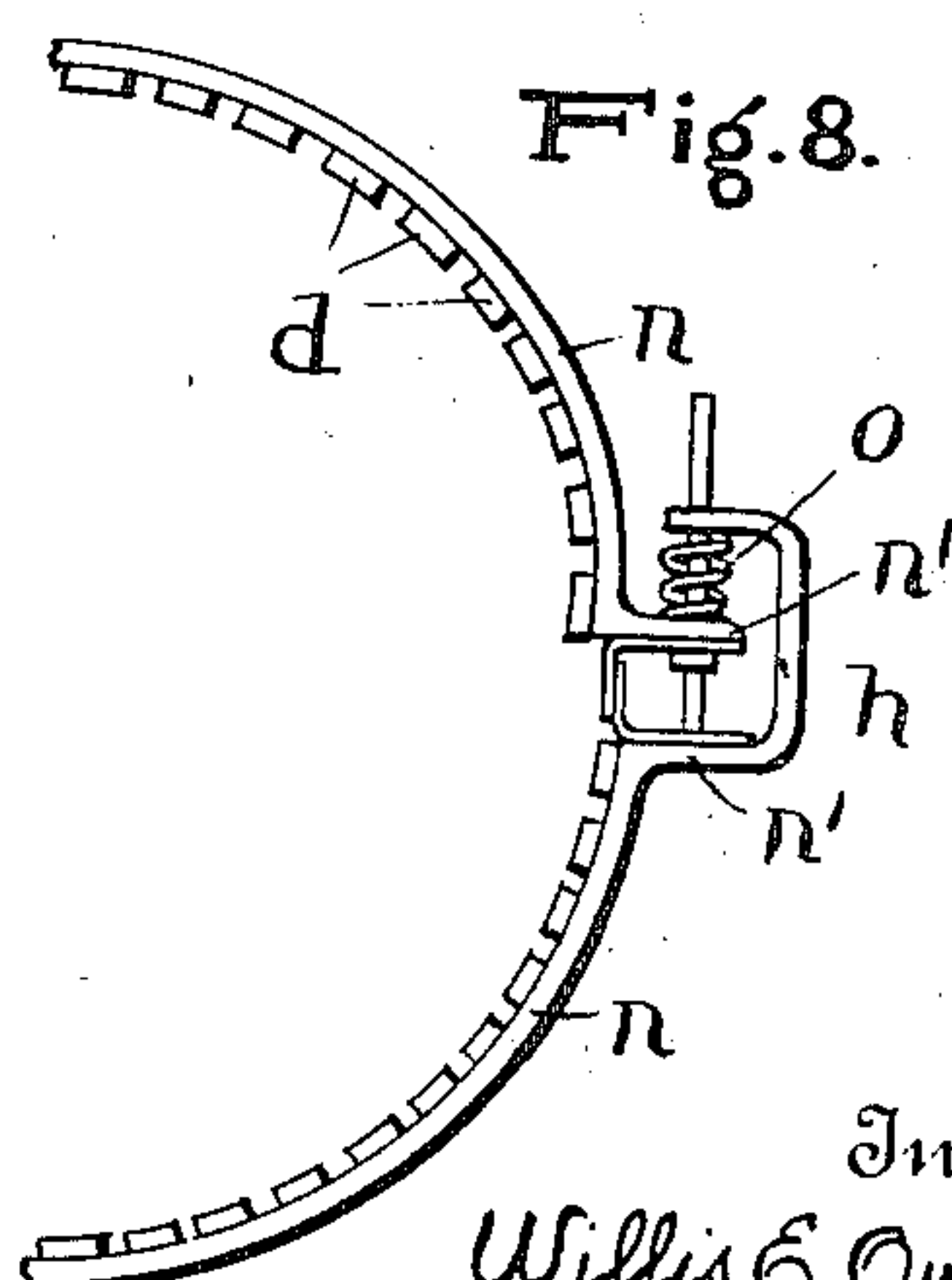


Fig. 8.



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UNITED STATES PATENT OFFICE.

WILLIS E. OVERTON AND ASA C. KETCHAM, OF SOLOMONS, MARYLAND.

EXPANDING OR ADJUSTABLE PRESS FOR FERTILIZING MATERIAL, &c.

975,990.

Specification of Letters Patent.

Patented Nov. 15, 1910.

Application filed March 5, 1910. Serial No. 547,480.

To all whom it may concern:

Be it known that we, WILLIS E. OVERTON and ASA C. KETCHAM, citizens of the United States, residents of Solomons, in the county of Calvert and State of Maryland, have made a certain new and useful Invention in Expanding or Adjustable Presses for Fertilizing Material, &c.; and we declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it appertains to make and use the invention, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 is a side view of a press having our invention applied thereto. Fig. 2 is a front end view of the same. Fig. 3 is a detail side view showing the ends of the band sections as expanded. Fig. 4 is a side view of a tapering press having our invention applied thereto throughout its length. Fig. 5 shows a modification of the spring means for holding the band sections together. Fig. 6 shows a further modification of these spring means. Figs. 7 and 8 show still further modifications of the same.

The invention has relation to presses, designed primarily for fertilizing material, and has for its object to provide for an expansible discharge end portion to the press, whereby in case of some hard obstruction, as a brick or stone, being accidentally included with the fish or other material, the side walls of the press will give or yield to allow the obstruction to pass, after which they will close again to normal position.

With this object in view, the invention consists in the novel construction and combinations of parts as hereinafter set forth.

In the accompanying drawings, illustrating the invention, the letter *a*, designates a press, having slatted or perforated side walls *b*, and a feed device *c*.

As applied to a press the side walls of which consist of slats *d*, *d*, as shown in the drawings, the discharge end portion *e*, of the press is surrounded by a plurality of annular bands *f*, *f*, arranged at intervals and composed each of sections *g*, *g*, held together by spring devices *h*, *h*, whereby said sections are allowed to expand or move outward under extreme pressure from within against the slatted side walls of the press to enlarge

the opening included by the slats and band and allow the obstruction to pass.

In Fig. 2 of the drawings each band is shown as composed of four quadrant sections, having outturned ends *j*, *j*, provided with slots *k*, *k*, engaging rods *l*, *l*, connected together to form a stationary frame and carrying coiled springs *m*, *m*, bearing against collars *l'*, *l'*, of said rods and acting to exert spring pressure against the outturned ends of the quadrant sections to hold them pressed toward each other. Thus under unusual pressure from within against the side walls of the press, as in case of an obstruction as referred to, the quadrant sections will be allowed to move radially outward owing to the slot engagement of their outturned ends with said rods, against the pressure of the springs, to enlarge the aperture of the press and band.

A modified form of the invention is shown in Fig. 5 of the drawings, wherein the band is formed in two semicircular sections *n*, *n*, having outturned ends *n'*, *n'*, and pressed together by means of U-form springs *o*, *o*. Further modifications of these springs are shown in Figs. 6, 7, and 8 of the drawings.

The invention is applicable to any form of press for the purpose set forth, either to a press having a tapering outer shell, as shown in Fig. 4 of the drawings, or to a press having a cylindrical outer shell, as shown in Fig. 1, the essential feature in all cases being that the side walls of the discharge end portion of the press shall be sufficient for all expressing purposes, but which under extreme or unusual pressure from within will expand to allow the obstruction to pass without fracture or breakage of the press, when said side walls will at once resume their normal positions, the continuous operation of the press not being interfered with.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is:

1. In a press, a tubular body having yielding elastic side walls capable of giving under unusual pressure from within to enlarge the aperture of said body.

2. In a press, a tubular body composed of longitudinal slats, and spring-pressed means surrounding the same for holding the slats in position against the usual pressure from within, said slats and means being capable

of giving under unusual pressure from within to temporarily enlarge the aperture of said body.

3. In a press, a tubular body composed of longitudinal slats, yieldable means surrounding the same for holding the slats in position against the usual pressure from within, consisting of a band composed of opposite sections having pressure springs bearing thereupon, said slats and means being capable of giving under unusual pressure from within to temporarily enlarge the aperture of said body.

4. In a press, a tubular body composed of longitudinal slats, and yielding means surrounding the same at the discharge end portion thereof for holding the slats in position against the usual pressure from within, consisting of a band composed of arcuate sections having pressure springs bearing thereupon, said slats and band being capable of giving under unusual pressure from within to temporarily enlarge the aperture of said body.

5. In a press, a tubular body composed of longitudinal slats, and yielding means surrounding the same at the discharge end por-

tion thereof, for holding the slats in position against the usual pressure from within, consisting in a series of bands composed each of arcuate sections having pressure springs bearing thereupon, said slats and bands being capable of giving under unusual pressure from within to enlarge the aperture of said body.

6. The combination with a press having an outer shell and a feed device located therein, of a yielding elastic annulus surrounding the side walls of the press at the discharge end portion thereof and consisting of part-circular sections having out-turned end portions and spring pressure devices bearing against said sections.

7. A yielding elastic annulus designed for application to the side walls of a press and including part-circular sections, and spring pressure devices bearing thereupon.

In testimony whereof we affix our signatures, in presence of two witnesses.

WILLIS E. OVERTON.
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Witnesses:

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