

(No Model.)

2 Sheets—Sheet 1.

B. B. SNYDER & J. J. SELDNER.
CENTRIFUGAL MACHINE.

No. 598,296.

Patented Feb. 1, 1898.

Fig. 1.

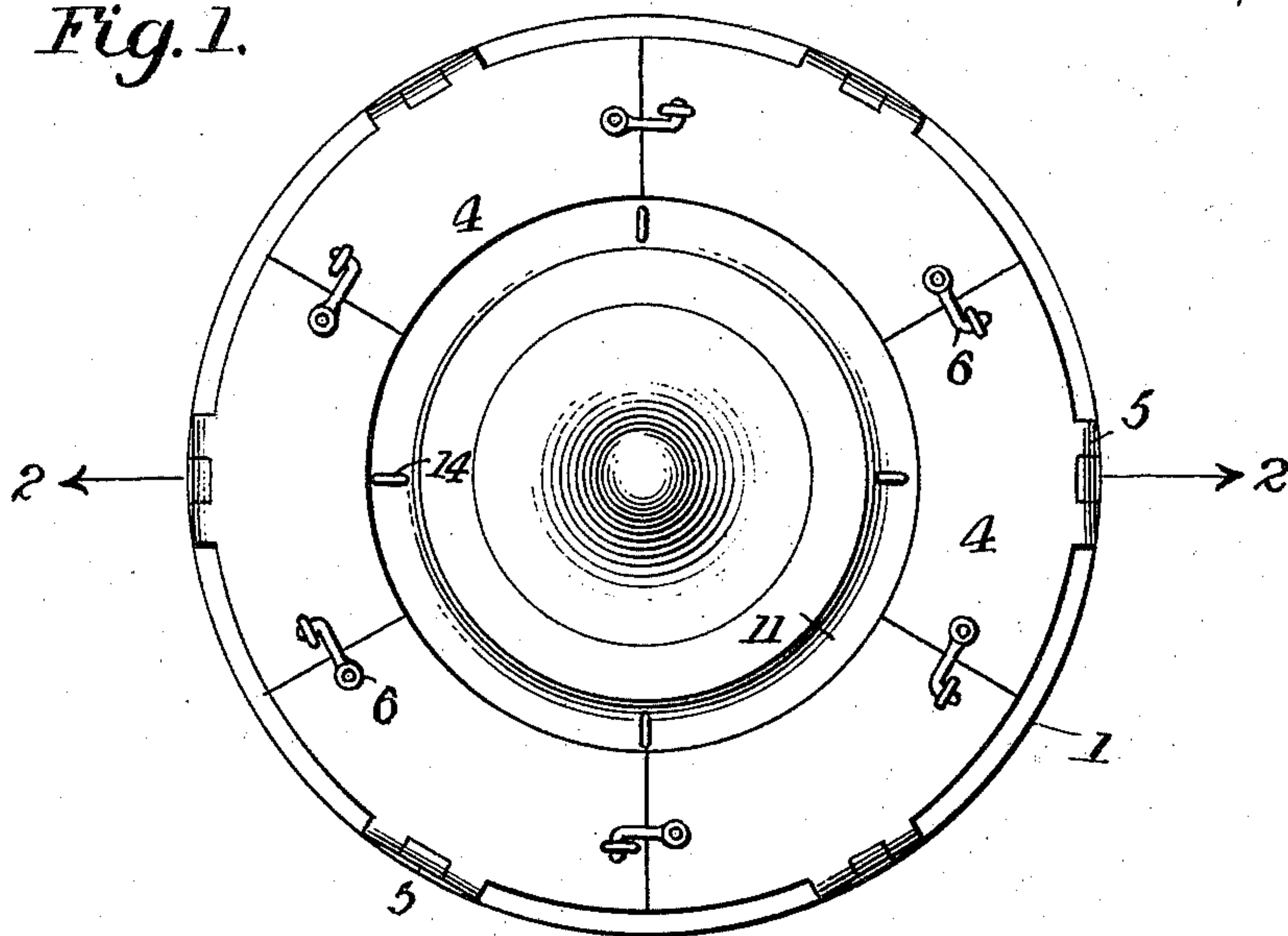
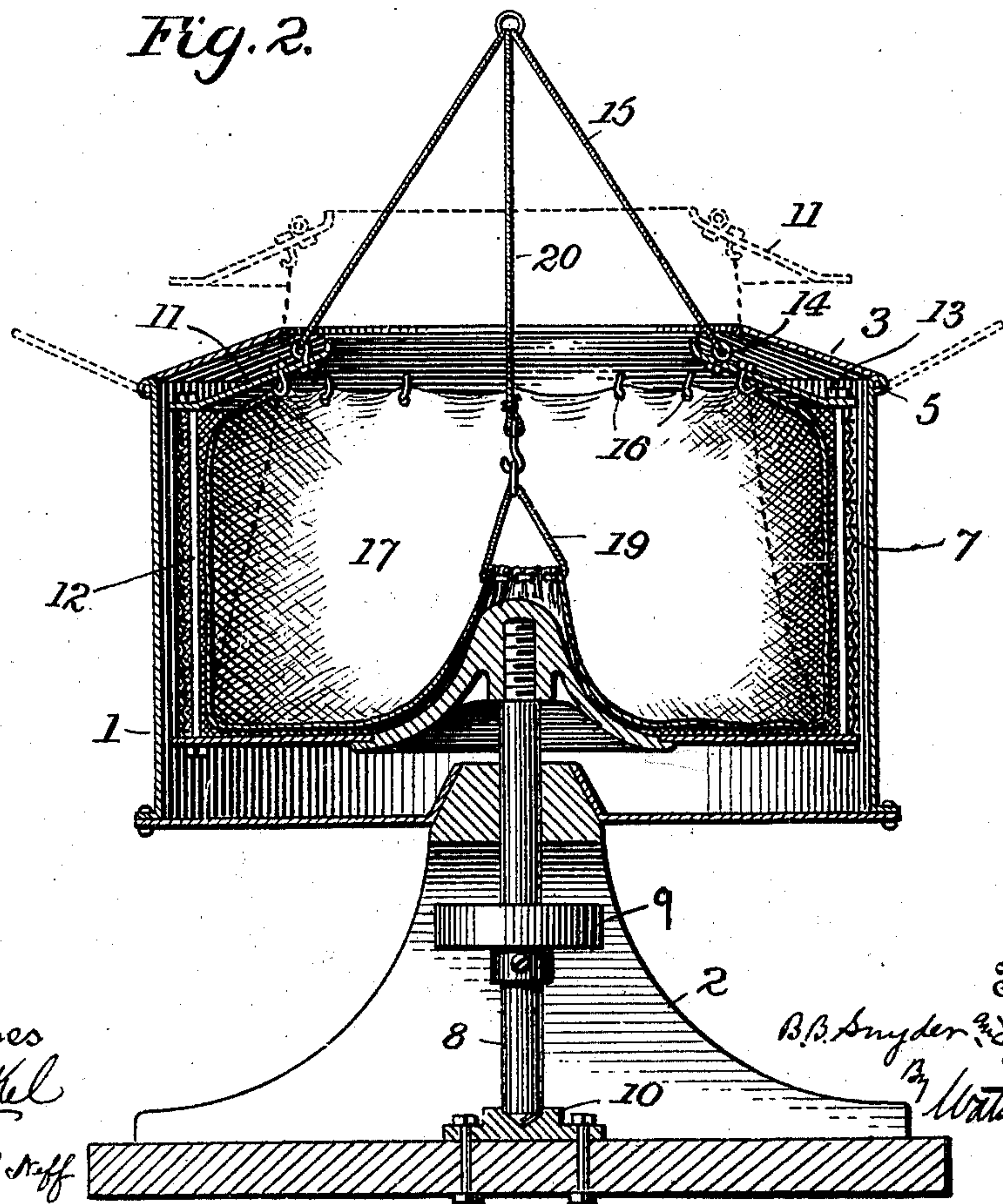


Fig. 2.



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Fig. 3.

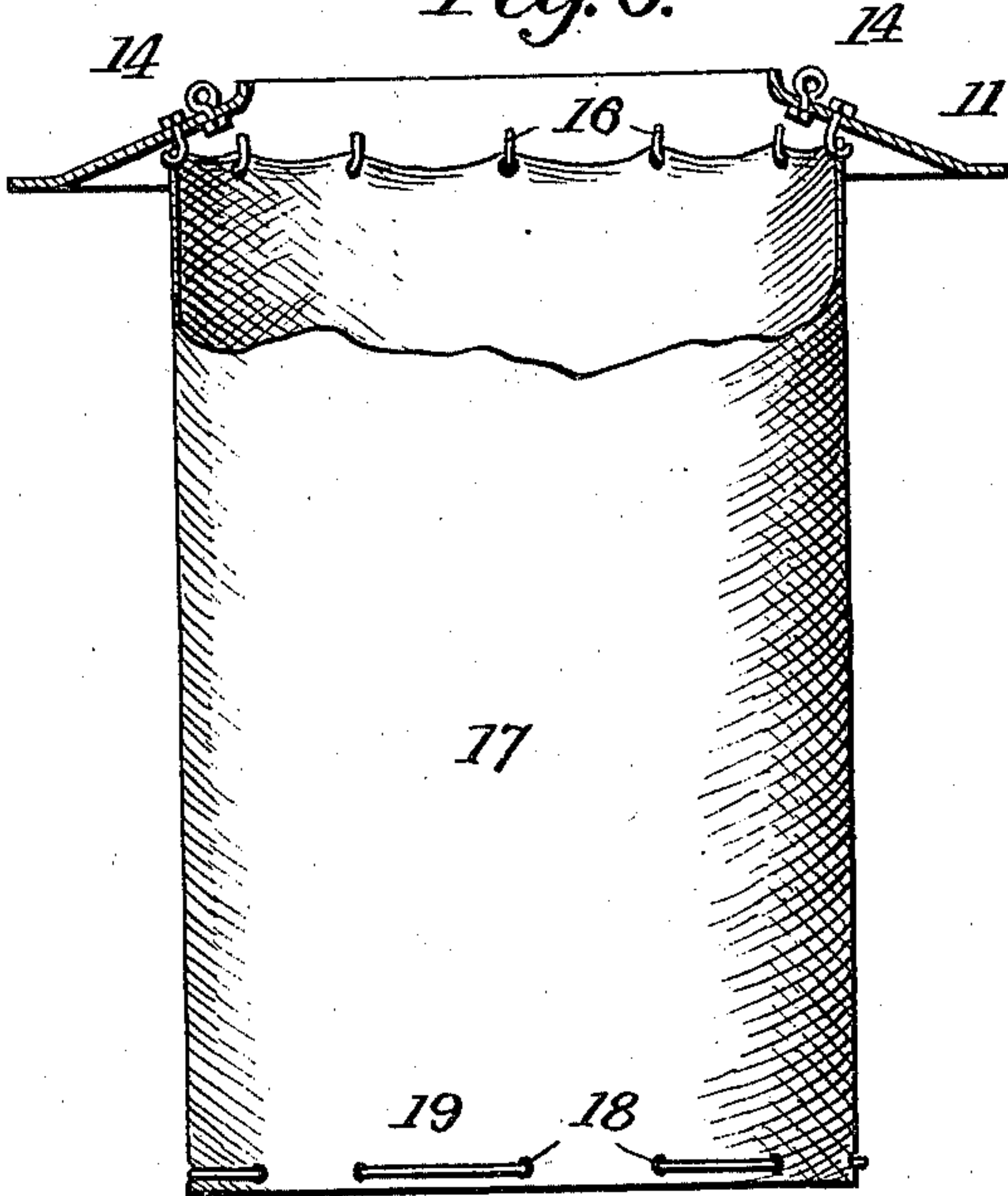


Fig. 4.

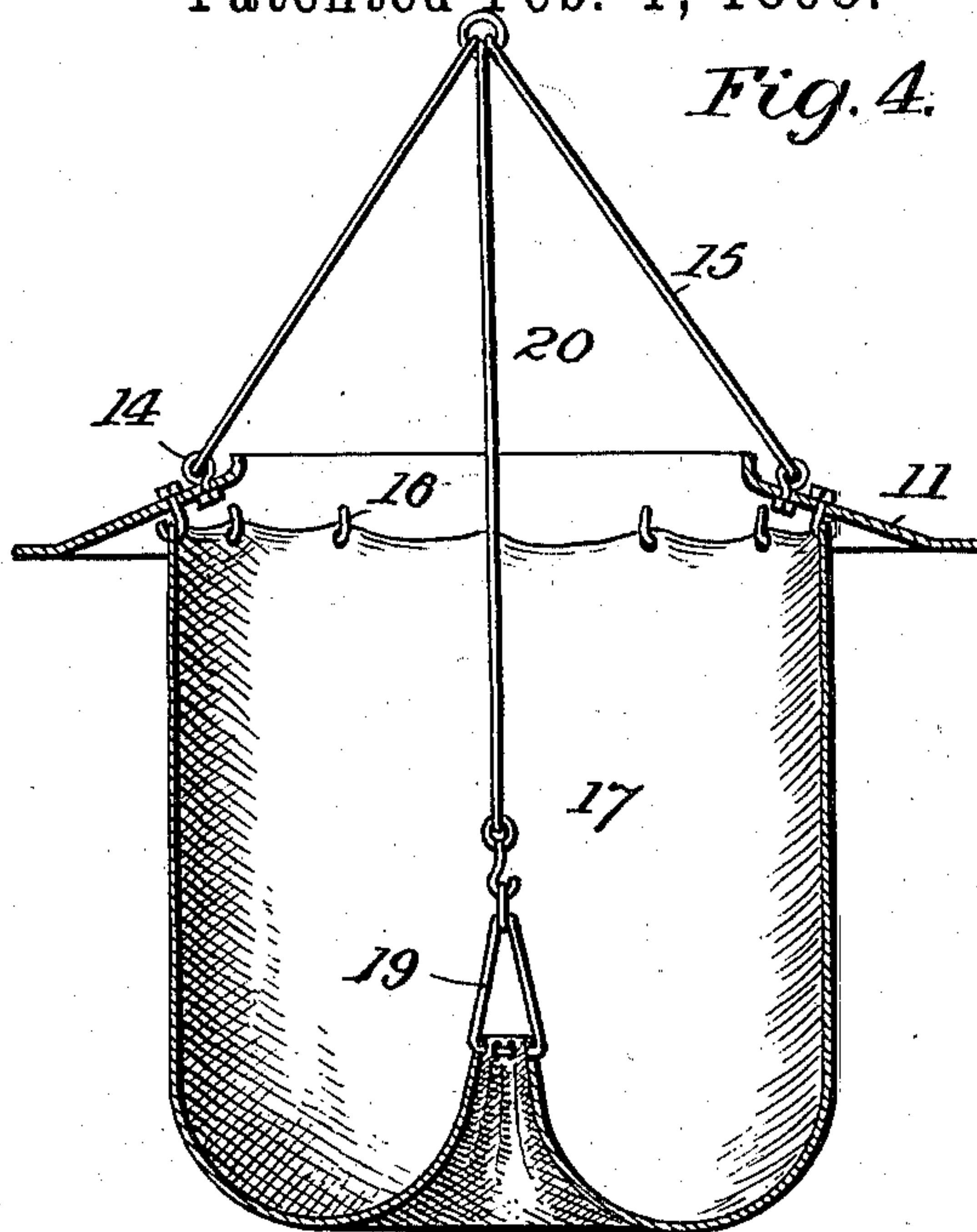


Fig. 5.

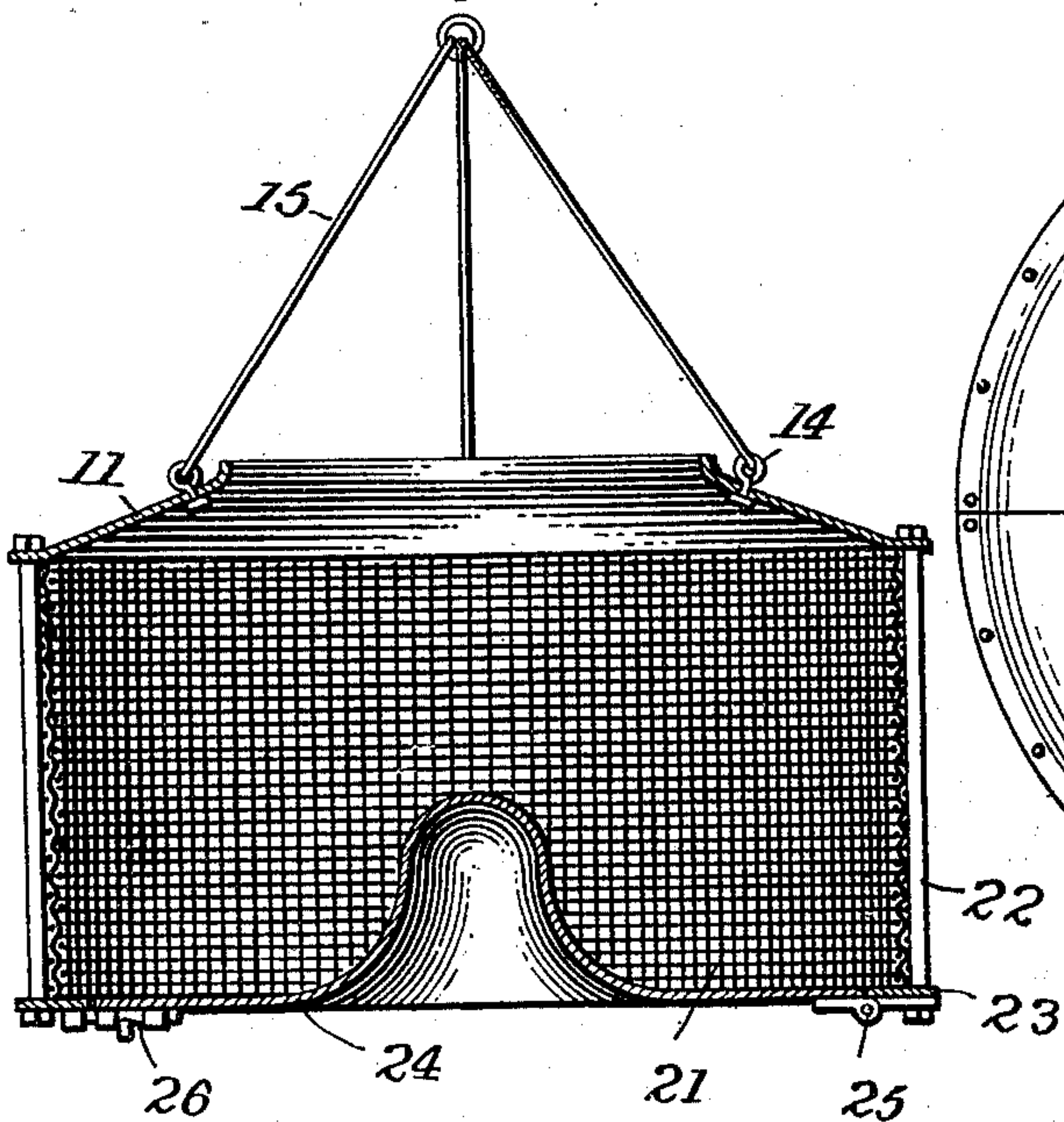
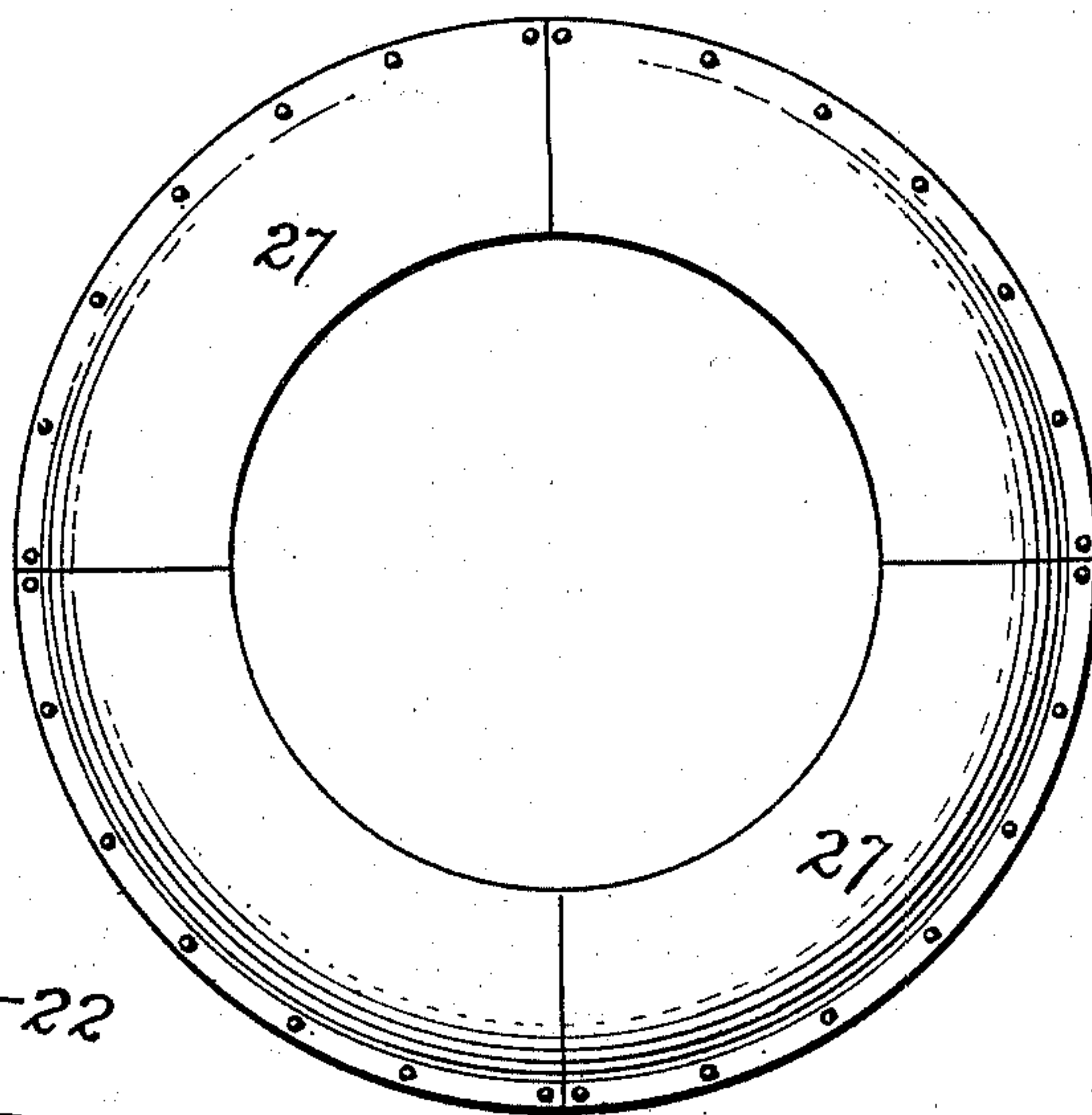


Fig. 6.



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UNITED STATES PATENT OFFICE.

BENJAMIN B. SNYDER AND JONAS J. SELDNER, OF BALTIMORE, MARYLAND.

CENTRIFUGAL MACHINE.

SPECIFICATION forming part of Letters Patent No. 598,296, dated February 1, 1898.

Application filed April 19, 1897. Serial No. 632,819. (No model.)

To all whom it may concern:

Be it known that we, BENJAMIN B. SNYDER and JONAS J. SELDNER, citizens of the United States, residing in the city of Baltimore and State of Maryland, have invented certain new and useful Improvements in Centrifugal Machines, of which the following is a specification.

This invention consists in an improvement in centrifugal machines.

The object of the invention is to facilitate the charging and discharging of the machine. This is accomplished by providing the outer stationary casing with an annular cover which can be readily removed or opened and by providing the rotary portion of the machine with a removable cover and connecting the bag or basket which holds the material to be operated upon to this latter cover. The bottom of the bag or basket is preferably arranged so that it can be opened when removed from the machine.

For a detailed description of the invention reference is had to the following specification and to the accompanying drawings, in which—

Figure 1 is a plan view of a machine embodying our invention. Fig. 2 is a vertical section on the line 2 2 of Fig. 1. Fig. 3 shows an empty bag hung upon the removable cover. Fig. 4 shows a loaded bag in the position which it assumes when being removed from the centrifugal. Fig. 5 is a view of a basket which may in some instances be substituted for the bag, and Fig. 6 shows a modified cover for the casing.

Referring to the drawings, 1 indicates an outer stationary casing which is supported upon a suitable standard or frame 2. This casing is provided with an annular cover 3, which is arranged to be removed or opened to facilitate loading and unloading the centrifugal. As shown, this cover consists of a series of sections 4, provided with hinges 5, upon which they may be turned back out of the way. If desired, the section may be connected by hooks 6 or other suitable fastening devices when closed to prevent them from being accidentally opened. The annular cover 3 may be made in a single piece or in any desired number of sections, and it may be arranged to be lifted off entirely instead of being folded back on the hinges. The chief re-

quirement is that it shall be conveniently removable. Within the casing 1 is a rotating cylinder 7, of wire-netting or perforated sheet metal, such as is usually used in centrifugal machines. The cylinder 7 is supported on the shaft 8, which is driven by a pulley 9, the shaft being supported in a suitable step 10 in the main frame 2. The rotary cylinder has a removable annular cover 11, which when in place is secured to the cylinder by means of bolts 12, preferably passing from the bottom of the cylinder through the cover, which is thus fastened down by the nuts 13. Other fastening devices may be used to connect the cover 11 detachably with the cylinder, the particular means being of minor importance. The cover 11 is provided with loops or eyes 14, to which hoisting chains or ropes 15 may be connected.

Upon the inner surface of the annular lid or cover 11 is a series of hooks 16, to which the upper end of a bag 17 is connected. In Fig. 3 we have shown the preferred form of bag, which is open at the top and bottom. The top is connected to the hooks on the cover 11, said hooks being arranged in a circle of considerably less diameter than that of the cylinder, so that the bag will pull away from the cylinder as it is raised. The lower end of the bag is preferably opened and provided with a series of eyes or rings 18, through which a cord 19 is loosely strung. When the cord 19 is drawn tight, it closes the bottom of the bag. The cord is preferably drawn into the middle of the bag, as shown in Figs. 2 and 4. When it is desired to remove the loaded bag from the machine, the cord 19 is engaged with a rope 20, and as the ropes 15 and 20 are raised the latter rope aids materially in carrying the load.

In Fig. 5 we have shown a basket 21, which is adapted to fit within the cylinder 7. The cylindrical portion of this basket is connected to the cover by means of bolts 22, which pass through a ring 23 at the bottom. The bottom 24 of the basket is connected to the ring 23 by a hinge 25, and when closed it can be locked by a bolt 26 or other suitable fastening.

In Fig. 6 we have illustrated a simple form of cover for the outer cylinder which may be used in lieu of the hinged covers 4. This cover 27 consists of sections of leather, rub-

ber, or other flexible and durable material fastened at their outer edges to the casing. These sections will stand normally in proper position, but will yield to permit the cover 3 to be withdrawn or inserted together with the attached bag or basket.

The invention is not limited to a bag having an open bottom. In some instances a bag having a closed bottom may be used, in which case the bag could be detached from the hooks to facilitate emptying it, or it could be emptied by inverting it. The open-bottom bag is, however, preferred.

The operation of the invention is as follows:

15 The bottom of the bag is closed by drawing the string 19, and the bag, which is attached to the cover 11, is lowered into the cylinder 7, as shown in Fig. 2. The cover 11 is then fastened by means of the nuts 13, and the elevating-ropes 15 and 20 are disconnected. The material to be operated upon is then shoveled or dumped into the bag and the cylinder rotated in the usual manner. Before starting the machine the cover 3 of the outer casing is closed and fastened, if necessary.

When it is required to remove the material, the covers 3 are thrown back and the elevating-ropes 15 connected to the lid 11 and the rope 20 to the closing-string 19 at the bottom of the bag. The nuts 13 are then removed and the cover and bag are raised by the elevating-ropes, the cord 19 holding the bottom closed and approximately in the position shown in Fig. 4. If the hooks 16 were at the outer part of the cover, the bag could not well be lifted, as it would tend to stick to the side of the cylinder 7, but by arranging the hooks at some distance from the outer periphery of the cover the bag is drawn inward as it is elevated and gradually separates from the cylinder, beginning at the top. The dotted lines in Fig. 2 show the position of the bag when it is partly loosened from the cylinder, and Fig. 4 shows its shape when it is entirely suspended. The contents of the bag may be dumped by simply disconnecting the rope 20 from the gathering-string 19, when the bottom of the bag will automatically open. It is advisable to have two covers 11 and two bags in order to economize the time of the machine, an empty bag being placed in the machine immediately after the full one is withdrawn.

Having described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a centrifugal machine, the combina-

tion with the outer stationary casing, of a rotating cylinder, a removable annular cover for said cylinder, means for raising the cover, and a receptacle, attached to said cover, said receptacle being adapted to fit within the cylinder and provided with a bottom opening, and means for closing the same, substantially as described.

2. In a centrifugal machine, the combination of a rotating cylinder, a removable cover for said cylinder, fastenings on said cover at some distance from the outer wall of the cylinder and a bag adapted to fit against said outer wall when the cylinder is in operation, said bag having its upper end connected to said fastenings, whereby when the cover is raised the bag will be drawn inward from the wall of the cylinder and friction with said wall avoided, substantially as described.

3. The combination with the outer casing having an annular removable cover and an inner cylinder having an annular removable cover provided with means for connecting elevating devices, and having on its under side a series of hooks or fastenings, a receptacle connected to said fastenings, said receptacle being arranged to open at the bottom, and means for detachably connecting said cover to the rotating cylinder, substantially as described.

4. In a centrifugal machine, the combination with a rotating cylinder, of the removable cover therefor, the hooks or fastening devices upon the under side of said cover, the bag open at both ends and having its upper end connected to the fastening devices, and its lower end provided with suitable eyes, and the gathering-string 19 threaded through said eyes, substantially as described.

5. The combination with the removable cover 11, of the eyes 14 on the upper side of the cover, the hooks 16 beneath the cover, the bag having its upper end connected to the hooks and its lower end provided with a gathering-string 19, and the elevating ropes or chains 15, 20, connected respectively with the removable cover, and the gathering-string at the bottom of the bag, substantially as described.

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

BENJAMIN B. SNYDER.
JONAS J. SELDNER.

Witnesses:

HENRY J. BROWNING,
GEORGE KENT.