

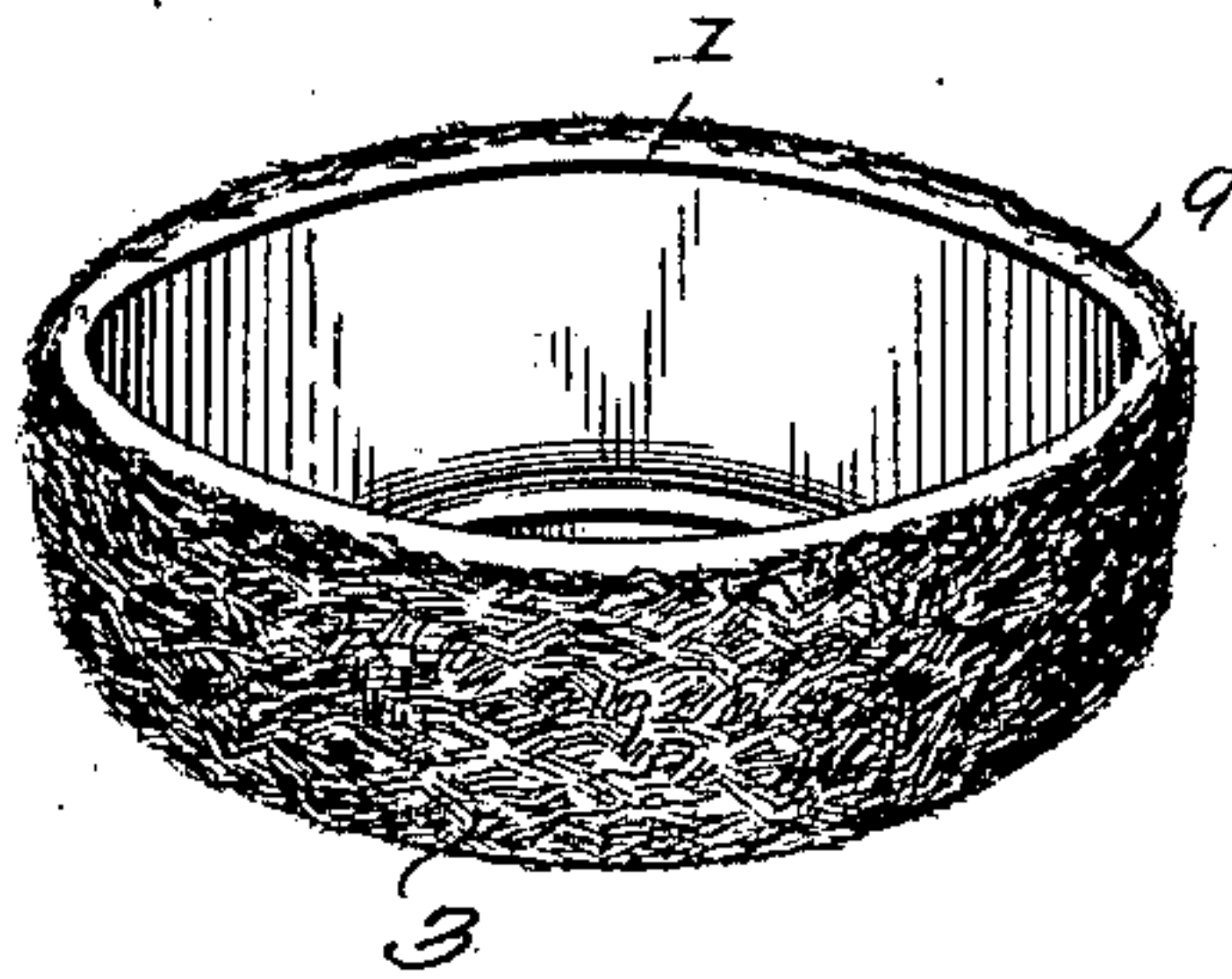
No. 723,096.

PATENTED MAR. 17, 1903.

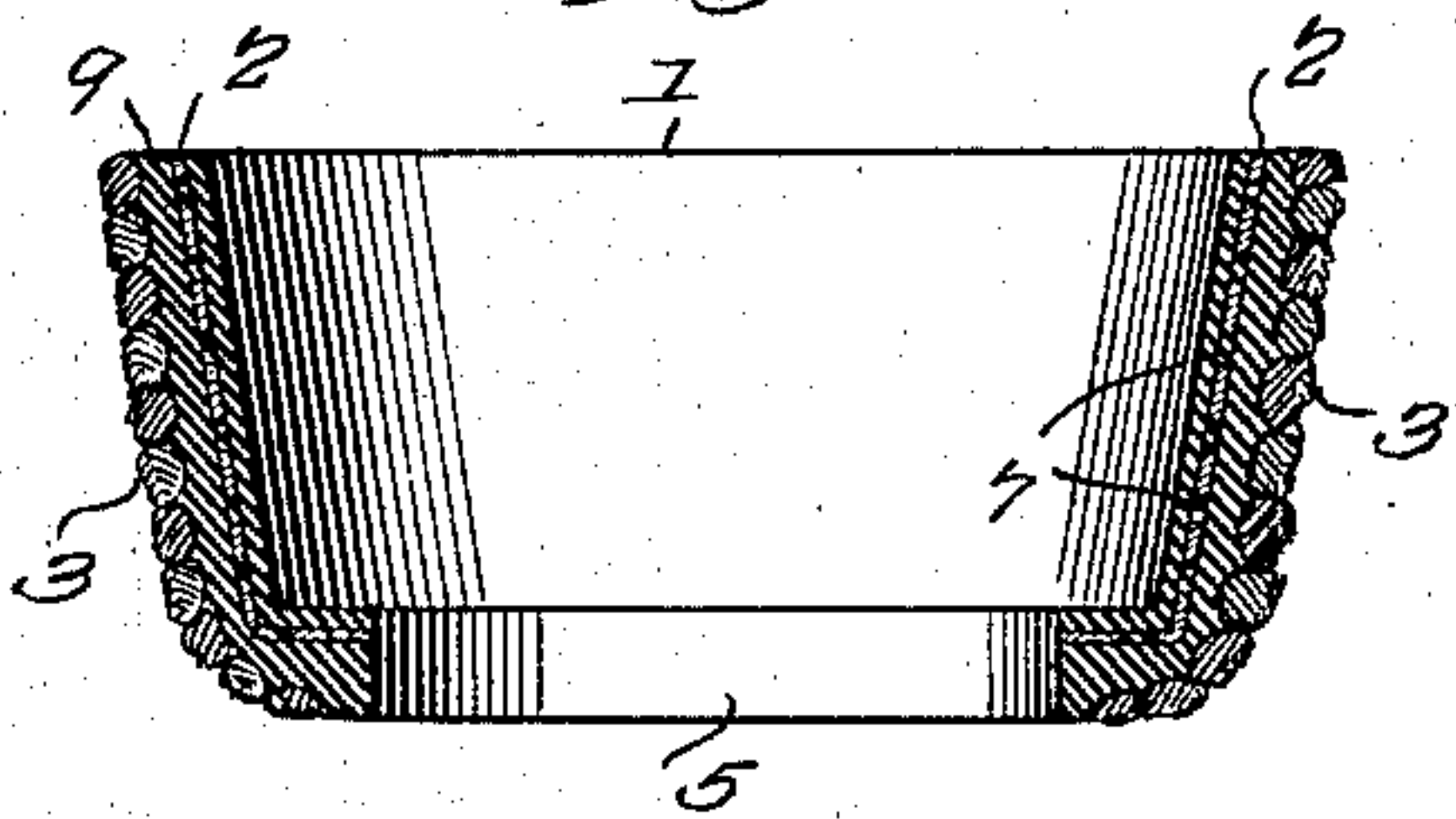
M. WERT.  
CUP FOR OIL WELLS.  
APPLICATION FILED SEPT. 9, 1901.

NO MODEL.

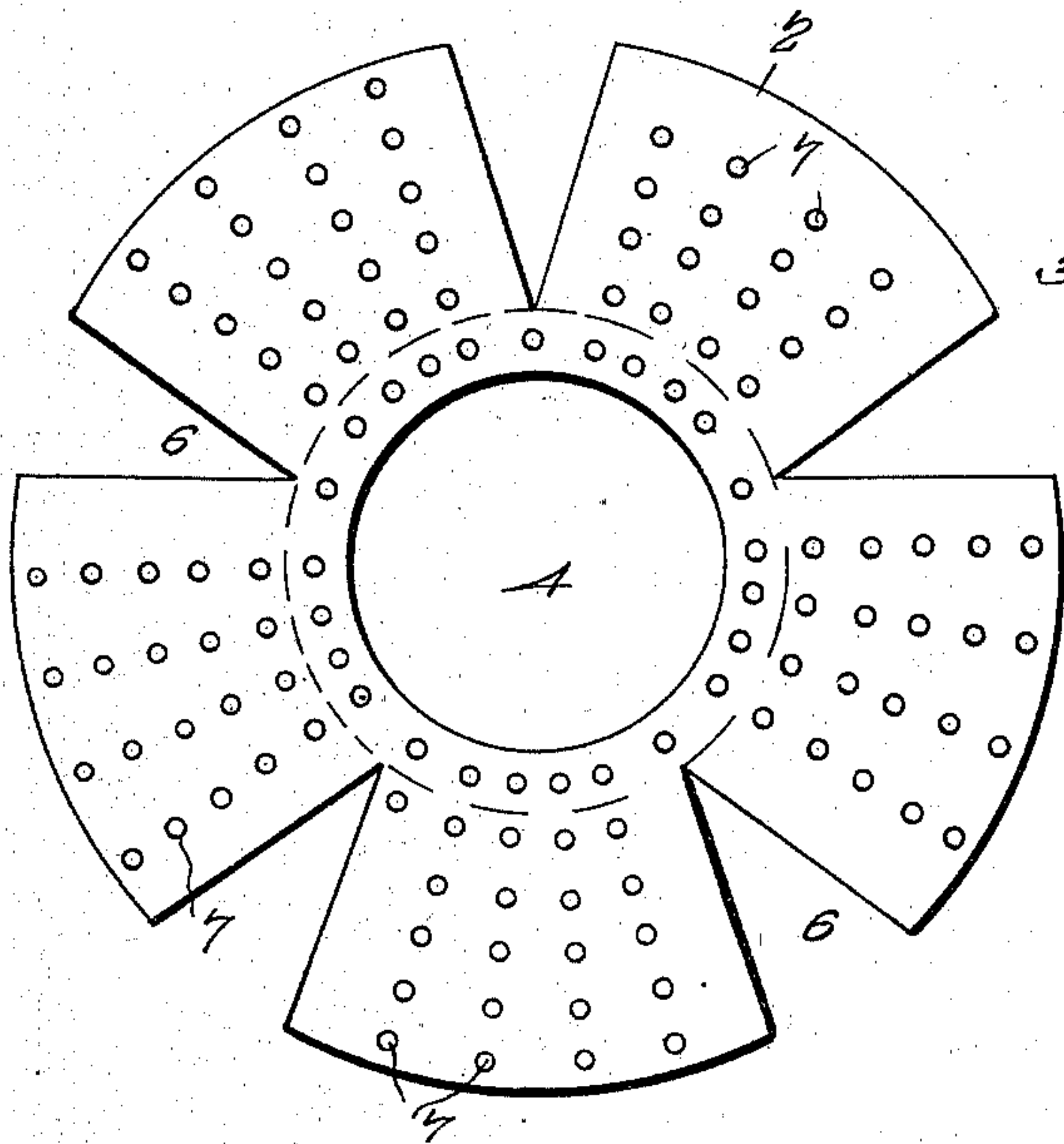
*Fig. 1.*



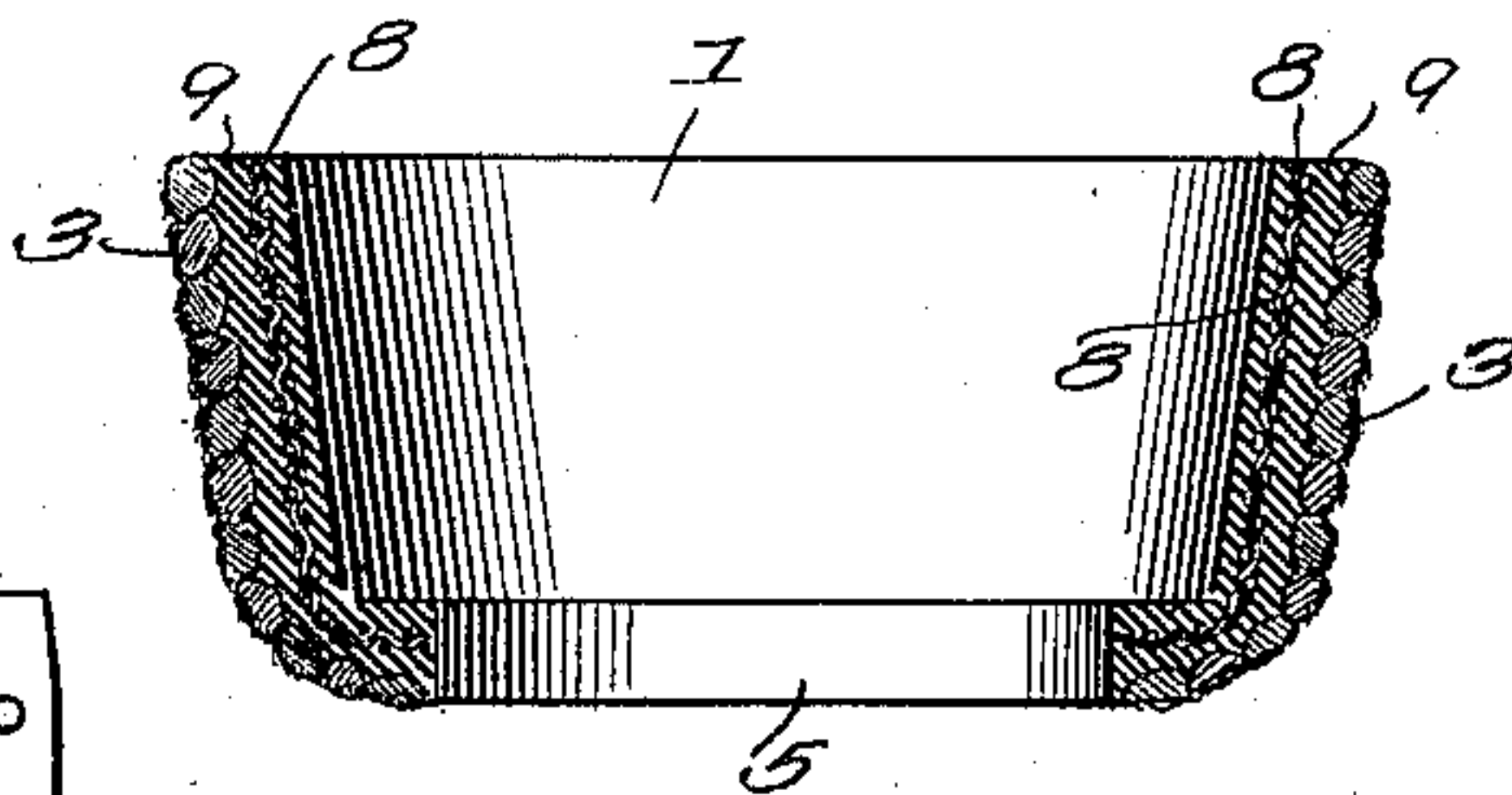
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



Witnesses:  
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# UNITED STATES PATENT OFFICE.

MARTIN WERT, OF PARKERS LANDING, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO WILLIAM G. McGLAUGHLIN AND GEORGE T. McGLAUGHLIN, OF PARKERS LANDING, PENNSYLVANIA.

## CUP FOR OIL-WELLS.

SPECIFICATION forming part of Letters Patent No. 723,096, dated March 17, 1903.

Application filed September 9, 1901. Serial No. 74,848. (No model.)

*To all whom it may concern:*

Be it known that I, MARTIN WERT, a citizen of the United States, residing at Parkers Landing, in the county of Armstrong and State of Pennsylvania, have invented a new and useful Cup for Oil-Wells, of which the following is a specification.

This invention relates to cups for oil-wells, and has for its object to present a cheap, durable, and thoroughly-efficient device for the purpose stated and one that may be readily manufactured and easily applied to position for use.

A further object is to present a cup having a bearing-surface composed of twisted or braided filamentous material associated with the shell or body in such manner as to constitute an integral or fixed part thereof, but to be yieldable independently of the shell, whereby in use all danger of separation of the bearing-surface from the cup will be obviated and a close and thoroughly-effective contact with the bearing-surface and the pump-barrel will be assured.

A further object is to present a novel form of reinforcer or stiffener for the shell which will operate to cause the cup effectually to withstand the pressure to which it is subjected in use.

With these and other objects in view, as will appear as the nature of the invention is better understood, the same consists in the novel construction and combination of parts of a cup for oil-wells, as will be hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, and in which like numerals of reference indicate corresponding parts, there is illustrated a form of embodiment of the invention capable of carrying the same into effect, it being understood that the structure herein exhibited may be varied or changed as to shape, proportion, and exact manner of assemblage without departing from the spirit of the invention, and in the drawings—

Figure 1 is a view in perspective of an oil-well cup characterizing this invention. Fig. 2 is a view in transverse section, showing a

preferred form of stiffener or reinforcer associated with the cup. Fig. 3 is a view in plan, showing in blank form the style of stiffener exhibited in Fig. 2. Fig. 4 is a transverse sectional view showing a modified form of stiffener that may be employed in lieu of that shown in Fig. 3.

Referring to the drawings, 1 designates the body or cup, 2 the reinforcer or stiffener, and 3 the cordage-wound bearing-surface of the cup.

The cup or body 1 is by preference constructed of vulcanized rubber, with which is associated prior to vulcanization the stiffener 2 and the bearing-surface 3, the latter by preference being composed of a single piece of cordage continuously wound upon the entire outer surface of the shell. The term "cordage" is used generically herein to cover twisted rope or cord or any braided fibrous material adapted for the purpose designed, the object of employing cordage as a bearing-surface being to present a surface that will combine great wearing property with the requisite resiliency to impinge the well-barrel with sufficient force to render the device thoroughly effective for the purpose designed.

The form of stiffener shown in Fig. 2 consists of a sheet of metal of any desired thickness which is circular in contour and is provided with a central orifice 4 of a size to correspond with the pump-rod opening 5 of the cup, with a plurality of edge kerfs 6, and with a plurality of orifices 7, disposed over the entire area of the plate. Prior to associating the stiffener with the cup it is stamped or otherwise shaped to conform to the contour of the cup, as shown in Fig. 2.

The two salient features of the present invention are the reinforcing of the shell throughout its entire area, presenting thereby a practically non-yielding structure, and the employment of a continuous winding of cordage to constitute a yielding bearing-surface. In order that the said surface may possess the desired yielding quality, only a small radius of the cord or rope is permanently associated with the shell, so that as the major portion of the winding projects be-



yond the shell a yielding, thoroughly-effective, and long-wearing surface will be provided.

One procedure that may be employed for making the oil-cup of the present invention consists in placing a layer or layers of soft unvulcanized rubber upon the male member of a suitable mold to present the inner wall of the shell; then placing over this body of rubber the stiffener 2, which has been previously stamped or otherwise formed to the proper shape and extends from the wall of the pump-rod opening to the edge or mouth of the shell; then inclosing the stiffener with a layer or layers of the same kind of rubber as above defined to present the outer wall of the shell; then winding around the exterior surface of the shell a rope or cord of twisted or braided filamentous material, such as jute, hemp, or any other fibrous vegetable substance suited to the purpose; then assembling the female member of the die with the male member and exerting pressure on the cup, thereby to cause the rubber to pass through or interlock with the orifices in the stiffener and the cordage partially to sink into the outer wall of the cup, and finally vulcanizing the cup in the usual or any preferred manner. The article thus produced is cheap, light in weight, and highly durable in use and will be found in practice to be thoroughly efficient in effecting an oil-tight juncture with the pump-barrel.

Instead of having the stiffener made from a sheet of metal, as shown in Fig. 2, the same may be constructed of reticulated wire fabric, as shown in Fig. 4, and when this latter form of stiffener is employed the mode of assembling the parts of the cup will be the same as that above described. In either event, however, the stiffener extends from the wall of the pump-rod opening to the upper edge of the cup, so that the latter is reinforced throughout its entire area and is thus rendered practically non-yielding in character, or, in other words, the shell thus constructed will possess the requisite rigidity to effect the best results in use.

The bearing-surface 3, owing in part to the interlocking of the loose fibers of the cordage, presents a continuous and even bearing-surface that in use is freely yieldable independently of the shell, thereby operating in an obvious manner to absorb and thus relieve the shell from undue strain, and by reason of the manner in which the cordage is held assembled with the shell, being, in effect, an integral part thereof, separation therefrom in use will be obviated.

The employment of a cup composed of rubber reinforced at the pump-rod opening and

having a bearing-surface of textile fabric associated with the cup by being vulcanized thereto is old and well known and is herein disclaimed, as such construction is the exact opposite of what is herein described, inasmuch as the bearing-surface is non-yielding or practically non-yielding, the device depending for its effective operation upon the resiliency of the cup, whereas in the cup of the present invention the body portion is practically rigid and the bearing-surface yielding.

Having thus fully described the invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A cup for oil-wells, having its bearing-surface composed of cordage permanently associated with the cup and yieldable independently thereof.

2. A cup for oil-wells, having its bearing-surface composed of cordage wound upon and permanently associated with the cup and extending beyond the same.

3. A cup for oil-wells, having a reinforced body portion and a bearing-surface composed of cordage permanently associated with the body portion.

4. A cup for oil-wells, comprising a rubber body portion, and a bearing-surface of cordage vulcanized thereto.

5. A cup for oil-wells, comprising a rubber body portion having a stiffener permanently associated therewith, and a bearing-surface of cordage vulcanized thereto.

6. A cup for oil-wells, comprising a rubber body portion, an open-work stiffener constituting an integral part of the body portion and extending throughout the entire area thereof, and a bearing-surface of cordage vulcanized to the body portion.

7. A cup for oil-wells, comprising a rubber body portion, a reticulated stiffener incorporated therewith and extending throughout the entire area thereof, and a bearing-surface composed of cordage vulcanized to the outer surface of the body portion.

8. The herein-described method of making cups for oil-wells which consists in taking plies of unvulcanized rubber, interposing between the plies a metallic stiffener, associating with the outer surface of the cup a winding of cordage, applying pressure to cause union between the rubber and the stiffener and cordage, and then vulcanizing.

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

MARTIN WERT.

Witnesses:

SAMUEL CRAIG,  
JAMES M. BAUSER.