

No. 767,009.

PATENTED AUG. 9, 1904.

O. B. PERRY.

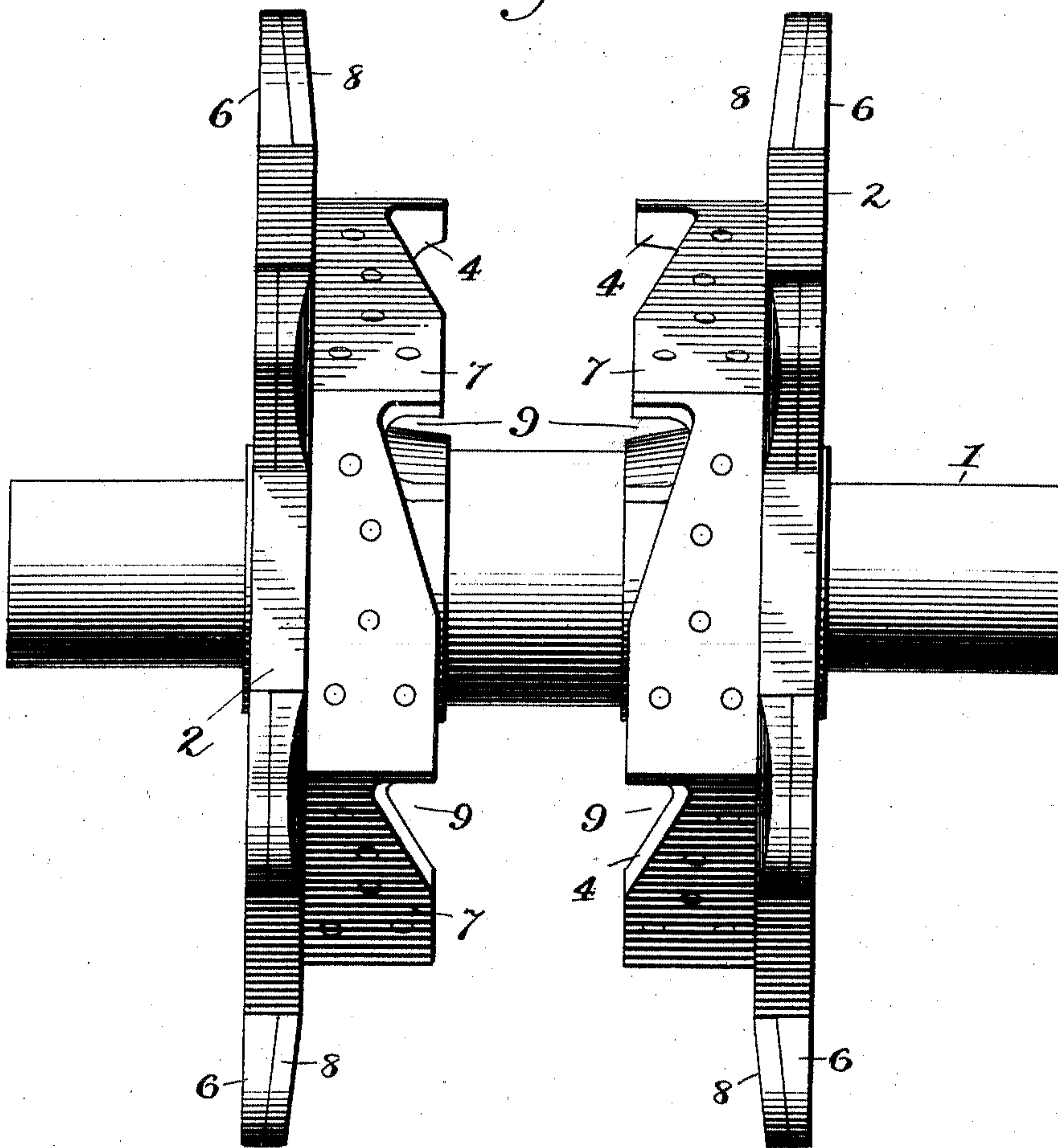
TUMBLER FOR GOLD DREDGING MACHINES.

APPLICATION FILED NOV. 5, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses:

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2 SHEETS—SHEET 2.

Fig. 3.

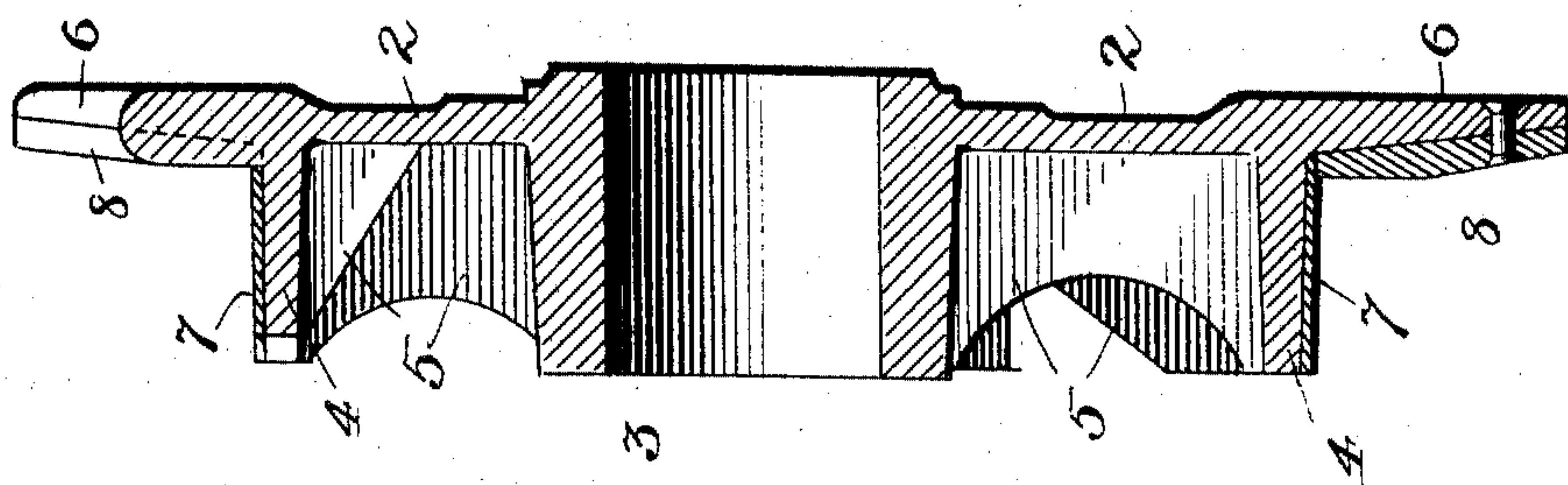
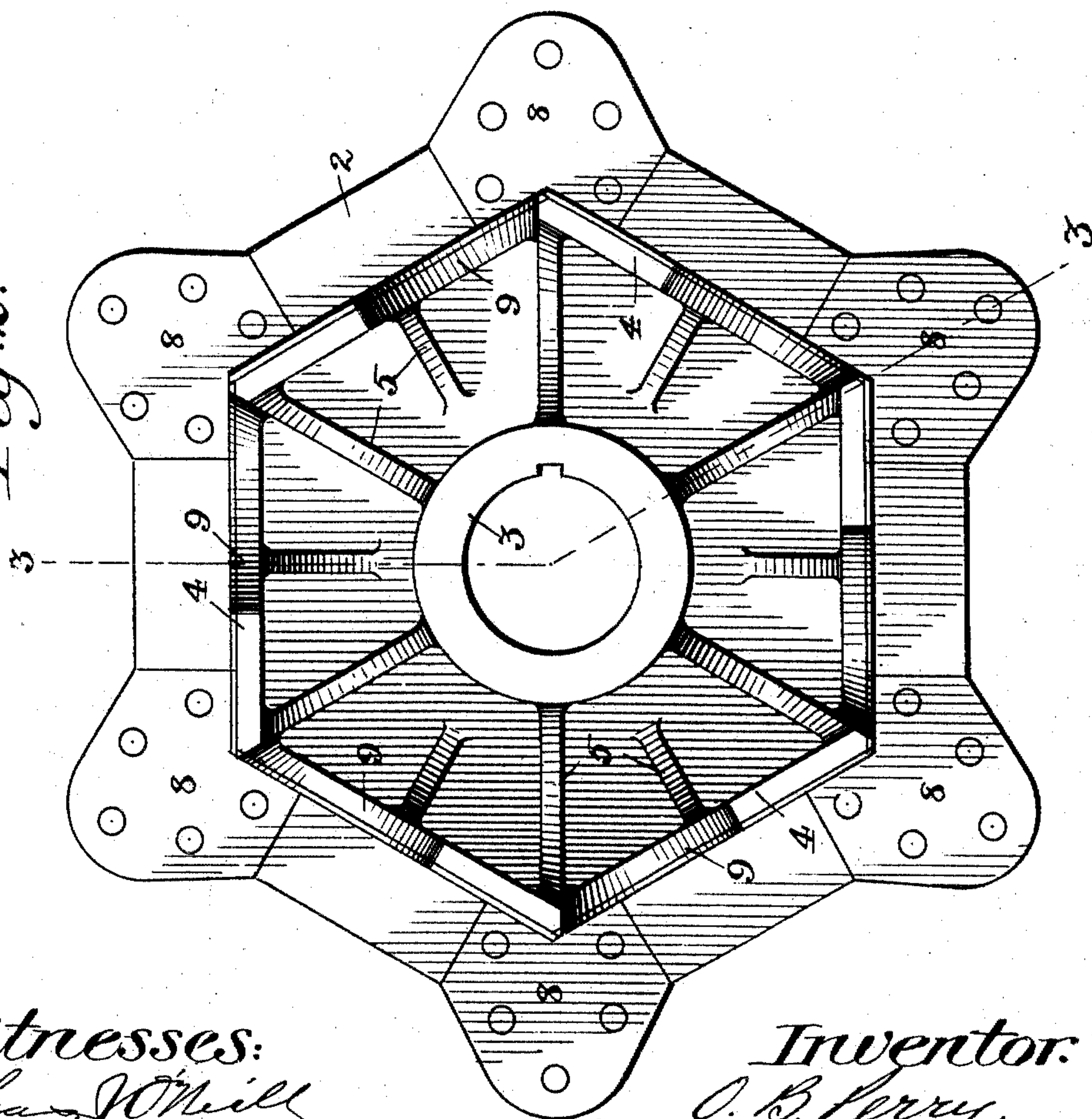


Fig. 2.



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UNITED STATES PATENT OFFICE.

OSCAR BUTLER PERRY, OF SAN FRANCISCO, CALIFORNIA.

TUMBLER FOR GOLD-DREDGING MACHINES.

SPECIFICATION forming part of Letters Patent No. 767,009, dated August 9, 1904.

Application filed November 5, 1903. Serial No. 179,908. (No model.)

To all whom it may concern:

Be it known that I, OSCAR BUTLER PERRY, a citizen of the United States, residing at San Francisco, county of San Francisco, State of California, have invented certain new and useful Improvements in Tumblers for Gold-Dredging Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention relates to dredging-machinery, and has for its object to provide an improved form of tumbler for the swinging ladder over which the endless carrier for the cutting-buckets works.

More particularly considered, the invention contemplates the provision of a tumbler whose faces are shaped to conform to the bearings of the buckets, so as to allow gravel and stones to fall through the tumbler without damaging the buckets.

It also contemplates protecting the wearing-surfaces—viz., the faces and corners or ears of the tumbler—by means of removable hard-metal plates.

Referring to the accompanying drawings, Figure 1 is a front elevation of my improved tumbler, showing the relation of the ratchet-shaped bearing-faces and the arrangement of the wearing-plates. Fig. 2 is a side elevation of one of the tumbler-sections, and Fig. 3 is a section on line 3 3 of Fig. 2.

In the drawings the numeral 1 indicates a shaft adapted to be rotatably mounted in suitable bearings in the side frames of the swinging ladder of the elevator mechanism commonly employed in gold-dredging and analogous machines. Keyed or otherwise rigidly secured to the shaft 1 and separated from each other to properly support the endless chain of elevator-buckets are two rolls or drums, which constitute the tumbler. Each drum comprises a central hub 3, supporting a web or flange 2, provided with a polygonal series of bearing-faces 4, which are strengthened and supported by integral brackets 5, uniting the hub, web, and bearing-faces in a rigid integral structure. The flange 2 is provided with radially-projecting ears or corners 6, each hav-

ing a slight outward taper or inclination at its outer end to properly guide the endless carrier to a firm seat on the bearing-faces of the drum and to maintain the carrier in proper alinement on the ladder. Each of said bearing-faces 4 is provided with a ratchet-shaped recess 9, which lies opposite a similar recess in the corresponding face of the other drum, so that when the tumbler is assembled in position on the shaft 1 it presents to the endless carrier a series of bearing-faces, each of which is shaped to follow or conform to the bearing of the bucket engaging it and each of which is provided with a forwardly-flaring opening through which gravel, stones, and other obstructing matter is forced without damaging the bucket.

In order to protect those portions of the tumbler which come in contact with the endless carrier from wear, the faces 4 and the ears 6 are covered by wear-plates 7 and 8, respectively, formed to appropriate shape, of manganese steel or other hard resistant material. These plates, which are designed to be renewed when they have become unduly worn or damaged, are secured to the faces and corners or ears of the drum by means of rivets or other appropriate devices.

It is obvious, of course, that the tumbler as above described may be applied to either or both the upper and lower portions of the ladder, and in either relation it will subserve the purposes for which it is designed, to wit: By presenting ratchet-shaped bearing-surfaces to the buckets, which conform to the shape of the latter instead of being rectangular, as heretofore constructed, it operates to free itself from boulders and other obstructing matter, which have always been a source of great trouble, and by protecting the wearing parts of the tumbler, particularly the tumbler's ears and faces, by highly-resistant replaceable plates the life of the apparatus is greatly increased, and as all of the wearing parts are made replaceable and interchangeable necessary repairs are materially facilitated.

What I claim as my invention is—

1. A tumbler for dredging-machines and the like, having its bearing-faces shaped to conform to the bearings of the buckets, and pro-

vided with flaring openings through which boulders and other obstructing matter are forced to clear the tumbler; substantially as described.

5 2. A tumbler for dredging-machines and the like, comprising two separate drum-sections mounted upon a shaft, said sections having ratchet-shaped bearing-surfaces conforming to the bearings of the buckets, said ratchet-
10 shaped surfaces providing flaring openings to clear the tumbler of obstructing matter; substantially as described.

3. A tumbler for dredging-machines and the like, comprising two drum-sections having
15 ratchet-shaped bearing-surfaces to provide flaring openings to clear the tumbler of obstructing matter, and plates of wear-resisting material secured to said bearing-surfaces; substantially as described.

4. A tumbler for dredging-machines and the like, comprising two drums having flaring clearing-openings between them and interchangeable and removable wear-resisting plates conforming to the drum-faces; substantially as described. 20

5. A tumbler for dredging-machines and the like, comprising two drum-sections each having a series of bearing-faces and a series of guiding-ears, and interchangeable plates of wear-resisting material secured to said faces
25 and ears; substantially as described. 30

In testimony whereof I affix my signature in presence of two witnesses.

OSCAR BUTLER PERRY.

Witnesses:

MAURICE E. GRIFFIN,
GERTRUDE JOHNSON.