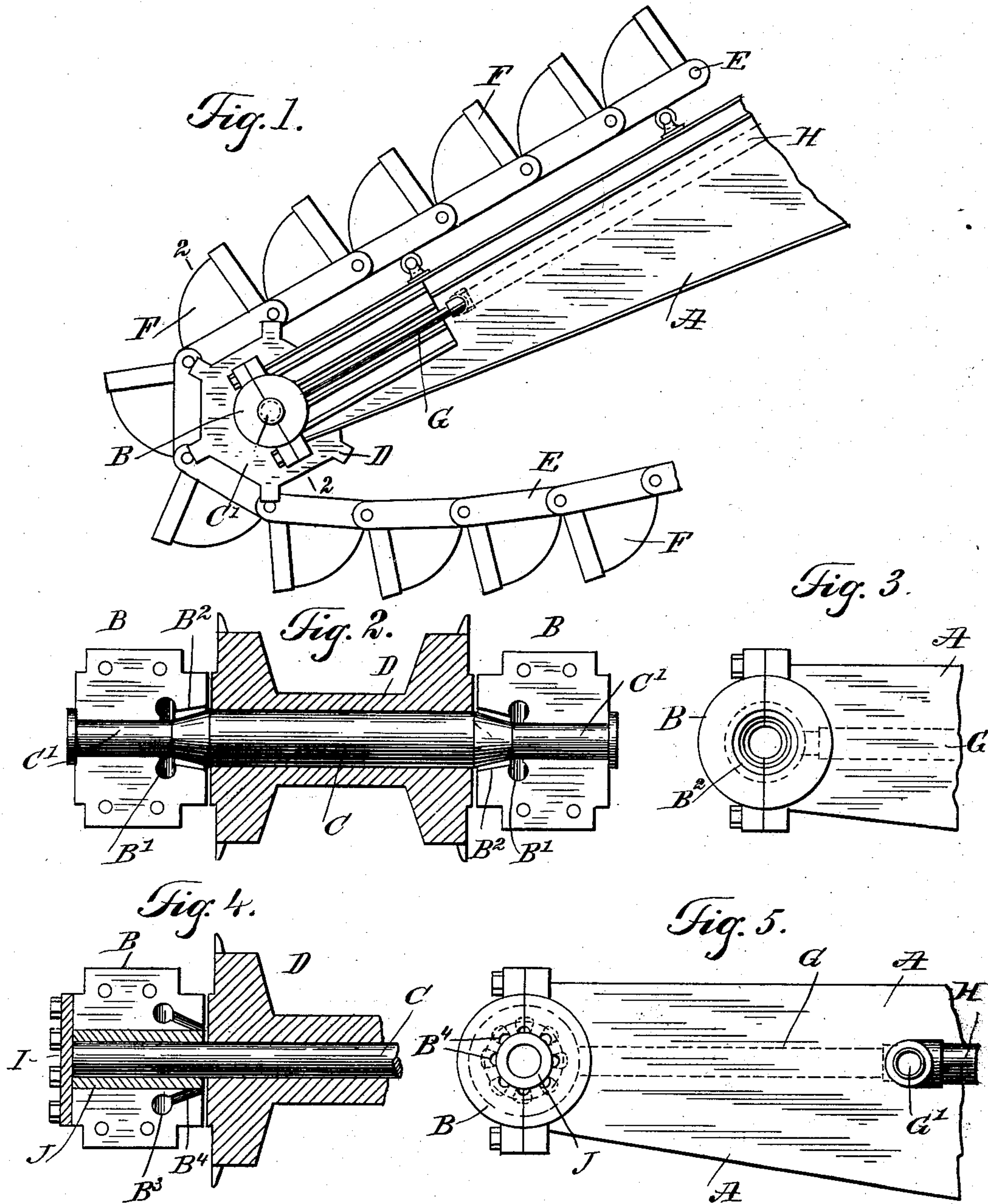


P. SMALL.
BEARING FOR DREDGING MACHINES.
APPLICATION FILED JULY 8, 1903.

NO MODEL.



WITNESSES:
Chas. Mattingly
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UNITED STATES PATENT OFFICE.

PERRY SMALL, OF OROVILLE, CALIFORNIA.

BEARING FOR DREDGING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 744,636, dated November 17, 1903.

Application filed July 8, 1903. Serial No. 164,689. (No model.)

To all whom it may concern:

Be it known that I, PERRY SMALL, a citizen of the United States, and a resident of Oroville, in the county of Butte and State of California, have invented a new and Improved Bearing for Dredging-Machines, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved bearing for dredging-machines, more particularly a bearing for the shaft on the free end of the beam, the arrangement being such that any sand passing into the bearing during the dredging operation is quickly and continually washed out to prevent the same from cutting into the bearing, to the detriment of the proper working of the apparatus.

The invention consists of novel features and parts and combinations of the same, as will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the improvement as applied. Fig. 2 is a transverse section of the same on the line 2 2 of Fig. 1, the bucket-chain being omitted. Fig. 3 is an inner side elevation of the improvement. Fig. 4 is a transverse section of a modified form of the improvement, and Fig. 5 is an inner face view of the same.

On the free ends of the side beams A A of the beam of a dredging-machine are arranged journal-boxes B B, in which are mounted to turn the journals C' of a shaft C, carrying a sprocket-wheel or drum D, for the passage of a chain E, supporting dredging-buckets F. In each journal-box B is formed an annular chamber B', from which leads a passage B² to the inner end of the journal-box, and the said chamber B' and passage B², as illustrated in Figs. 2 and 3, are in the form of an enlargement of the journal-bore at the inner end of the bearing, and as illustrated in Figs. 4 and 5, a chamber B³ is formed concentric with the bore, and from the chamber leads a passage in the form of a plurality of ports B⁴, arranged

in a circle and opening at their outer ends into the bore at the inner end of the bearing.

Each of the annular chambers B' and B³ is connected with a pipe G, and the two pipes on the beams A are connected with each other by a cross-pipe G', from which leads a supply-pipe H, extending along the beam and connected by a hose with a pump or other suitable source of water-supply. By having the flexible connection between the pipe H and the pump the beam A can readily swing up and down and with it the pipes H and G, so that water can at all times be forced by the pump through the pipes H, G', and G into the annular chambers B' and B³, from which the water passes by the passages B² and B⁴ to the journal at the inner end of the bearings to wash out any sand that may pass into the journal-bearing.

As illustrated in Figs. 4 and 5, the bearing B is closed at the outer end by a cap I, and the shaft C is provided with a bushing J in the bearing, and in this case the passage B⁴ leads to the bushing at the inner end of the bearing to prevent sand from passing between the bushing and the bore of the bearing B.

Now from the foregoing it will be seen that the journal-bearing is kept completely free of sand, grit, or other impurities liable to cut into the journal and bearing, thus insuring long life to the bearing and the journal.

The device is very simple and durable in construction, is not liable to easily get out of order, and can be readily applied to dredging-machines as now constructed.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A bearing provided with a journal-box having an annular chamber, from which leads a discharge-passage to the bore of the journal-box at one end thereof, said passage being contracted at its outer end, and a supply-pipe leading into the said chamber, as set forth.

2. A bearing provided with a journal-box having an annular chamber, from which leads an annular passage to the bore of the box, at the inner end thereof, the exit end of said passage being contracted, and a pipe con-

5 nected with the said chamber and adapted to connect with a water-supply, to force water under pressure into the said chamber, and from the same by the passage onto the journal, between the inner end of the box and the adjacent face of the bucket-wheel, as set forth.

10 3. A bearing provided with a journal-box having an annular chamber from which leads an annular passage to the bore of the box at the inner end thereof, the portion of the jour-

nal received by said annular passage being conical diverging toward the open end of the passage, and a supply-pipe leading into said chamber.

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

PERRY SMALL.

Witnesses:

JERE R. CALLAHAN,
HENRY C. HILLS.