

(No Model.)

M. RANDOLPH.
JOURNAL BEARING.

No. 349,057.

Patented Sept. 14, 1886.

Fig. 1

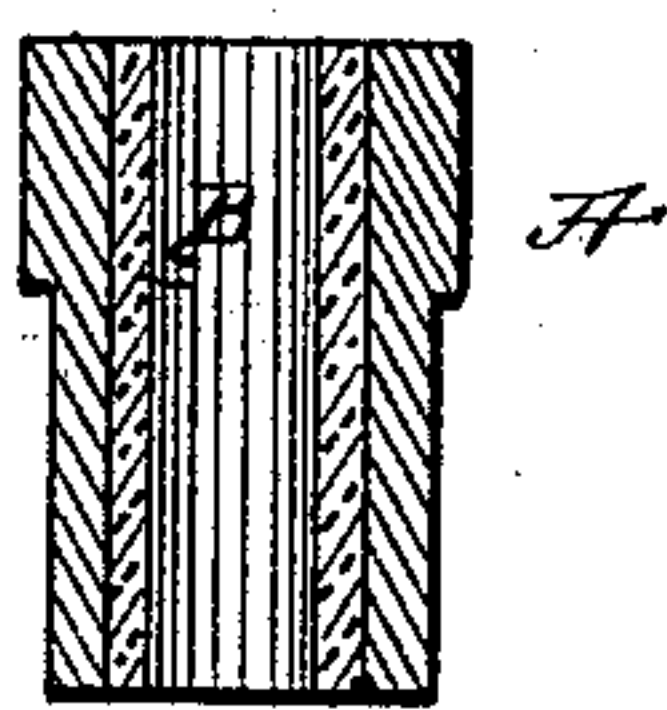


Fig. 4.

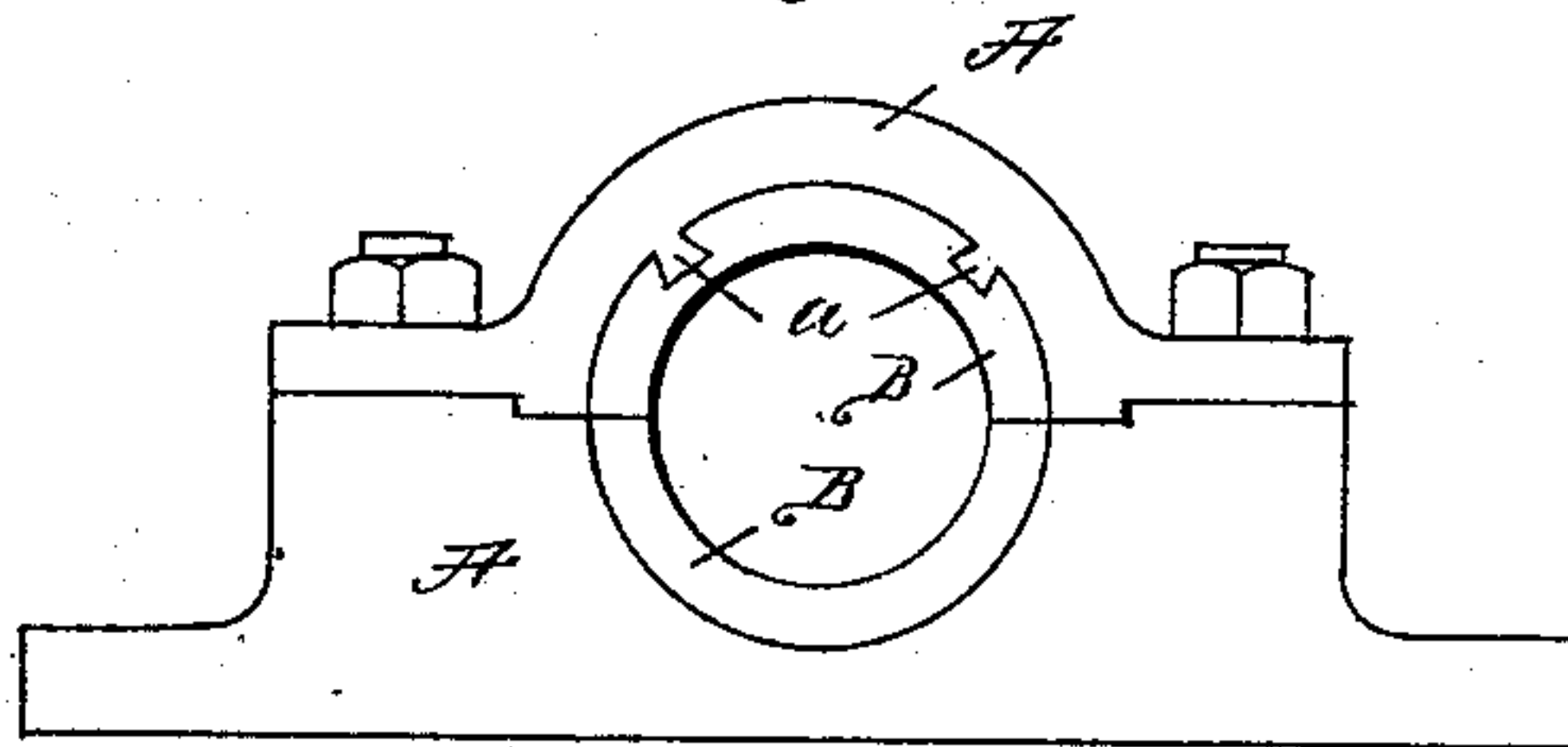


Fig. 2.

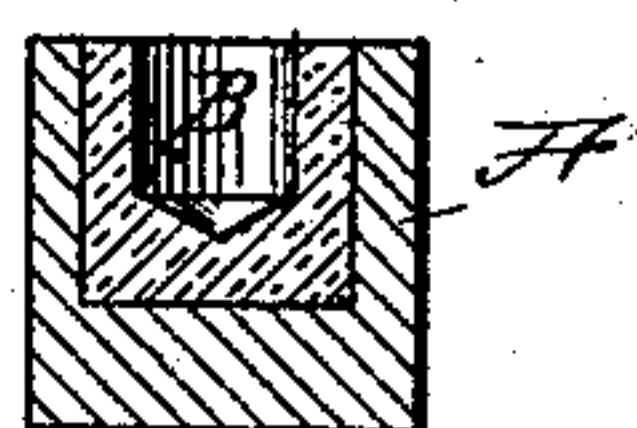


Fig. 5.

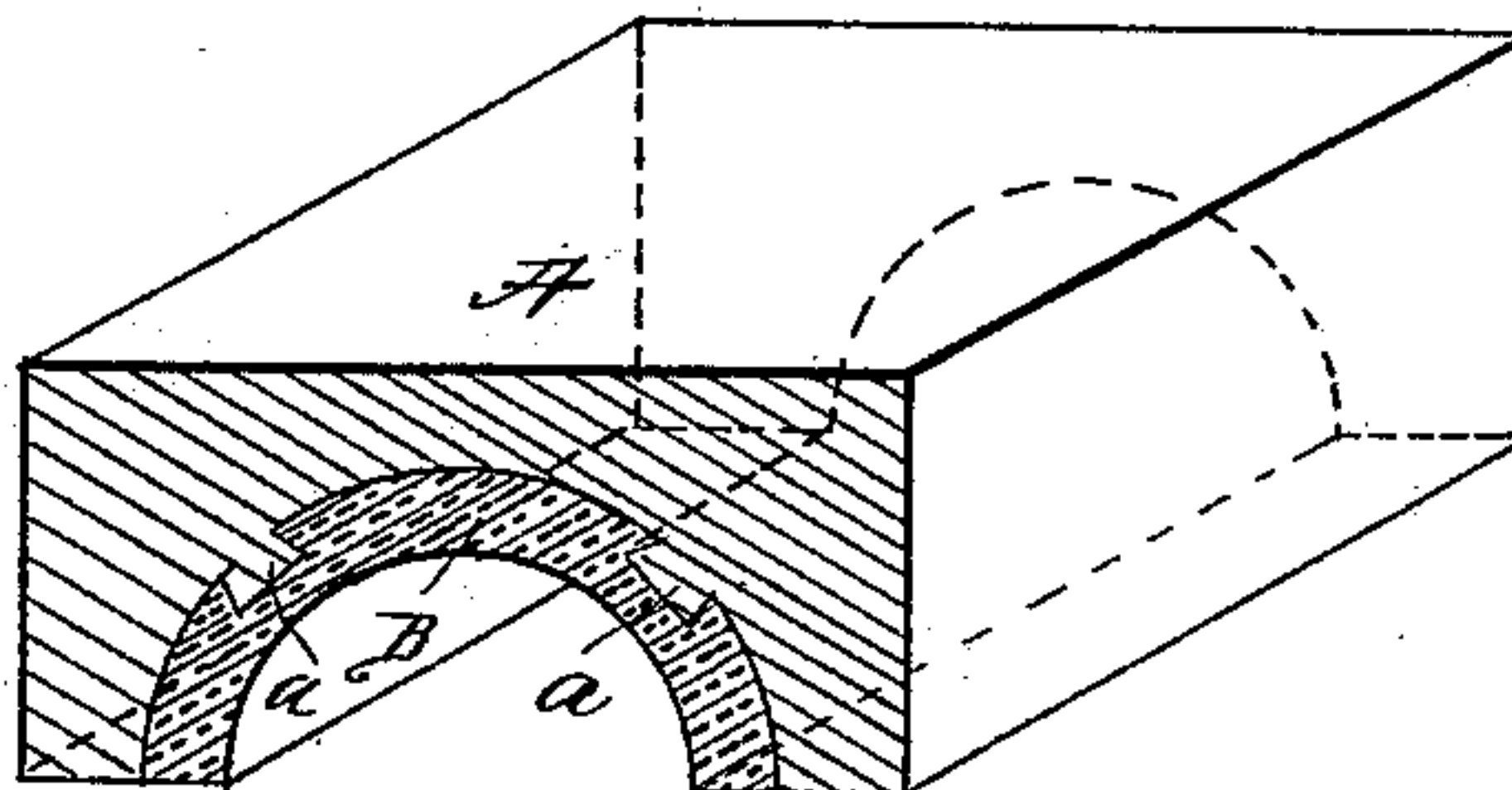
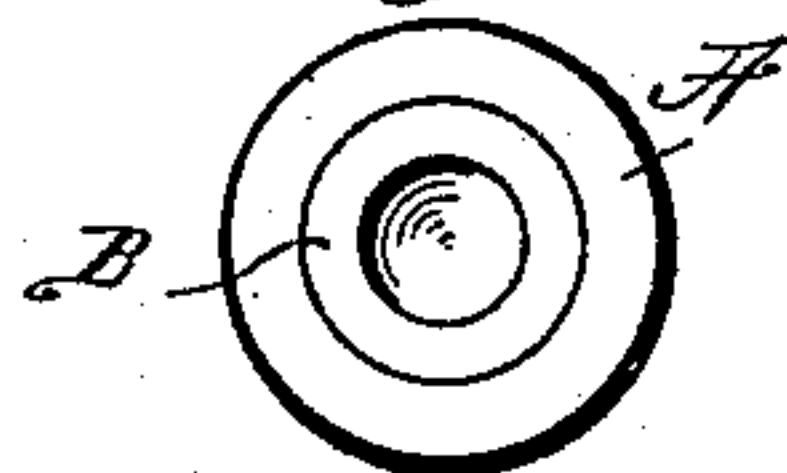


Fig. 3.



Witnesses

Wm. S. Bellows
Eugene T. Randolph

Inventor

Maxton Randolph

UNITED STATES PATENT OFFICE.

MAHLON RANDOLPH, OF NEW YORK, N. Y., ASSIGNOR TO THE RANDOLPH MANUFACTURING COMPANY.

JOURNAL-BEARING.

SPECIFICATION forming part of Letters Patent No. 349,057, dated September 14, 1886.

Application filed March 26, 1886. Serial No. 196,673. (No model.)

To all whom it may concern:

Be it known that I, MAHLON RANDOLPH, of the city, county, and State of New York, have invented a new and useful Improvement in Journal-Bearings; and I hereby declare the following to be a full and clear description thereof.

This invention relates to that class of journal or other bearings for any form of moving machinery in which the bearing proper is formed of an anti-friction compound the use of which, while it forms a sufficiently hard and durable bearing, obviates the necessity of using any lubricant to reduce the frictional resistance to the moving parts.

The invention will be readily understood by the subjoined specification, and by reference to the accompanying drawings, of which—

Figure 1 is a sectional elevation of the collar-bearing of a mill-spindle. Fig. 2 is a sectional elevation of the step of a mill-spindle. Fig. 3 is a plan view of the collar-bearing of a mill-spindle. Fig. 4 is an elevation of a pillow-block. Fig. 5 is an isometrical perspective view of a railway journal-bearing or similar structure.

In each of these bearings, or in any others adapted to carrying, sustaining, or guiding the moving parts of any form of machinery, the bearing is formed of a retaining-case, A, usually of metallic construction, and a bearing or wearing seat, B, which is formed of my improved anti-friction compound, as described below. In most cases the shell A, whether it be a spindle-collar or step-piece, a pillow-block or bearing, built in one or more pieces, or a simple journal-bearing, or any similar structure, is simply a metallic housing formed into the shape required, and adapted to receive and hold the bearing material B simply by frictional contact, or the cohesion produced between the parts A and B by pressing the latter while in a plastic state into the seat prepared for it in the former. In some cases, however, this

simple contact between the parts is inadequate to the purpose of holding them together, and in such cases I form one or more locking-pieces, *a*, on the contacting-surface of the matrix-piece A, the said locking-piece *a* in each case being formed so as to lock and hold the material B tightly up to A, as shown by the dovetailed form in Figs. 4 and 5.

The anti-friction compound is formed of any suitable pulp or fiber. Paper-pulp or wood fiber are best adapted to the purpose, though mineral fiber may be used, or even animal hair or wool for some uses, and mixed with this pulp or fiber I add as much finely-powdered plumbago as is desired to form a perfect and permanent lubricant of the mass, and then add as much albumen (preferably egg-albumen) as is required to thoroughly and firmly cement and hold the mass together after it shall have become dry. For the purpose of keeping bearings thus formed perfectly cool under all and any circumstances I add to the mixture, as above described, a small quantity—say about ten per cent.—of powdered sulphur.

In preparing the compound I mix the ingredients thoroughly together, using for this purpose a suitable mixing-mill, and after the compound shall have been thoroughly incorporated press it into molds or forms suitable for use, and after this thoroughly dry and harden.

Having described my invention, I claim—

An anti-friction journal-bearing compound formed of any suitable fiber mixed with plumbago as a permanent lubricant, and an adhering or cementing material, such as albumen, in combination with powdered sulphur, substantially as described.

MAHLON RANDOLPH.

Witnesses:

J. A. J. NEAFIE,
EUGENE H. L. RANDOLPH.