

No. 882,037.

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S. P. WETHERILL, JR. & J. P. WETHERILL, JR.

FLY WHEEL.

APPLICATION FILED SEPT. 11, 1906.

Fig. 1.

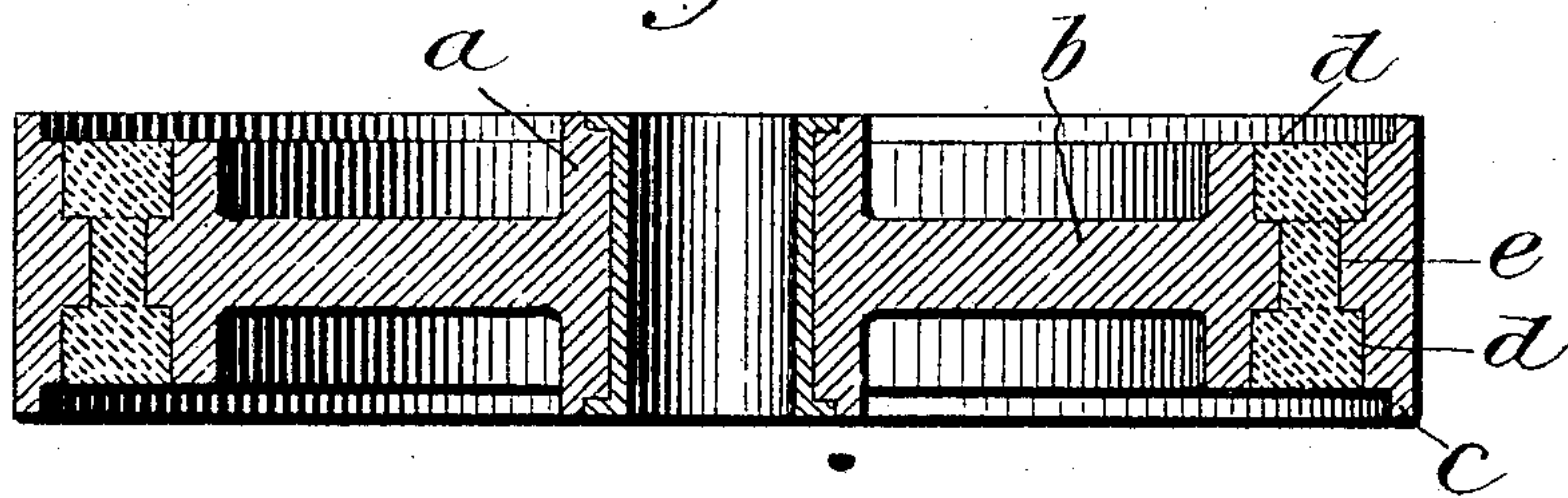
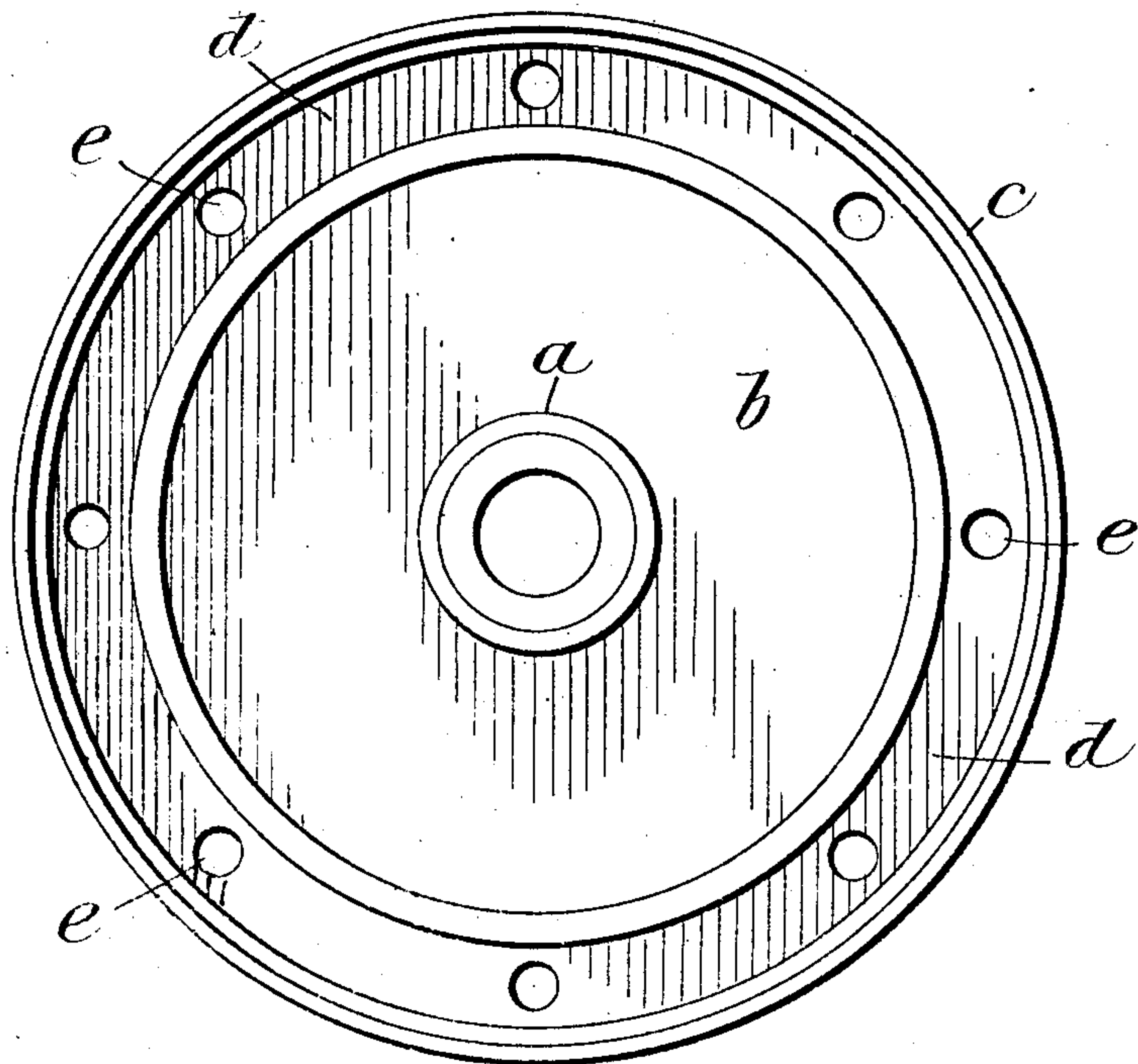


Fig. 2.



Witnesses

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FLY-WHEEL.

No. 882,037.

Specification of Letters Patent.

Patented March 17, 1908.

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To all whom it may concern:

Be it known that we, SAMUEL PRICE WETHERILL, Jr., and JOHN PRICE WETHERILL, Jr., citizens of the United States, both residing at Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Fly-Wheels; and we 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.

Briefly stated, our invention consists in forming a fly wheel of a light metal having the requisite tensile strength and which makes a clean casting, (such as an aluminium alloy) loading the same near its periphery with a filling of a heavy metal, such as lead, run into channels in the wheel, and providing the wheel with a sleeve of hard metal, such as steel, as a bushing; it further consists in anchoring the heavy metal securely to the light metal casting by causing it to pass through transverse holes in the light metal.

Referring to the drawings, Figure 1 is a cross sectional view of a wheel, made in accordance with our invention, and Fig. 2 is a plan view of such a wheel before the heavy metal has been added.

The casting, which is preferably made of an aluminium alloy which gives a sharp casting, is formed with a hub *a*, a web *b* and a rim *c*. Adjacent the outer rim *c* are provided channels *d* on opposite faces of the wheel and these channels are united at intervals by transverse holes *e*. A heavy metal, preferably lead, is run into these channels to fill them and the connecting holes, the lead being thus anchored to the casting. The heavy metal may fill the channels completely or to any desired extent thus rendering it possible to vary the weight of wheels made on the same pattern.

In order to provide a suitable bushing, a hard metal, preferably steel, is placed in the opening through the hub and the ends of the sleeve are upset into recesses in the ends of

the hub provided for that purpose. In this manner, we are able to provide at small expense a fly wheel, the hub, web and rim of which are made of a single piece of metal which is easily cast and which at the same time has a bushing of a suitable hard metal, and also has sufficient weight to give it the desired inertia. Moreover, from a single pattern, wheels may thus be made which may be varied in weight within wide limits.

What we claim is:

1. A fly wheel, formed of a light metal alloy which is readily cast, and weighted with a heavy metal, occupying cavities in the light metal, said fly wheel having a hard metal bushing, substantially as described.

2. A fly wheel, composed of a light metal alloy which is readily cast and provided with channels on its opposite faces near its outer rim, said channels being united by transverse holes, and a metallic body occupying the said channels and transverse holes to add weight at the periphery of the wheel, substantially as described.

3. A fly wheel composed of an aluminium alloy, and provided with channels on opposite faces of its rim, said channels being connected by transverse holes, and a body of lead occupying the said channels and transverse holes to add weight at the periphery of the wheel, substantially as described.

4. A fly wheel composed of an aluminium alloy and provided with channels on its opposite faces near its outer rim, said channels being connected by transverse holes, a filling of lead occupying the said channels and holes, and a bushing of steel in the hub, substantially as described.

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

SAMUEL PRICE WETHERILL, JR.

JOHN PRICE WETHERILL, JR.

Witnesses:

JOHN O. LOFGREEN,

M. GETZ.