

# HENRY L. FARR

Sectional Fly-Wheel

PATENTED FEB 8 1870

99659

Fig: 2.

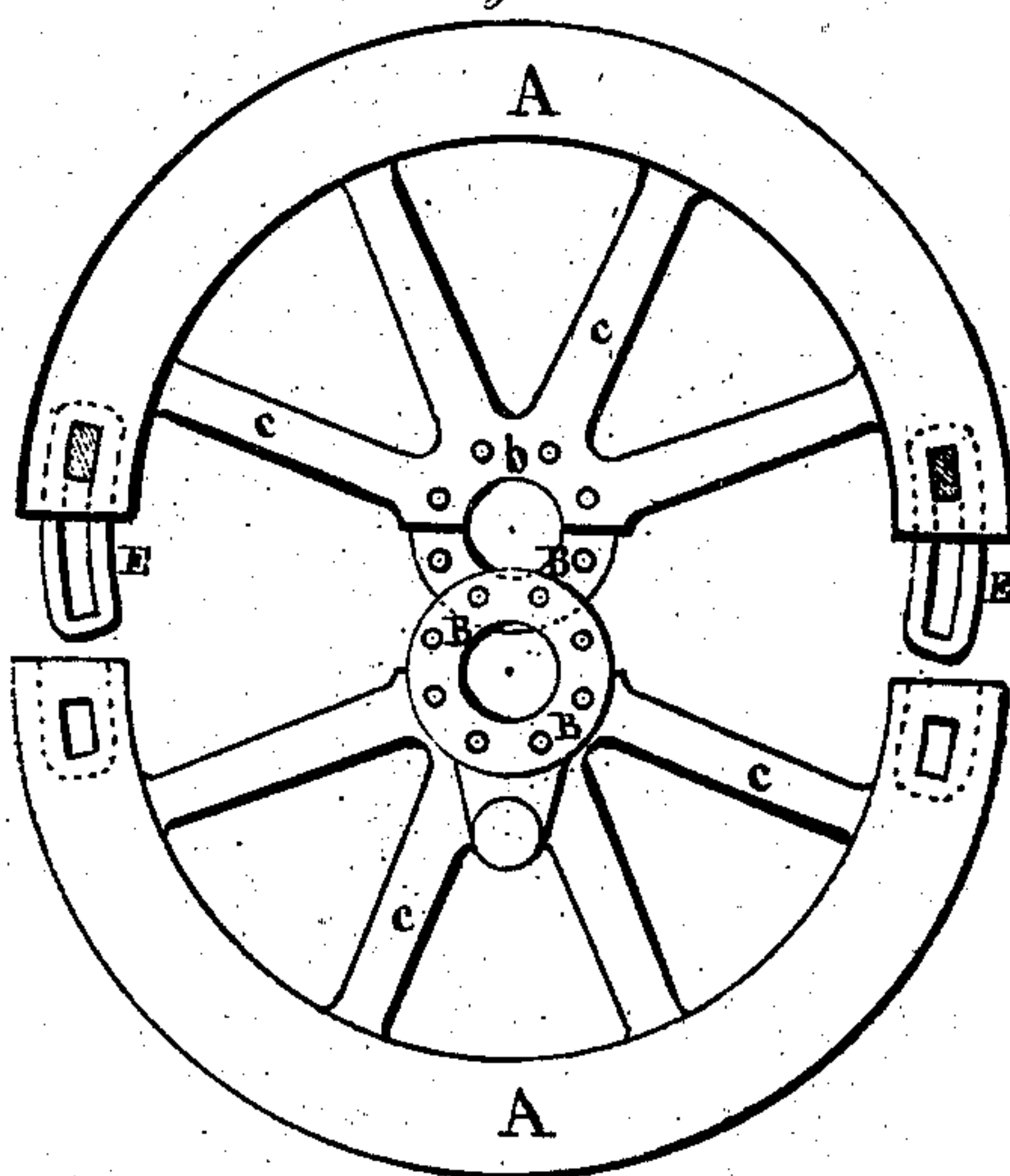


Fig: 1

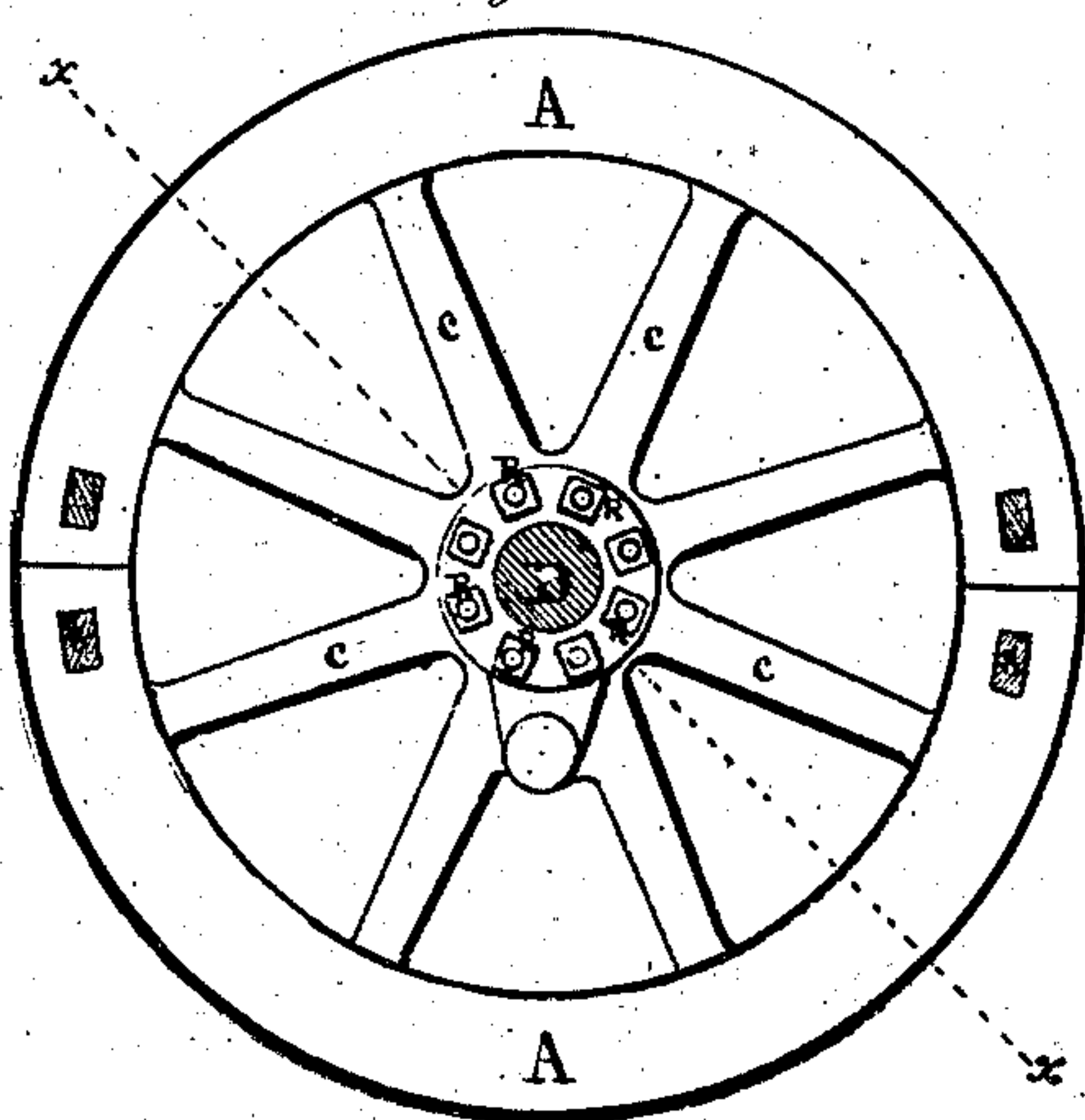


Fig: 5.

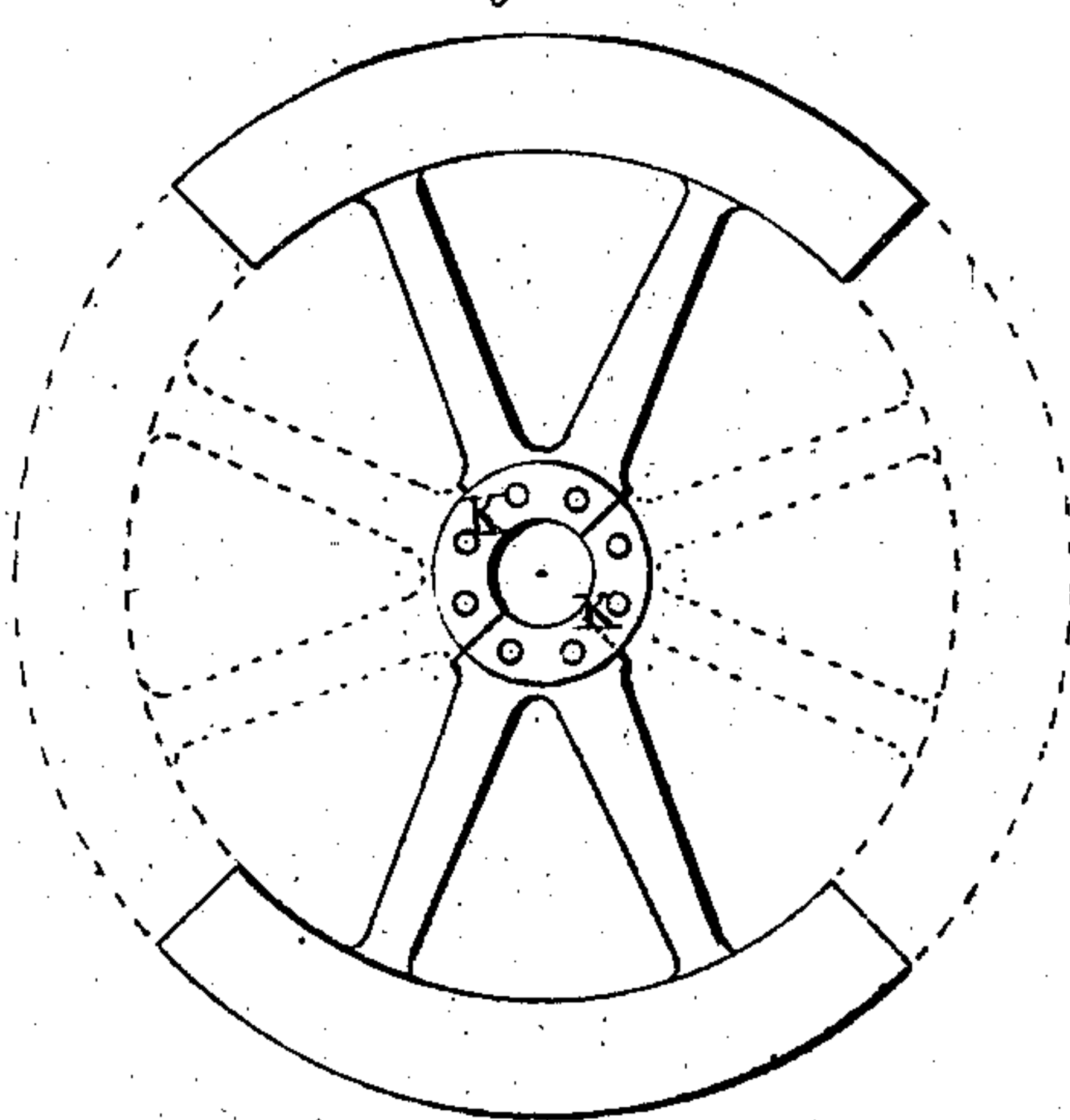


Fig: 4.

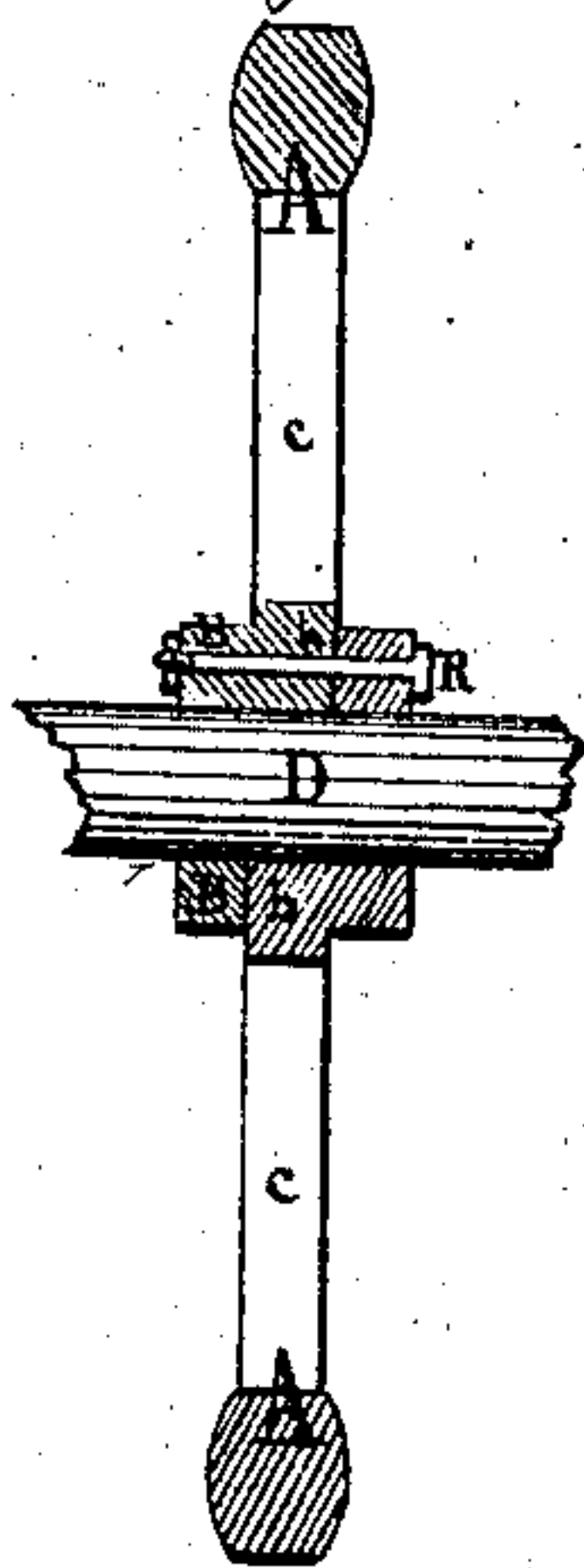
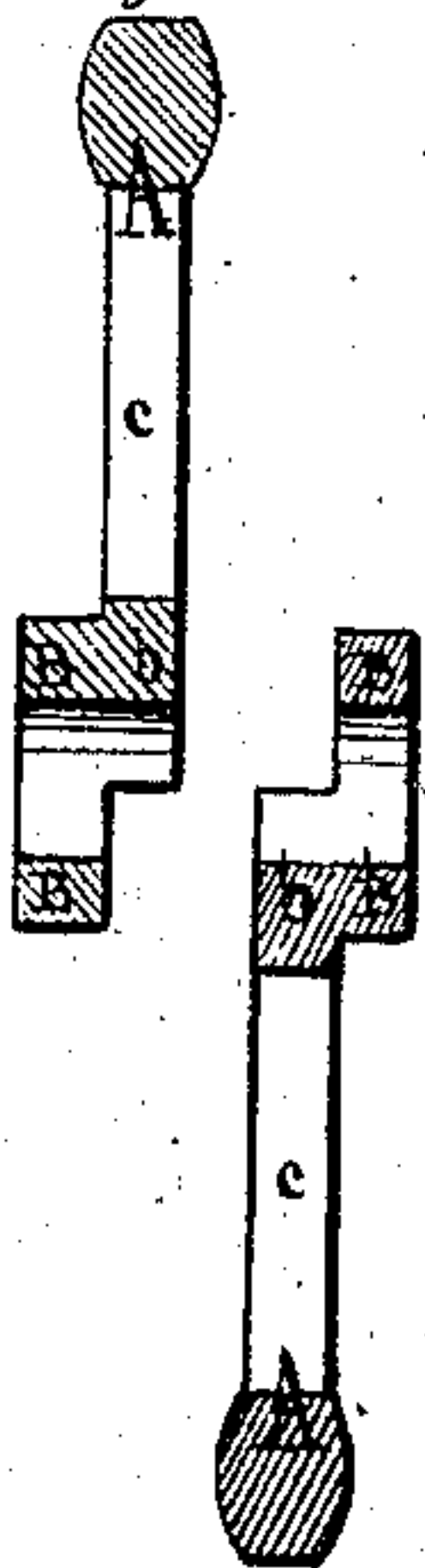


Fig: 3.



Witnesses  
H. H. Young  
Merritt W. Griswold

Henry L. Farr  
Inventor  
By David A. Burr  
Atty



# United States Patent Office.

HENRY L. FARR, OF INDIANAPOLIS, INDIANA, ASSIGNOR TO C. A. GREEN-  
LEAF, J. L. MOTHERSHEAD, AND EDWIN J. PECK, OF SAME PLACE.

Letters Patent No. 99,659, dated February 8, 1870.

## IMPROVEMENT IN SECTIONAL FLY-WHEELS.

The Schedule referred to in these Letters Patent and making part of the same.

I, HENRY L. FARR, of Indianapolis, in the county of Marion, and State of Indiana, have invented an Improved Sectional Fly-Wheel, of which the following is a specification.

My invention relates to the construction of a cast-iron fly-wheel or pulley, in two or more radial sections, forming sectors, united at the rim in the usual manner, by keys and stirrups, or by overlapping joints, and centrally by a transverse splice through the hub, produced by means of opposite projections, either of a circular or annular form, to embrace the shaft completely where the wheel is in two parts, or in the form of sectors, to embrace it partially, where there are more than two divisions, these projections being made each to overlap and cover the adjacent central portion of the next division of the wheel, and be secured by means of bolts passing transversely through the same.

The object of my invention is to produce a fly-wheel which may be cast in sections, and readily put together or taken apart for facility in transportation, and in which the damaging strain on the metal, caused by shrinkage in cooling a large casting, is greatly reduced.

In the accompanying drawings—

Figure 1 is an elevation of my wheel, made in two divisions, united and complete.

Figure 2, the same, with its divisions separated.

Figure 3, a view in transverse section, of the two divisions separated.

Figure 4, a similar section, through the line  $xx$  of fig. 1, illustrating the same united on the shaft.

Figure 5, an elevation of two sections of a wheel, made in four divisions, when they are properly brought together, the remaining two sections being illustrated by dotted lines, representing them properly placed and secured, to complete the wheel.

A A are the divisions of my improved fly-wheel, made in two parts;

b b, (fig. 3,) being the divisions or halves of its central plate or hub;

c c, its spokes; and

D, (figs. 1 and 4,) the shaft upon which it is secured.

The faces of the two joints or divisions in the rim of the wheel are recessed or mortised on one side, to receive each a tongue or link, E, secured or formed so as to project from the opposite face of the joint, and which is caught and held in the mortise when the joints are properly closed by a transverse key or pin, s, fig. 1.

The two divisions b b, of the central plate or hub of

the wheel, are each cast with an outer portion, B, formed thereon, exteriorly thereto, in one piece therewith, but extending beyond the same, in a coincident plane, far enough to form an undivided hub or annular bearing for the shaft, continuous with the divided bearing of the division from which it projects, as illustrated in fig. 3.

These exterior portions B B, by their projections, each overlap the central part b of the opposite section of the wheel, when the two sections are united, and a splice is thus formed, through which the shaft passes as a key, and which may be firmly and solidly clamped and secured by bolts R, passing through from side to side, parallel with the shaft, as illustrated in fig. 4.

As a portion of the hub in each section of the wheel completely encircles the shaft, there is but little strain on the transverse bolts, and the wheel is as strong, when united, as if cast in one solid piece.

By withdrawing the bolts R, uniting the divisions of the hub, and the keys s, securing the joints in the rim of the wheel, the two sections are readily separated for transportation.

The joints at the rim, instead of being secured by a mortise and tenon, as illustrated, may be formed to overlap, and form a splice, to be held and secured by transverse bolts.

Where it is desirable to construct the wheel in more than two sections, the projecting portions of the hub-plate on each section are made to form sectors of a circle, embracing the shaft, as illustrated by the positive lines at K K, fig. 5.

In this drawing, the wheel is shown divided into four sections, the sectors K of the hub-plates being, in such case, made to include each half of a circle. With wheels so divided, the splice at the hub is strengthened by separate outer face-plates or rings, through which the transverse fastening-bolts project.

I claim, as my invention—

A fly-wheel or pulley, constructed of two or more sections or radial divisions, combined and united at centre and circumference, substantially as herein described.

Witness my hand to said specification, this 17th day of December, A. D. 1869.

HENRY L. FARR.

Witnesses:

J. L. MOTHERSHEAD,  
ALEX. RARIG.