

J. O'BRYAN.

Flasks for Molding Car-Wheels.

No. 131,115.

Patented Sep. 3, 1872.

FIG 1.

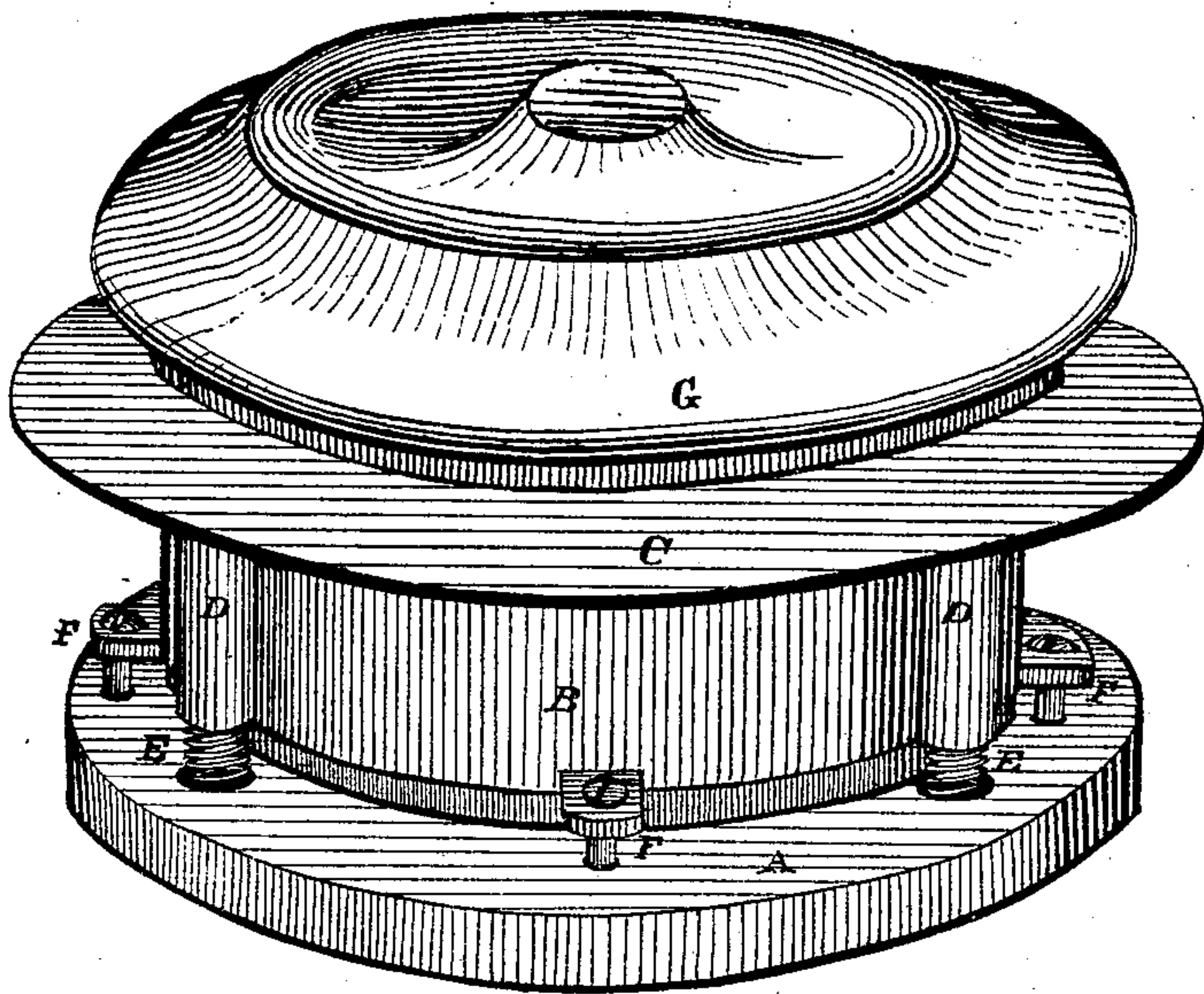
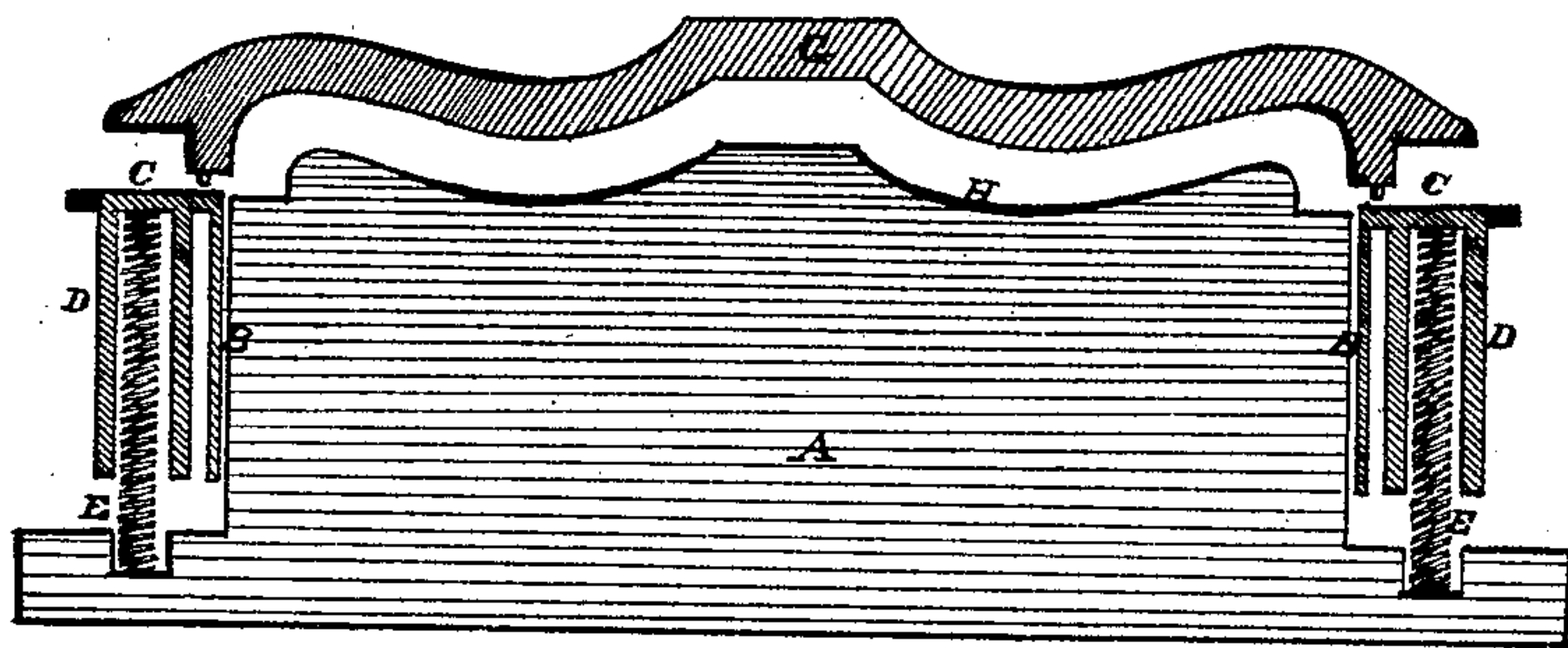


FIG 2.



WITNESSES;

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# UNITED STATES PATENT OFFICE.

JAMES O'BRYAN, OF LOUISVILLE, KENTUCKY.

## IMPROVEMENT IN FLASKS FOR MOLDING CAR-WHEELS.

Specification forming part of Letters Patent No. 131,115, dated September 3, 1872.

Specification describing certain Improvements in Flasks and the manner of Molding Car-Wheels without the use of the ordinary patterns, invented by JAMES O'BRYAN, of the city of Louisville, county of Jefferson and State of Kentucky.

The first part of this invention consists in a round block of wood, corresponding with the size of the wheel to be made, with a wide flange around the lower edge, and the top so turned off as to exactly suit one side of the surface of the wheel to be made. This block is also provided with a metal ring around it, about one-half its depth, and of suitable thickness to give it strength, and so made as to slide up and down over the upper part of the block easily. This ring has a flange, about four inches wide, around the upper edge, and is provided with four cylindrical sockets on the under side of the flange to answer as guides for spiral springs, used to raise the cope or mold when the pressure is taken off. One end of these springs is made to rest on the flange of the block while the other extends up through the sockets against the flange of the ring above. The above-named ring has four strong lugs on the lower edge, with a hole in each, so arranged as to work over pins in the flange of the block to keep the ring in its place as it is pressed down in molding. The second part of my invention relates to the above combination with the cope or mold formed on the top, the edges of which are made to rest on and lap over the ring about three inches, with steady-pins near the edge so arranged as to enter holes in the flange of the block-ring, on which it rests. This last-named cope has a flange projecting from the under side which is made to fit loosely inside of the ring or to rest on the ring, according to the nature of the casting to be made. Within this flange the cope is made to correspond with the shape of the wheel to be made, and may be roughed on the surface in any manner in order to make the sand adhere to it when pressed. The object of this, my invention, is to provide a means by which car-wheels can be molded without the use of the ordinary patterns, by means of which much time and labor are saved, and less space occupied in the process of molding.

Figure 1 is a perspective view of the form

block or flask, showing the spiral springs and lugs on the ring, by means of which it is kept in its place. Fig. 2 is a sectional view, showing the top of the form block or mold and also that of the cope over it.

In the drawing, A is the mold or form block, which consists in a round block of wood, about ten inches in height, with a wide flange around the bottom edge, the top being turned off so as to exactly correspond with the shape of the wheel to be molded. B is a metal ring around it. This ring is made about six inches wide and so arranged as to slip over the top of the form-block easily, and also to answer as a guide for the flange of the cope above. C is the flange of the last-named ring. D D are sockets on the under side of this flange to answer as guides for the spiral springs. E E are the springs, for the purpose of raising the cope and sand from the form after being pressed. F F are lugs on the lower part of the forming, so made as to work over pins in the flange of the block A in order to keep the ring in place. G is the cope of the mold, which may be made either of wood or metal, but sufficiently large to permit the edges to rest on and lap over the ring B about three inches with steady-pins near the edge so as to enter holes in the flange of the ring B to keep it in place while being pressed on the sand. This cope has a flange projecting from the under side, so made as to rest on the edge of the ring B, as shown in the drawing, or to fit loosely within the ring, according to the nature of the casting to be made. This constitutes the outer casing of the mold when pressed; the under side of the cope being made to correspond with the shape of the surface of the wheel to be molded, and may be roughed in any manner to make the sand adhere to it firmly when pressed on it; but I have only thus far described one of the flasks or mold forms used in this invention; but when in practical use another of similar construction will be required, particularly where both sides of the wheel are not alike in form, which will necessitate a separate form on which to mold each part, one of which must embrace the iron chill for the face or tram of the wheels.

Having thus fully described the nature, object, and construction of my invention, its operation is simply that of placing it on a bench

or table under any kind of power-press, after which fill the form with sand; then strike it off in the required shape even with the ring B; then place the cope on it and press it down hard on the sand, which will adhere to it when raised by the springs after the pressure is taken off, when it is removed to the floor and the cope or drag, as the case may be, prepared in a similar manner in another mold-form, if required, and the two or more parts closed together with the iron chill therein, as in ordinary molding, which completes the mold ready for the iron; therefore,

What I claim as new, and desire to secure by Letters Patent, is—

The combination of the form-flask A with the pattern-form H on the top; also the ring B with its flange C, sockets D D, spiral springs E E, lugs F F, and cope G, when arranged, constructed, and operated substantially as and for the purpose hereinbefore set forth.

JAMES O'BRYAN.

Witnesses:

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P. McCANN.