

(No Model.)

2 Sheets—Sheet 1.

C. W. HUSON.
WATER WHEEL.

No. 485,196.

Patented Nov. 1, 1892.

FIG. 1.

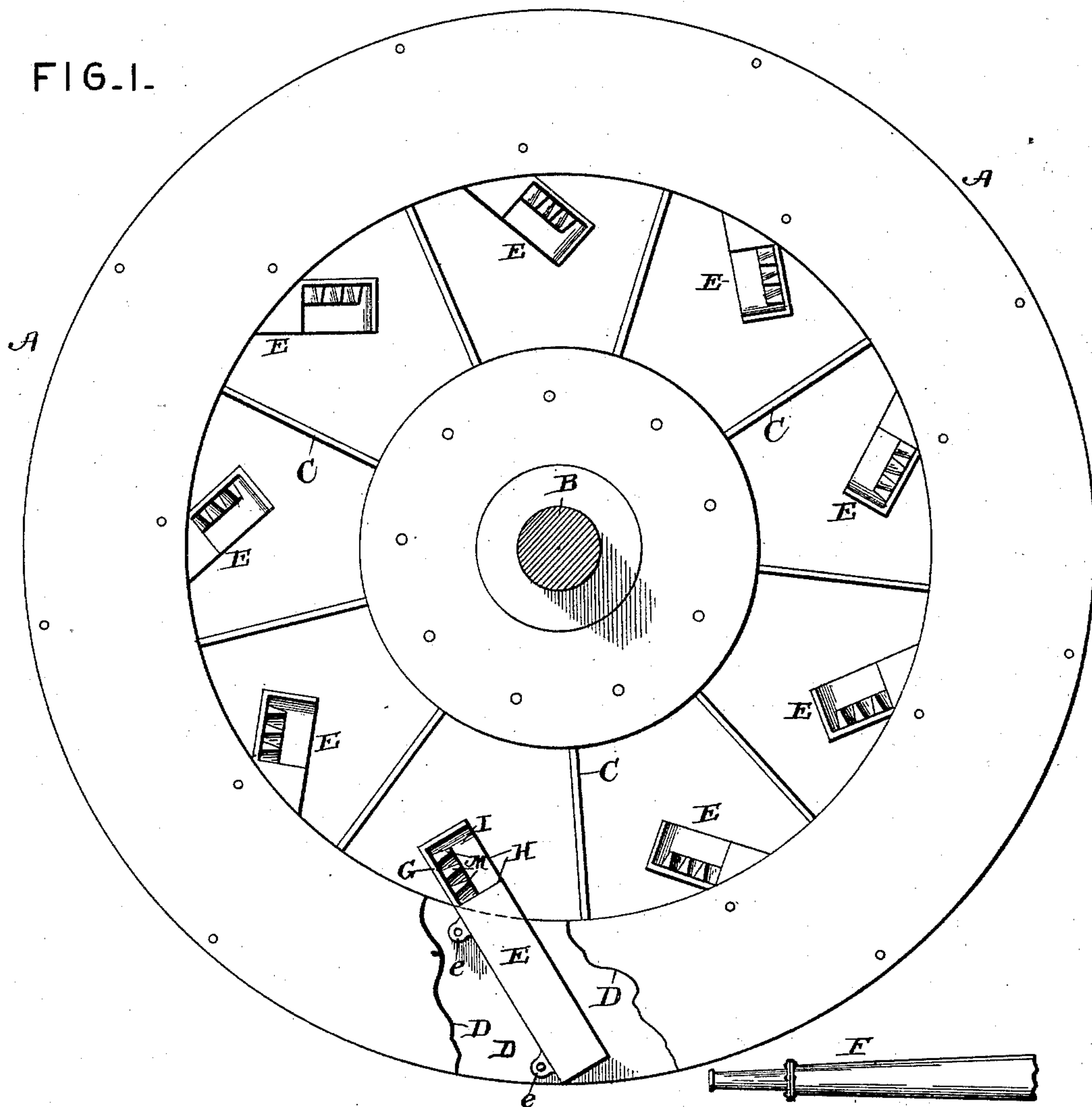
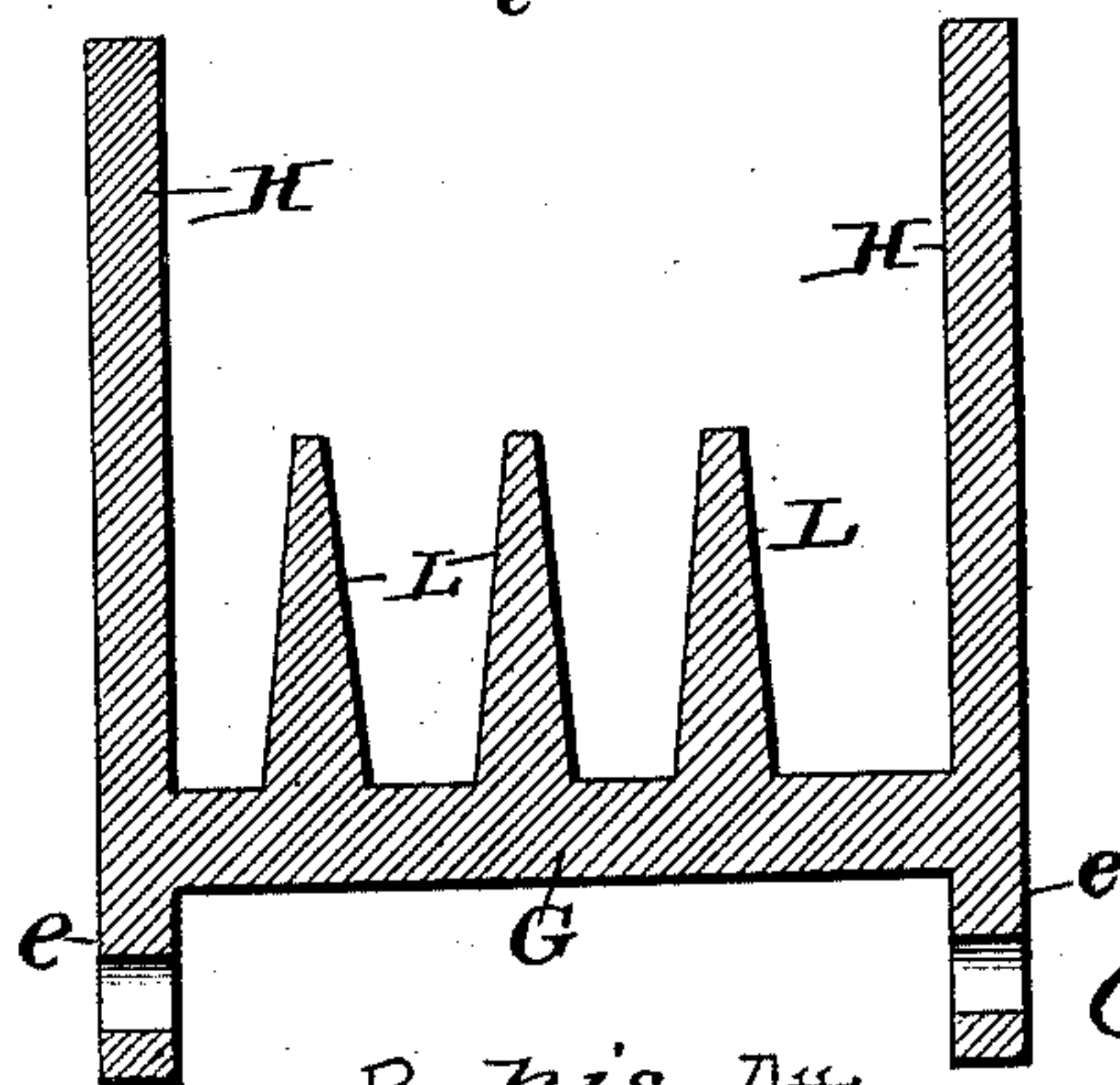


FIG. 3.



Witnesses

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2 Sheets—Sheet 2.

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FIG. 2.

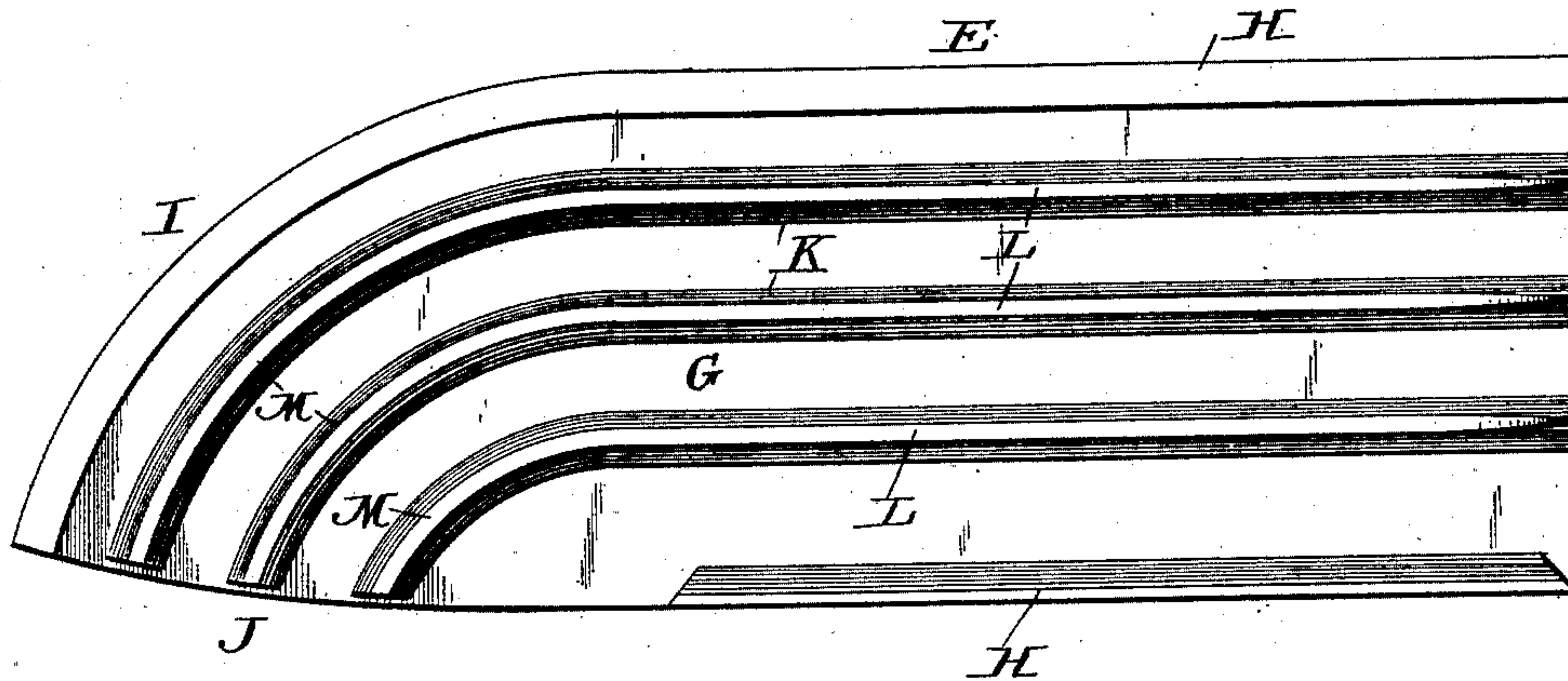
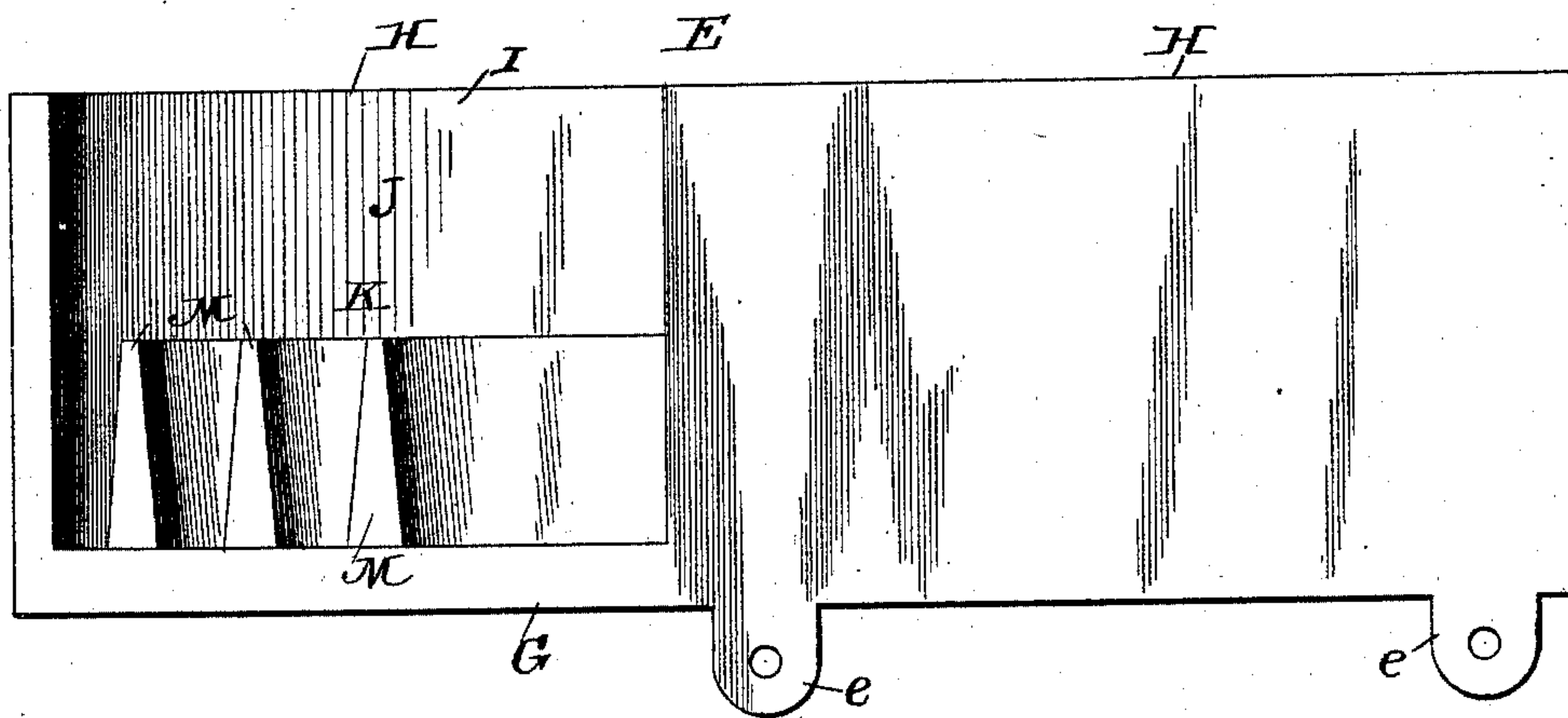


FIG. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

CORNELIUS WEYGANT HUSON, OF NEVADA CITY, CALIFORNIA.

WATER-WHEEL.

SPECIFICATION forming part of Letters Patent No. 485,196, dated November 1, 1892.

Application filed April 16, 1892. Serial No. 429,404. (No model.)

To all whom it may concern:

Be it known that I, CORNELIUS WEYGANT HUSON, a citizen of the United States, residing at Nevada City, in the county of Nevada and State of California, have invented a new and useful Water-Wheel, of which the following is a specification.

This invention relates to water-wheels; and it has for its object to provide an improved water-wheel constructed with specially arranged and constructed buckets which utilize the head of water directed against the wheel to its fullest extent, while at the same time providing for the easy discharge of the dead-water, so that the same will not react upon the wheel and lessen the power, and said buckets are also designed to correct the rotary motion of the water as it leaves the nozzle to convert the same into a direct straight stream, which is thus utilized to its fullest extent.

With these and many other objects in view, which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is a side elevation of a water-wheel constructed in accordance with my invention. Fig. 2 is a detail plan view of one of the buckets. Fig. 3 is a detail cross-section of one of said buckets. Fig. 4 is an enlarged side elevation of one of said buckets.

Referring to the accompanying drawings, A represents the water-wheel mounted upon the drive-shaft B, journaled in suitable supports and in any suitable manner, said water-wheel having the radiating spokes C, to the outer ends of which are clamped the opposite rims D, leaving a space between the same to accommodate the series of buckets E, clamped therebetween. The said buckets E are provided with the depending securing-lugs e, which provide means for clamping the same between the rims of the wheel at an angle of about forty-five degrees to the head of water directed into the lower ends of the same from the nozzle F. The buckets E are provided with the flat bottoms G, set at an incline of about forty-five degrees with respect to the nozzle F when directly opposite the same and

is inclosed by the opposite side walls H. One of the side walls H terminates short of the inner end of the bucket, which projects beyond the inner edges of the rims in the center of the wheel, while the opposite longer wall of the bucket is curved at its inner end, as at I, and forms, with the inner end of the opposite straight wall, an inner lateral discharge-opening J, opening at one side of the wheel and in the center of the same, so as to direct or discharge the utilized water from the wheel at one side and prevent the usual reaction or backlash of dead-water in wheels having the buckets arranged at right angles to the head of water and in with no discharge. Each of the buckets E is further provided with a series of ribs or flanges K, arising from the bottom, parallel with the opposite walls thereof and having the straight portions L extending the greater portion of the length of the bucket and the parallel curved portions M curving parallel with the curved portion I of one wall of the bucket and terminating at the edge of the lateral discharge-opening L. Any number of these ribs may be employed, as the exigency of the case may demand, and it will be observed that the same form a series of separate passages for the travel of the water from the outer end of the bucket up to its lateral discharge-opening. A greater surface is presented to the water by the construction of the bucket herein described, and by having the head of water strike centrally at the lower ends of the several passages the same is separated and passes into the said passages, so that any rotary motion which the water might have on coming from the nozzle is corrected and the full force of the same is utilized in its one forward motion. By the angle disposition of the buckets it will be seen that the water has more opportunity to exert the full power of the force with which it is directed into the wheel and that the same will have sufficient energy upon reaching the curving discharging end of the buckets to be thrown clear of the wheel at the center, thus keeping the dead-water from reacting on the wheel.

The construction and many advantages of the herein-described water-wheel are now thought to be apparent without further description.

Having thus described my invention, what

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

1. In a water-wheel, the combination, with the inclosing rims, of the flat-bottom buckets 5 clamped between said rims at an angle with the jet or stream and provided with inclosing side walls and inner projecting ends in which is formed a lateral discharge-opening opening 10 on one side of the wheel and in from the rims thereof to direct the water away from the wheel, substantially as set forth.

2. In a water-wheel, the bucket set at an angle to the jet or stream and provided with opposite inclosing walls forming between the 15 inner ends thereof a lateral discharge-opening opening on one side of the wheel from the center thereof and a series of parallel ribs or flanges projecting from the flat bottom of the buckets and extending from their outer ends 20 to said lateral discharge-openings, substantially as set forth.

3. In a water-wheel, the combination, with

the opposite rims, of the buckets clamped between said rims at an angle to the jet or stream 25 and projecting beyond the inner edges of said rims, said buckets being provided with flat bottoms, opposite inclosing side walls, one of said walls terminating short of the inner bucket and the other longer wall having an extended end curved opposite the inner end 30 of said short wall to form an inner lateral discharge-opening, and a series of parallel ribs or flanges arising from the flat bottom parallel with the opposite walls and curved to the edge of said lateral discharge-opening, substantially as set forth. 35

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

CORNELIUS WEYGANT HUSON.

Witnesses:

T. H. CARR,

T. J. ROBINSON.