

No. 606,926.

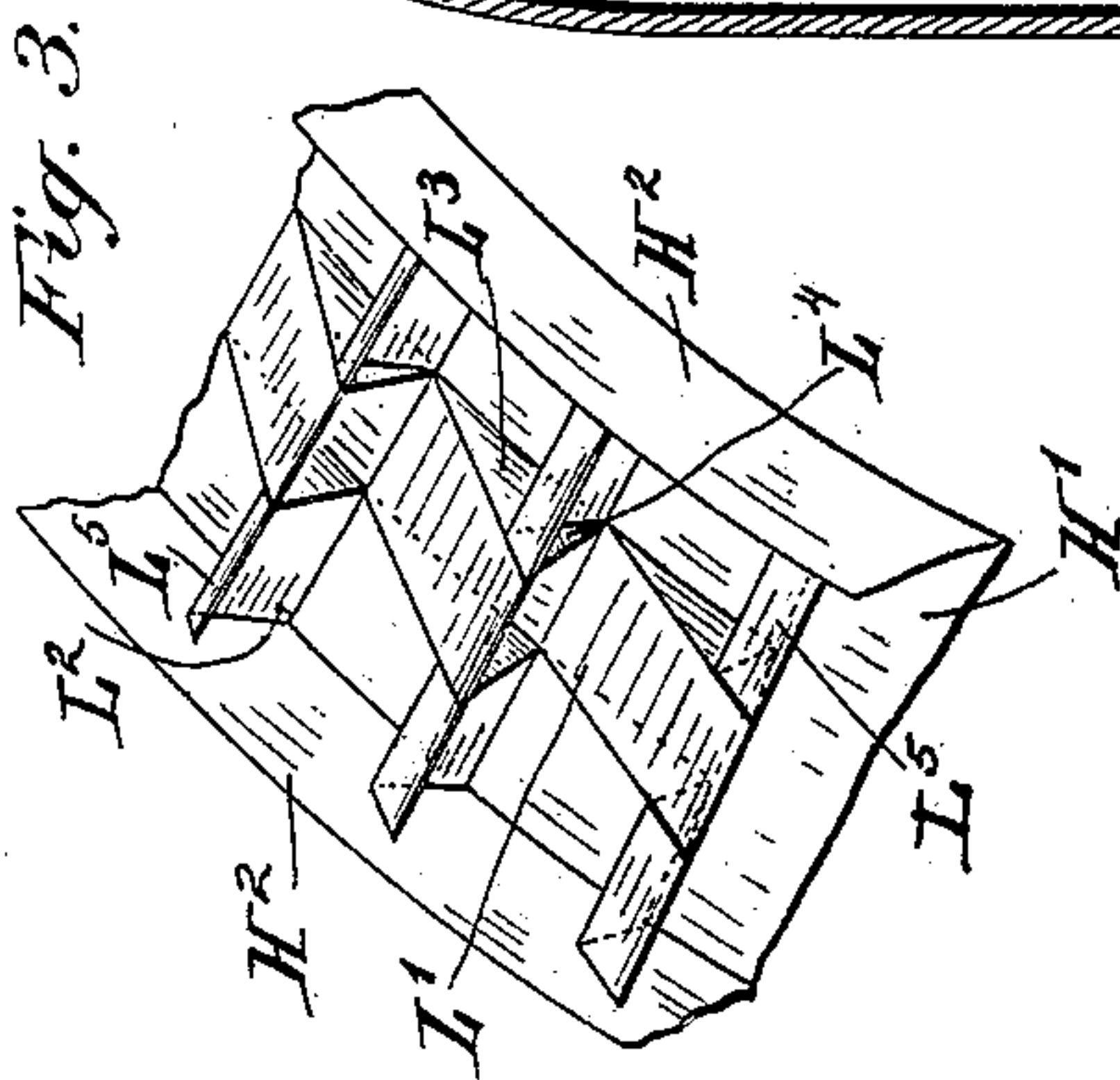
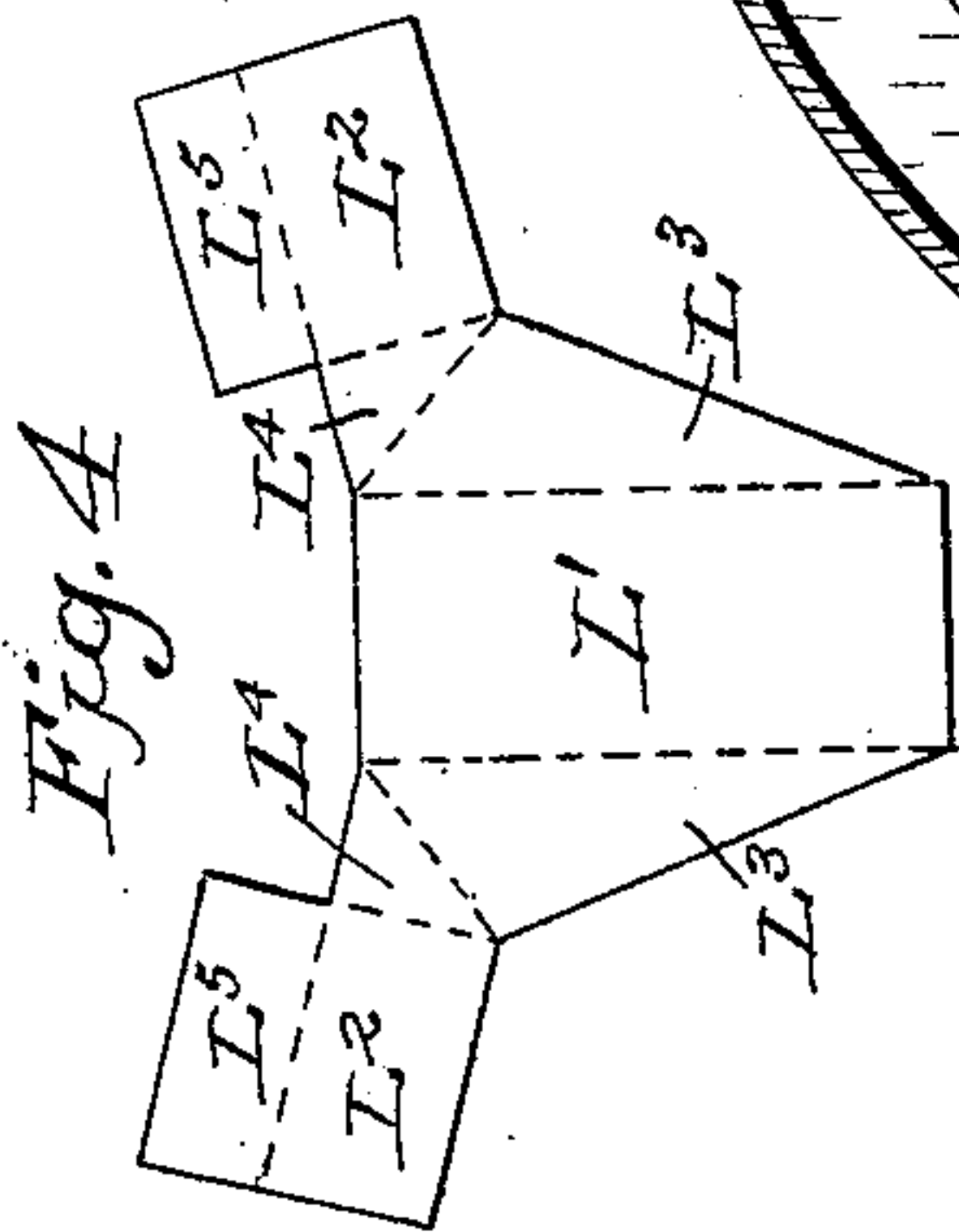
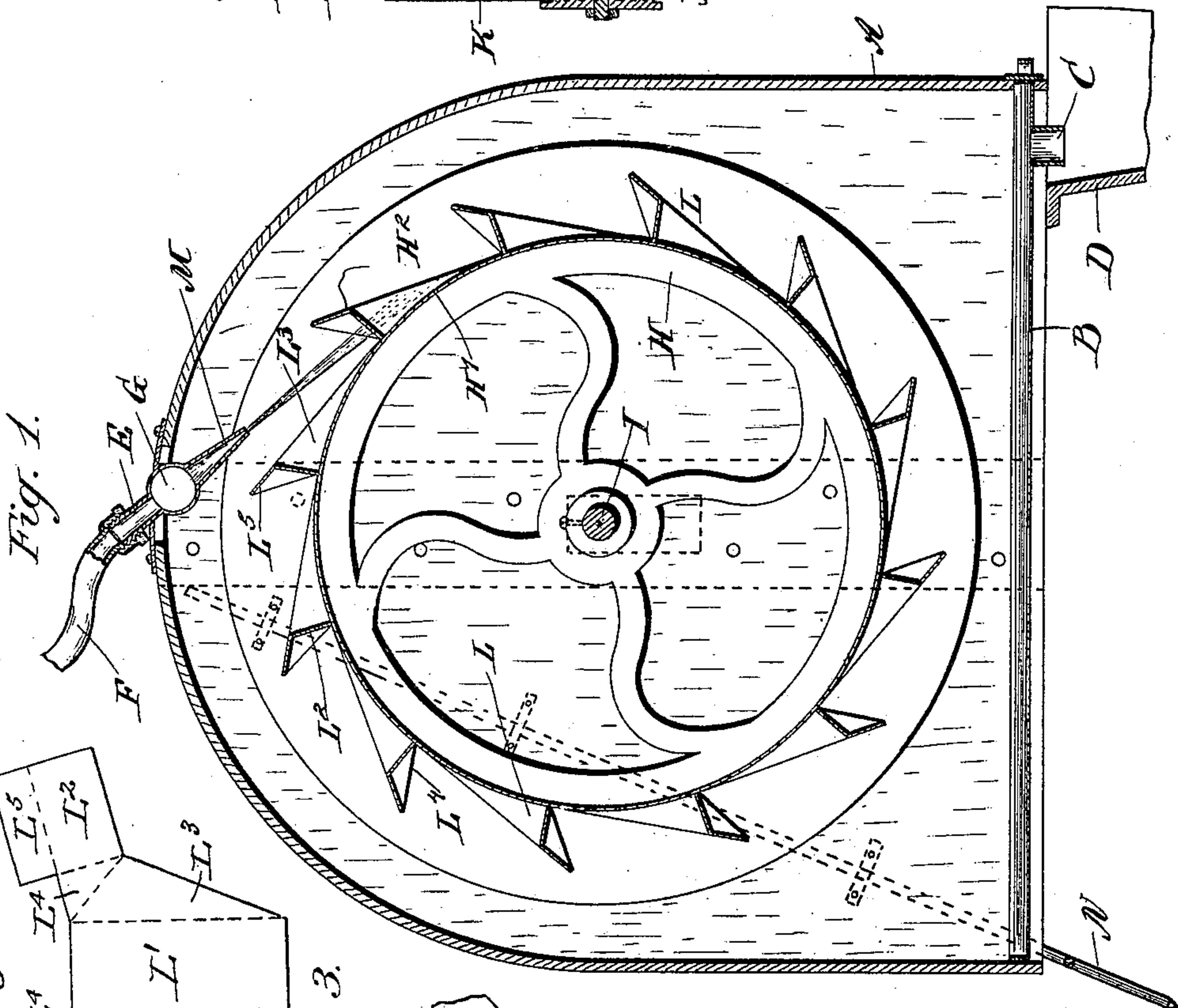
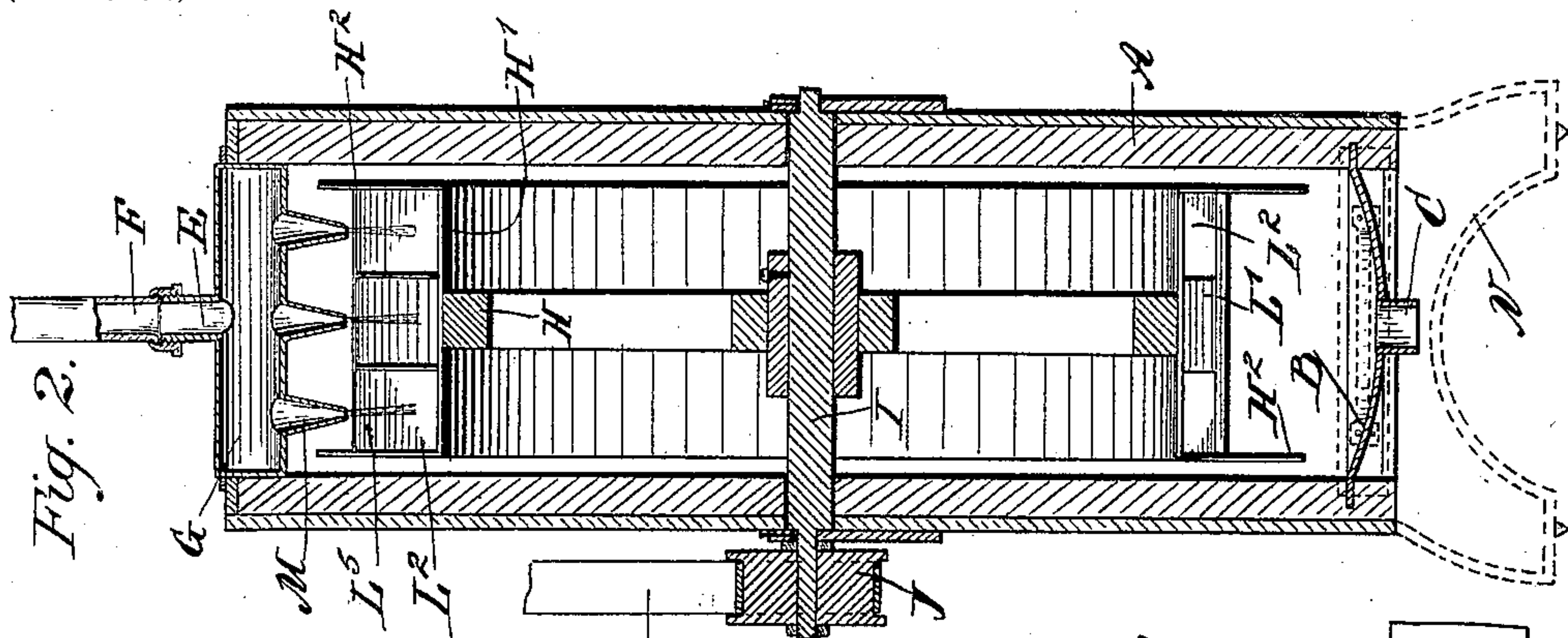
Patented July 5, 1898.

H. W. E. HORST.

MOTOR.

(Application filed Sept. 10, 1897.)

(No Model.)



WITNESSES:

Otto Spieth.

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INVENTOR

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UNITED STATES PATENT OFFICE,

HENRY W. E. HORST, OF ROCK ISLAND, ILLINOIS.

MOTOR.

SPECIFICATION forming part of Letters Patent No. 606,926, dated July 5, 1898.

Application filed September 10, 1897. Serial No. 651,223. (No model.)

To all whom it may concern:

Be it known that I, HENRY W. E. HORST, of Rock Island, in the county of Rock Island and State of Illinois, have invented a new and Improved Motor, of which the following is a full, clear, and exact description.

My invention relates to motors in which a fluid under pressure is thrown from a nozzle or the like against buckets located upon the periphery of a wheel.

The object of my invention is to provide an improved motor of the above-indicated class in which provision is made for discharging the fluid through a plurality of nozzles so arranged as to secure greater power and a more uniform action than with the constructions now used.

Other objects and advantages of my invention will appear from the detailed description following hereinafter. The features of novelty will be pointed out in the claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional elevation of the improvement, taken transversely of the wheel-shaft. Fig. 2 is a sectional elevation taken longitudinally of said shaft. Fig. 3 is a perspective view of a portion of the bucket-wheel, and Fig. 4 is a plan of the blank from which one of the buckets may be formed.

The machine comprises a casing A, rounded at the top and having a bottom B, preferably fitted to slide so as to be readily removable. Said bottom is provided adjacent to one end with an outlet C for the waste water, the object of this arrangement being to enable the machine to be set over a sink, as indicated at D, without taking up much of the sink-surface, so that the sink can be used for ordinary purposes without inconvenience. This construction is of especial advantage when the motor is employed to operate a washing-machine. The bottom B is concaved, as will be seen best in Fig. 2, so as to properly collect the water.

At the top of the casing A is located a pipe or nipple E, adapted for connection with a water-supply tube F. The nipple E is arranged centrally upon a cylinder or receptacle G, extending transversely of the bucket-

wheel H—that is, substantially parallel to the shaft I of said wheel. The shaft I is journaled in the casing A and carries a pulley J, adapted to receive a transmission-belt K, or other mechanism may be employed for transmitting power from said shaft. The bucket-wheel H has a rim substantially U-shaped in cross-section—that is, it comprises a cylindrical body H' and annular flanges H², arranged in radial planes. In the annular trough-like space thus produced are arranged the buckets L. Each bucket is made in three sections and preferably of a single piece of sheet metal. The bucket has an inclined top wall or outer wall L', which in its rear portion is of a width equal to about one-third the distance between the flanges H², while at its front end said wall L' extends from one flange H² to the other. The material is bent downward at the sides of the top wall L', forming the side walls L³ of the central bucket-section. Against the front portions of said side walls are folded the triangular portions L⁴, which form the inner side walls of the lateral bucket-sections. From the rear edges of these side walls extend outwardly the rear walls L² of the lateral bucket-sections, and from the upper edges of said rear walls L² extend forwardly the top walls L⁵ of the lateral bucket-sections. It will be seen that while the lateral bucket-sections are alike the central section is deeper, so that the water strikes it at a point in the rear of the point of impact for the lateral sections. It will be seen that the top walls L⁵ do not extend to the outer edge of the flanges H², the flanges thus projecting far enough to catch any water that may escape from the bucket-sections.

While the bucket-wheel H is shown in the drawings as provided with twelve buckets, in practice said wheel carries about thirty-five buckets. It will be understood, however, that any desired number of buckets may be employed.

It will also be understood that if in practice it is found desirable the wheel H and its buckets may be cast in one piece of metal.

Corresponding to the construction of the bucket in a plurality of sections I provide the receptacle G with a plurality of nozzles M, located, respectively, in the planes of rotation of said series of bucket-sections. It will be

observed, particularly by reference to Fig. 2, that this arrangement applies power not only in the central or median plane of the wheel H, but in two lateral planes also, thereby securing a uniform action and preventing in a large measure lateral twisting strains on the shaft I. Furthermore, as will be understood from Figs. 1 and 3, the maximum of impact is exerted upon the central bucket-section and upon the lateral bucket-sections at different times, so that there is an alternating and consequently a more uniformly-applied propelling action. The power will therefore be utilized to better advantage than if the liquid were discharged in a central jet.

The casing A may be supported in any suitable manner—for instance, by means of an extensible leg N of any approved construction.

I desire it to be understood that various modifications may be made within the scope of the appended claim, thus involving no departure from the spirit of my invention.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The combination of the motor-wheel having a central series of bucket-sections, and lateral series of bucket-sections at each side of the central series, the impact-receiving walls of the said lateral series being in transverse alinement with each other, but out of transverse alinement with those of the central bucket-sections, substantially as described.

HENRY W. E. HORST.

Witnesses:

R. M. PEARCE,

LEON F. ROBINSON.