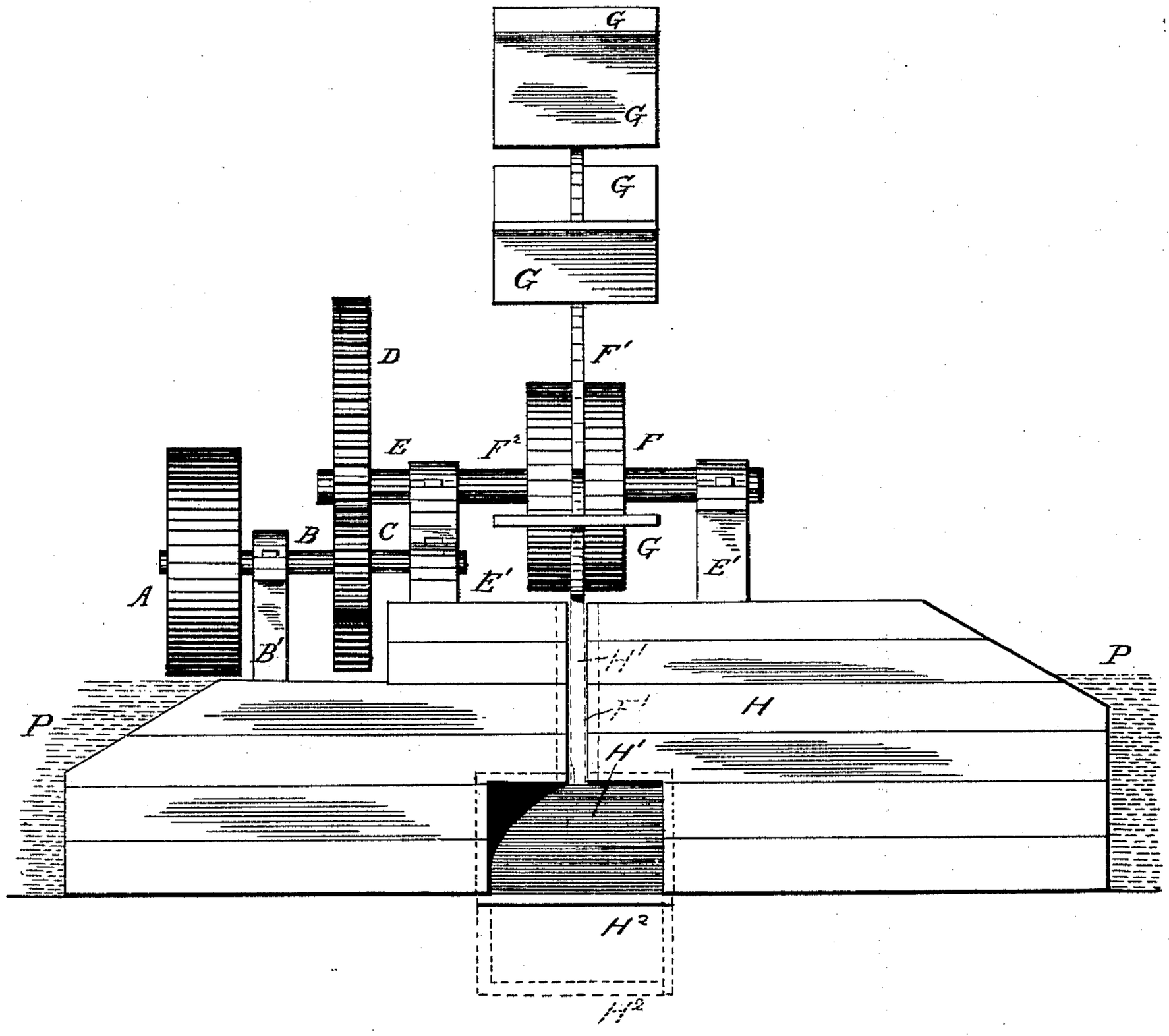
(No Model.) 2 Sheets—Sheet 1.

T. POWELL.

WHEEL PUMP.

No. 468,430. Patented Feb. 9, 1892.

Fig. 1.



Witnesses
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James T. Summerville.

Inventor
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(No Model.) 2 Sheets—Sheet 2.

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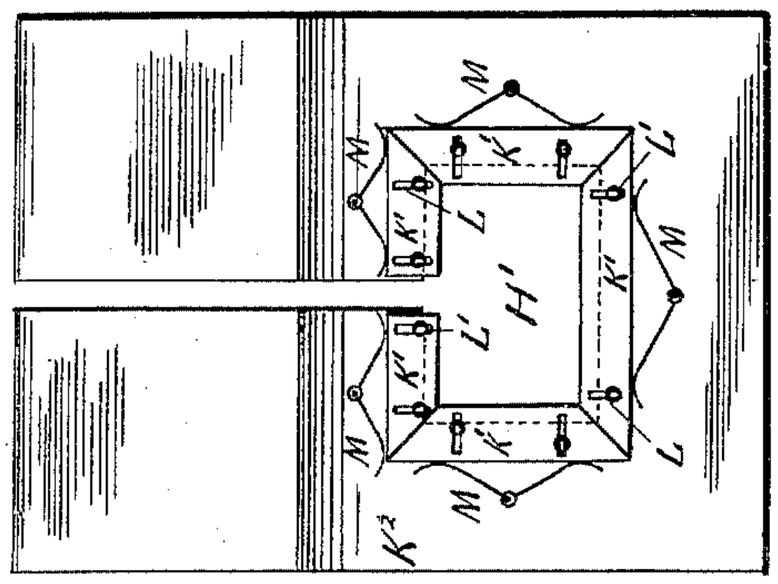

Fig. 3.

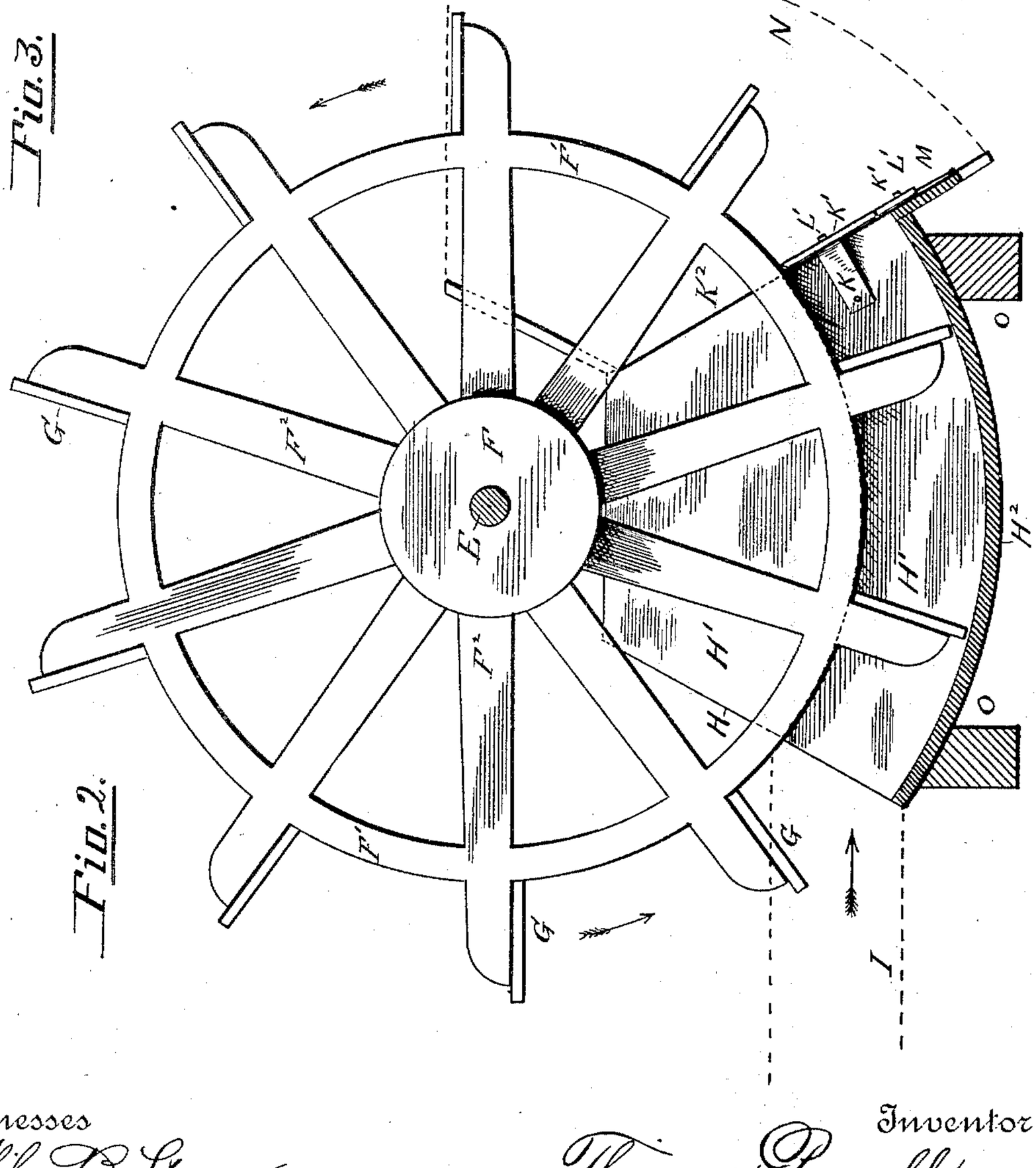

Fig. 2.

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UNITED STATES PATENT OFFICE.

THOMAS POWELL, OF STOCKTON, CALIFORNIA.

WHEEL-PUMP.

SPECIFICATION forming part of Letters Patent No. 468,430, dated February 9, 1892.

Application filed May 28, 1890. Serial No. 394,347. (No model.)

To all whom it may concern:

Be it known that I, THOMAS POWELL, a citizen of the United States, residing at Stockton, in the county of San Joaquin and State of California, have invented certain new and useful Improvements in Wheel-Pumps; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to an improvement in pumping mechanism for freeing leveed land of water, which is the accumulation of seepage, continuous rains, and other causes; and it consists in the combination and arrangement of devices, that will be more fully set forth hereinafter, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a front end elevation with the lower part of the wheel broken out to show the water-way or channel-box through which the water is forced. Fig. 2 is a sectional side elevation. Fig. 3 is a rear view of the channel-box and automatic gateway.

Referring to said drawings by letter, P is the levee separating the reclaimed land from the higher surface of the body of water inclosing same.

H is the front end of a casing protecting the levee, and K is the rear of the same, both being constructed of suitable planking. The levee and the above casing are pierced by a water-way or channel-box H′, having a semicircular bottom H^2 to receive the paddles G of a water-wheel constructed of such paddles and of a hub F, rim F′, and spokes F^2. It is suitably mounted on a shaft E, which has its bearings in boxes on the top of posts E′, which are set in the soil of the levee. The motive power of the wheel may be supplied from any source by suitable connecting belts and gearing.

The channel-box H′ is of the form of an inverted T, the stem allowing the passage of the spokes and rim of the wheel and the water-way proper allowing the passage of the paddles drawing the water from a ditch I, into which it is conducted by the contiguous land.

O O are supporting-posts embedded in the soil of the levee, having attached to them the frame of the channel-box H′, &c.

The paddles G may be so constructed as to "feather" after emerging from the rear of the channel-box H′ and make less resistance when rising through the body of water outside the levee.

The water in the ditch I flows into the channel-box H′ at its front end, and is by the paddles G continuously forced out of the box H′ at its rear end into the body of water outside the levee.

An important desideratum in this class of devices has been to provide a means for preventing the water which is forced out of the channel-box from returning through the same and flowing back within the levee. To accomplish this object, I provide an automatic gateway at the discharge end of the box, which gate is composed of the plates K, connected at their inner ends to the inside of the box H′, adjacent the discharge end thereof. Suitably connected to or formed integral with the outer ends of the plates K are flanges or angular plates K′ provided with slots L, which permit of the respective flanges K′ moving toward and from the center of the channel-box on pins L′, inserted in the ends of the walls of the channel-box. Backing the longitudinal edges of the plates or flanges K′ are strong tension-springs M, which serve to retain the plates or flanges over the outlet of the box H′ when the plates K are not engaged by one of the paddles G.

In practice it is obvious that the paddles G are of such a size that they will travel freely through the channel-box, and as they do not fit the sides of the box tightly they would not prevent water from flowing back through the box when the wheel is stopped.

The automatic gateway at the discharge end of the channel-box operates in conjunction with the wheel-paddles, as follows: When the wheel is to be stopped, it is turned so that one of its paddles will rest against the outside of the gateway, whereby it will serve in conjunction with said gateway to prevent the water from flowing back into the channel-box.

When it is desired to operate the machine

away from the levee, to elevate water for irrigation or other purposes, a suitable-shaped tank can be attached to the casing K^2, and a trough at the top of such tank conveys the water to any desired point. This tank is constructed of such a shape as to permit the passage of the paddles. This feature is shown by dotted lines N and N′ of Fig. 2.

In the practice of my invention I do not limit myself to the precise construction of parts, nor to any details, as it is obvious that such changes or modifications may be made as fairly fall within the scope of my invention.

Having thus described my invention, what I claim is—

1. In a wheel-pump substantially as described, the combination, with the channel-box having a longitudinal slot in its upper side and the revolving water-wheel comprising the hub, the spokes, and the laterally-disposed blades connected to the spokes adjacent the outer ends thereof and adapted to pass through the channel-box, of the plates K, connected at their inner ends to the inner walls of the box adjacent the discharge end thereof, the angular plates or flanges connected to the outer ends of the plates K and having slots to receive guide-pins, and the springs backing the said angular plates or flanges, substantially as and for the purpose set forth.

2. In a wheel-pump, the combination, with the channel-box, of the revolving water-wheel, the plates K, connected at their inner ends to the inner walls of the channel-box adjacent the discharge end thereof, the angular plates or flanges connected to the outer ends of the plates K, and the springs backing the said angular plates or flanges, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

THOMAS POWELL.

Witnesses:
JOSHUA B. WEBSTER,
JAMES T. SUMMERVILLE.