

(No Model.)

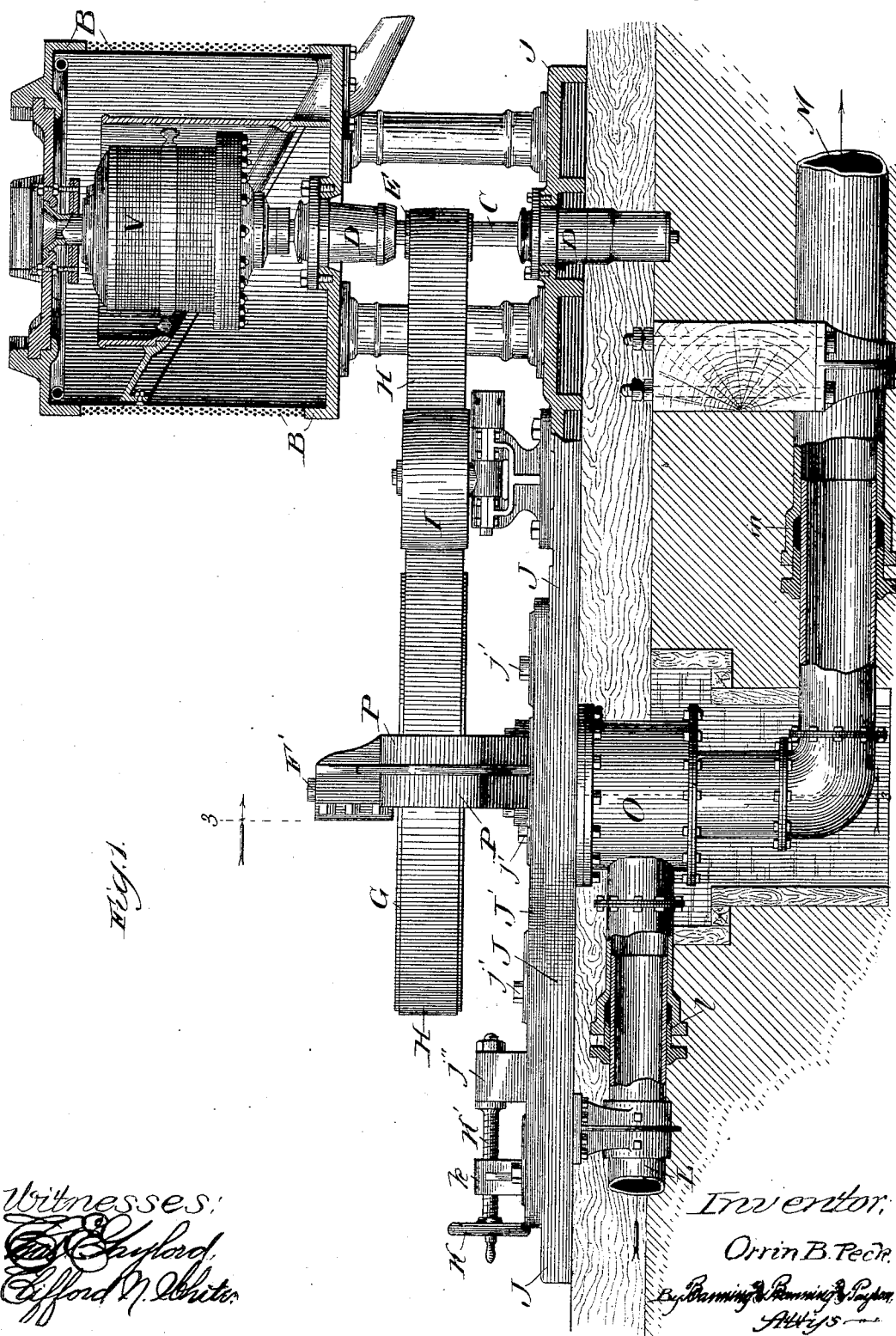
4 Sheets—Sheet 1.

O. B. PECK.

MACHINE FOR CENTRIFUGALLY TREATING MOLTEN MATERIAL.

No. 433,141.

Patented July 29, 1890.



Witnesses:
 E. Chyford,
 Clifford N. White.

Inventor,

Orrin B. Peck

By Banning & Banning & Taylor
Attys.

(No Model.)

4 Sheets—Sheet 2.

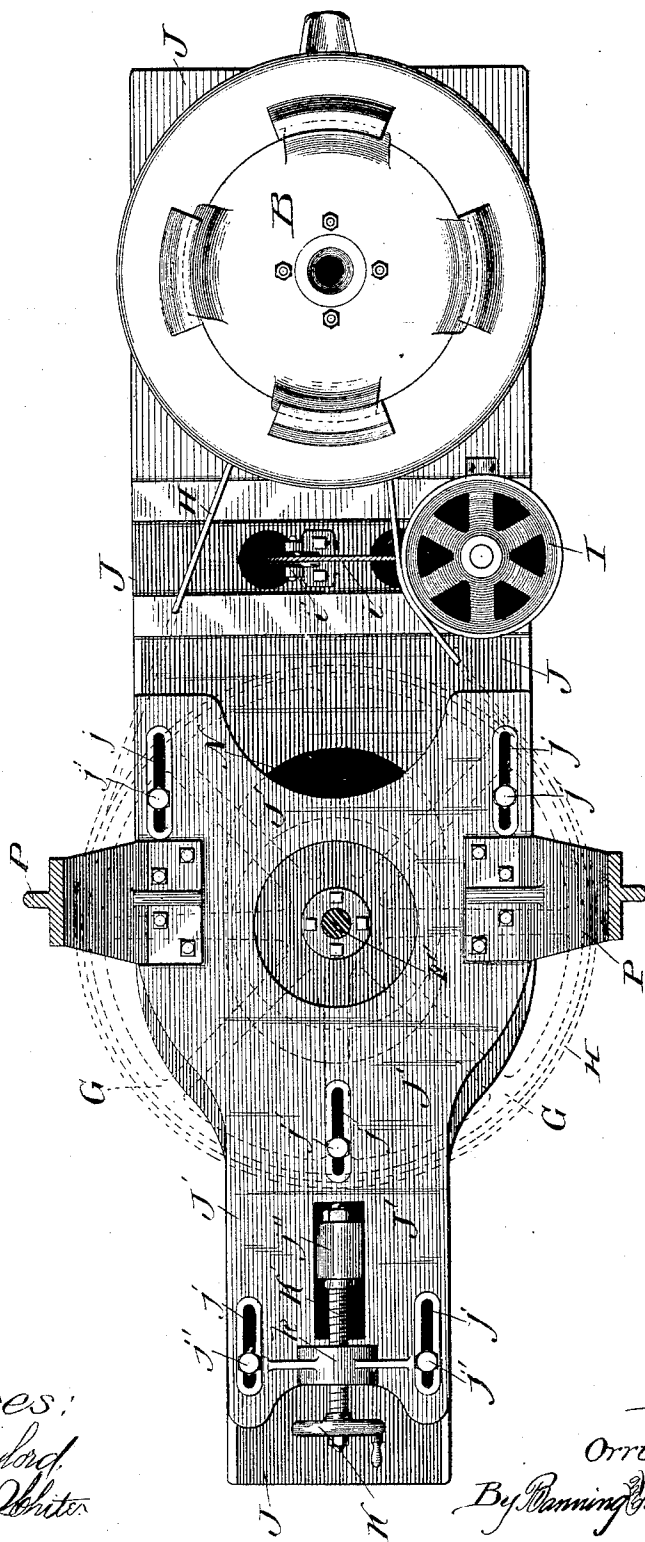
O. B. PECK.

MACHINE FOR CENTRIFUGALLY TREATING MOLTEN MATERIAL.

No. 433,141.

Patented July 29, 1890.

Fig. 2.



Witnesses:
Edw. Gaylord
Clifford C. White

Inventor:
Orrin B. Peck.
By Banning & Banning Payson
Attys

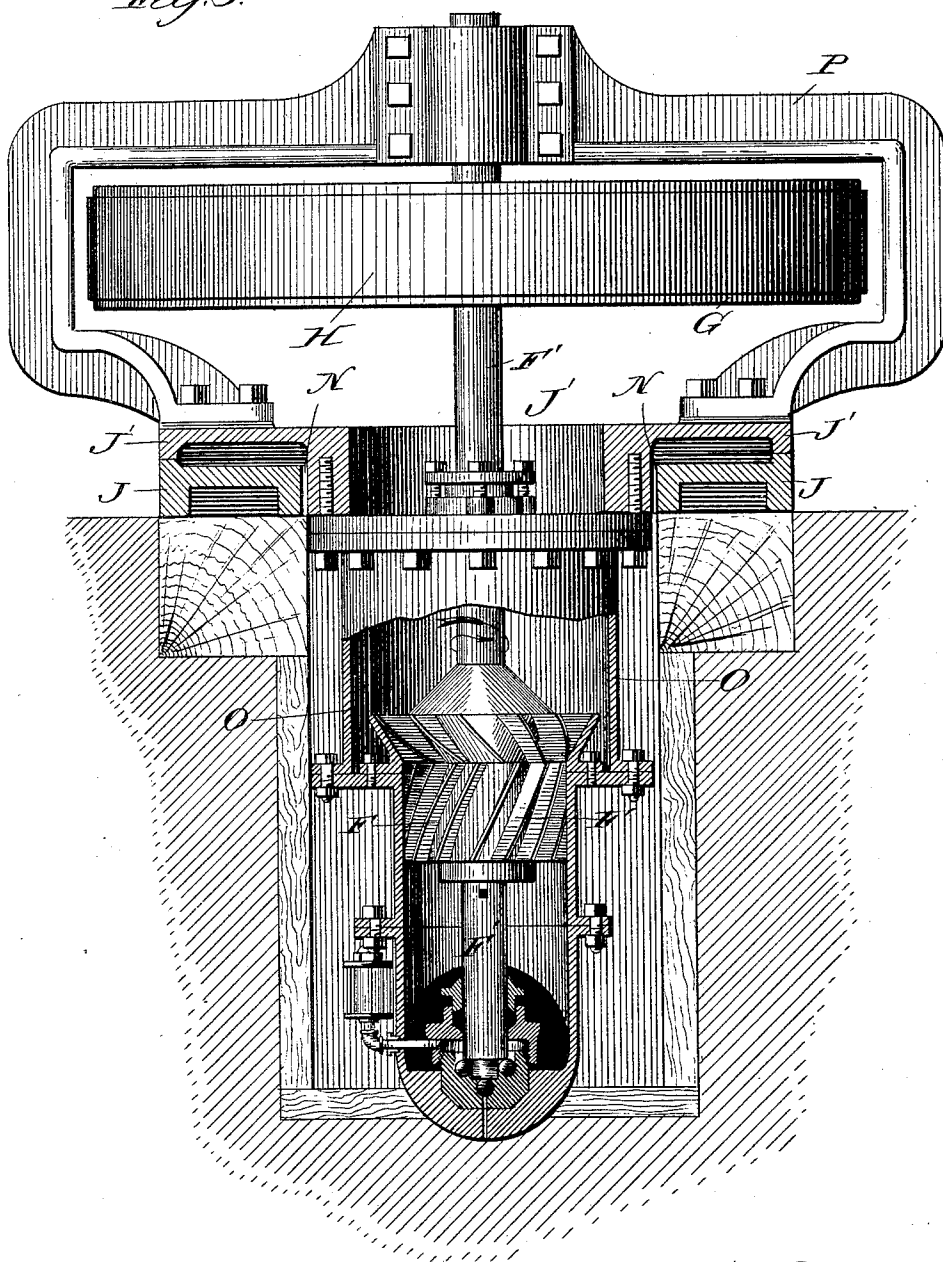
O. B. PECK.

MACHINE FOR CENTRIFUGALLY TREATING MOLTEN MATERIAL.

No. 433,141.

Patented July 29, 1890.

Fig 3.



Witnesses:
Chas. E. Lykes.
Efford N. White.

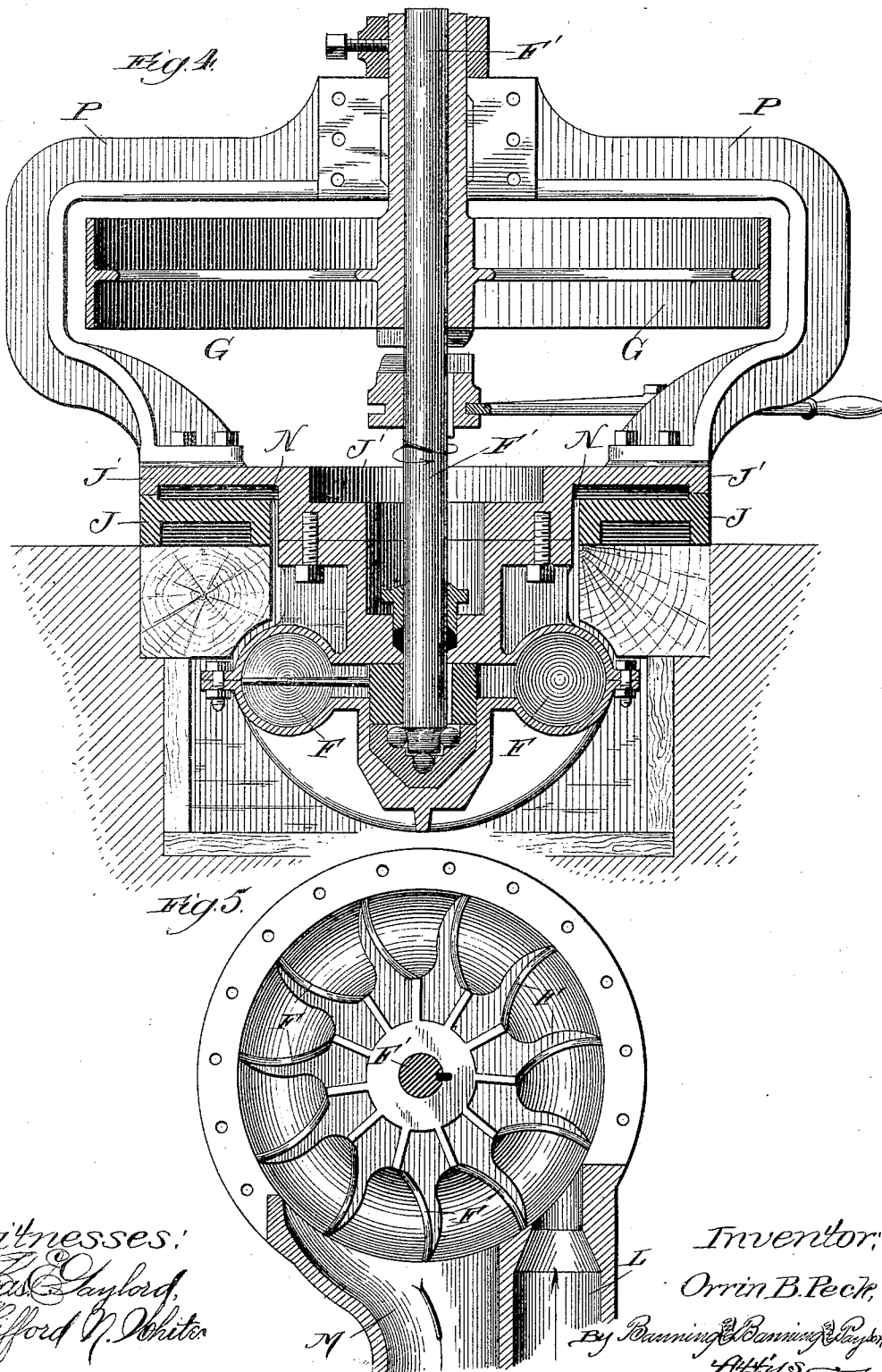
Inventor:
Orrin B. Peck.
By Banning & Banning, Attys.

O. B. PECK.

MACHINE FOR CENTRIFUGALLY TREATING MOLTEN MATERIAL.

No. 433,141.

Patented July 29, 1890.



Witnesses:
E. S. Gaylord,
Clifford N. White.

Inventor:
Orrin B. Peck,
By Banning & Banning, Attys.

UNITED STATES PATENT OFFICE.

ORRIN B. PECK, OF CHICAGO, ILLINOIS, ASSIGNOR TO MELINDA PECK, OF
SAME PLACE.

MACHINE FOR CENTRIFUGALLY TREATING MOLTEN MATERIAL.

SPECIFICATION forming part of Letters Patent No. 433,141, dated July 29, 1890.

Application filed March 3, 1890. Serial No. 342,432. (No model.)

To all whom it may concern:

Be it known that I, ORRIN B. PECK, a citizen of the United States, residing at Chicago, Illinois, have invented a new and useful Improvement in Machines for Centrifugally Treating Molten Material, of which the following is a specification.

The object of this invention is to provide convenient means for developing and applying the operating power and for adjusting the various parts of the apparatus relatively to each other; and the invention consists in the features and details of construction hereinafter described and claimed.

In the drawings, Figure 1 is a side elevation, partly in section, of the entire machine; Fig. 2, a plan view thereof, the driving-wheel, &c., being represented in dotted lines; Fig. 3, a vertical transverse section on the line 3 3 of Fig. 1, looking in the direction of the arrows; Fig. 4, a similar section showing a modified form of apparatus, and Fig. 5 a plan view of the water-wheel or motor shown in Fig. 4.

V is the vessel; B, the curb; C, the shaft for supporting and revolving the vessel; D D, bearings for supporting and maintaining the vertical position of such shaft; E, a driving-pulley rigidly secured to the shaft; F, the water-wheel or motor; F', the driving-shaft upon which the water-wheel is mounted; G, the driving-wheel mounted on the shaft F'; H, the driving-belt; I, the guide-pulley; J, the bed plate or frame; J', the power plate or frame; *j*, slots in such plate, and *j'* bolts passing through such slots secured to the bed-plate; K K', the hand-wheel and screw-shaft for adjusting the power-plate; L, the pipe for supplying water to the wheel, and M the discharge-pipe.

My invention consists, in general terms, of a centrifugal machine having a receiving-vessel, a curb surrounding the same, a shaft with suitable bearings for supporting and revolving the receiving-vessel, suitable mechanism for applying water-power to the operation of such machine, and suitable means for supporting and adjusting the various parts of the apparatus relatively to each other.

I first construct of any suitable dimensions the bed-plate J, a portion of one end thereof

being preferably raised above the level of the remainder of such plate. Upon this raised portion I preferably place the centrifugal machine having a receiving-vessel, a curb surrounding the same, a shaft C for supporting and revolving the vessel, bearings D D for supporting and maintaining the vertical position of the shaft, and a driving-pulley E, rigidly secured to such shaft. In this bed-plate I form an opening N, of suitable dimensions. (Shown more particularly in Fig. 2.) The object of this opening is to afford space for attaching the water-wheel, &c., to the power-plate when they are secured, as hereinafter set forth, to the under side thereof, and also to afford room for the backward and forward adjustment of such wheel, together with the parts thereof.

I next construct the power plate or frame J'. This plate may be made in the form shown in the drawings, and is secured to the bed plate or frame J by means of suitable bolts *j'*, which are fastened to the bed-plate and pass upward through slots in the power-plate, thereby providing for the backward and forward motion of the power-plate upon the bed-plate. In the claims I will also call this plate or frame a "hydraulic power plate or frame," meaning the plate or frame that serves to support or move the water-wheel or motor. Any suitable means may be employed for producing this motion of the power-plate, and in the drawings I have shown one form of mechanism for accomplishing this, which consists of the screw-shaft K, rotatably secured to the lug *j*² on the bed-plate and passing back through an internal screw-threaded bearing *k* upon the power-plate. At the end of this shaft I prefer to provide a hand-wheel K. From this construction it will be obvious that the hand-wheel and shaft are revolving in one direction or the other and the power-plate will be moved back and forth accordingly, the bolts *j'* being first loosened to allow of the motion of the plate, and afterward screwed up to hold it in any desired position. To the power-plate, and preferably to the under side thereof, I secure in any suitable manner the water-wheel, together with its shaft. In the drawings, more particularly in Fig. 3, I have shown

this wheel and shaft as inclosed in and supported by a metal casing or shell O, bolted to the underside of the power-plate; but in some instances, and with some form of wheel that might be used, the casing may be omitted and the wheel and shaft connected with the power-plate in any other suitable manner. The upper end of the shaft F' is preferably journaled in a suitable frame-work P, secured to the power-plate, and to this shaft is secured a driving-wheel G, which may either be rigidly secured to the shaft, or, as shown in Fig. 4, may be operated by a suitable power-clutch.

The driving-belt I passes over the wheel H and the pulley E upon the vertical shaft, the vessel being revolved by means of the revolutions of the wheel G. The tension of this belt may be increased or diminished, as desired, by moving the power-plate J' back and forth by means of the hand-wheel and screw-shaft K K', such power-plate being held, as above stated, in any desired position by means of the bolts j'. As above pointed out, sufficient space is given for the motion of these parts by the opening N, formed in the bed plate or frame, and through which the shaft and casing are passed.

In order to permit of the backward and forward motion of the wheel and casing, I prefer to construct the water-feed pipe L with a telescope-joint l, and to provide a similar joint in the water-discharge pipe M.

In Figs. 1 and 3 I have shown a wheel in the form of a turbine for developing the motive power, and in Figs. 4 and 5 I have shown a modification, wherein a positive power-wheel is the motor employed in place of the turbine, this wheel being supported by the power-plate and moved back and forth therewith, as above described when speaking of the turbine.

Although I have herein shown and described two forms of water-wheel which may be advantageously employed with my apparatus, it is not my intention to limit myself to those precise forms of wheels, or either of them, inasmuch as any other suitable water-wheel or motor may be employed to develop the necessary power for the operation of the machine. It will also be evident that the form of the power-plate applied is immaterial, and that a simple frame-work may be substituted therefor, the only requisites being that it shall afford a support for the water-wheel or motor and shaft, together with the casing, if any

be used, and that it shall be capable of adjustment toward and from the centrifugal machine.

As above stated, the tension of the driving-belt may be regulated by moving the power-plate and driving-wheel back and forth by means of the screw-shaft K'; but with this method of adjusting the tension it is difficult to ascertain the amount of pressure applied to the belt, and I therefore prefer to provide, in addition to this screw-shaft, what I term a "guide-pulley" I. This pulley is adapted to press against the side of the belt H, as shown in Figs. 1 and 2, and is capable of being adjusted toward and from the belt. To cause this pulley to apply pressure to the belt, I prefer to provide it with a rope i, passing over the sheave i' and down through the bed-plate, and having weights attached to its lower end, so that by increasing or diminishing the amount of such weight the pulley I is caused to press with greater or less force against the side of the belt.

I claim—

1. The combination of a centrifugal machine and a water-wheel or motor for supplying motive power thereto, a bed-plate adapted to support a power-plate, a power-plate adjustably mounted on the bed-plate, a water-wheel or motor supported by such power-plate and movable therewith, an expansible passage or conduit to admit water to the water-wheel, means for adjusting the power-plate, and means for transmitting the motive power of wheel or motor to the revoluble vessel of the centrifugal machine, substantially as described.

2. The combination of a centrifugal machine and a water-wheel or motor for supplying motive power thereto, a bed-plate adapted to support a power-plate and having an opening therein, a power-plate adjustably mounted on the bed-plate, a water-wheel or motor supported by such power-plate and movable therewith, and suspended through the opening in the bed-plate, a passage or conduit to admit water to the water-wheel, means for adjusting the power-plate, and means for transmitting the motive power from the wheel or motor to the revoluble vessel of the centrifugal machine, substantially as described.

ORRIN B. PECK.

Witnesses:

GEORGE S. PAYSON,
SAMUEL E. HIBBEN.