

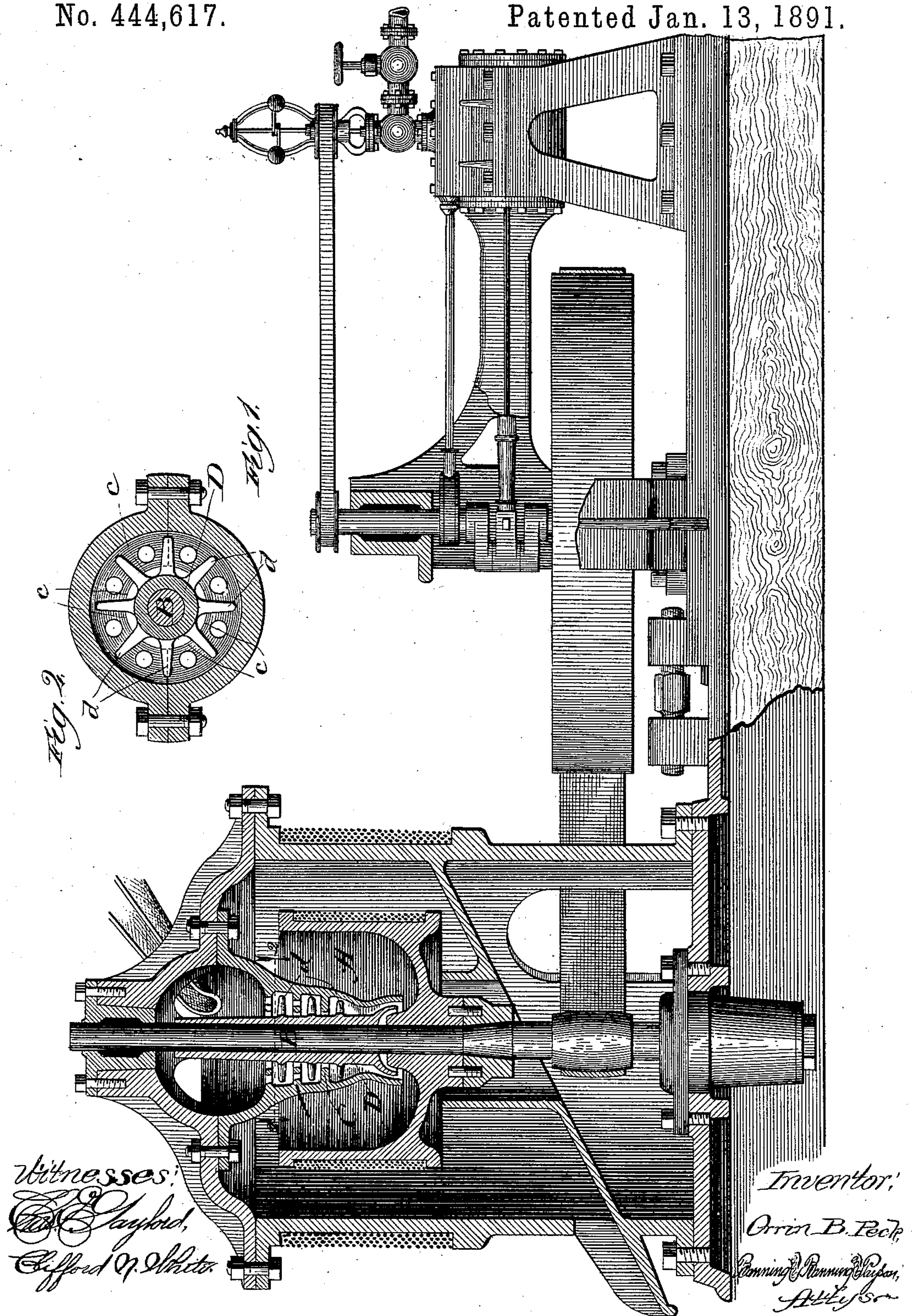
(No Model.)

O. B. PECK.

MACHINERY FOR CENTRIFUGALLY TREATING PARTICLES OF METALLIC  
OR MINERAL BEARING SUBSTANCES OF DIFFERENT DEGREES OF  
SPECIFIC GRAVITY.

No. 444,617.

Patented Jan. 13, 1891.



Witnesses:  
*Edw. J. Gaylord,*  
*Clifford W. White*

Inventor:  
*Orrin B. Peck*  
*Benjamin B. Peck*  
*Benjamin B. Peck*  
*Attorney*



# UNITED STATES PATENT OFFICE.

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

MACHINERY FOR CENTRIFUGALLY TREATING PARTICLES OF METALLIC OR MINERAL-BEARING SUBSTANCES  
OF DIFFERENT DEGREES OF SPECIFIC GRAVITY.

SPECIFICATION forming part of Letters Patent No. 444,617, dated January 13, 1891.

Application filed May 23, 1890. Serial No. 352,910. (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 certain new and useful  
5 Improvements in Machinery for Centrifugally Treating Particles of Metallic or Mineral-Bearing Substances of Different Degrees of Specific Gravity, of which the following is a specification.

10 The object of my invention is to provide means for agitating or thoroughly mixing the particles of material introduced into the revoluble vessel for treatment while the same is being introduced; and my invention consists in the features and details of construction hereinafter described and claimed.

15 In the drawings, Figure 1 shows a side elevation, partly in section, of my improved mechanism; and Fig. 2 shows a plan view taken in the line 2 of Fig. 1, looking in the direction of the arrows.

20 In treating fine or powdery particles of metallic or mineral-bearing substances by the action of centrifugal force it is usually desirable to introduce a certain quantity of water with them to assist in their separation. The finer or more powdery particles of the material are liable to float and are difficult to thoroughly mix with water without some  
25 mechanical means for stirring and mixing them together.

30 In making my improved machinery, after providing a suitable revoluble vessel A, mounted on and rotated by a shaft B by any  
35 convenient and sufficient motive power, I have provided a spout or casing C, supported and extending down into the revoluble vessel round the shaft B. This casing of course is held in a stationary or non-revoluble position. It is preferably provided with inwardly-extending flanges *c* at suitable intervals apart throughout a portion or the whole of  
40 its length. These flanges are also preferably provided with holes, as shown in Fig. 2, to assist in the more thorough agitation and mixing of the materials treated. The shaft B throughout the portion inclosed by the casing C is provided with a sleeve D, which is keyed or otherwise fastened to it so as to ro-

tate with it. This sleeve, which may also be 50 termed a "stirrer," "agitator," or "mixer," is provided with a number of outwardly-extending pins or projections *d*, which extend out toward the edge of the casing between the flanges *c*. As the shaft, with the revoluble vessel, is 55 rotated the pins *d* move around in the space between the flanges *c* of the casing. As the matter to be treated is introduced into the revolving vessel it is poured or otherwise run into the same, together with a sufficient quan- 60 tity of water, and passes down through the spout or casing C. As the particles of material and water enter the casing they flow from the edges of the flanges next to the revoluble sleeve. They are then struck by the 65 revolving pins and carried around in the space between the flanges *c* until they pass over the next lower and succeeding flange, when they are again struck and beat by the revolving pins in the space into which they 70 have entered. In this way they successively pass over the various flanges *c* in the casing and are operated upon by the pins in the spaces between them. By the time they reach the bottom of the casing and are discharged 75 into the receiving-vessel A they are thoroughly mixed and intermingled with the water that has been introduced with them, and are ready to be operated upon by the centrifugal action developed by the rotation of the 80 vessel.

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

1. In machinery for centrifugally treating particles of metallic or mineral-bearing sub- 85 stances of different degrees of specific gravity, the combination of a revoluble vessel, a revoluble shaft rotating it as it revolves, a non-revoluble spout or casing through which the material to be treated is introduced, and 90 a stirrer, agitator, or mixer within the spout or casing and revolving therein to agitate or mix the material being introduced, substantially as described.

2. In machinery for centrifugally treating 95 particles of metallic or mineral-bearing substances of different degrees of specific gravity, the combination of a revoluble vessel, a

revoluble shaft extending through the vessel and rotating it as it revolves, a non-revoluble spout or casing surrounding the shaft and provided with projecting flanges and through  
5 which the material to be treated is introduced, and a sleeve provided with projecting pins surrounding the shaft and within the spout or casing and revolving therein to agitate or mix the material being introduced, substantially as described.

ORRIN B. PECK.

Witnesses:

GEORGE S. PAYSON,  
THOS. A. BANNING.