

J. F. M. PATITZ.
BLOWING ENGINE.
APPLICATION FILED NOV. 2, 1907.

1,016,577.

Patented Feb. 6, 1912.

2 SHEETS—SHEET 1.

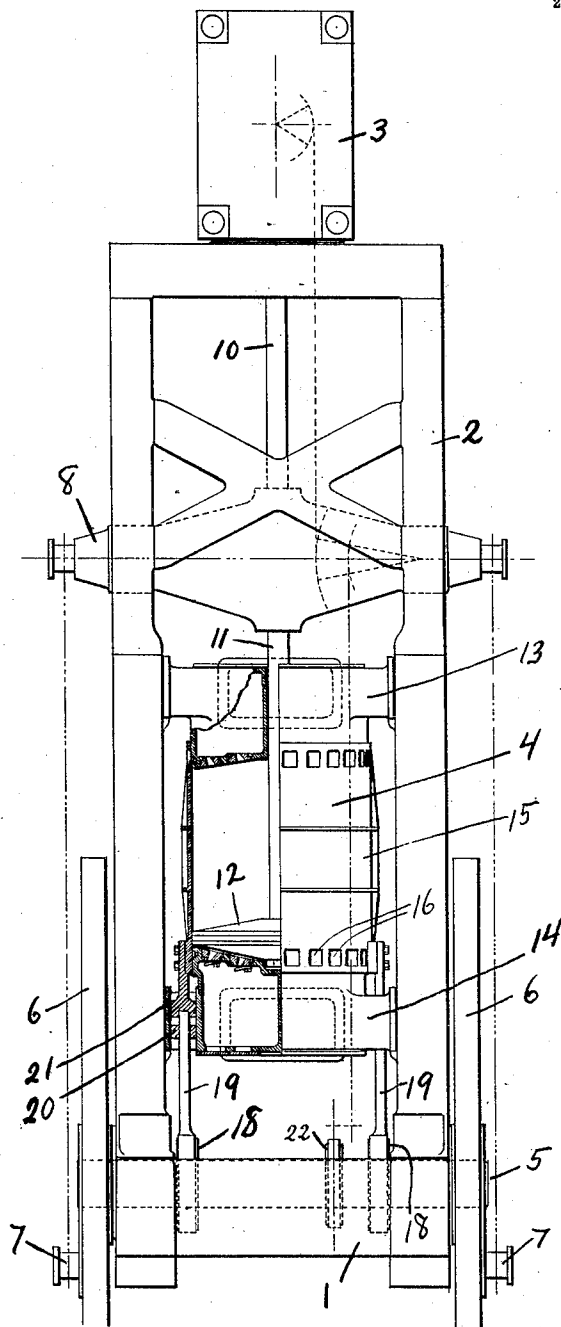


Fig. I.

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INVENTOR

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WITNESSES:
Ella Brickell
McLash

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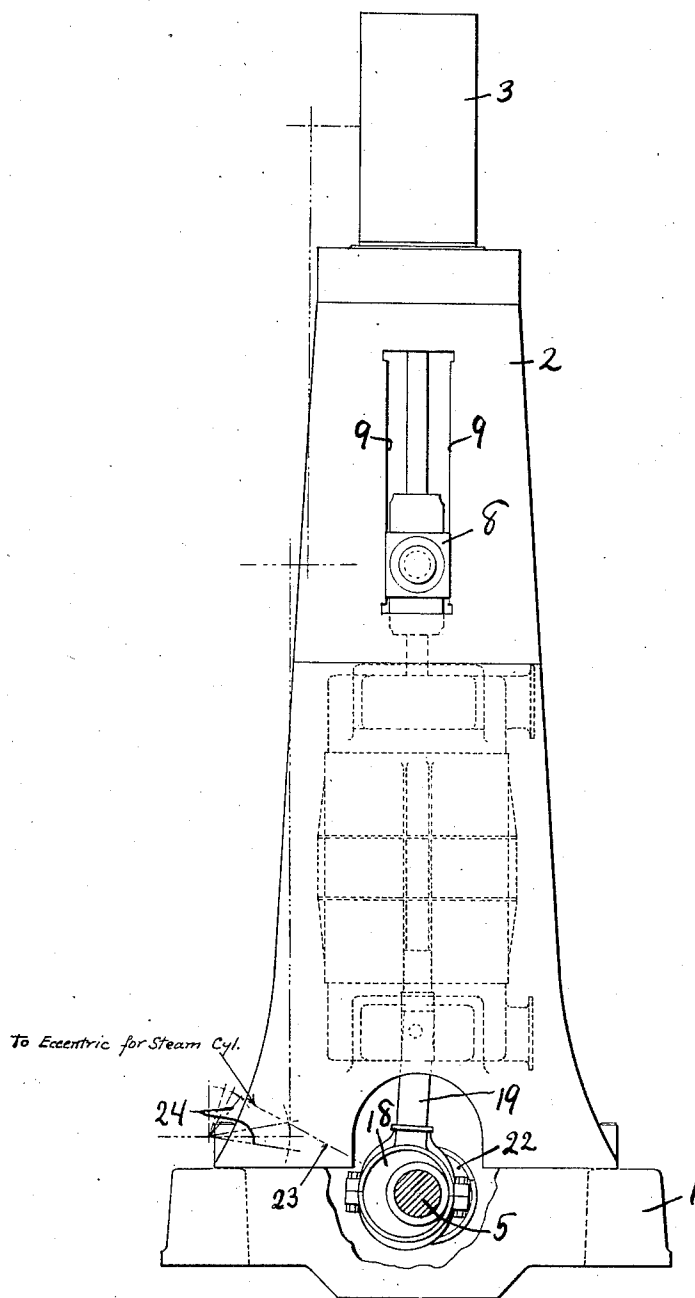


Fig. II.

WITNESSES:

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J. F. M. Patitz INVENTOR.
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UNITED STATES PATENT OFFICE.

JOHANN F. M. PATITZ, OF MILWAUKEE, WISCONSIN, ASSIGNOR TO ALLIS-CHALMERS COMPANY, OF MILWAUKEE, WISCONSIN, A CORPORATION OF NEW JERSEY.

BLOWING-ENGINE.

1,016,577.

Specification of Letters Patent.

Patented Feb. 6, 1912.

Application filed November 2, 1907. Serial No. 400,353.

To all whom it may concern:

Be it known that I, JOHANN F. M. PATITZ, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a certain new and useful Blowing-Engine, of which the following is a specification.

This invention relates to blowing engines of that type which utilize the Slick tub for the blower element, and specifically it relates to the combination of such a tub with the operating engine, its shaft and fly wheels in such a manner that the movable element of the tub may be directly actuated by eccentrics upon the main shaft of the engine.

Heretofore it has been customary to arrange the actuating engine or steam cylinders nearer the shaft than the blowing tub, which construction necessitated the use of long connecting rods in combination with off-setting mechanism in order to reach the movable element of the tub and get around the steam cylinder.

As the movable element of this type of a blowing engine is comparatively large and heavy as compared with the valve mechanism of the steam engine, an arrangement has been adopted and said arrangement forms the subject matter of this invention, by which the construction of the blowing engine is much simplified.

Referring to the drawings which accompany this specification and form a part thereof and which drawings illustrate an embodiment of this invention, the same reference characters being used to designate the same elements wherever they may appear upon each of the several figures,—Figure 1 illustrates an elevation of a vertical blowing engine, parts being shown in section. Fig. 2 illustrates an elevation of the engine as seen looking toward the end of the engine shaft of Fig. 1, parts being broken away and all unessential details being omitted from both figures for the purpose of clearer illustration.

Referring to the drawings, the numeral 1 designates the bed plate of the engine; 2 the frame upon which is supported the steam cylinder 3 and the blower 4.

The numeral 5 designates the main shaft of the engine, and the numeral 6 the two fly wheels which are carried thereby, said fly wheels being provided with the crank pins 7, adapted to be connected by means of

ordinary connecting rods with the long crosshead 8, which is provided with suitable slides adapted to slide upon the guides 9.

The numeral 10 designates the piston rod of the steam engine, which, by the way, need not necessarily be a steam engine but may be any equivalent prime mover; 11 the piston rod of the blowing engine; 12 the piston attached thereto; 13 one of the fixed heads provided with the usual outlet valves and delivery port; 14 the other fixed head; and 15 the movable element or cylinder tub provided with the usual ports 16 near its ends. With this construction, it will be noted that the frame 2 which supports the steam cylinder 3, also serves as a housing and support for the heavy blowing engine cylinder heads 13, 14, thus avoiding the necessity of building a special frame for these heads 13, 14, which construction would be necessary in case the blowing cylinder were placed above the steam cylinder 3. The construction moreover enables the greatest weight of the machine to be placed nearer the foundation, thus adding to the stability of the engine.

The numeral 18 designates eccentrics secured to the main shaft 5 in such a manner that their throw shall be properly timed with the revolution of the engine; and pivotally secured to the cylinder 15 are the connecting rods 19 which at their other ends encircle the eccentrics 18; slides 20 being provided to act with guides 21 to secure smoothness of operation of the cylinder 15.

The numeral 22 designates an eccentric with which an eccentric rod, schematically indicated by the dotted line 23, connects, this rod, as a matter of convenience being led to a bell crank lever, schematically indicated at 24, from which reachrods may lead up to connect with the valve operating mechanism of the engine, as the wrist plate, for example, of a Corliss engine.

What I claim is,—

1. The combination with a steam cylinder, a vertical frame supporting said cylinder, a piston in said cylinder, a piston rod connected to said piston, a second piston on said rod below said first piston, a blowing cylinder for said second piston, a long crosshead connected to said piston rod between said cylinders, a shaft intersecting the axis of the cylinders and located adjacent said blowing cylinder and remote from said crosshead, cranks on said shaft, connecting rods

connecting said crosshead and said cranks, eccentrics on said shaft, and eccentric rods connected directly to said blowing cylinder at opposite points thereof in the plane of said shaft and piston rod and taking over said eccentrics, said cylinder being ported near its ends and movable on said frame and said eccentric rod connections to said blowing cylinder being in the plane of the axis of the cylinders and the axis of said shaft.

2. The combination with a steam cylinder, a frame supporting said cylinder, a piston in said cylinder, a rod connected to said piston, a second piston on said rod, a blowing cylinder for said second piston, heads for said blowing cylinder, said blowing cylinder and heads being housed within said frame, a crosshead connected to said rod between

said cylinders, a shaft between which and said crosshead said blowing cylinder is located, said crosshead being connected to said shaft, eccentrics on said shaft, eccentric rods connected directly to said blowing cylinder and taking over said eccentrics, said cylinder being ported near its ends at opposite points thereof in the plane of said shaft and piston and movable in said heads by said eccentric rods, and said heads being fastened to the lower portion of said frame.

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

J. F. M. PATITZ.

Witnesses:

H. C. CASE,
G. F. DEWEIN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."

It is hereby certified that in Letters Patent No. 1,016,577, granted February 6, 1912, upon the application of Johann F. M. Patitz, of Milwaukee, Wisconsin, for an improvement in "Blowing-Engines," an error appears in the printed specification requiring correction as follows: Page 2, strike out lines 24-27, and insert the words *at opposite points thereof in the plane of said shaft and piston rod and taking over said eccentrics, said cylinder being ported near its ends and movable on said heads by said ec-*; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 5th day of March, A. D., 1912.

[SEAL.]

C. C. BILLINGS,
Acting Commissioner of Patents.