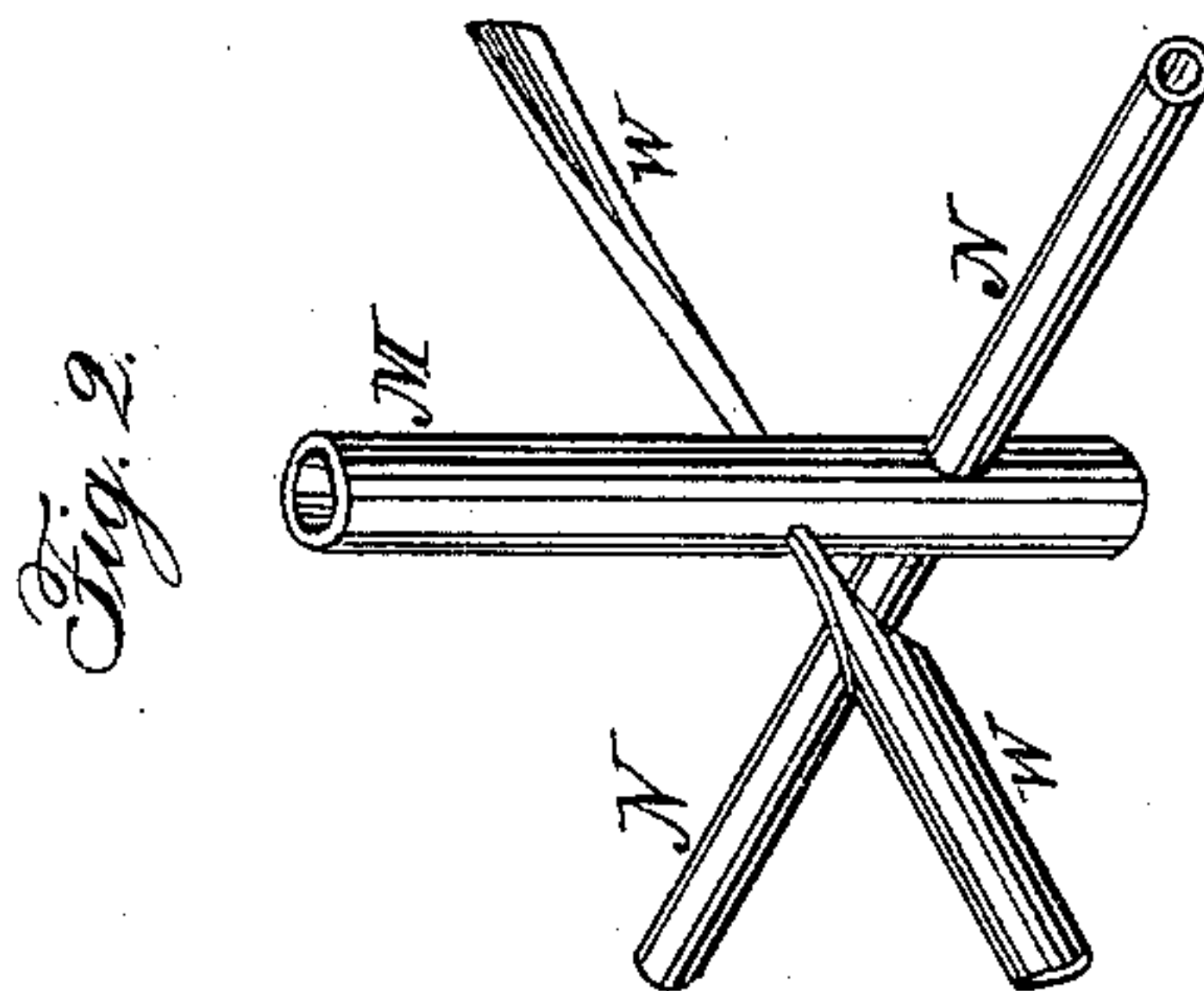
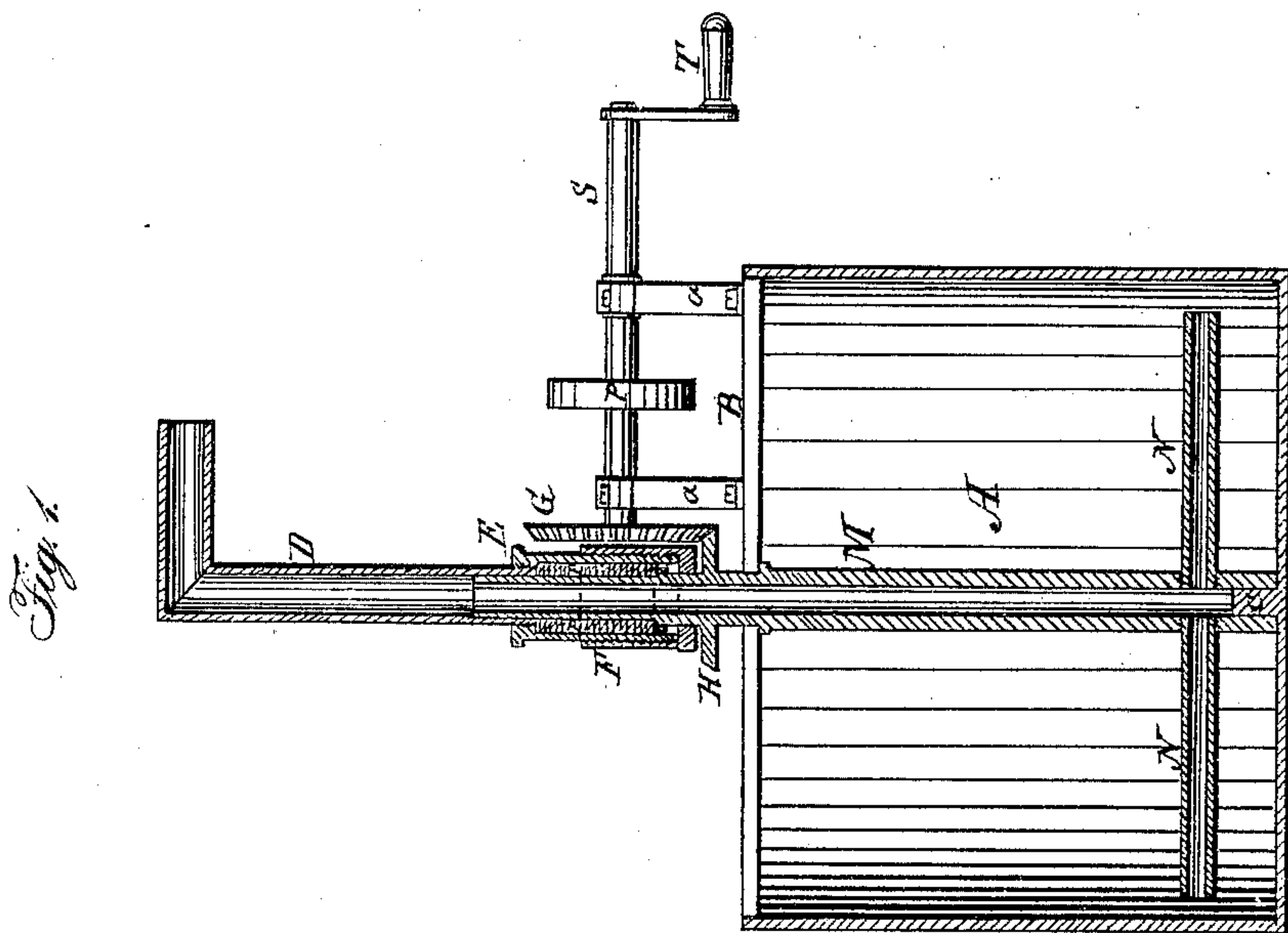


BURKET & GRAY,

Refining Oils.

No. 57,285.

Patented Aug. 21, 1866.



Witnesses:

C. A. Seaman
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Inventor:

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UNITED STATES PATENT OFFICE.

D. H. BURKET, OF HALF MOON, AND J. C. GRAY, OF PUTNEYVILLE, PA.

IMPROVED APPARATUS FOR TREATING PETROLEUM.

Specification forming part of Letters Patent No. 57,285, dated August 21, 1866.

To all whom it may concern:

Be it known that we, D. H. BURKET, of Half Moon, Centre county, and J. C. GRAY, of Putneyville, Armstrong county, both counties in the State of Pennsylvania, have invented certain new and useful Improvements in Petroleum-Agitators; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The object of our invention is to produce lubricating-oil from petroleum in a crude state by means of simple mechanical combinations to agitate the oil, assisted by the introduction of steam or heated liquid into the oil while it is being agitated. By these means the gravity of the crude petroleum is reduced, which accomplishes the desired result.

The materials used in the construction of our invention are those commonly used for accomplishing mechanical purposes.

To enable others skilled in the art to make and use our invention, we will describe its construction and operation.

In the drawings, Figure 1 is a sectional view of a side elevation through the centers of the packing-box, connection, main and distributing pipes, and the tank. Fig. 2 is a perspective view, showing the manner of connecting and the relative positions of the agitating-wings and distributing-pipes to the main pipe.

A is the tank into which the crude petroleum is put to be agitated. In the drawings the tank is cylindrical; but it may be constructed of any convenient or desirable form or size.

B is the cross-bar, for the purpose of furnishing a journal-box and support to the main pipe, also to support the standards, which support the journal-boxes for the shaft, through which power is communicated from the motive power to the agitator, besides strengthening the tank. *c* is the pivot in the center of the bottom of the tank, upon which the main pipe turns; *a a*, the standards secured to cross-bar B, which support the journal-boxes *b b*, in which rests the shaft S, driven by a crank, T, or by a belt over pulley P. On the end of shaft S, nearly over the center of the tank A,

is the geared wheel G, which communicates the power from the shaft to the geared wheel A, which is fitted tightly around the main pipe.

D is the connection-pipe, its upper end being attached to the hose or pipe of the boiler or vessel containing the steam or hot liquid. Its opposite end fits loosely around the main pipe. On the outside of this end of the pipe D we make a thread to fit the thread cut in the upper end of the packing-box E, within which and between its sides and the main pipe the packing *p*, of any suitable material, is introduced. The lower end of the packing-box is closed by a nut or projection, *o*, which is firmly connected or secured to the main pipe, and made to fit within the packing-box like a piston-head. A thread is cut on the outside of packing-box E from end to end, or a suitable distance, by means of which the packing-box is screwed into the box F by means of the thread inside of it. Box F serves to hold the packing-box and connection-pipe steady; and by screwing the packing-box into the box F the packing is pressed closer. The lower end of box F is made to loosely encircle the main pipe just below the nut *o* on the main pipe. The nut *o* prevents the box F from coming off.

M is the main pipe. Its lower end rests upon pivot C, and its upper end terminates a few inches above the packing-box and within the connecting-pipe. The upper end is open and the lower one is closed.

N N are the distributing-pipes. They are screwed into the main pipe, and both of the pipes being open at each end the steam passes freely from the main pipe out of each of the other pipes into the oil. These pipes act as agitators, and we may, if desirable, use one or more pipes.

W W are the wings or paddles, which are secured to the main pipe. Any number that would be convenient and desirable can be used.

The oil being placed in tank A, connection-pipe D fastened to the steam-pipe, and the band passed over the pulley, the shaft S revolves, and with it wheel G, which turns the main pipe M by means of wheel H, and the pipe M turns with it wings W W and pipes N N, thus agitating the oil. At the same time the steam forces its way through the pipes D M and N N out at the ends of the end of the

latter into the oil. The agitation is continued till the desired gravity of oil is obtained.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. Distributing-pipes N N and wings W W, when constructed and operating with pipe M and tank A, substantially in the manner and for the purposes set forth.

2. The packing-box E, when constructed and operating with box F and connection-pipe D, substantially in the manner and for the purposes set forth.

In testimony that we claim the above we hereunto have signed our names.

D. H. BURKET.
J. C. GRAY.

Witnesses to the signature of D. H. Burket:

JOHN H. LEVER,
JNO. A. HUNTER.

Witnesses to the signature of J. C. Gray:

A. YOST,
W. R. HAMILTON.