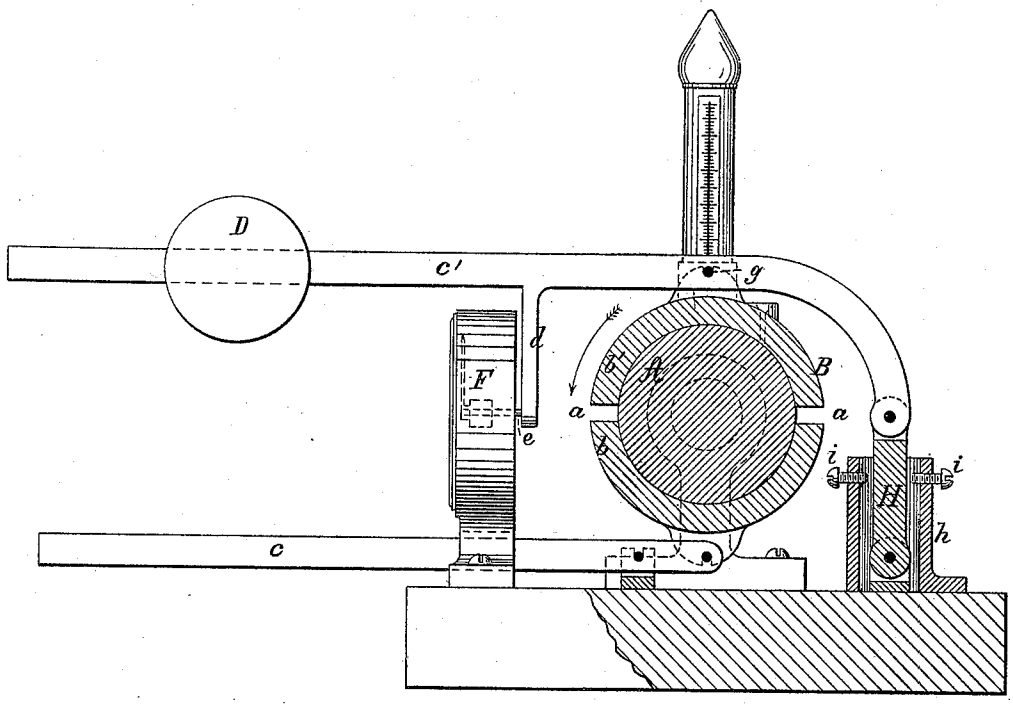
C. M. HIGGINSON.
Oil-Testing Machine.

No. 214,132. Patented April 8, 1879.



Witnesses:
E. Volkmann
Ernst Bilhuber.

Inventor:
Chas M. Higginson
per Chas W. Forbes
Atty.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE

CHARLES M. HIGGINSON, OF CHICAGO, ILL., ASSIGNOR TO THE ASHCRO MANUFACTURING COMPANY, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN OIL-TESTING MACHINES.

Specification forming part of Letters Patent No. **214,132**, dated April 8, 1879; application filed November 1, 1878.

To all whom it may concern:

Be it known that I, CHARLES M. HIGGINSON, of Chicago, county of Cook, and State of Illinois, have invented a new and useful Improvement in Oil-Testing Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, forming a part of this specification, in which the figure represents a vertical transverse section of a machine embodying my invention.

This invention relates to an improvement upon the apparatus for which Letters Patent of the United States No. 154,922 were granted September 8, 1874, to Edward H. Ashcroft, of Boston, Massachusetts, as assignee of H. Stapfer, of Manchester, England.

The improvement consists in providing for an oscillating movement of the test-bearing box in relation to the revolving journal in such apparatus, said oscillating movement being communicated to an indicator or gage, and whereby the frictional resistance of the lubricated surfaces is determined.

In the drawing, A represents the revolving shaft, mounted upon suitable bearings, and provided with an intermediate journal, upon which the testing-box B is arranged.

The box B is composed of the separable brasses *b b′*, which bear upon the journal, while sufficient space *a* is provided between them to permit an oscillating movement of either in respect to each other. These brasses are maintained in contact with the journal by means of the levers C C′, the former being arranged to merely sustain the brass *b* in place, and the latter constructed to carry the adjustable weight D and act to compress the brass *b′* upon the journal to a greater or less degree.

The weighted lever C′ is provided with a depending arm, *d*, connecting with the rod *e*, which acts by a slight endwise movement to operate the index of a gage, F. This lever is pivoted to a vibrating standard, H, and connected with the brass *b′* by means of the trunion-bearing *g*.

The standard H is pivoted within a socket or surrounding casing, *h*, and set-screws *i i* are provided to regulate its vibration in either direction.

By such construction and arrangement of parts described and illustrated in the drawing it will be readily seen that as the shaft A is revolved the friction upon the journal will cause the box to follow its rotation, and this movement will produce a corresponding movement to the connected lever C in the direction of its length, the vibrating standard H permitting such movement, and which will cause the depending arm *d* to press upon the rod *e* and operate the index of the gage F.

The application of the various kinds and qualities of lubricants to the journal and the varying compression given will produce greater or less resistance between the revolving and yielding parts, and which may be noted from the indicating-gage. Heretofore this condition has not been considered in conjunction with the former apparatus in determining the qualities of lubricants, and it will be obvious that this invention provides an important factor in this connection.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a machine for testing lubricants, a journal-bearing provided with a box or casing for containing the lubricant, said box having an oscillating movement upon the journal, substantially as and for the purpose set forth.

2. The combination of the oscillating box B, the weighted lever C, and the indicator or gage F, substantially as described.

CHARLES M. HIGGINSON.

Witnesses:
L. O. GODDARD,
H. C. AYER.