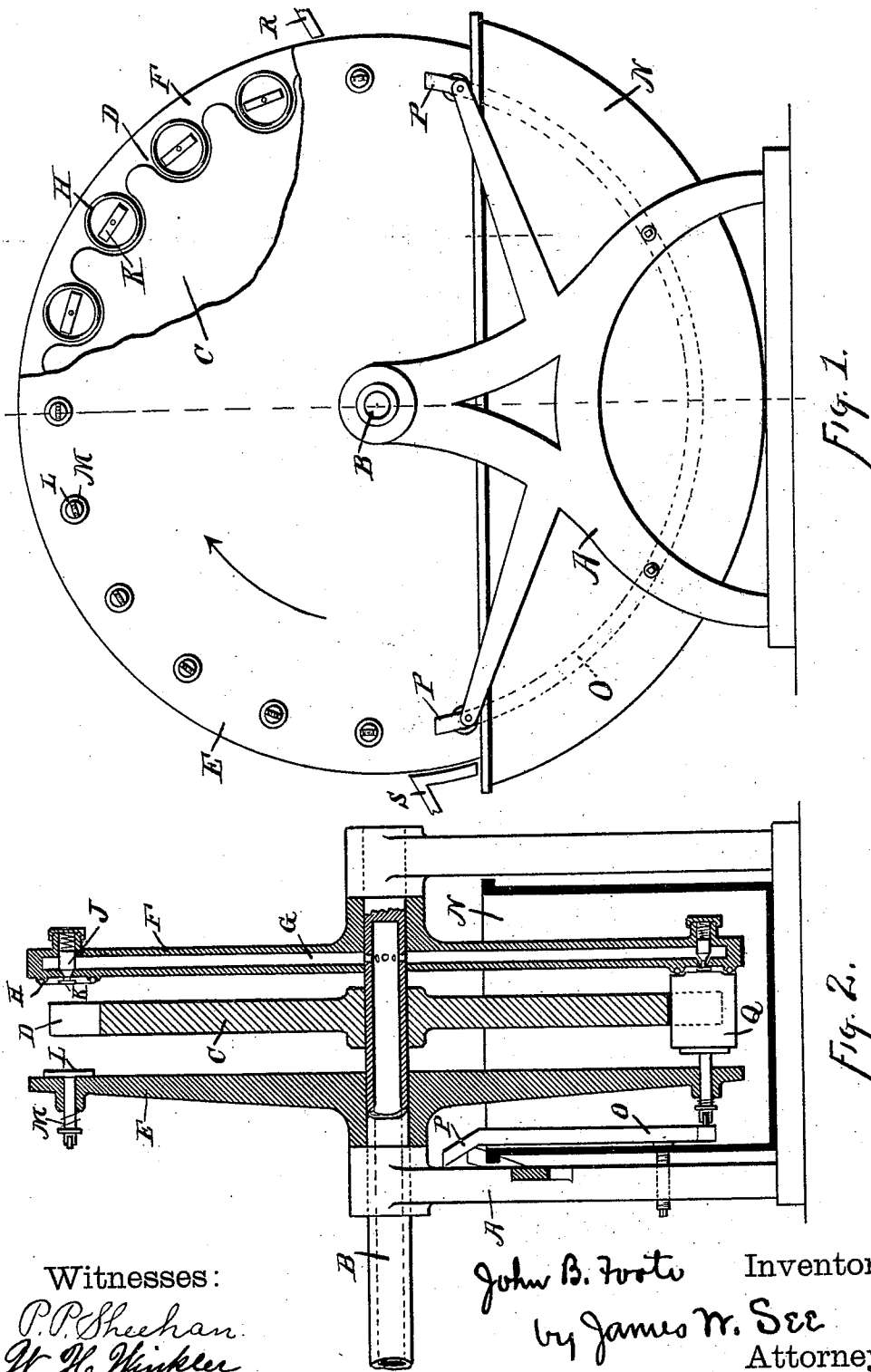


(No Model.)

J. B. FOOTE.
CAN TESTING MACHINE.

No. 471,353.

Patented Mar. 22, 1892.



Witnesses:
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UNITED STATES PATENT OFFICE.

JOHN B. FOOTE, OF HAMILTON, OHIO, ASSIGNOR TO EDWIN NORTON AND
OLIVER W. NORTON, OF CHICAGO, ILLINOIS.

CAN-TESTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 471,353, dated March 22, 1892.

Application filed December 26, 1891. Serial No. 416,106. (No model.)

To all whom it may concern:

Be it known that I, JOHN B. FOOTE, of Hamilton, Butler county, Ohio, have invented certain new and useful Improvements in Can-
5 Testing Machines, of which the following is a specification.

This invention pertains to a machine for testing the perfection of soldered seams in cans—such, for instance, as are used in can-
10 ning fruits, vegetables, &c.

My improvements will be readily understood from the following description, taken in connection with the accompanying drawings, in which—

15 Figure 1 is a side elevation of a can-testing machine exemplifying my improvements, a portion of one of the clamping-disks of the machine being broken away to exhibit the jaw-disk between the clamping-disks; and
20 Fig. 2 is a vertical diametrical section of the same.

In the drawings, A indicates frame parts of the machine; B, a horizontal hollow shaft journaled therein and adapted to be rotated
25 by power and to have compressed air forced into it by any suitable means; C, a disk fast on this shaft and having its periphery formed into a circumferential series of seats or jaws adapted loosely to receive cans with their
30 axes parallel to the shaft, this disk being hereinafter termed the "jaw-disk;" D, the peripheral jaws of this disk, being mere scallops in the edge of the disk, adapted loosely to receive the cans; E, a clamp-disk secured to the
35 shaft at one side of the jaw-disk; F, a second clamp-disk secured to the shaft at the opposite side of the jaw-disk, the distance between the two clamping-disks being somewhat in excess of the length of the cans to be dealt
40 with; G, a hollow or cavity in the disk F in free communication with the hollow shaft to which the disk is secured; H, a concentric series of gaskets on the inner face of the disk F, these
45 gaskets being formed of rubber or analogous material and so arranged upon the disk as to be concentric with cans seated in the jaws of the jaw-disk; J, an inwardly-opening self-closing valve in the hollow of the disk F at
50 the center of each of the gaskets, these valves being normally closed, and thus causing the

hollow G to be air-tight, each valve being capable of opening by being pressed inwardly from the inner face of the disk, the valve when open permitting air to flow from the
hollow of the disk outwardly therefrom at the
55 center of the appropriate gasket; K, a contact-piece on the inner end of each of the valves J, whereby a can placed in position with its open end against a gasket may push
60 the valve open; L, a clamp-stud, one for each of the can-holding jaws of the jaw-disk, mounted in the clamp-disk E in line with the
opposing valve J and fitted for movement to and from the opposite clamp-disk, each of
65 these clamp-studs having its inner end projecting from the inner face of the clamp-disk E and preferably provided with a flat flange or head and provided, preferably, with an
anti-friction roller upon its outer end; M, a
70 spring upon each of these clamp-studs, serving to hold the studs normally in an outward position; N, a water-tank disposed below the
rotary disks and adapted to contain liquid in which the lower portion of the disks and cans
75 carried by them can be immersed; O, a segmental track arranged concentric to the disks and near the outer face of the lower portion
of the clamp-disk E, the face of this track being adapted to be engaged by the outer ends
80 of the clamp-studs L, so as to push those studs inwardly against the force of the springs M, and thus hold the studs in their inward position while the studs are passing through that
portion of the circle corresponding with the track; P, outward inclines at each extremity
85 of the track O for permitting the ready engagement of the studs L with the track and their inward movement under its influence; Q, a can clamped endwise between the disks;
R, a chute-board indicative merely of the receiving-point of the machine, and S a chute-
90 board indicative merely of the discharging-point of the machine.

The mode of operation of the machine is as follows: The tank is properly full of liquid
95 of some character suited for the testing of cans without rusting them. A pressure of air is maintained in the hollow shaft and in the cavity of the clamp-disk F. All of the valves
J being closed, no air escapes from the clamp- 100

disk. Cans are fed to the machine at the point R. The cans are placed in the jaws of the jaw-disk with their open ends toward the gaskets H, the distance between those gaskets 5 and the studs L being in excess of the length of the cans. As the disks revolve in the direction of the arrow the studs engage the track and move inwardly, thus pushing end- 10 outwardly against the gaskets H, the can at the same time forcing open the appropriate valve J, whereupon the can becomes firmly clamped between the two disks and placed in 15 open communication with the hollow of the clamp-disk F. The compressed air now reaches the interior of the can. While in this condition the cans are successively carried down through the liquid and then up out of 20 the liquid, and as the studs reach the terminal of the track the studs retreat and the can is freed and the valve is automatically closed and the can leaves the machine at point S. Should any can be defective in its seaming, 25 the compressed air will leak outwardly while the can is in the liquid and the rising of the air-bubbles will indicate the defective can, which may be marked as it leaves the machine. The machine may be run continuously,

and cans be thus tested as fast as they can be observed. 30

I claim as my invention —

1. In a can-testing machine, the combination, substantially as set forth, of a rotary hollow shaft carrying a hollow disk having an opening in its face, a gasket, an inwardly- 35 opening valve at the gasket, a clamp-stud mounted opposite said gasket, a track to move said stud toward the gasket, and a tank below said shaft and arranged to be dipped into by a can carried between said gasket and clamp- 40 stud.

2. In a can-testing machine, the combination, substantially as set forth, of a rotary hollow shaft carrying a hollow disk having a series of openings in its face, a gasket and 45 valve at each opening, a clamp-disk on the shaft, clamp-studs therein opposite the gaskets, a jawed disk between said two disks, a track to move said studs toward the gaskets, and a tank arranged to be dipped into by the 50 lower portions of said disks.

JOHN B. FOOTE.

Witnesses:

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