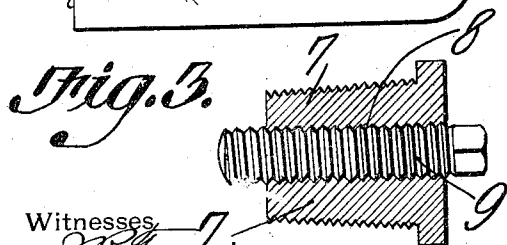
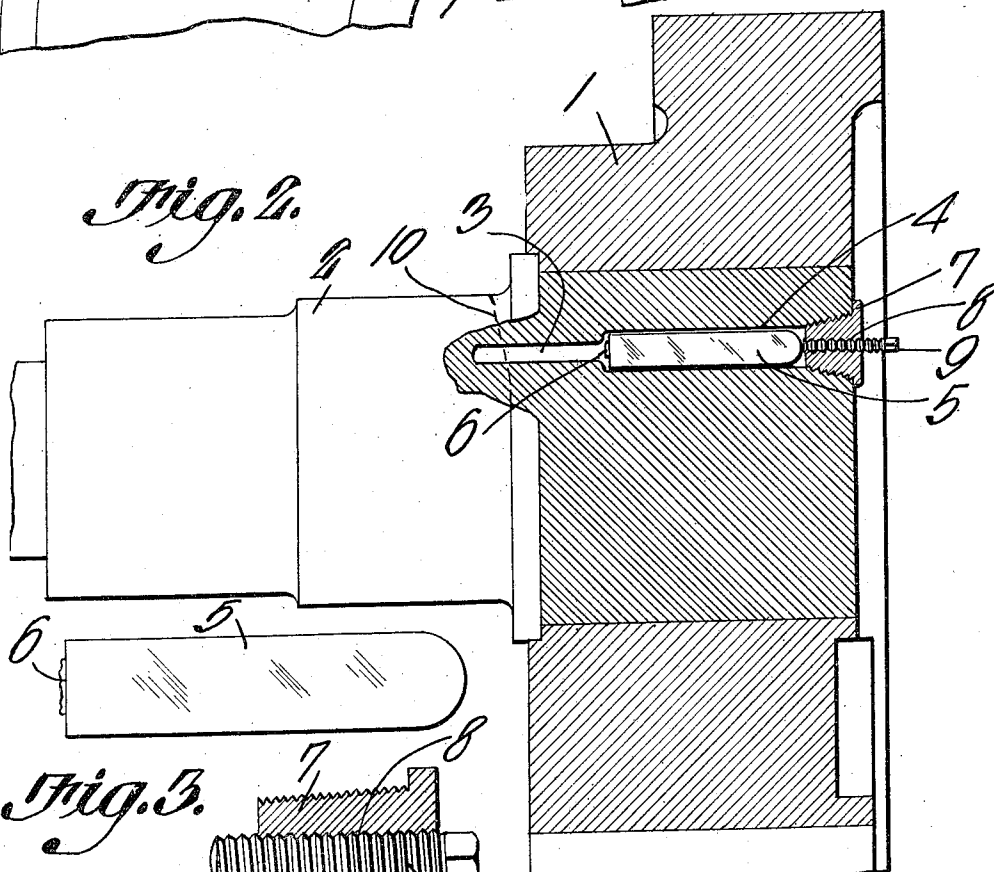
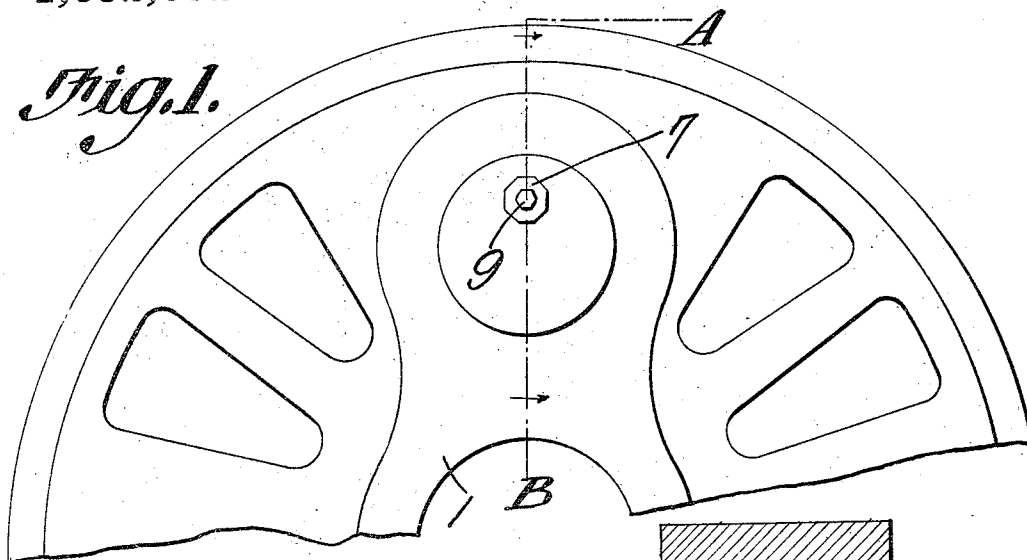


H. VAN DYKEN.
 MEANS FOR INDICATING FRACTURES IN CRANK PINS AND THE LIKE.
 APPLICATION FILED JAN. 8, 1912.

1,052,392.

Patented Feb. 4, 1913.



Witnesses

J. H. Van Dyken
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Fig. 4.

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UNITED STATES PATENT OFFICE.

HARRY VAN DYKEN, OF TWO HARBORS, MINNESOTA.

MEANS FOR INDICATING FRACTURES IN CRANK-PINS AND THE LIKE.

1,052,392.

Specification of Letters Patent.

Patented Feb. 4, 1913.

Application filed January 8, 1912. Serial No. 670,115.

To all whom it may concern:

Be it known that I, HARRY VAN DYKEN, a citizen of the United States, residing at Two Harbors, in the county of Lake and State of Minnesota, have invented a new and useful Means for Indicating Fractures in Crank-Pins and the Like, of which the following is a specification.

This invention relates to means for indicating fractures or cracks appearing in crank pins or the like and is primarily designed for use in connection with the main crank pin of a locomotive.

It has been found that the main crank pin of a locomotive invariably begins to crack at the point most remote from the center of the wheel and the crack gradually increases in size until one third or more of the pin has been separated from the wheel, at which time complete separation of the pin from the wheel takes place. Accidents of this kind have been very disastrous and they have been difficult to avoid for the reason that the engineer has had no means for determining when the crack begins to form.

The principal object of the present invention is to provide means whereby, as soon as the crack begins to form in the pin, sufficient indication thereof will be had by the engineer and it will thus be possible for him to bring the locomotive to a stop before the pin has become fully broken off.

Another object is to provide indicating means which can be applied to structures already in use.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed, without departing from the spirit of the invention.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings:—Figure 1 is an elevation of a portion of a wheel having the present improvements combined therewith. Fig. 2 is an enlarged section on line A—B Fig. 1. Fig. 3 is an elevation of a container constituting a portion of the present invention. Fig. 4 is a view partly in section and

partly in elevation of the means for retaining and fracturing the container.

Referring to the figures by characters of reference 1 designates a portion of a wheel having the usual crank pin 2 extending therefrom. A bore 3 of comparatively small diameter is formed within the crank pin and extends a short distance beyond the face of the wheel, said bore being adjacent that portion of the periphery of the pin farthest removed from the center of the wheel. That portion of the bore within the part of the pin 2 fitted in wheel 1 is counter bored, as at 4 so as to receive a container 5 of glass or other material which will easily break. This container has an inlet opening adapted to be closed by means of plaster 6 or the like. The open end of the counter bore 4 is interiorly screw threaded to receive a tapered threaded plug 7 having a threaded bore 8 extending therethrough to receive a screw 9. The container 5 is adapted to hold a liquid having a strong odor and this container is inserted into the counter bore 4 and retained therein by the plug 7. After the parts have been assembled, the screw 9 is rotated so as to feed inwardly against the container 5 and this screw ultimately breaks the container so that its liquid contents flow outwardly into the counter bore 4 and into the bore 3. It will of course be understood that under ordinary conditions the odor of the liquid cannot be detected. When however, the crank pin 2 breaks or cracks at the customary point, and as indicated by the dotted line 10 in Fig. 2, the said crack will intersect the bore 3. Obviously, therefore, during a portion of the rotation of the wheel the crank 10 will be pulled open and a portion of the liquid contents of the bore will be free to escape, and the odor thereof will permeate the surrounding atmosphere to such an extent as to be promptly noticed by the engineer. If the engine is brought to a stop as soon as the odor is first noticed, all danger of the pin breaking off completely will be practically eliminated.

What is claimed is:—

1. The combination with a crank pin having a recess, of a frangible container within the recess, an odoriferous fluid confined therein, means for holding the container within the recess, means for fracturing the container to release the fluid into the recess, said fluid being adapted to escape from

the recess upon the cracking of the pin along a line intersecting the recess.

2. The combination with a revoluble element and a crank pin extending therefrom, there being a recessed portion revoluble with said element, the recess extending beyond said element and within the pin, of a frangible container within the recess, means for holding the container in the recess, and means for fracturing the container to release the contents into the recess.

3. The combination with a revoluble element and a crank pin extending therefrom, there being a recessed portion revoluble with said element and projecting therebeyond and within the crank pin, of a frangible container within the recess, an odor-

iferous substance within the container, and means for fracturing the container.

4. The combination with a wheel and a crank pin projecting therefrom, there being a recess extending into the pin from one side of the wheel, of a substance contained within the recess and adapted to be released by the cracking of the pin, and means for closing the inlet end of the recess.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

HARRY VAN DYKEN.

Witnesses:

JOHN A. BAILOR,
HENRY C. DOW, Jr.

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