



Railway Executive News

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SERVOSAFE® Hot Box Detective* here signals train crew automatically, if overheated journal bearing is detected on passing freight at remote spot on main line.

Automatic Alarm Patent Issued to Servo Corp.

Patent no. 2,963,575 covering automatic alarm hot box detection devices was issued Dec. 6, 1960 to Servo Corporation of America by the United States Patent Office.

The new patent covers a variety of computation and comparison methods for ascertaining and identifying hot box signals emerging at the output end of the detection devices.

Granting of this latest patent now protects with *three* patents various infrared detection systems pioneered and marketed by Servo Corp.'s Railroad Products Division.

The automatic alarm, according to Servo railroad spokesmen, represents one of the most significant developments in hot box detection since Servo marketed the first successful SERVOSAFE® Hot Box Detective* system in 1956.

This important railroad safety device, known commercially as SERVOLARM® equipment, has been incorporated in various Detective installations for several years.

It allows Detective systems to be used for automatically setting signals to stop trains with hot boxes and gives the railroads a broader choice of systems employing standard chart recording interpretation techniques or automatic control, depending on detector location and individual railroad requirements. ■

*Protected under one or more of the following U.S. Patent Nos.: 2,880,309, 2,947,857, and 2,963,575. Other U.S. and foreign patents pending.

FASTER FREIGHTS:

Railroads Straighten Track, Reduce Stops, Add Detectors to Speed Up Service...

"In the rugged mountains of northern Arizona, Atchison-Topeka & Santa Fe Railway workers are hurriedly laying the final sections of a new 44-mile strip of track that will slice through this region, unwinding sharp curves, and flattening steep grades.

"Farther north, Chicago & North West Railway freights now roll non-stop through fifty small towns between Chicago and Rapid City, S. D.

"To the east, Chesapeake & Ohio Railroad crews plant small metal boxes containing super-sensitive infrared heat detecting systems in roadbeds along sections of the line's track. The aim is to spot 'hot boxes'—overheated wheel bearings—before they cause time-consuming breakdowns.

"These seemingly unrelated events, separated by hundreds of miles, are aimed at a single objective: a further speedup of rail freight. Taking kinks out of winding track, scheduling fewer stops, and installing better equipment are three of the

major methods the nation's railroads are using to achieve faster freights."

* * *

"The Chesapeake & Ohio and other railroads have eased the problem of delays caused by hot boxes by installing the special infrared hot box detection systems along sections of track. These devices, which sense the heat generated by a hot box, flash the danger signal to the nearest terminal, which relays the message by radio to the train's engineer.

"Thus, before serious trouble results, the engineer can stop the train or slow it down and avoid the even greater delay caused by a broken axle or fire. The C&O has 17 of the devices in service and plans to add another dozen in the near future."

THE WALL STREET JOURNAL
Dec. 16, 1960

The Atchison-Topeka & Santa Fe and Chesapeake & Ohio are two of the 28 major Class I railroads across the country that have adopted the patented infrared SERVOSAFE® Hot Box Detective* system for spotting dangerously overheated journal bearings on fast freights.

First railroad to install the Detective back in 1956, the C&O has found that even smokeless hot boxes on trains traveling at high speed cannot escape spotting by SERVOSAFE.

"I consider the Hot Box Detective to be one of the greatest aids to railroading in many, many years," C&O Vice President for Operations M. I. Dunn has stated. "Our tests have proved it 100 per cent effective."** ■

**CHESAPEAKE & OHIO RAILROAD
1958 Annual Report

RAILROADS REPORT:

Spot 20 hot boxes at one spot alone...

Writing in the *L&N Magazine* (Dec. 1960) on the railroad's experience with its SERVOSAFE® Hot Box Detectives*, Edison H. Thomas states: "...just how effective the system is can be judged by the fact that the automatic (Detective system) at Cullman (Ala.) alone has spotted 20 incipient hot boxes, any one of which could well have caused a derailment had it not been discovered and corrective measures taken."

Efficiency as high as 100%...

Railroads using the SERVOSAFE Hot Box Detective report better than 90 per cent efficiency for the units...in some cases as high as 100 per cent for consecutive periods of six months or over.

Savings over \$100,000...

One SERVOSAFE road reports savings of over \$100,000 per installation per year, allowing amortization of the equipment in approximately one month's time.

'Wheel Checker' Sales Now Handled by Servo

Servo's Railroad Products Division has been granted exclusive worldwide sales rights for the *Wheel Checker*, a division spokesman announced.

System automatically detects broken wheel flanges and loose wheels on passing cars, squirting a shot of non-drying bright yellow paint on the wheel for quick identification. ■