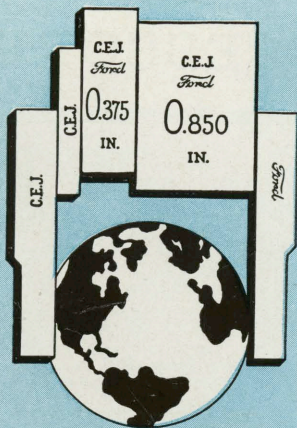


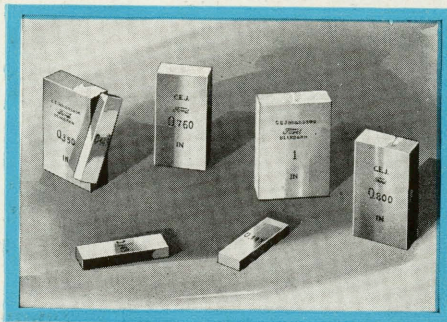
World's<sup>25</sup> Standard  
of Measurement



**JOHANSSON  
GAGE BLOCKS  
AND  
ACCESSORIES**

MADE BY  
**FORD MOTOR COMPANY**  
**JOHANSSON DIVISION**  
DEARBORN, MICHIGAN

# JOHANSSON GAGE BLOCKS AND ACCESSORIES



**ACCURATE IN MILLIONTHS  
OF AN INCH**

**USED BY PHYSICAL LABORATOR-  
IES THE WORLD OVER AS THEIR  
STANDARD OF MEASUREMENT**

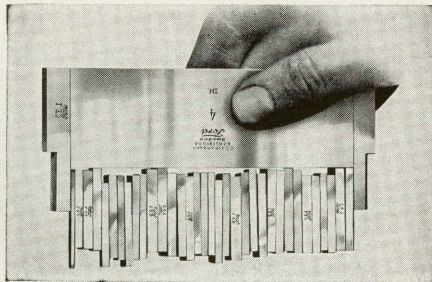
To insure continued accuracy in the manufacture of the Ford car, the Ford Motor Company purchased the right to manufacture and sell these accurate gaging tools in North and South America.

*What are*

*Johansson Gage Blocks?*

JOHANSSON GAGE BLOCKS are rectangular pieces of hardened steel with finished flat surfaces having the appearance of burnished silver and are accurate within millionths of an inch. They embody in their commercial manufacture the solving of four universally recognized metallurgical and mechanical problems, namely:

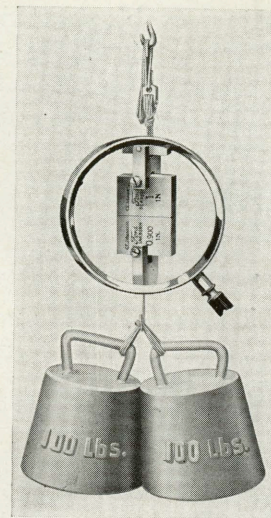
- 1st. Flat Surfaces in Steel
- 2nd. Parallel Surfaces in Steel
- 3rd. Accuracy as to Dimensions in Steel
- 4th. Effective Heat-Treatment and Seasoning of Steel



The accuracy of these blocks is such that when different size blocks are cleaned and slid together with a slight inward pressure they take hold as though magnetized and the measurement of the combined blocks is the same as a solid block of the same size within a few millionths of an inch. They have been known to

sustain a weight of 200 pounds on a direct pull, the two contacting surfaces being less than one-half square inch. Scientists offer Atmospheric Pressure; Molecular Attraction; Capillary Power and a film of oil on the finished surfaces as an explanation of this phenomenon.

WHEN the first set of blocks was made, it was accurate within ten millionths of an inch. Shortly after the Ford Motor Company acquired the gage blocks, this accuracy was increased to eight millionths of an inch; later this was increased to four millionths and finally to two millionths of an inch.



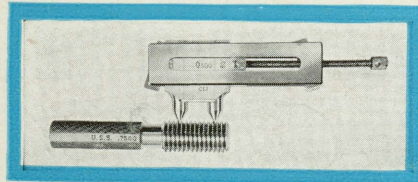
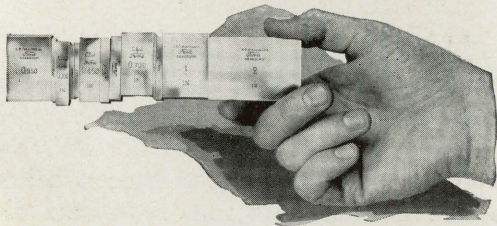
With gage blocks of this accuracy, the Ford Motor Company is able to maintain 30 measurements on the Ford car that are within five ten-thousandths of an inch, some being as close as two ten-thousandths inch.

**A**S A COMPARISON, a human hair or an average newspaper sheet, is approximately "three thousandths" of an inch thick.

Toolmakers work to an accuracy of one ten-thousandths part of an inch, which is the most accurate in the mechanical field and is 30 times finer than a human hair.

Light waves are approximately "sixteen millionths" of an inch long, which is 188 times finer than a human hair and  $6\frac{1}{4}$  times finer than a toolmaker works.

The accuracy of "AA" quality Johansson Gage Blocks is "two millionths" part of an inch, which is 1500 times finer than a human hair; 50 times finer than a toolmaker works and 8 times finer than the length of a light wave.



CHECKING  
"LEAD"  
OF SCREW  
THREAD

## THESE ACCURATE GAGING TOOLS ARE USED TO—

*Check:*

**ANGLES  
INSIDE MEASUREMENTS  
LOCATIONS  
INSPECTION GAGES  
PLUG GAGES  
OUTSIDE MEASUREMENTS  
MICROMETERS  
PRODUCTION GAGES  
"LEAD" OF SCREW THREAD**

*Set:*

**MECHANICAL GAGES  
ELECTRICAL GAGES  
SNAP GAGES**

*Make:*

**HEIGHT GAGES  
SNAP GAGES**

*Scribe*

LINES

*Space*

HOLES

SCRIBING  
LINES WITH  
BLOCKS AND  
ACCESSORIES

