

# A Master Detective whose Evidence is --- Wood



Koehler's investigation afforded absolute proof that shavings used in the bomb came from the same suspect's workshop, where more of the shavings were found.

Though time's healing obliterates outward evidence of a tree's having been marked as a "witness" to a boundary line, it never destroys internal traces so completely that Mr. Koehler's eye cannot detect them. "Witness" trees are customarily blazed with an ax and described in survey notes as being so many feet in a certain direction from the corner stake. If they still stand many years later, alive or dead or badly decayed, Mr. Koehler can cut into

By Mary Brandel Hopkins

IT is as questioning the oracle at Delphi to ask Arthur Koehler to identify a sample of wood. The authoritativeness of the answer is taken for granted.

Although separated in time by many centuries, the famed oracle of Greek mythology and the present master mind of Uncle Sam's wood identification service have in common the singular faculty of revealing certain information hidden from the world at large.

In nearly a quarter-century of service in the United States government's war on criminals and unfair trade practices, a keen nose and the microscope have been Mr. Koehler's chief weapons. In that period, from his office in the United States Forest Products laboratory at Madison, Wis., Mr. Koehler has solved more than 50,000 puzzling problems for the government by positively identifying samples of wood. Last year alone, he made 1988 identifications.

So widely varied have been the demands on him and so accurate is his judgment of woods that today he is acknowledged as the man who knows more about the identity of the approximately 900 American species than anyone else. Moreover, he can differentiate between several hundred foreign species which are imported into the United States. So sensitive has his sense of smell become that he is able to name many species simply by their odor.

Yet it took the Lindbergh kidnaping case to bring him fame. Instrumental in sending Bruno Richard Hauptmann to the electric chair, his well-remembered kidnap ladder testimony made his name a household word the country over. But of the man and mind behind the name of Arthur Koehler comparatively little else ever has been told.

It is unlikely that 1 in 10 who hungrily read of his spectacular courtroom revelations in New Jersey knows that it is he who safeguards the public against unscrupulous manufacturers by settling for the Federal Trade Commission all questions of furniture woods being as represented.

By his ability to search out blazed "witness trees" and to determine when

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the ax marks were made long after they have been completely overgrown by new wood formation, he ends many a boundary dispute between belligerent landowners.

He can locate and date fields of battle by determining how long ago a bullet that now is lodged deep in a tree trunk was fired.

He can tell in what season of what past year a tree bowed to a hurricane, storm, or cave-in.

It is possible for him to date prehistoric ruins from trees which still live or grew into the ruins.

CASES involving thousands of dollars, and sometimes life itself, may hinge upon Mr. Koehler's reports. But he is blessed with the faculty of translating his opinions from the scientific means by which he arrives at them into terms which laymen, juries, and manufacturers understand and accept. To shadow him in his expansive laboratories in the Forest Products laboratory building, or to see his record of the galaxy of cases in which he has figured, is to marvel at his knowledge.

To this master tree detective, trees living or dead or reduced to a few shavings, sawdust, or fine wood flour, are like open books from which he reads with seeming uncanniness the record of events which is secreted within them. Let him study under a microscope a little of the wood flour used in linoleum, dynamite or as filler, in phonograph records and telephone parts, and he will name the tree from which it came.

With so capable a man on the side of justice, makers of home-made bombs in several criminal cases have been made to pay for their crimes.



Koehler's nose knows wood. Here he is identifying a piece of ship decking by its odor, as white pine.

Not many years ago the wife of a Wisconsin highway commissioner was killed by an explosion as she cut the twine which bound a parcel dressed up as a Christmas box and addressed to her husband. Metal contained in the home-made bomb which the package had concealed was traced by ballistics experts to the workshop of a suspect. But further evidence was necessary for conviction. Mr. Koehler was called in, and his investigation afforded absolute proof that shavings used in the bomb's construction came from the same man's workshop, where more of the shavings were found. The additional evidence was substantial enough proof of guilt to clear up a murder which might otherwise have gone down as another unsolved crime.

Just recently a police chief in a neighboring state sent to Mr. Koehler a pocket-knife and a section of an electric wire conduit from the burglar alarm of a department store. The conduit itself was of wood, painted green with a copper wire run through it. "Was this wood cut with this knife?" the chief asked.

Telltale marks, which might have indicated that it was, were missing. But the microscope revealed that the knife edge was tinged with copper color, and small green particles of the paint adhered to the blade. Here was proof beyond doubt.

them, find the ax marks and definitely prove the trees the "witnesses."

RECENTLY rightful title to 30 acres of improved land claimed by two parties was established by his proof of a "witness tree" as hickory and not oak. In submitting another dispute to him for settlement, one claimant made a point of the fact that a line of trees blazed in 1921 formed the boundary. By counting the number of annual growth rings subsequently formed by the wood which gradually encloses the scar from either side, he proved conclusively that the blazing of the trees claimed by one party as the line had been done in 1928 and not in 1921, and that the trees, therefore, were not the original boundary.

Since repeal of prohibition, enough oak staves to make many barrels have been sent to him by manufacturers who want to know if the staves are white oak or the inferior, more porous, red oak.

The accuracy of the Koehler nose in wood identification is remarkable. In general, the microscope is his most trusted instrument of identification, revealing as it does certain, though minute, differences in structure. But in northern white cedar and western red cedar there are no visible distinguishing traits. But Mr. Koehler's nose knows.