

The New York Times

## Inventors' Hopes on Display, From Mousetraps to Engines

By ELEANOR BLAU

As a 200th-birthday tribute to its founder, the inventor Peter Cooper, the Cooper Union for the Advancement of Science and Art is documenting the proverbial quest for a better mousetrap.

A free show that continues through Feb. 15 at the school's Houghton Gallery (7 East Seventh Street, Manhattan), features more than 100 19th-century models of inventions submitted with applications for a United States patent.

There are steam engines and brick-makers, game boards and clothes pounders, a contraption to vacuum away disease, a buttonhole cutter, a pigeon-frightener, artificial limbs, corsets and torpedos.

And of course mousetraps, a gruesome assortment to strangle, drown, claw and otherwise do in the creatures.

### Overflow of Models

"A Better Mousetrap: Patents and the Process of Invention" draws on the unusual collection of Cliff Petersen, an aerospace engineer and 1943 graduate of Cooper Union, who has a huge house and two barns in Garrison, N.Y., full of patent models.

The exhibition also features photographs, drawings and text, and traces the evolution of the patent system, which began in this country with a 1790 act of Congress.

In 1880 the Government abolished the requirement that a working model accompany every application for a patent, because no more space was available for them.

More than 200,000 of these models had been amassed, said Jean Le Mée, the curator of the show. Unfortunately, he added, half were lost to fires, floods and other calamities and others were dispersed in auctions. Most of the 60,000 that survived, he said, have been in the Petersen Collection since 1979, and most of the models in the show are from that collection.

### Variety and Fun

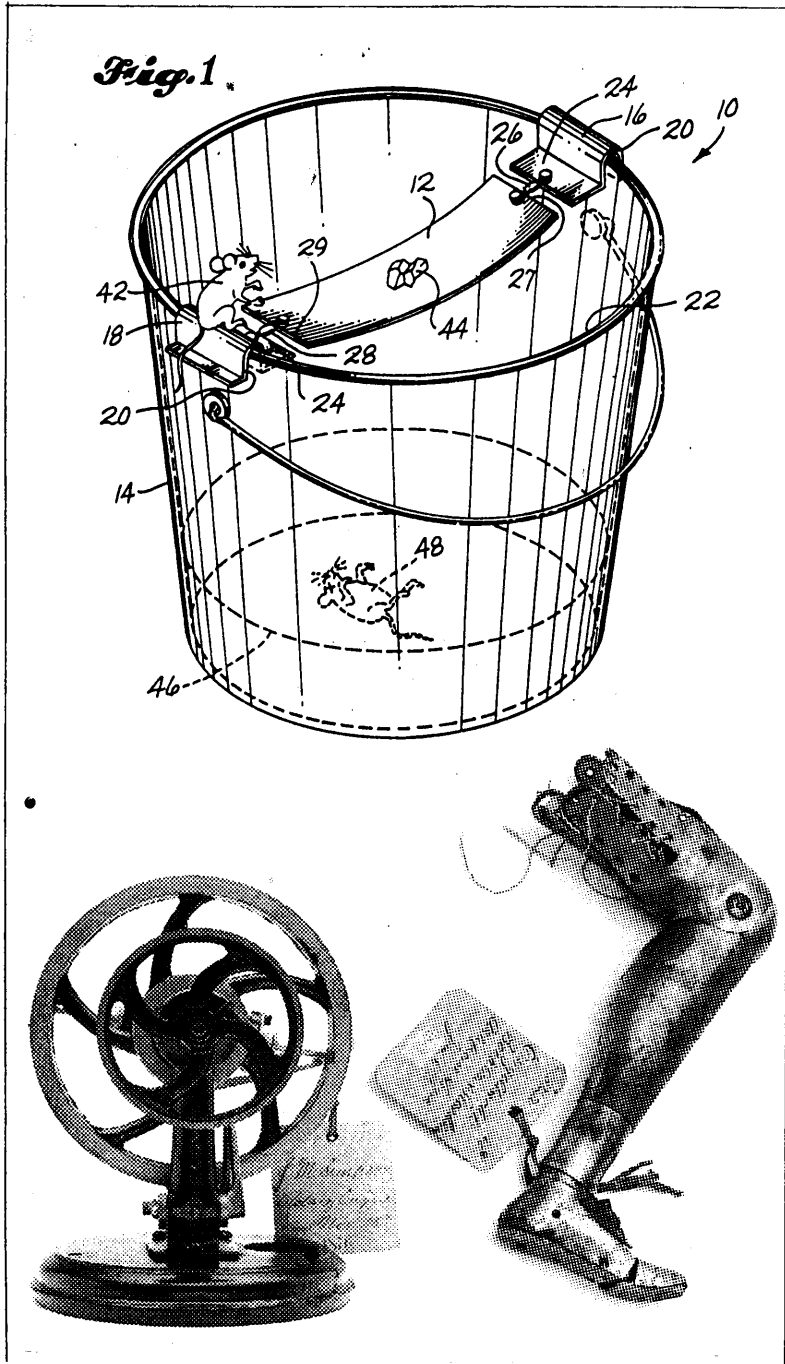
Noting in the show's catalogue that there have been other exhibitions celebrating the 200th birthday of the patent office, Professor Le Mée, who heads Cooper Union's school of mechanical engineering, said Cooper Union was not attempting an encyclopedic survey but, rather, seeking to show "something of the variety, ingenuity, playfulness, and, indeed, quirkiness of the inventive mind at work in the matrix of the times."

Most of the models on display were never actually produced, which is fortunate in some cases, Professor Le Mée said. For instance, some swings for children would have been very dangerous, he said, demonstrating one whose double pendulum would have resulted in "chaotic motion."

Models of clothes washers indicate they would have required more energy to use than simply washing the clothes by hand, he noted. And a box designed to create a vacuum while a person sits in it wearing a helmet could hardly have cured afflictions.

### Personal Favorites

His own favorite in the group, he said, is an elegantly simple air filter whose design is still in use. An associate curator, Tori Eggherman, who is a student at Cooper Union, favored a



Cooper Union (photographs by Joanne Savio)

Among the 19th-century inventions on display at the Cooper Union for the Advancement of Science and Art are a mousetrap, top, a rotary engine, left, and an artificial leg. The free show runs through Feb. 15.

folding clothes dryer whose clone she herself uses, she said.

Representing contemporary times in the show will be Chuck Hoberman, who invents large things that fold down into small things, many of them retaining their shape in the process.

Mr. Hoberman, who has a degree in sculpture from Cooper Union and a master's degree in mechanical engineering from Columbia University, has patents on certain folding patterns, which he invented using mathematics and computers.

Displaying samples the other day of such items as a "snail-to-tepee configuration" and a "nested zig-zag," he said he had not yet found uses for most of his work, although some have wound up as toys for his nephew. Many could serve as shelters, or sites for traveling exhibitions, he said. A model for one design that turns into a tent will be on display at Cooper Union, motorized so the public

can enjoy the spectacle of its transformation. Other of his works will be represented in illustrations.

Also representing modern times will be a playful addition by the Cooper Union staff — a wooden model of a DNA molecule and a mouse, both to be revealed when the hat-shaped valise is opened. They refer to the first patent for a live animal, in 1988. Up to then, Professor Le Mée explained, one could get a utility patent (for something of use), a design patent (the Statue of Liberty has one) or a patent for strains of plants.

But along came Harvard, to patent a special kind of "transgenic non-human mammal" for tests of suspected carcinogens.

"They did something to the DNA so that the mouse can get cancer readily," Professor Le Mée said. Which might be thought of as a better mouse, or another mousetrap.

## For CBS, A Coup In Ratings Race

By BILL CARTER

The first Sunday showdown of what is expected to be the most intensely competitive month in recent television history produced a lopsided victory for CBS, thanks largely to Glenn Close.

If the race in February continues to be as close as it is expected to be, the performance of Sunday night's movie, "Sarah, Plain and Tall," starring Ms. Close (who was also the movie's executive producer), could provide the difference in what would be a stunning upset: a victory by CBS in the rating sweep month, a period when program rating results are most widely used to set rates for advertisers. CBS, in the words of one of its own executives, was "a noncompetitive third" in every sweep period last season.

Although the programming during this sweep month is scaled down from that in previous years, all three networks broadcast high-profile, heavily promoted television movies on Sunday. NBC came in second with Brian Dennehy in a fact-based drama about vigilante justice, "In Broad Daylight." ABC finished a distant third, with the first part of the lavishly produced "Son of the Morning Star," based on Evan S. Connell's book about Custer's Last Stand.

### A Hit in the Early Ratings

"Sarah, Plain and Tall" scored a spectacular 25.2 rating in the overnight ratings, which measure viewing in the country's 25 largest cities. CBS generally does even better in the ratings for the entire country. Those will be released today by the A. C. Nielsen Company.

CBS averages a 13.8 rating for its Sunday night movie. (Each rating point represents 931,000 homes.) The bonus of almost 12 rating points would translate over the length of the sweep rating period to about three-tenths of a rating point.

"That could play a huge role in a close race — which is what everyone expected we'd have this month," said David F. Poltrack, the senior vice president for research for CBS.

### Changing View of Numbers

February is one of four months designated as sweep rating periods. The actual sweep numbers are less significant than they used to be. Television advertising time is now purchased almost totally on the basis of the age and gender makeup of the audience and not on the number of households watching a show. Advertising buyers are also aware that the sweep months are often filled with special programming that is not entirely representative of a network's normal schedule.

But the networks have not overloaded recent sweep periods with special programming, depending more on regular programs. For example, no network has an extraordinary mini-series this month, though each has a two-part, four-hour movie.

CBS is leaning heavily on its own past for special material, including a television movie next Sunday about

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