

### ... Patent

aspects of recombinant DNA research actually are patentable is the jurisdiction of the patent office and the courts. Stanford and the University of California have filed a patent application for the techniques developed by Stanley Cohen and Herbert Boyer for transplanting genes from higher organisms into a bacterium using small DNA segments called plasmids (SN: 8/7/76, p. 87).

Bacteria containing recombinant DNA may also be patentable. Two recent decisions specifically allow patents of live organisms. In October the U.S. Court of Customs and Patent Appeals allowed the Upjohn Co. to patent a drug-producing bacterium (SN: 10/15/77, p. 247). More recently the court ruled 3 to 2 that General Electric has the right to patent a bacterium that eats petroleum. Neither bacterium was produced by interspecies gene transplant.

The oil-eating bacterium contains genes from four different strains of *Pseudomonas* bacteria (SN: 9/20/75, p. 180). That "super-bug" digests petroleum several times faster than any of the individual strains. A spokesman for General Electric says the company will now reapply for the patent, but that the decision of the patent court may be appealed to the Supreme Court. □

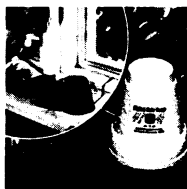
## There's a hot time in the new tokamak

Ever since tokamaks were invented, many physicists have seen them as the devices that will ultimately lead to working thermonuclear fusion reactors. A tokamak is a toroidal (doughnut-shaped) chamber in which magnetic fields confine a plasma of ions and electrons. The experimental goal is to get this plasma hot enough and dense enough and to hold it long enough, so that fusions between the ions (that is, between atomic nuclei) are numerous enough to yield more energy than it takes to get them started.

The U.S. Department of Energy reports that its newest and largest experimental tokamak, the Princeton Large Torus at the Princeton Plasma Physics Laboratory in New Jersey, recently achieved new records for ion temperature and energy yield. The ion temperature went as high as 26 million degrees, the highest ever in a tokamak. The energy yield, which was carried by  $10^{22}$  neutrons in discharges lasting a tenth of a second, is 50 times as high as the previous record, which was set by the ORMAK machine at the Oak Ridge National Laboratory. According to Edwin E. Kintner, director of DOE's Office of Fusion Energy, these results reinforce theoretical predictions that energy breakeven will be achieved in the Tokamak Fusion Test Reactor, a larger device now under construction at Princeton. □

MARCH 18, 1978

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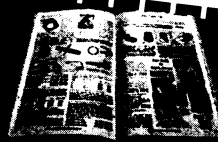
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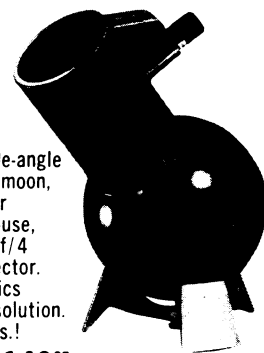


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## Carter has trouble stopping breeder

Last November, in his fight to kill the Clinch River Breeder Reactor demonstration plant, President Carter vetoed a budget authorization bill that included \$80 million for the CRBR. To actually kill the CRBR, however, Carter had to veto the supplemental appropriations bill, also (SN: 11/12/77, p. 312).

On March 7, Carter took another tack; he signed the supplemental appropriations bill but announced that he intended to use its CRBR funds to complete the reactor's design "and to terminate further CRBR activities in an orderly way." According to the General Accounting Office, that's illegal.

On March 10, Elmer B. Staats, U.S. Comptroller General and head of GAO, notified the President that the Administration can *only* use supplemental funds for activities stated in the bill. In his letter to the president, Staats said that if the administration chose to terminate CRBR, those federal officials certifying the termination "shall be held accountable for and required to make good to the United States the amount of any payment prohibited by law." □

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