



Utility and Disclosure

William Fisher



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Policy Arguments Pertaining to Early-Stage Research

Favor patents on early-stage research

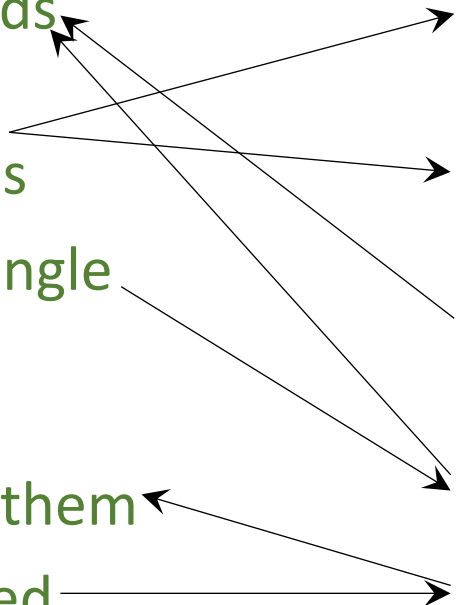
(Rich, Harlan, Kieff)

- Stimulate R&D for new compounds
- New-use (blocking) patents are possible and will create incentives
- Patentee who has discovered a single use can claim just as much
- Encourage inventors of new compounds to disclose, not hide them
- Disclosure doctrine should be fixed
- Utility reviews are costly and have no apparent benefit

Oppose patents on early-stage research

(Fortas, Eisenberg, Heller, Rai)

- Patents on primary research tools impede cumulative innovation
- No incentive for others to explore uses
- Alternative motivations for early-stage research
- Risk giving patentee too much ground
- Art of patent drafting impedes disclosure
- Efficient-boundary theory





Assigning Property Rights to a Large Tract of Public Land

Conservation (state)

Wilderness (federal)



Private property (farmers)



Beneficial Utility Problems

- Anti-photo radar license plate attachment
- Large capacity ammunition magazine
- Improved anti-personnel landmine
- Terminator gene
- Technique for increasing efficiency of Hydraulic Fracking
- Sarco



(19) **United States**

(12) **Patent Application Publication**

Ice-ton

(10) **Pub. No.:** US 2011/0277358 A1

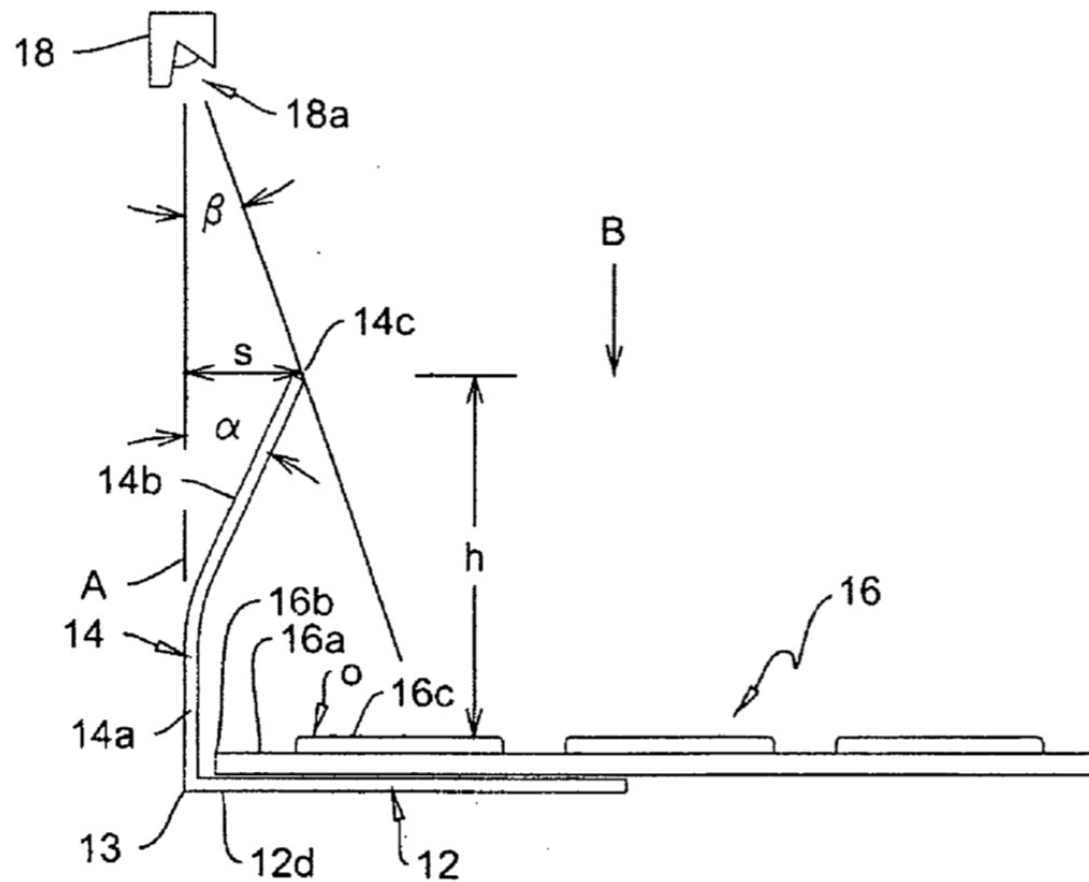
(43) **Pub. Date:** Nov. 17, 2011

(54) **ANTI-PHOTO RADAR LICENCE PLATE ATTACHMENT**

(76) **Inventor:** Terence Richard Ice-ton, Penticton (CA)

(57) **ABSTRACT**

A anti-photo radar licence plate attachment includes a base and a fin. The base is adapted for mounting to a vehicular licence plate, at one end only of the vehicular licence plate so as to be substantially parallel with and flush with the licence plate. The fin is mounted to or formed as part of the base along a common edge between the fin and the base so as to extend substantially orthogonally from the base. The fin is substantially vertically oriented when the base is mounted to licence plate, and inclined over the licence plate so that a photo radar camera at roadside viewing the licence plate at an acute angle has its view of the character or digit on the licence plate closest to the fin blocked by the fin.





United States Patent [19]

[11] **Patent Number:** **4,965,951**

Miller et al.

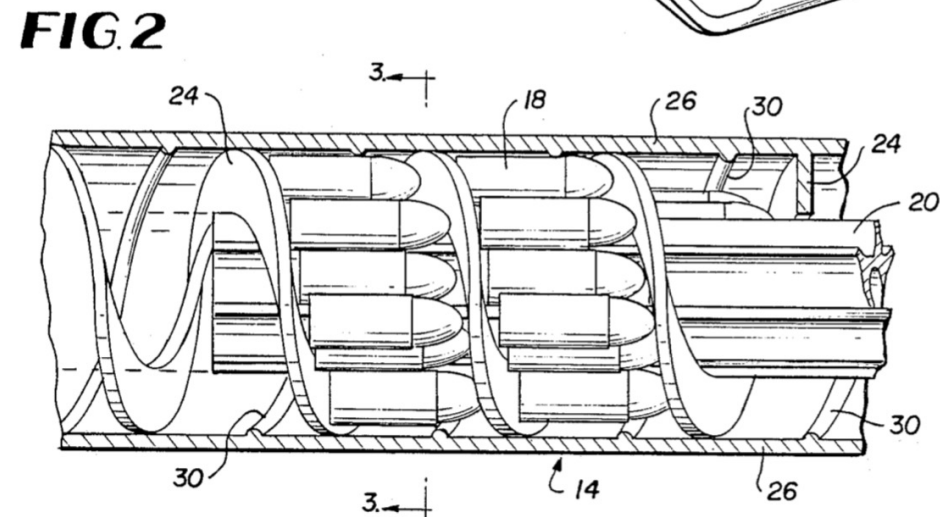
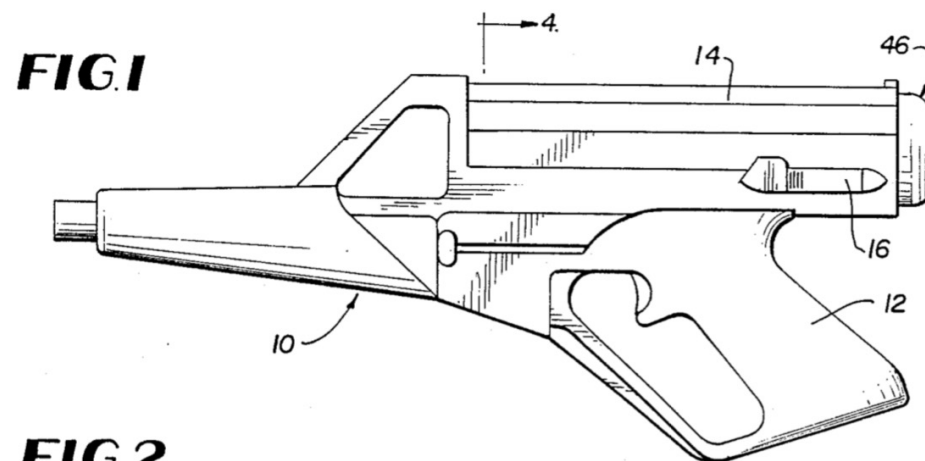
[45] **Date of Patent:** **Oct. 30, 1990**

[54] **LARGE CAPACITY AMMUNITION
MAGAZINE**

[76] **Inventors: Michael K. Miller; Warren D.
Stockton, both of 405 E. 19th St.,
Bakersfield, Calif. 93305**

[57] **ABSTRACT**

An improved magazine wherein cartridges are loaded therein in two nested helical rows. Improvements further include a spring loaded feed lip bar which permits rapid loading and unloading of the magazine; a rod inside the drive spring in the magazine which prevents kinking and other undesirable operation characteristics of the main drive spring and which also permits the main drive spring tension to be released only when the magazine is not mounted on the cooperating gun; and a folding winder which is part of the magazine's rear end clutch and winder assembly which speeds winding of the spring.





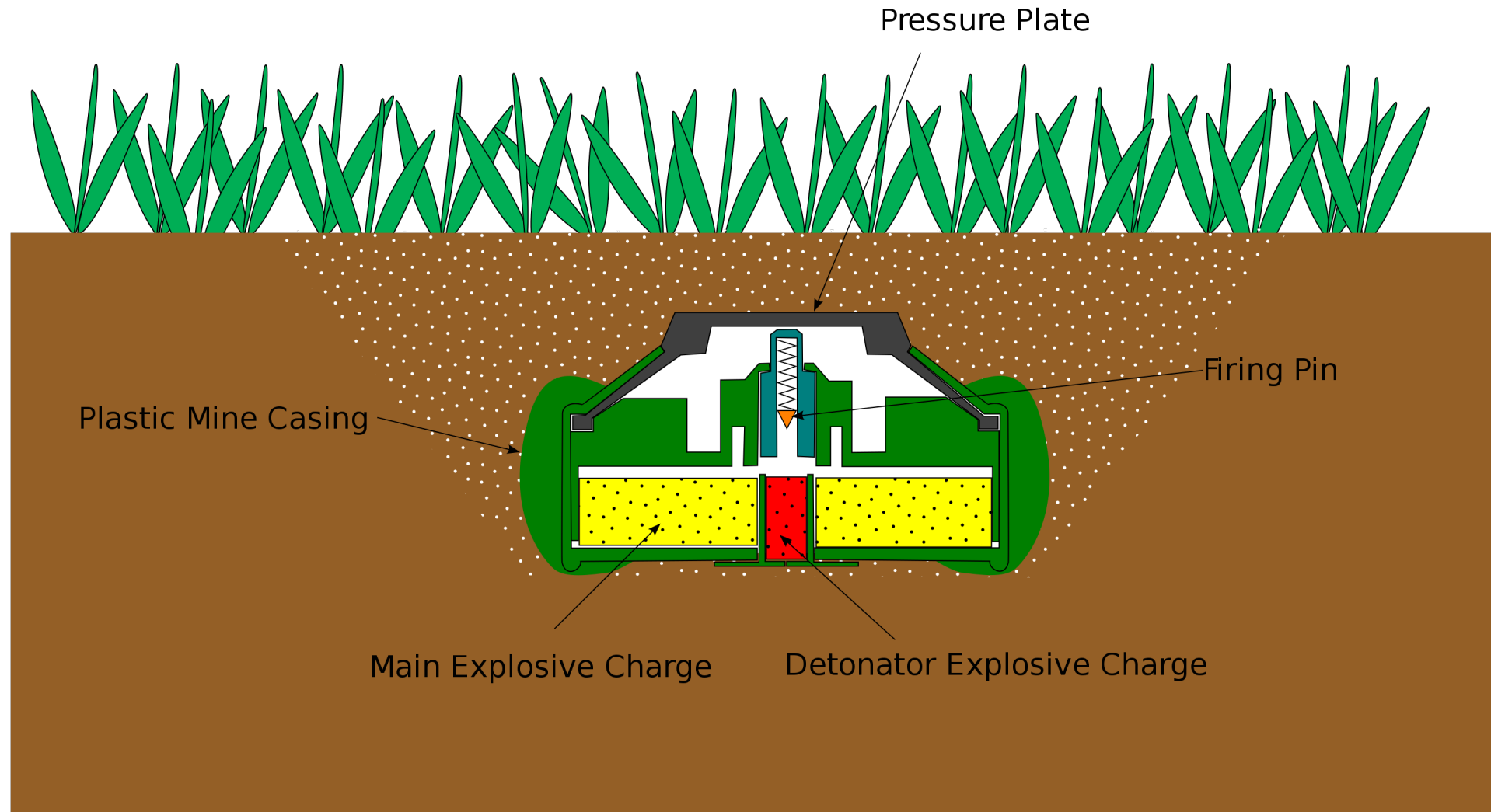
Anti-personnel mine in Cambodia

Source: https://en.wikipedia.org/wiki/Anti-personnel_mine#/media/File:Anti_personnel_mine.JPG





Anti-Personnel Mine (Blast Type) Components





May 6, 1969

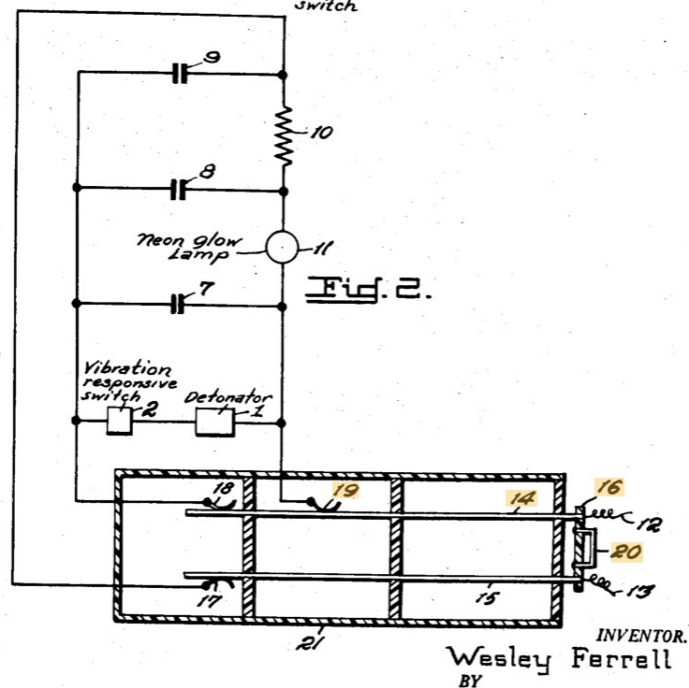
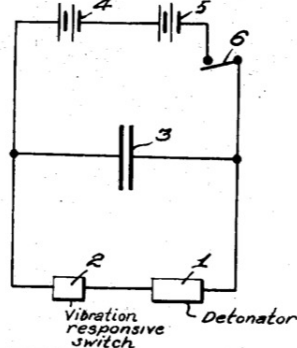
W. FERRELL

3,442,212

ANTIPERSONNEL LAND MINE

Filed April 22, 1960

Fig. 1.



S. J. Rotondi & A. J. Dupont

A problem in the laying of land mines is to provide a mine which is entirely safe to handle when it is being laid and will remain safe for a long enough period for the laying personnel to get clear of the area. In conventional type mines the person who lays the mine removes a safety device such as a pin, wire or the like and the mine is then armed and ready for detonation. It can thus be seen that if the mine is to be sensitive for the purpose intended it is also dangerous to the laying personnel after having been armed.

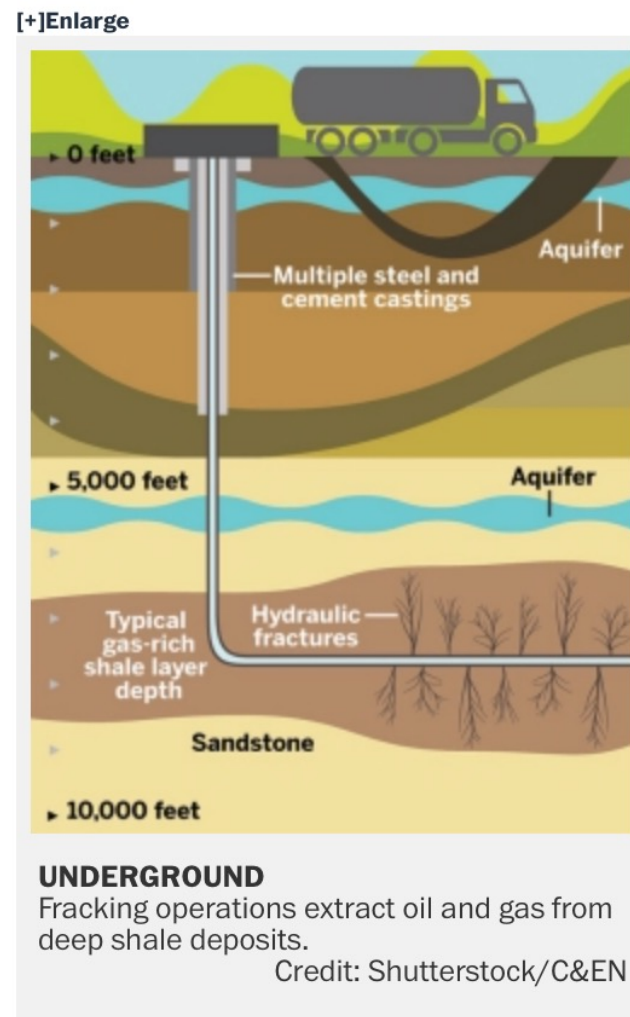
The mine of the present invention overcomes the above noted deficiencies of conventional land mines. The mine of this invention is provided with an electrical arming means which has a time delay in the circuit. When personnel lay the mines they initiate the arming process. A charge is then built up on a condenser and until this charge reaches the amount necessary to operate the detonator the mine is safe. By properly selecting the components of the arming circuit this delay can be made to be several minutes, thus giving the laying personnel ample time to retreat from the area. The detonator is operated by suitable means such as a vibration responsive switch and it can be seen that this means can be made as sensitive as desired Without endangering the laying personnel.

An object of this invention is to provide a land mine which is safe to lay and very sensitive after having been laid.



Plant Enzymes Protect Fracking Fluids

During fracking, operators force fracking fluids carrying proppants such as grains of sand or particles of aluminum oxide down wells to shale deposits. The proppants, which prop open fractures in the shale, get injected into those fractures with either high-pressure fluid or high-viscosity fluid. Plant-based thickening agents such as cellulose and guar gum are among the chemical additives that help increase fracking fluid viscosity. Sometimes though, bacteria growing in the fracking fluid cause premature breakdown of polysaccharide bonds in these thickening agents and the fluids lose viscosity. In a 2014 patent (**WO 2014099191**), Denton Sorrells from **Schlumberger Technology** claims that plant enzymes can prevent this premature breakdown. Sorrells suggests that a family of proteases, specifically cysteine proteases, is highly effective at protecting cellulosic thickening agents. They disable bacteria by selectively cleaving cellulases that decorate the microbes' outer membrane, he says. It's these cellulases that attack polysaccharide bonds. Not only do the plant enzymes work, the author contends, they're economical: Many cysteine proteases can be easily extracted from plants and are commercially available.





US 20140166294A1

(19) **United States**

(12) **Patent Application Publication**
Sorrells

(10) **Pub. No.: US 2014/0166294 A1**

(43) **Pub. Date: Jun. 19, 2014**

(54) **CYSTINE PROTEASES FOR BACTERIAL CONTROL**

(71) Applicant: **SCHLUMBERGER TECHNOLOGY CORPORATION**, Sugar Land, TX (US)

(72) Inventor: **Daniel Denton Sorrells**, Sugar Land, TX (US)

(73) Assignee: **SCHLUMBERGER TECHNOLOGY CORPORATION**, Sugar Land, TX (US)

(21) Appl. No.: **13/718,877**

(22) Filed: **Dec. 18, 2012**

Publication Classification

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C09K 8/66 (2006.01)
E21B 43/267 (2006.01)
E21B 43/26 (2006.01)

(52) **U.S. Cl.**

CPC . **C09K 8/66** (2013.01); **E21B 43/26** (2013.01);
E21B 43/267 (2013.01)

USPC **166/308.2**; 507/201; 507/101; 166/308.1

(57) **ABSTRACT**

The current application generally relates to the use of cysteine proteases in water pretreatment that reduce or eliminate premature enzymatic breakage of polysaccharide injection fluids. Plant enzymes can be used as a control method to interrupt bacterium capabilities to interact and destroy polysaccharidases and other enzymes that may prematurely break frack fluids and other biological thickening agents. Possible enzymes come from a group of proteins known as cystine endopeptidases such as bromelain, papain, calpain, and ficain, and the like.

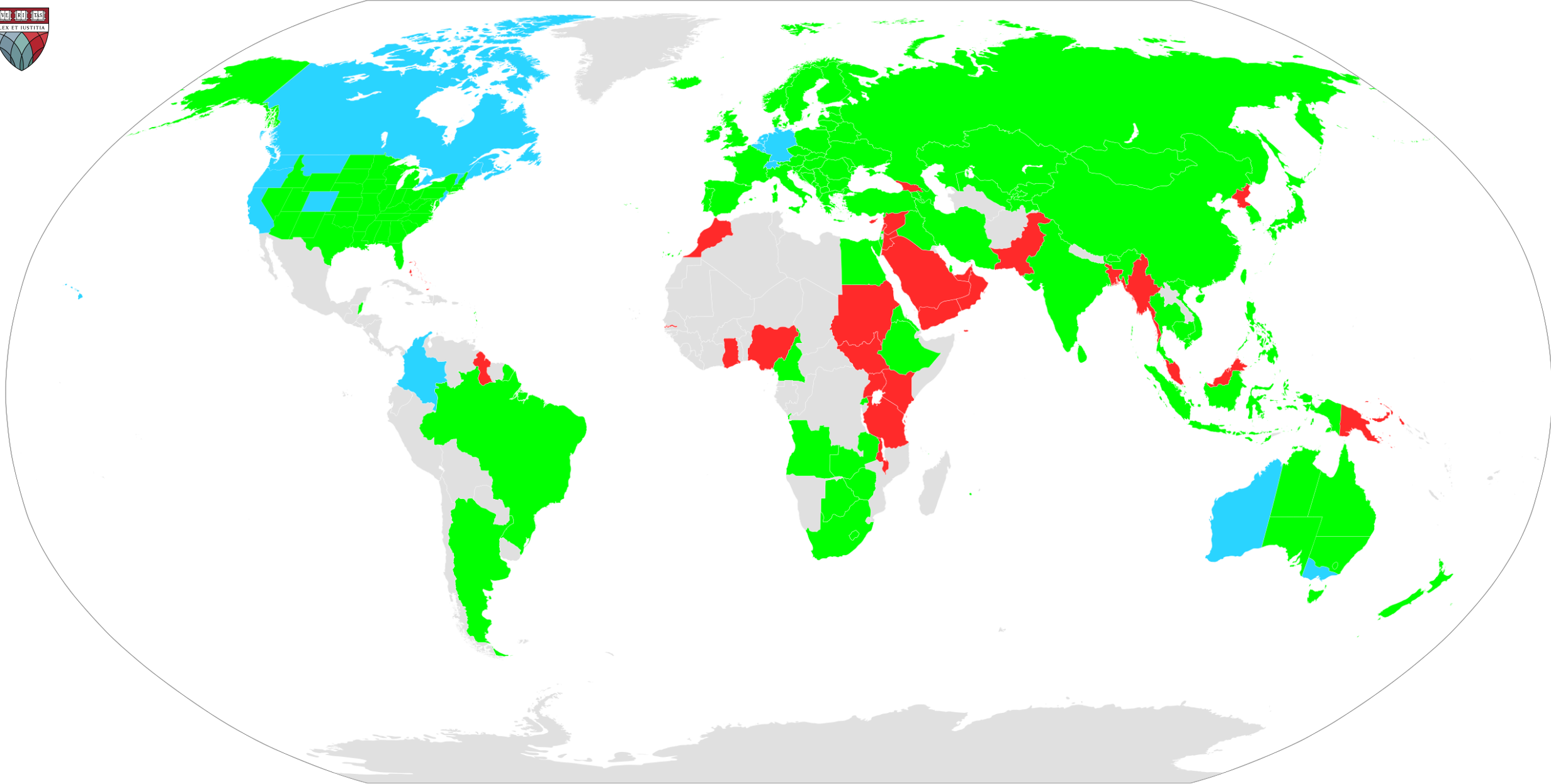


“A controversial suicide pod that enables its occupant to kill themselves at the press of a button went on display at an Amsterdam funeral show on Saturday. Called the ‘Sarco,’ short for sarcophagus, the 3D-printed machine invented by Australian euthanasia activist Philip Nitschke and Dutch designer Alexander Bannink comes with a detachable coffin, mounted on a stand that contains a nitrogen canister.

‘The person who wants to die presses the button and the capsule is filled with nitrogen. He or she will feel a bit dizzy but will then rapidly lose consciousness and die,’ said Nitschke. The Sarco was a device ‘to provide people with a death when they wish to die,’ Nitschke said.”

Source: The Guardian, April 14, 2018





Suicide legislation by country | Suicide and assisted suicide illegal | Suicide legal, no assisted suicide | Suicide and assisted suicide legal

Source: Wikipedia



Method of Enhanced Interrogation

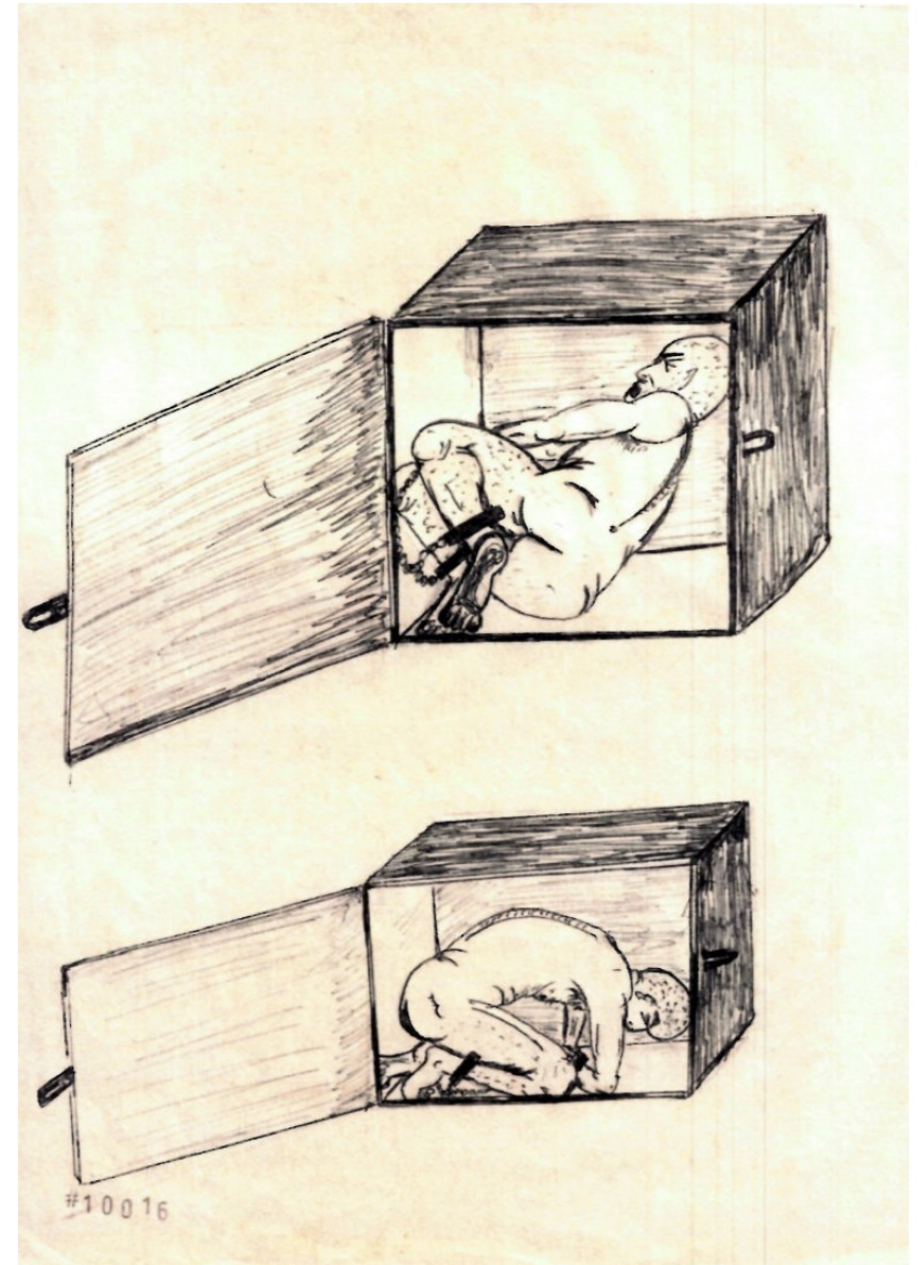
Confinement of a prisoner in a box with dimensions:

Width: 53cm

Depth: 76cm

Height: 76cm

Sources: Carol Rosenberg, "What the C.I.A.'s Torture Program Looked Like to the Tortured," New York Times, December 4, 2019; "CIA Tactics: What is 'Enhanced Interrogation,'" BBC, December 10, 2014



Abu Zubaydah, Courtesy Mark P. Denbeaux



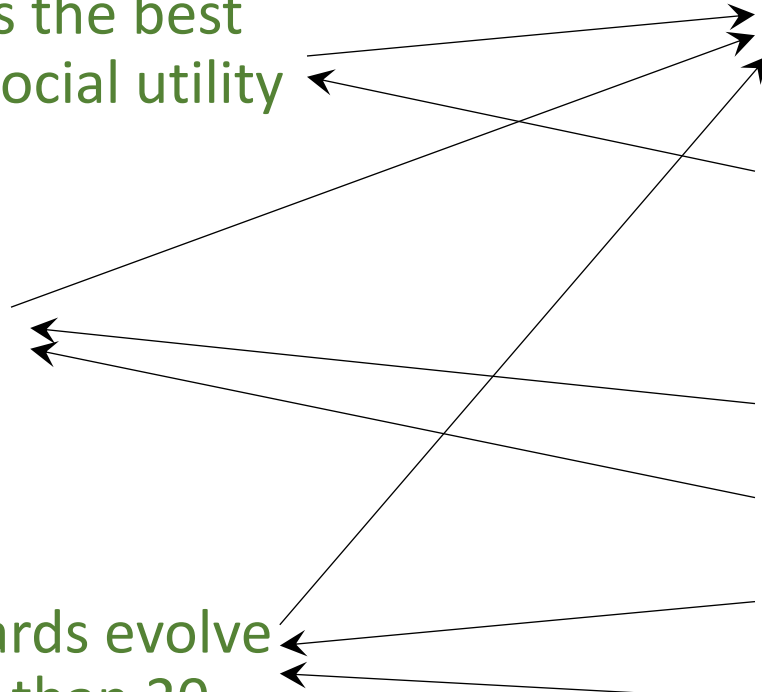
Beneficial Utility Debate

Minimal beneficial utility requirement:

- 1) The market is the best measure of social utility
- 2) Institutional Competence
- 3) Moral standards evolve more rapidly than 20-year cycles.

Significant beneficial utility requirement:

- Patents should be available only for inventions that promote social welfare
- Misalignment of social welfare and consumers' ability and willingness to pay
- PTO could develop this expertise
- Congress could set guidelines
- 20-year lag is not prohibitive
- Expropriation of extant patents could supplement adoption of new grounds for disqualification





Purposes of Disclosure Requirement

- a. Compel patentee to reveal information that will facilitate further technical progress
- b. Provide competitors guidance in what they may and may not do
- c. Provide courts guidance in understanding the invention and construing the claims
- d. Prevent patentee from locking up a disproportionate territory
- e. Reinforce priority principles by denying priority dates to persons who have not yet fully achieved the invention