

production. Patents accomplish this very neatly, wherever they work, since control of the patent gives control of at least what firms may work the novelty. If and when it becomes economical to work the invention in more than one place, the patentee will presumably do so, either starting a duplicate works himself, or licensing someone else to do so, under limitations.

[176] How much concentration of manufacture is needed varies widely among inventions, chiefly by the principles that the smaller the production must be, the more objectionable is splitting it up among competitors; and by the principle of Prime Costs. The larger the share of prime costs in the productive process, for setting up working drawings, molds, dies, special machines, assembly lines, and scarcely convertible buildings, and the less completely this overhead is occupied by the given production, the stronger is the case for concentrated, even monopolistic rather than small-scale, competitive working. This is why, even without regulated patents monopolies are universally acceptable in the case of copyrights, railways, and pipe and wire utilities. The application of this principle of patents, with such wide variation between inventions, should be determined by economic, not ordinary legal considerations. For instance, in the making of common pencils, unlimited competition were probably desirable, but for typewriters, with their smaller production and expensive tooling-up, probably only a few competing concerns were right for standard machines, less for portables, and only one for a portable machine with variable type. The same considerations apply to our fourth purpose of patents, that of preventing use of inferior inventions.

[177] If and where the patent system is replaced by any other means for securing invention, it were well to take care of this seventh purpose. Invention by a government, university, foundation, trade association or award system may meet every need but this one, supposing that someone has carried the invention through the long and expensive developmental process, to the stage of perfected use, as noted under the first purpose, and then drops control of the completed invention (§ 521). And so, too, under compulsory license, which our courts have latterly been imposing wholesale in antitrust cases (when they do not open the patents free to all, in effect canceling them). All these provide in themselves no solution for the problem of concentration for efficient production, as patents do. It is a big problem, involving not only the size, location, ownership, and perhaps competition of plants, which we have been considering, but also standardization of products. We shall continue our discussion in the more appropriate context of ¶ 218-221.

[178] A special case of our first economic principle (that patents evoke invention) is mentioned by Reik, in that patents "force industry to carry out research work tirelessly as a defensive measure against being outflanked by competitors".²¹⁶ This does not further mean that a firm must necessarily file defensive or other patents; mere publication or public use would usually be sufficient.

[179] Still another and very common case of the first principle is *invention for circumvention*, to get around someone else's patent—"inventing around" it is sometimes called. The social principles of invention, especially the principles of duplicate and of equivalent invention²¹⁷ entail that numerous seekers are usually trying to reach