

**THE EXPEDIENCY OF PROTECTION FOR
INVENTIONS, A PAPER READ BY F. J.
BRAMWELL, PRESIDENT OF THE INSTITUTION
OF MECHANICAL ENGINEERS, BEFORE THE
SOCIETY OF ACTS, DECEMBER 2, 1874; WITH
DISCUSSION, REPLY, AND APPENDICES**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649579655

The Expediency of Protection for Inventions, a Paper Read by F. J. Bramwell, President of the Institution of Mechanical Engineers, Before the Society of Acts, December 2, 1874; With Discussion, Reply, and Appendices by Various

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THE EXPEDIENCY
OF
PROTECTION FOR INVENTIONS.

A PAPER

READ BY

F. J. BRAMWELL, M.Inst.C.E., F.R.S.,
PRESIDENT OF THE INSTITUTION OF MECHANICAL ENGINEERS,

BEFORE THE SOCIETY OF ARTS, DECEMBER 2, 1874.

WITH DISCUSSION, REPLY, AND APPENDICES.

LONDON:

PRINTED BY TAYLOR AND FRANCIS, RED LION COURT, FLEET STREET.

1875.

CONTENTS.

December 2.		Page
Paper, "The Expediency of Protection for Inventions"		1
Discussion.	Sir ANTONIO BRADY	31
"	Major HOTCHKISS	31
"	Mr. W. NEWMARCH, F.R.S.	33
"	Mr. GALLOWAY	35
"	Mr. J. HORATIO LLOYD	35
"	Mr. CHADWYCK HEALY	36
"	The CHAIRMAN (Mr. J. FITZJAMES STEPHEN, Q.C.)	36
December 9.		
Discussion (<i>continued</i>).	Captain SELWYN, R.N.	39
" "	Mr. F. W. CAMPIN	41
" "	Mr. J. HORATIO LLOYD	41
" "	Mr. J. HINDE PALMER, Q.C.	45
" "	Mr. B. SAMUELSON, M.P.	49
December 16.		
Discussion (<i>continued</i>).	Lieut.-Col. STRANGE, F.R.S.	53
" "	Mr. H. T. WOOD	55
" "	Mr. JOHN COBYTON	58
" "	Mr. W. SMITH	59
" "	Mr. THEODORE ASTON, Q.C.	61
" "	Mr. E. A. COWPER	64

	Page
Discussion (<i>continued</i>). Mr. T. R. CRAMPTON	66
" " Sir FRANCIS KNOWLES, Bart.	67
" " Mr. JOHN IMRAY	68
" " Dr. COLLYER	70
December 18.	
Discussion (<i>continued</i>). Dr. SIEMENS, F.R.S.	71
" " Mr. H. COLE, C.B.	72
" " Mr. T. WEBSTER, Q.C.	75
" " Mr. W. GRIFFITH	75
" " Mr. W. SMITH	77
" " Mr. T. WEBSTER, Q.C.	77
" " Mr. W. GRIFFITH	77
Reply by Mr. BRAMWELL	77
<hr/>	
Appendix A. Memorial to Lord Romilly as to additional Commissioners	114
" B. Resolutions of Social Science Committee, &c., 1866	119

THE EXPEDIENCY
OF
PROTECTION FOR INVENTIONS.

BY
F. J. BRAMWELL, M. Inst. C.E., F.R.S.,
PRESIDENT OF THE INSTITUTION OF MECHANICAL ENGINEERS.

[*Read before the Society of Arts, 2nd December, 1874.*
J. FITZJAMES STEPHEN, Esq., Q.C., in the Chair.]

I SHALL make no apology for bringing this subject before you to-night; its great importance is a sufficient reason for adding one more to the number of papers that within the last few years have been written upon it.

There is a difficulty in dealing with "Protection for Inventions," or, in other words, the recognition by the State of property in inventions, which it is believed does not affect any other subject on the law of which papers are written.

In other cases, when discussion is excited, the extreme scope of the contested questions does not go beyond the modification of the law under consideration. All parties agree that there must be a law of some kind; but with respect to the subject of patents this is not so, for there are certain persons who insist there should be no Patent-law at all; they hold it to be wrong in principle, and they endeavour, not to improve the existing law, but to make an end of it once and for all. Therefore, in a paper on the expediency of protection for inventions, written by one who believes that some kind of Patent-law is desirable, two things may well be treated of—the one, "Aye or No, shall there be any Patent-law at all?" the other, "Assuming a Patent-law, what are the best provisions to embody in it?"

To properly consider, even in the merest outline, both these questions would occupy far longer time than accords with the fair limits of a paper to be read before this Society; therefore, on the principle that it is no use dealing with details when you are in doubt about the very essence of a matter, or, to borrow the language of Parliamentary Com-

mittees, that it is idle to go into "clauses" before you have proved your "preamble," I propose in this paper to consider, and to consider only, the broad question, "Is it expedient that there should be a Patent-law for the protection of Invention?" And as I refrain from discussing the alterations of any clauses in the existing law, I must be prepared, and I am prepared, to deal with the question on the following issue:—Assume that the existing law with all belonging to it is to remain unaltered and unimproved, is it expedient that there should still be protection for inventions?

I will not urge before you the "Right" of property in invention. I am aware that advanced political economists can demonstrate there is no such thing as "Right;" and thus they admit (when they are discussing questions of political economy, but probably not at other times) that the houses they live in, the clothes they wear, and the money in their pockets are not theirs because they are "rightfully" theirs, but because it is "expedient" for the benefit of the whole community that the possession of property should be secured to individuals.

I will deal with the consideration of the Patent question upon this hard and wholly unsentimental ground, and I will abstain from appeals to those feelings of natural justice which are outraged by the suggestion that although a man who goes and dredges up an oyster, and finds within it a pearl, is to be the legal possessor of that pearl, and may call upon the laws of his country, and not call in vain, to secure it to him against all comers, another man (a Cartwright, a Watt, a Crompton, a Neilson, a Bessemer, a Siemens) is to have no property in his inventions—inventions which are pearls of great price, and are destined, not to the private enjoyment of the finder, but to the benefit of mankind. More especially does it seem unfair to inventors when we consider that their pearls have been obtained, not by a few hours of mere toil of the body, but by the employment of years in anxious thought and weary experiment.

Having made these preliminary remarks, I will now consider the question, "Is it expedient, in the interest of the community as a whole, that there should be protection for invention?"

I will take it as conceded that it is expedient there should be improvement in manufacture. Clearly all must be interested in obtaining better, stronger, more elegant, more numerous, and cheaper articles, the product of manufacture and of patentable invention. In this age (as I have recently had occasion to remark in my address to the Institution of Mechanical Engineers, as President) it should always be remembered there is not an article of food, there is not a garment,

there is not a portion of the house we live in, there is not a book that we read, nor a ton of the fuel that warms us, that does not come to us on easier terms, better in every way and cheaper, in consequence of mechanical improvement; and, under our present law, nearly all such improvements constitute new manufactures, which that law recognizes as subjects of patentable invention.

Take our home-grown food; it is, under the blessing of the Almighty, the product of the skill of the intelligent farmer and of the labour of hard-working men; but of those backed by what? Not capital alone, as capital, but capital invested in steam-ploughs, in machines for sowing, in reaping-machines, in steam-engine power, in traction-engines, and in the vast number of other implements which, year by year, make the shows of the Royal Agricultural Society one of the most interesting of all exhibitions to a thoughtful man, who has the welfare of the great agricultural industry of England at heart. It is by the aid of such inventions that the English farmer, though weighed down by heavy rental, by taxes, by dear labour, and by uncertain seasons, is enabled to hold his own in the face of free trade, admitting (in fact welcoming) the unlimited introduction of food from all parts of the world.

And with regard to that food, whether it be grain, flour, cattle, Australian preserved meat, or tea, coffee, or sugar, most of this has been prepared by machinery, and machinery propels the vessels by which these products are brought to our shores.

Again, in our towns, water is laid on through every street, circulates there to supply the wants of all, and does it by the aid of mechanical inventions. And in most of our towns also, light, in the form of gas, circulates and owes its origin to a happy combination of chemical and mechanical invention.

As for clothing, it would be a waste of time to enlarge upon the extent to which mechanical invention comes into play. The cotton manufactures of Lancashire, the woollen and linen manufactures of Yorkshire, the lace and hosiery of Nottingham and Leicester, all are the results of mechanical invention. Again, our movement from place to place (unless the journey be a very short one) is due to some of the highest developments of mechanical skill in the locomotive and in the iron steam-vessel.

So much for the conveyance of our bodies. Next for the conveyance of our thoughts, whether this be done in the form of letters carried by the post, or of books printed and circulated all over the world, or, whether, when more urgent need arises, it is done by the instantaneous

telegraphic message, once more invention has to be acknowledged with gratitude. The paper, the steel pen, the type, and, now-a-days, even the very setting-up of the type, the electrotype plate, the steam printing-press, all matters in the domain of letter-writing and book-producing, are the offspring of mechanical and chemical invention; while the electric telegraph, from the comparatively coarse covering of the deep-sea cable to the delicate instrument by which signals are transmitted and received, involves a combination of some of the most excellent inventions that have ever emanated from the human intellect.

The foregoing matters may be called the necessities of life; but the luxuries and adornments are equally under obligation to mechanical and chemical invention. Furniture for instance: the woodwork has been prepared by the strong but simple sawing-machinery, afterwards it owes its form to modelling-machines capable of producing the most exquisite carving. The covering of chairs and couches, the materials for curtains and carpets for our rooms are the produce of the chemical art of the dyer and of the engineering skill of the spinning-machine manufacturer and of the loom-maker. Our windows and looking-glasses are the result of scientific chemical combinations, producing in the first instance a material translucent, but not transparent until it is subjected to a succession of ingenious mechanical operations in which large invention is displayed.

Passing from these peaceful and happy uses of invention, and dwelling for a moment on warlike considerations, one finds that within the last twenty years (that is to say, since the period when the mechanical engineer took up the subject) the art of the gunner and of the artilleryman has become converted into a science; and thus even in the profession of arms acknowledgment is due to mechanical invention.

Not an unnatural sequence to the consideration of the public calamity, "war," is the train of ideas which proceeds from the more private disaster of "fire." In this instance it is by mechanical engineering a supply of water is brought within a few yards of the conflagration; and it is to mechanical engineering that we are indebted for the steam fire-engine, that wonderful concentration of great force within the minimum of space and weight by the aid of which tons of water are poured forth above the highest buildings.

Having thus endeavoured to call to your minds how absolutely dependent we are for every necessary and for every comfort upon invention and improvement, I trust you are prepared to agree with me, that although there may be persons who oppose protection for inventions, there cannot be any who will not admit that we have largely