

Opinion of the Court.

SINCLAIR & CARROLL CO., INC. v. INTER-
CHEMICAL CORPORATION.

CERTIORARI TO THE CIRCUIT COURT OF APPEALS FOR THE
SECOND CIRCUIT.

No. 656. Argued April 5, 1945.—Decided May 21, 1945.

1. In suits in the federal courts for infringement of patents, the better practice usually is for the court to inquire fully into the validity of the patent. P. 330.
2. It is essential to the validity of a patent that the subject-matter reveal "invention," "more ingenuity . . . than the work of a mechanic skilled in the art." P. 330.
3. Patent No. 2,087,190, claims 3, 10, 11, 12 and 13, to Gessler, for a printer's ink which is non-volatile at room temperature and highly volatile when heated, which involved merely the selection of a known compound to meet known requirements, held invalid for want of invention. P. 334.

144 F. 2d 842, reversed.

CERTIORARI, 323 U. S. 705, to review a decree which, upon appeal from a decree holding a patent invalid and not infringed, 50 F. Supp. 881, held the patent valid and infringed.

Mr. William D. Mitchell, with whom *Messrs. Walter H. Free* and *Mark N. Donohue* were on the brief, for petitioner.

Mr. Robert W. Byerly, with whom *Mr. Ralph M. Watson* was on the brief, for respondent.

MR. JUSTICE JACKSON delivered the opinion of the Court.

This infringement suit was brought by the assignees of a patent on a printing ink. Respondent, Interchemical Corporation, asserts that inks made by the petitioner infringe on claims 3, 10, 11, 12 and 13 of U. S. Patent No. 2,087,190 which was issued to Albert E. Gessler on July 13, 1937. Claim 3, which is typical, is as follows: "A print-

ing ink which is substantially non-drying at ordinary temperatures and dries instantly on heating of the printed matter, consisting of coloring matter dispersed in an organic viscous vehicle consisting of a liquid component and a solid component completely dissolved in the liquid component in sufficient quantity to give the ink the consistency of an ordinary oil-varnish printing ink—the solid component being a member of the group consisting of natural and synthetic resins and cellulose compounds, substantially all of the liquid component having a vapor pressure at 20° C. as low as that of diethylene glycol monobutyl ether at 20° C., and the major part of the liquid component having a vapor pressure which at 150° C. approximates that of ethyl alcohol at ordinary temperatures and forming a stable solution with the solid component.” In other words, Gessler claims to have invented an ink which will not dry at room temperature but which will dry instantly upon the application of heat after printing. Such an ink is of no particular value in the printing of newspapers or other publications which use absorbent paper. This can be done acceptably with ordinary inks containing linseed oil which is non-volatile at all relevant temperatures. The paper absorbs the ink when one side is printed, and the other side can be printed immediately without danger of smudging.

But the ink disclosed in the patent does have utility in the printing of magazines and other materials which use smooth non-absorbent paper. Since its disclosure by Gessler, it or similar inks which are claimed to infringe have been used to print “The New Yorker,” “Collier’s,” and “The Saturday Evening Post.” Such publications previously would require considerably more time for printing since the reverse side of the paper which they used could not be printed until the first side was dry. Nor could the sheets be stacked or folded without danger of “offset” printing. The smooth paper would not absorb the linseed-

oil inks, and delay of from one to twenty-four hours was necessary before printing was sufficiently dry to allow the sheets to be worked upon again.

Many efforts were made to eliminate the necessity for delay. The problem was complicated by the fact that the presses used in this kind of printing are equipped with a long series of ink-distributing rollers to spread out the ink to the optimum thin film before it is applied to the type. Hence, when inks with volatile components were used, they would dry on the rollers before they got to the type. And if inks with non-volatile ingredients—like linseed oil—were used, they would not dry except by slow oxidation. Other approaches to the solution of the problem included the exposure of sheets printed from linseed-oil inks to ozone, but that process was dangerous and not wholly satisfactory. Gessler's ink combines the qualities of an ink which does not dry on the rollers and one which dries quickly after printing when heat is applied to it.

These characteristics of the ink result from the nature of the solvent which is one of its components. Gessler, in his specification, named butyl carbitol (diethylene glycol monobutyl ether is said to be the more accurate scientific term) but that compound was given only as an example, and most of the inks which his company now makes contain "narrow cuts" of petroleum in place of butyl carbitol. A narrow cut of petroleum consists of only a few kinds of hydrocarbons, and consequently evaporates consistently since each of the hydrocarbons has substantially the same vapor pressure curve. The allegedly infringing inks similarly are made with narrow cuts of petroleum. All of these solvents have the peculiar quality of being relatively non-volatile at ordinary room temperature but highly volatile at a temperature of 150° C., a temperature to which paper can safely be heated without burning. There is no question that inks containing these solvents have enabled magazines to be printed on high-speed ro-

tary presses which are furnished with heating devices, without interruption for drying.

The District Court held Gessler's patent invalid because anticipated by the prior art, and held that the petitioner's inks did not infringe. *Interchemical Corp. v. Sinclair & Carroll Co.*, 50 F. Supp. 881. The Circuit Court reversed, holding the patent valid and infringed. *Interchemical Corp. v. Sinclair & Carroll Co.*, 144 F. 2d 842. We granted certiorari. 323 U. S. 705.

There has been a tendency among the lower federal courts in infringement suits to dispose of them where possible on the ground of non-infringement without going into the question of validity of the patent. *Irvin v. Buick Motor Co.*, 88 F. 2d 947, 951; *Aero Spark Plug Co. v. B. G. Corp.*, 130 F. 2d 290; *Franklin v. Masonite Corp.*, 132 F. 2d 800. It has come to be recognized, however, that of the two questions, validity has the greater public importance, *Cover v. Schwartz*, 133 F. 2d 541, and the District Court in this case followed what will usually be the better practice by inquiring fully into the validity of this patent.

A long line of cases has held it to be an essential requirement for the validity of a patent that the subject-matter display "invention," "more ingenuity . . . than the work of a mechanic skilled in the art." *Hicks v. Kelsey*, 18 Wall. 670; *Slawson v. Grand Street R. Co.*, 107 U. S. 649; *Phillips v. Detroit*, 111 U. S. 604; *Morris v. McMillin*, 112 U. S. 244; *Saranac Automatic Machine Corp. v. Wire-bounds Patents Co.*, 282 U. S. 704; *Honolulu Oil Corp. v. Halliburton*, 306 U. S. 550; *Cuno Engineering Corp. v. Automatic Devices Corp.*, 314 U. S. 84, 90. This test is often difficult to apply; but its purpose is clear. Under this test, some substantial innovation is necessary, an innovation for which society is truly indebted to the efforts of the patentee. Whether or not those efforts are of a special kind does not concern us. The primary purpose of our patent system is not reward of the individual but

the advancement of the arts and sciences.¹ Its inducement is directed to disclosure of advances in knowledge which will be beneficial to society; it is not a certificate of merit, but an incentive to disclosure. See *Hartford-Empire Co. v. United States*, 323 U. S. 386, 432-433. Consequently it is not concerned with the quality of the inventor's mind, but with the quality of his product.

The patent in suit was not the product of long and difficult experimentation. Although like other patent cases, this has an extensive record, it is hard to see wherein Gessler's invention consists. In 1930, he was asked to make an odorless ink, and he selected from a catalog of a chemical manufacturer three solvents which the catalog indicated to be relatively odorless. Their vapor pressures, that is, their rates of evaporation at various temperatures, were also listed. He tried inks made with each of the compounds as a solvent and decided that butyl carbitol was the most satisfactory, since it did not dry while on the rollers, at ordinary temperature.

The company which had requested the odorless ink, however, found that it was unsatisfactory for other reasons and, after some further effort, Gessler stopped trying to solve that problem. Sometime in 1932, however, the same company asked Gessler whether he could supply them with an ink "that would be dry after being printed? We can put it over some kind of heating device." Gess-

¹ See the testimony of Commissioner Coe before the TNEC: "It is not the principal purpose of the patent laws of our own country or of any nation to reward an individual. The purpose is much deeper and the effect much wider than individual gain. It is the promotion of science and the advancement of the arts looking to the general welfare of the Nation that the patent laws hope to accomplish. The individual reward is only the lure to bring about this much broader objective. Every patent granted benefits society by adding to the sum total of human knowledge, but that is not enough, and that alone will not achieve the ultimate goal of the patent system." TNEC Hearings, Part 3, p. 857.

ler's answer was, "Yes, I think we could. In fact, one of those inks I made for you in the beginning would do that." Gessler testified as follows: "And now, when Mr. Cray came, in the year 1932, and told me that heating units, steam-heated rollers are used on printing presses, that was the last key that I needed for the solution of the problem. I had not known that before, and I knew that if I could apply any heat to the thin film of those inks that they would dry almost instantaneously. With that in mind that was the mental background, I would say, that I sent this particular ink to Mr. Cray. I did not send him a number of inks or a selection of inks, but I sent him just one specific ink." And with respect to the solvents he had chosen, Gessler testified further:

Q. What I want to get straight in my mind, Dr. Gessler, is this: You selected these three, is that right?

A. That is right.

Q. Did you select them from a much longer list?

A. That is right.

Q. And before you selected them you tried them all out, did you? A. No. You see the list is listed according to the boiling point, and if you followed on I took it from a certain boiling point on upwards.

Q. Oh, I see. You took them out of a long list in accordance with their boiling point? A. That is correct. That was my first indication of evaporation rate.

Q. . . . In selecting these three solvents that you referred to, butyl cellosolve, carbitol and butyl carbitol, did you have reference to a Carbide & Carbon Chemicals Corporation catalog? A. I knew them. I don't know if I had reference, but I knew naturally those solvents.

Q. You may have referred to a catalog? A. I may have, certainly. I most probably had the catalog.

Q. You got copies of their catalogs, did you? A. Oh, yes.

Q. On the fly-leaf of the Carbide & Carbon catalog there is a list of their products. Do you remember that list (handing to witness)? A. A similar list.

Q. That gives boiling points and vapor pressures? A. It does.

Q. And you may have selected these three solvents that we are talking about from that list? A. That is possible, although I knew the solvents. I was very conversant with them. I told you a while ago why.

Butyl carbitol was first put on the market in 1929, and subsequently was listed in the catalogs of Carbide & Carbon Chemicals Corporation. It cannot be said that Gessler's contribution was a recognition that a solvent having the peculiar qualities of negligible vapor pressure at room temperature and high vapor pressure at 150° C. was what was needed. Both the circuit court and the district court found that an article written in 1931, referred to as the Hanson article, had posed the problem.² It is difficult to believe that if Hanson had known of the qualities of butyl carbitol, if he had had the Carbide & Carbon catalog before him, he or any other person skilled in the art could not have devised the ink which Gessler claims to have invented. We reach this conclusion even though

² The relevant part of the Hanson article, which appears in the record, is as follows: "The solvents available have different boiling points ranging through a broad scale, but unfortunately for this problem their vapor pressure curves are nearly parallel. If we choose one from the group with a boiling point well under 250° F. [121° C.], the highest practical heat to apply to a printed sheet, we find that at room temperature its vapor pressure is still so great that drying will progress rapidly. On the other hand, if one is selected with a vapor pressure so low at room temperature that little drying takes place, at 200° to 250° F., we find the boiling point hardly attained or not even reached.

"If we could only flatten the curve of a high boiling solvent with a vapor pressure of 1 in. of mercury or less at 80° down to a point where at 30 in. the boiling temperature would be reduced to only 150° or so it would not take us long to compound an ink to meet the general characteristics for a plastic ink set forth above."

Hanson testified in an affidavit introduced in support of a motion for rehearing that he had worked for over a year trying to produce such an ink and did not succeed.

The District Court based its judgment on anticipation by prior patents. Most of these pertained to inks which were not used in ordinary printing: Lefferts and Stevens, No. 380,654, issued April 3, 1888, was an ink used for printing on celluloid and other pyroxyline compounds; the Doughty and McElroy patents, Nos. 1,439,696 and 1,450,692, issued December 26, 1922 and April 3, 1923 taught an ink which was mainly useful for stamping with metallic inks by means of heated dies. But the Jirousek patent, No. 1,954,627, issued April 10, 1934, was for an ordinary printing ink. Jirousek's patent was directed to "a composition . . . which can set quickly and dry rapidly and also handle and feed properly and distribute freely." And the patent specifies, "In the use of such compositions, immediately after the impression is made, heat should be applied, and most advantageously this may be accomplished by a suitable heater, electric, gas, etc., arranged on or adjacent the press, so that the delivered printed impression is subjected to a substantial degree of heat to complete the setting action."

The inks disclosed in these prior patents did not contain the same solvent or solvents similar to those which Gessler recommended and which his company and the petitioners now use. They had different vapor pressures both at room temperature and at 150° C. But all these patents taught an ink made with a solvent that would be non-volatile at room temperature and highly volatile when heated. Gessler's solvent is undoubtedly more satisfactory than any of the solvents mentioned in these patents, but it must be remembered that all but one of these patents were granted before butyl carbitol appeared on the market. The fact is that Gessler himself to a large extent has abandoned butyl carbitol and now uses a narrow

cut of petroleum. Even assuming that if Gessler had discovered the compound he would be entitled to a patent, he did not discover it. Reading a list and selecting a known compound to meet known requirements is no more ingenious than selecting the last piece to put into the last opening in a jig-saw puzzle. It is not invention. The judgment below is

Reversed.

MR. JUSTICE BLACK and MR. JUSTICE DOUGLAS concur in the result.

INTERNATIONAL UNION OF MINE, MILL &
SMELTER WORKERS, LOCALS NOS. 15, 17, 107,
108 and 111, (C. I. O.) ET AL. v. EAGLE-PICHER
MINING & SMELTING CO. ET AL.

CERTIORARI TO THE CIRCUIT COURT OF APPEALS FOR THE
EIGHTH CIRCUIT.

No. 337. Argued January 31, 1945.—Decided May 28, 1945.

1. Labor unions which intervened in the Circuit Court of Appeals in support of a petition by the National Labor Relations Board to revoke an enforcement order and to remand the cause to the Board, held to have standing to seek review of a denial of the petition, even though the Board elected not to seek review. P. 338.
 2. The National Labor Relations Board, having sought and obtained a decree of the Circuit Court of Appeals for enforcement of an order of the Board, is not entitled as of right—in the absence of fraud or mistake chargeable to the respondent, and after expiration of the term of court at which the decree was entered—to have remedial provisions of the decree set aside and the case remanded to it for prescription of relief which it deems more appropriate to effectuate the policy of the National Labor Relations Act. P. 339.
 3. *American Chain & Cable Co. v. Federal Trade Commission*, 142 F. 2d 909, distinguished. P. 342.
- 141 F. 2d 843, affirmed.

CERTIORARI, 323 U. S. 695, to review a decree dismissing a petition of the National Labor Relations Board to vacate