

HEALD v. RICE.

1. The specification (*infra*, pp. 738-742) forming part of the original letters-patent, No. 146,614, granted to Harvey W. Rice, Jan. 20, 1874, for an improvement in steam-boilers, and that forming part of the reissued letters, No. 6422, issued to him May 4, 1875, show that the original and the reissued letters are not for the same invention. The latter are therefore void.
2. The said letters were anticipated by letters No. 185,659, dated Feb. 11, 1873, the reissue whereof, No. 6420, bears date May 4, 1875, and by letters No. 139,075 dated May 20, 1873, all of them granted to David Morey for a straw-feeding attachment for furnaces.
3. The question of the identity of an invention described in the original and the reissued letters-patent is one of law for the court, whenever it can be determined solely from their face by mere comparison, without the aid of extrinsic evidence to explain terms of art or to apply the descriptions to the subject-matter.

ERROR to the Circuit Court of the United States for the District of California.

The case is stated in the opinion of the court.

Mr. George Harding and *Mr. John H. Boalt* for the plaintiff in error.

Mr. Milton A. Wheaton for the defendant in error.

MR. JUSTICE MATTHEWS delivered the opinion of the court.

This was an action at law brought by Henry W. Rice against John L. Heald to recover damages for an alleged infringement of reissued letters-patent No. 6422, granted May 4, 1875, to him for improvements in steam-boilers. The original patent was No. 146,614, dated Jan. 20, 1874. The invention, as stated in the complaint, consisted, among other things, of a combination of a straw-feeding attachment with the furnace-door of a return-flue steam-boiler, for the use of straw alone as fuel, in generating steam ample for practically operating steam-engines.

The case was tried by a jury, and resulted in a verdict and a judgment for the plaintiff; to reverse which this writ of error is prosecuted.

A bill of exceptions sets out the exceptions of the defendant to the rulings of the court below, and all the evidence. The court was asked at the close of the plaintiff's testimony, and again when all the evidence on both sides had been introduced,

to instruct the jury to return a verdict for the defendant ; the refusal to do which, amongst other rulings, is assigned for error ; and thus the whole case on the merits is brought here for review, so far as they rest upon questions of law.

The plaintiff introduced in evidence his original and reissued patents. For the purpose of comparison,— which, in view of the questions of law raised becomes important and necessary,— the specifications and claims are exhibited here in parallel columns, using one copy for both patents when they are identical, and putting all the language that is in the original and not in the reissued patent in the left-hand column in italics, and putting in the right-hand column, in italics, all the language used in the reissued patent that is not in the original.

“ Specifications forming part of letters-patent No. 146,614, dated Jan. 20, 1874.

| *Reissue, No. 6422 dated May 4,*
| 1875.

application filed

November 3, 1873,

| March 17, 1875.

“ *To all whom it may concern :*

“ Be it known that I, Harvey Wood Rice, of Haywood, Alameda County, State of California, have invented new and useful improvements in steam-boilers ; and I do hereby declare the following description and accompanying drawing are sufficient to enable any person skilled in the art or science to which it most nearly appertains, to make and use my said invention without further invention or experiment.

“ My invention relates to

certain improvements in the con-

struction of steam-boilers where-

| *the combination of a straw-feed-*
| *ing device with the furnace door*
| *of that class of boilers which are*
| *known as return-flue boilers, by*
| *which combination I am able to*
| *provide a superior arrangement*
| *for utilizing straw as a fuel for*
| *generating steam.*

| *Many attempts have heretofore*
| *been made, both in this country*
| *and in Europe, to successfully*

by I am enabled to utilize straw

and other light substances for

fuel, so that a complete combus-

tion of the smoke is attained, and

the danger from fire in the har-

vest fields, where those boilers are

more especially useful, is entirely

utilize straw as a fuel for generating steam in steam-boilers; but these attempts have always resulted in failures or partial failures.

When straw is fed into the furnace of an ordinary steam boiler, it burns too quickly to do much good in heating the water in the boiler, until a sufficient quantity of cinders accumulates upon the grate-bars to impede the draft; and, unless the cinders are frequently removed from between the grate-bars, they soon accumulate to such an extent as to choke the draft entirely and prevent combustion.

Many devices have been tried and patented for overcoming these troubles; but, as far as I am aware, none of them have succeeded in remedying the difficulties sufficiently to make the straw-burning engine a practical success.

My experiments, however, have developed the fact that, by attaching a tube or box-door to the furnaces of that class of boilers, known as return-flue boilers, in which the chimney or stack is constructed directly above the furnace, and the heat and products of combustion from the furnace are carried along under the boiler and then returned back to the stack through flues or tubes leading through the length of the boiler, the combustion will be so complete that no sparks, and but very little smoke, will escape from

obviated; and

the chimney, and the straw will be burned freely, giving out a high degree of heat without danger of choking the grate-bars.

My invention also relates

to a novel method of securing the tubes and tube-sheet within the shell of the boiler, so that they can be at any time easily removed for the purpose of cleaning or repairing, and at a much less expense than is ordinarily entailed for such work.

"Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a perspective view,

exposing the tube-sheet of one end of the boiler. Fig. 2 is a longitudinal section. Fig. 3 is an end view with rear head removed. Fig. 4 shows the tube and tube-sheet removed. Fig. 5 is an enlarged view showing the rear tube-sheet, flange and ring.

of my boiler from the rear end. Fig. 2 is a sectional elevation. Fig. 3 is a rear-end view with cap removed. Fig. 4 is a view of tubes and sheet. Fig. 5 is an enlarged view, showing the manner of securing the tube-sheet in the shell.

"A is the shell of my boiler, which is more especially intended to be used for that class of engines employed in threshing and other field work where there is straw or other light material enough for fuel, but which has never been satisfactorily burned without an artificial draft or blast, and which has always been dangerous by reason of the sparks thrown out, on account of incomplete combustion.

"In order to remedy these faults, and perfectly consume all the smoke and sparks, I perforate my tube-sheet BB, so as to admit one large

tube

furnace

C, near the bottom, which receives the fuel upon the grate D, and acts at the same time as a tube and fire-box.

Any suitable feeder may be employed to supply straw to the grate; but I have found the device patented by D. Morey, June 20, 1873, to be very suitable.

To the door of the furnace C, I attach a straw-feeding tube, E, through which the straw or other light fuel is fed to the furnaces.

This tube can be constructed in the manner described by David Morey in his patents dated February 11, 1873, and May 25, 1873, for straw-feeding attachment for

furnaces, or in some other similar manner for feeding the straw without admitting a draft of air.

“Above and around the sides of the large

tube

|

furnace

C, I place small or locomotive boiler tubes *e e*, as shown, and these serve to return the heat and the products of combustion to the chimney F, which is located at the front end of the boiler and communicates with the chamber H, formed between the flue-sheet and the head or door G. A similar chamber H', is formed at the back end of the boiler into which the products of combustion pass from the large

tube

|

furnace

C before entering the return-flues *e*.

“By this construction the light fuel is thoroughly ignited in its passage through the large tube, which has plenty of air admitted for the purpose. The heat and flame will be concentrated in returning through the small flues, and the combustion will be so complete that no sparks and but very little smoke will escape from the chimney, and this latter will not even need a bonnet.

“The tube-sheets B B are made with a flange *i*, which is turned outward, and these flanges are pierced so as to admit screw-bolts or rivets *g*, as may be preferred. These bolts secure the tube-sheets in their places perfectly steam and water tight.

“Whenever, by reason of long use, there is a collection of scale or sediment, or if the tubes of the interior of the boiler need repairing, the screw-bolts can be removed; or, if rivets are used, they can be cut off, when the two tube-sheets, with the tubes, can be removed from the shell in a body, and repairs or cleaning can be easily effected, with much less time and trouble than when the boilers are made in the ordinary manner.

“The flange on the rear tube-sheet is turned so much smaller than the interior of the shell that an iron ring, *n*, can be introduced between it and the shell, the bolt passing through it.

“When it is necessary to remove the tubes and sheets, this ring can be taken out after removing the nuts and rivets, and this leaves the rear tube-sheet small enough to pass any rivets or obstructions freely when taking it out.

“By this construction I am enabled to make a boiler and furnace in which straw can be used as a fuel with perfect safety, and in which repairs can be easily effected.

"Having thus described my invention, what I claim, and desire to secure by letters-patent is:—

1. *The boiler A, having the furnace C, grate D, return-flues or tubes e e, and stack or chimney B, arranged as described, in combination with the straw-feeding furnace-door attachment, substantially as and for the purpose described.*

"2. In a horizontal steam boiler, the .

large tube

|

furnace

C, formed with a grate D, to serve as a fire-place, in combination with small return-flues *e e*, when the tubes and tube-sheets are secured by flanges *i* and bolts *g*, so as to be removable from the shell in a body, substantially as and for the purpose described."

It is admitted that there had been no infringement by the defendant of the second claim of the reissued patent, which included that feature of the improvement described, which consisted in the peculiar construction by which the tubes and tube-sheets were secured by flanges and bolts, so as to be removable from the shell in a body. This claim, therefore, is excluded from further consideration in the case.

The patents of David Morey for a straw-feeding attachment for furnaces, referred to in the specifications in the Rice original and reissued patent, consisted of an original patent, No. 135,659, dated Feb. 11, 1873, reissued as reissue No. 6420, dated May 4, 1875, and original patent No. 139,075, dated May 20, 1873.

The specifications of the latter describe the invention as relating to "an improved furnace-door attachment, which is especially intended for facilitating the use of straw as a fuel, especially applicable to the removable furnaces of threshing-machine engines; and it consists in attaching to the opening of the furnace intended for the door a tube or funnel having arranged within it a diagonal swinging valve, with its lower end turned up into a shoe, whereby the straw can be inserted into the furnace, and no sparks allowed to fly out, nor a draft of air

allowed to enter." It was also therein declared that the straw was to be fed through the tube by means of an ordinary hay-fork. When the straw is pushed through the tube, the valve or door will be lifted so as to allow the straw to pass through, when it will immediately drop down and cut off the draft of cold air which would otherwise be admitted into the furnace, to the detriment of the fire. The claim of the patent was for "the removable tube or funnel, having arranged within it the diagonal valve with its lower edge turned up, in combination with a furnace, as set forth."

In the reissued Morey patent a revolving partition in the box or attachment is substituted for the diagonal swinging valve, suspended upon and revolving upon journals, and kept in position by means of springs. The office of the partition is to keep the box or tube closed and prevent the entrance of air after the straw has been pushed through the tube; though the specification adds that "it is evident that by leaving the tube or box filled, so as to choke the opening through it, the partition or door can be dispensed with." The straw is introduced into the furnace through the hopper of the box, by means of an ordinary hay-fork. The fork-load of straw is placed against the lower end of the partition and pushed through the box, the pressure turning the partition to a horizontal position to admit the hay or straw. As soon as the fork is unloaded and withdrawn, the partition is closed automatically by the springs, thus making a half revolution each time a fork-load of straw is introduced, and immediately closing again, so as to shut off the draft. The claim of the reissued patent embraced, first, "in combination with the furnace of a threshing machine, the detachable box or tube, provided with a flaring mouth, the base of the tube projecting from the furnace at or nearly at a right angle to the front of the furnace, substantially as and for the purpose set forth;" and, second, "in combination with the furnace of a threshing engine, the box or tube, provided with a flaring mouth, and having the partition or door, substantially as and for the purpose set forth."

The following is a statement in the language of counsel for the defendant in error, of what he claims to be the proof, on the trial of the cause, as contained in the bill of exceptions,

showing the state of the art and the history of the inventions attributed to Morey and Rice respectively:—

“For many years before the invention threshing machines had been driven by steam as a motive-power. In generating steam, portable fire-box boilers had been used. Such fire-box boilers were about like the ordinary locomotive boilers in common use. They had a fire-box furnace and a number of tubes or flues passing from one end to the other through the water in the boiler. The fire and products of combustion passed from front to rear through such tubes or flues, and thence out through a smoke-stack placed at the end of the boiler farthest from the furnace.

“Wood or coal was used for fuel with such fire-box boilers. During all this time it had been a great desideratum to substitute straw as fuel, in place of wood and coal. In California, in most grain districts, wood and coal were very expensive, and were inconvenient on account of having to be transported to the harvest fields, and from place to place in the fields as the threshing machine was moved from one spot to another, as one section of the field was threshed and another about to be commenced. The transportation of the wood and coal for fuel required teams and men at a time when all were needed in the harvest fields for other purposes. At the same time, where the threshing was done, there was always an accumulation of straw which was of no value, and which the farmers were glad to burn to get it out of the way.

“With the portable engines and boilers then in use straw could not be successfully used as fuel. Steam could be raised with it while the engine was not working; but when the engine was put to work the steam would run down. In 1872 David Morey attempted to accomplish the desired object by attaching straw-feeding attachments to the fire-box boilers then in use with wood or coal for fuel. He experimented with one in Watsonville, and believed from that experiment that his efforts were successful. He took out two patents early in 1873 for his inventions. . . . He made his experiment in Watsonville in 1872, after the threshing season was over for that year.

“He was anxious to introduce his supposed invention, and desired to exhibit it to the large dealers in agricultural imple-

ments in San Francisco. He accordingly went to San Francisco and looked for a place to try his invention at which it would be convenient for the merchants to attend. Rice had a machine-shop at Haywards, and also had threshing engines which he had for many years used in the harvest fields during the threshing season. He had at his place two portable engines with return-flue boilers, and one with a fire-box boiler; one of the engines with return-flue boilers was used for running the machinery in his shop, when not in the field during the threshing season.

“Morey went to Rice and requested the privilege of attaching his straw-feeder to one of Rice’s boilers, and exhibiting its operation. Rice readily consented and assisted in making the attachment and test. Morey wished to attach the straw-feeder to Rice’s fire-box boiler; but Rice insisted on attaching it to the return-flue boiler. It was attached to the return-flue boiler; a test of it was made, and an exhibition given, by getting up steam and running the machinery in the shop with it. The test and exhibition gave satisfactory results as far as they went, as Morey’s experiment had previously done when made with the same straw-feeder attached to fire-box boiler in Watsonville. *No one learned from the test and exhibition at Haywards whether there was any advantage in substituting the return-flue boiler for the fire-box boiler or not. Rice was the only man that thought the return-flue boiler was the better for the purpose.*

“Morey then licensed the firm of Treadwell & Co. to make and sell his invention. The exhibitions of Morey had created a belief that straw could be used for fuel in generating steam for running threshing machines, and that very season (1873) many of the heaviest firms in San Francisco, and Morey himself, used and exercised their means and abilities to make the invention practically successful. Hawley & Co. tried it; Baker & Hamilton tried it; Treadwell & Co. tried it; and Morey tried it. *Some of the partners or engineers of each of the said firms had witnessed the exhibition with the return-flue boiler at Haywards.* Yet each of said firms and Morey himself made all their subsequent tests in the season of 1873 *with fire-box boilers, and they all failed.* They all gave up the invention after testing it that season, and believed that their tests and

experiments had proved that straw could not be successfully used for fuel in generating steam for running threshing machines. *Not one of them thought for a moment that anything could be gained by substituting the return-flue boiler for the fire-box boiler.* All of them worked and experimented with the fire-box boiler; and when they found it impossible to make that do the work with the straw-feeding attachment, *they believed that they had exhausted the subject by proving that it was impossible to utilize straw for fuel, as desired, by any possible means.* Yet they had all seen or thoroughly understood all that was shown or proved by the test and exhibition with the return-flue boiler at Haywards in the previous month of March.

“Rice alone believed in the advantages of a return-flue boiler combined with the straw-feeding attachment. Rice alone went into the harvest fields with the return-flue boiler and straw-feeding attachment, and it proved entirely successful. Rice did not know at the time what the other parties were doing, neither were they informed of what Rice was doing. Rice’s operations in the threshing season of 1873 were in different sections of the country from where the other parties were experimenting. While all the other parties were by their experiments with fire-box boilers proving that straw could not be utilized for fuel as desired, *Rice alone proved that it could be so utilized,* by substituting the return-flue boiler for the fire-box boiler. Rice was the first and only one that suggested the combination of the return-flue boiler with the straw-feeding attachment, and he was the only one that tested and proved its advantages; and except for this individual and independent idea and action of Rice, there is no reason for supposing that the great advantages of using straw for fuel in the harvest fields would have been enjoyed to-day.”

It further appears from the testimony of Rice that he considered the main principle of his invention to be combining the arrangement, patented by Morey, with the return-flue boiler. He supposed at first that his invention covered the boiler itself, though he found afterwards that it was not new, but was on the contrary well known as the Cornish boiler. The main difficulty he claimed to overcome by his invention, was in prevent-

ing air from being admitted when the straw was fed into the furnace. He says, "I took his [*Morey's*] tube, and attached it to this boiler [*the return-flue boiler*], and it was a success." The act of invention he specified to consist in "combining the two together."

The contention on the part of the defendant in error is set forth in the language of his counsel in argument, as follows:—

"Applying the rules of law to the *Morey* and *Rice* patents, and (admitting *Morey's* patent to be valid) the following are the extent and limits of their respective inventions; viz., *Morey* discovered that by attaching a straw-feeding tube with a door in it to prevent a draft of air through it, to portable locomotive or fire-box steam-boilers, straw could be used with them for fuel more effectively than it could be without such tube. The combination of a straw-feeding tube which would prevent a draft of air through it, with portable steam-boilers, was *Morey's* invention. The discovery that a draft of air must not be admitted between the top of the fire and the bottom of the boiler was his discovery. All of *Morey's* discoveries and inventions, however, were insufficient to make portable steam-boilers adequate to the one great task which it was so desirable for them to perform; viz., that of running threshing machines with only straw for use as fuel.

"*Rice* began his discoveries and invention where *Morey* left off. *Morey's* patents were both issued before *Rice* had given the subject a thought. *Rice* discovered that by tearing out the inside of the boiler, which he found in *Morey's* combination, and by adding to the combination (but inside of the boiler) the large tube *C*, to serve as a furnace and the return-flues, that he obtained a combined machine which was a very great improvement over *Morey's*. *Rice's* combination may have and probably did include *Morey's* combination; but it included more viz., the large tube or furnace *C*, and the return flues *e e*.

"In this case *Morey's* patents were for combining straw-feeders with portable steam-boilers generally. *Rice* discovered that by substituting one particular kind of portable steam-boiler which no one else had used for the steam-boilers which had been used, that he had a better combination than was

ever before made, — a combination which did better work than any others, and had within it a new and better mode of operation than any others. It burned all of the straw put in it, while the others would not. It did not choke up with partly-burned straw and cinders, while the others would. It caused the heat and flame of the fire to pass twice through the length of the boiler, while in the others the heat and flame passed but once through the length of the boiler.

“It is to be noticed that the Morey patents describe and claim only the combination of the straw-feeding device with the *furnace* of a boiler. His patents stop at the furnace-door. They do not go into the boiler beyond the furnace.

“Rice’s patent, on the other hand, *begins at the furnace-door where Morey’s stop*, and goes beyond into the boiler, adding new elements.”

The bill of exceptions contains fourteen exceptions to as many rulings of the court during the trial; but in argument all the points raised by them were reduced and classified by counsel for the defendant under three heads, as follows: —

1. That the reissued letters-patent to Rice, on which the action was founded, were for an invention different from that described in the original, and was therefore void.

2. That the invention described and claimed in the first claim of the plaintiff’s reissued patent, which alone was material to the controversy, was anticipated and covered by the letters-patent granted to Morey.

3. That if, after the Morey patents were issued, there was any invention in the combination claimed in the Rice reissued patent, then, in fact, it is to be attributed to Morey himself, and not to Rice.

I. The first question for our determination is that raised as to the identity of the invention intended to be described in the original and reissued patents to Rice, upon the answer to which the validity of the latter, so far as this suit is concerned, depends.

In cases of reissues of patents, inoperative or invalid by reason of a defective or insufficient specification, or by reason of the patentee claiming as his own invention or discovery

more than he had a right to claim as new, it is imperative that the new patent, when issued, shall be for the same invention, and that no new matter shall be introduced into the specification, when, as in the present case, there is a drawing with reference to which the invention is described.— (Rev. Stat., sect. 4916.)

The principles for determining the validity of reissued patents have been discussed and formulated so repeatedly and so recently in this court that it is necessary at present only to refer to *James v. Campbell*, *supra*, p. 356; *Miller v. Brass Company*, *supra*, p. 350; *Burr v. Duryee*, 1 Wall. 531; and *Powder Company v. Powder Works*, 98 U. S. 126.

In the present case the question of the identity of the invention in the original and reissued patents is to be determined from their face by mere comparison, notwithstanding what was said in *Battin v. Taggart* (17 How. 74), and consistently with *Bischoff v. Wethered* (9 Wall. 812), according to the rule laid down in *Seymour v. Osborne* (11 Wall. 516), and *Powder Company v. Powder Works*, *supra*. That is, if it appears from the face of the instruments that extrinsic evidence is not needed to explain terms of art, or to apply the descriptions to the subject-matter, so that the court is able from mere comparison to say what is the invention described in each, and to affirm from such mere comparison that the inventions are not the same, but different, then the question of identity is one of pure construction, and not of evidence, and consequently is matter of law for the court, without any auxiliary matter of fact to be passed upon by a jury, if the action be at law.

The question arises in the present record, upon an exception of the defendant below to the refusal of the court, after the plaintiff had read in evidence the original patent, to sustain an objection to the introduction in evidence of the reissued letters-patent, on the ground that they were void for want of identity in the invention; and also upon the refusal of the court to instruct the jury, both after the close of the plaintiff's case and after all the evidence was in, to return a verdict for the defendant.

Looking, therefore, to the original patent, nothing can be more clear than that the supposed invention described in it is nothing more or less than the return-flue boiler itself. The

patent is for a new and useful improvement in steam-boilers. The specification begins by declaring that the invention relates to certain improvements in the construction of steam-boilers, whereby, the inventor says, "I am enabled to utilize straw and other light substances for fuel, so that a complete combustion of the smoke is attained, and the danger from fire in harvest fields, where these boilers are more especially useful, is entirely obviated." It also relates, as is said, to a novel method of securing the tubes and tube-sheets within the shell of the boiler. Reference is then made to the accompanying drawings for a more complete explanation of the invention. He refers to the shell of the boiler, which he says is more especially intended to be used for that class of engines employed in threshing and other field-work where there is straw or other light material enough for fuel, but which has never been satisfactorily burned without an artificial draft or blast, and which has always been dangerous by reason of the sparks thrown out, on account of incomplete combustion. It was, "in order to remedy these faults and perfectly consume all the smoke and sparks," he continues, that "I perforate my tube-sheets, so as to admit one large tube near the bottom, which receives the fuel upon a grate and acts at the same time as a tube and fire-box." Then occurs this sentence: "Any suitable feeder may be employed to supply straw to the grate; but I have found the device patented by D. Morey, June 20, 1873, to be very suitable." He then proceeds with the description of the tubes and the return tubes conducting to the chimney in front, and the communicating chamber between the flue-sheet and the boiler-head, and the similar chamber at the back-end of the boiler, into which the products of combustion pass from the large flues before entering the return-flues. "By this construction," the specification continues, "the light fuel is thoroughly ignited in its passage through the large tube, which has plenty of air admitted for the purpose. The heat and flame will be concentrated in returning through the small flues, and the combustion will be so complete that no sparks and very little smoke will escape from the chimney, and this little will not even need a bonnet." This is followed by a description of the device for removing the tubes and tube-sheets from the shell in

a body for repair or cleaning, which is not material. The inventor then adds: "By this construction I am enabled to make a boiler and furnace in which straw can be used as a fuel with perfect safety, and in which repairs can be easily effected," and concludes: "Having thus described my invention, what I claim and desire to secure by letters-patent is: In a horizontal steam-boiler, the large tube, C, formed with a grate, D, to serve as a fire-place, in combination with small return-flues, *e e*, when the tubes and tube-sheets are secured by flanges, *i*, and bolts, *g*, so as to be removable from the shell in a body, substantially as and for the purpose set forth."

The allusion to the mode of supplying straw to the grate is merely casual and incidental. Any suitable feeder may be employed, it is said; the inventor adds: "but I have found the device patented by D. Morey, June 20, 1873, to be very suitable." In what respect this device has been found to be very suitable is not mentioned, nor is it hinted that there are not many others quite as good. No attempt is made to explain what is needed in a feeder to make it suitable, nor any hint that any of the advantages described as resulting from the operation of the machine depend in any degree upon the character of the feeder. For aught that may be inferred from what is said concerning it, there need be nothing peculiar in the mode of supply, except what is rendered necessary by the character of straw as a fuel in lightness and bulk, and a supposed convenience on that account of supporting it, as it is pushed into the furnace. There is certainly no suggestion that it is considered important much less necessary in supplying this fuel, to do it in such manner and by means of such device as will prevent the introduction of a draft of cold air between the top of the fuel and the bottom of the boiler, while in the act of replenishing the supply. Neither the mode of feeding the fuel, nor any device for doing it, is made any part of the described invention; nor is either referred to, in any way, as performing any useful or essential function in the operation of the machine described. Every desired advantage which it is expected to accomplish is referred expressly to the boiler itself, and its structure and internal arrangement. As is well said by counsel for plaintiff in error, on this point: "What he sought

was complete *combustion* of the straw by making the products of combustion pass through the boiler twice before they were allowed to escape into the chimney, and the office of the feeder was not auxiliary to the combustion, but preliminary to it. It supplied the straw. It did not burn it. It is true that a Morey tube is shown in the drawing as attached to the front of his engine; but that does not make it part of his invention, any more than a set of wheels and axles would have become part of it if the drawing had represented his boiler as mounted on running gear."

If we turn now to the reissued patent, we find that the patentee declares that, "my invention relates to the combination of a straw-feeding device with the furnace-door of the class of boilers which are known as return-flue boilers, by which combination I am able to provide a superior arrangement for utilizing straw as a fuel for generating steam." He then refers to the failure of previous attempts to utilize straw as fuel for generating steam, and gives as the reason, that "when straw is fed into the furnace of an ordinary steam-boiler, it burns too quickly to do much good in heating the water in the boiler, until a sufficient quantity of cinders accumulates upon the grate-bars to impede the draft, and unless the cinders are frequently removed from between the grate-bars they soon accumulate to such an extent as to choke the draft entirely and prevent combustion." He then adds that his experiments have developed the fact that, by attaching a tube or box door to the furnaces of that class of boilers known as return-flue boilers, the combustion will be so complete that no sparks and but very little smoke will escape from the chimney, and the straw will be burned freely, giving out a high degree of heat without danger of choking the grate-bars.

He then gives a description, with reference to the drawings, which are the same as those attached to the original specifications. In that description, differing in that respect from the former one, he inserts: "To the door of the furnace C, I attach a straw-feeding tube E, through which the straw or other light fuel is fed to the furnaces;" and changes the sentence in reference to the character of the straw-feeder, so as to read as follows: "This tube can be constructed in the manner de-

scribed by David Morey in his patents dated Feb. 11, 1873, and May 25, 1873, for straw-feeding attachment for furnaces, or in some other suitable manner, *for feeding the straw without admitting a draft of air.*" The first claim of the reissued patent reads thus: "The boiler A, having the furnace C, grate D, return flues or tubes *e. e.*, and stack or chimney B, arranged as described, *in combination with the straw-feeding furnace-door attachment*, substantially as and for the purpose described."

It appears, then, from the mere reading of the two specifications, that the invention described in the first is for the return-flue boiler; while that described in the second, abandoning the claim for the boiler itself, is for a particular mode of using it, with straw as a fuel, by means of an attachment to the furnace-door for that purpose. It might well be that Rice was entitled to patents for both, separately, or to one for both inventions. But it is too plain for argument that they are perfectly distinct. A patent, consequently, originally issued for one cannot lawfully be surrendered as the basis for a reissue for the other. They are as essentially diverse as a patent for a process and one for a compound, as in the case of *Powder Company v. Powder Works* (98 U. S. 126), where the reissued patent was avoided, although the original application claimed the invention both of the process and the compound. The case comes directly within the principle held in *James v. Campbell, supra*, that a patent for a machine cannot be reissued for the purpose of claiming the process of operating that class of machines; because, if the claim for the process is anything more than for the use of the particular machine patented, it is for a different invention.

II. The second principal objection to the validity of the Rice reissued patent is, that it is anticipated by the Morey patents. We are of opinion that it also is well taken.

Morey's reissued patent of May 4, 1875, covers distinctly and expressly a combination of the furnace of a threshing engine with a detachable box or tube provided with a flaring mouth, the base of the tube projecting from the furnace at or nearly at a right angle to the front of the furnace, the office of which is to furnish means for the supply of straw as fuel to the furnace in such manner as to prevent the entrance of air after

the straw has been pushed through the tube ; which may be effected either by means of a movable partition, for which a separate claim is made, or without it by merely having the tube or box filled, so as to choke the opening through it, with successive supplies of straw.

It applies to every description of threshing engines and boilers, whether fire-box or return-flue. It is true that it does not specify either class, but it embraces both by its language ; and in its application to both it operates in precisely the same manner, and with precisely similar effect. If there is any superiority in the return-flue boilers used with this attachment as a straw burner, over the fire-box boiler, when used in the same way, the superiority is due, not to any difference in the straw-feeding attachment, nor in the mode of its operation, nor to any new feature of the combination, but merely to the superiority of the return-flue boiler itself. And it does not militate against the validity of Morey's patent, or limit the extent and effect of its application, to concede what is claimed, that he was not aware, at the time of his invention, of the superior value of its application to return-flue boilers over fire-box boilers, or that the discovery of that superiority is attributable to Rice. That application of it is within the scope and provision of Morey's invention, whether it had been tested by his experience, or was anticipated by his foresight or not. If, at the date of Morey's invention, return-flue boilers had not been known, but had been subsequently invented, his patent, as applied to them, would still have prevailed against any new claimant ; for the new application does not produce any new effect. It is only the occasion which is new ; the use itself is merely analogous. *Hall's Patent* (1 Web. P. C. 97), where the flame of gas was used instead of an argand lamp for singeing lace, is pressed upon us as authority for a different conclusion upon this point ; but the decision of Lord Abinger in *Losh v. Hague* (id. 202), and his comments upon *Hall's Patent*, show that it has no application here.

There was no patentable invention in Rice's adaptation. The return-flue boiler, it is admitted, was old. The Morey attachment had been already invented. The idea and principle of its operation, in adapting boilers to the use of straw as a

fuel, was the essence of his invention. Rice, it is confessed, discovered nothing more than that, for such purpose, a return-flue boiler was better than fire-box boilers, which were the only kind that had then been used.

"But this," in the language of Mr. Justice Nelson in *Hotchkiss v. Greenwood* (11 How. 248, 266), "of itself, can never be the subject of a patent. No one will pretend that a machine made, in whole or in part, of materials better adapted to the purpose for which it is used than the materials of which the old one is constructed, and for that reason better and cheaper, can be distinguished from the old one; or, in the sense of the patent law, can entitle the manufacturer to a patent. The difference is formal and destitute of ingenuity or invention. It may afford evidence of judgment and skill in the selection and adaptation of the materials in the manufacture of the instrument for the purposes intended, but nothing more." *Hicks v. Kelsey* (18 Wall. 670) affirms this case.

The same principle was applied in *Stow v. Chicago*, *supra*, p. 547.

The case would not be altered if we suppose that at the date of Morey's patent there had been also a valid patent outstanding in a stranger for the return-flue boiler. On that supposition, could it for a moment be contended that Rice could secure for himself a valid patent for the combination as an improvement on both? What invention could he claim? He uses Morey's device precisely as Morey's patent contemplated, and the Cornish boiler exactly as it was designed it should be used. And in the combination each operates separately, producing its own results. There was no inventive resource drawn upon to bring them together. Could not the owners of the patents for the straw-feeding attachment and the return-flue boiler unite their machines and work them together, in defiance of a claim for the combination? To ask the question is to answer it. Yet the case supposed does not differ from the case as it exists; for the public owned the right to the Cornish boiler, and was entitled to every use to which a patentee owning it might lawfully apply it.

On the trial of the cause below, Morey's patent seems to have been treated in the charge of the court as if it were a

patent for a combination of a straw-feeding attachment with the furnaces of boilers other than those with return-flues, and that Rice added to the combination the new element of the return-flues with a new and important result. But this view, in our opinion, is not justified by the true construction of the patents. If Morey's patent is for a combination, it is a combination of the straw-feeding attachment with all boilers for generating steam, when it is desired to use straw for fuel, and therefore includes the very combination claimed by Rice. And if it is for the straw-feeding attachment as an independent device, but to be used in boilers for generating steam, when straw is to be used as fuel, then the application of it to the return-flue boilers, although these were not actually known to the inventor, is merely a new and analogous use of an old device, operating in the very manner intended by its inventor, and the use of which, in the new application, involved no invention, and could not therefore be the subject of a patent.

III. In fact, it is very apparent from the testimony on the part of the plaintiff, that the actual application of the Morey straw-feeding attachment to the return-flue boiler, at Rice's establishment, was a demonstration made by Morey himself of the practical operation of his device; intended to show what he had already proved by previous trials with fire-box boilers, to his own satisfaction, that he had invented an arrangement for applying the principle by which straw could be made useful as a fuel for steam-boilers, that principle being to prevent the introduction of a draft of cold air while feeding the supply. He showed this to Rice by the trial at the establishment of the latter, on one of his own return-flue boilers. Rice, by subsequent experience or previous knowledge, it matters not which, perceived the advantages of the return-flue boiler over the fire-box boiler for such a use. That was his sole discovery, and constitutes the basis of the claim for his patent. The marvel is that he should have succeeded in persuading Morey that he had given all its value to the invention of the former, and obtained from him the conveyance of his patent for a consideration dependent upon the result of this litigation.

The court below, in its rulings upon objections to the introduction of the reissued patent of Rice, in its refusals to charge

the jury as requested by the defendant, and in its charge as given, took views of the validity of the patent, on which the case of the plaintiff rested, which are opposed to those expressed in this opinion, and which necessarily resulted in the verdict and judgment against the defendant. For these errors the judgment must be reversed, with directions to grant a new trial; and it is

So ordered.

MR. JUSTICE GRAY did not sit in this case nor take any part in deciding it.

BRITTON v. NICCOLLS.

1. A party in Illinois transmitted to bankers residing in a city in Mississippi a note for collection which was there dated, but did not inform them nor were they aware of the residence of the maker. The only instruction sent was that the note was to be collected if paid, and if not paid on presentment it was to be protested and notice of non-payment sent to the indorser. In due time they put the note in the hands of a reputable notary of that city for the purpose of presentment and demand, and of notice to the indorser should there be a default of payment. *Held*, that they are not liable to their correspondent for the manner in which the notary performed his duty.
2. The notary is a public officer; and when he received the note, he, according to the ruling of the Supreme Court of that State, became the agent of the holder, and for failure to discharge his duties he alone is liable.
3. The duty and liability of bankers as collecting agents stated, and the authorities bearing upon their responsibility for the acts of the notary to whom the notes sent to them for collection are delivered for presentment, demand, and protest, cited and examined.

ERROR to the Circuit Court of the United States for the Southern District of Mississippi.

The facts are stated in the opinion of the court.

Mr. James Lowndes and *Mr. A. H. Handy* for the plaintiff in error.

Mr. William L. Nugent for the defendant in error.

MR. JUSTICE FIELD delivered the opinion of the court.

The defendant in the court below is the surviving partner of the firm of Britton & Koontz, which was engaged in the bank-