JOHNSON *v.* RAILROAD COMPANY.

1. Reissued letters-patent No. 4870, bearing date April 16, 1872, granted to Asa Johnson and Thomas S. Sandford — the latter being the assignee of an interest therein — for an alleged new and useful improvement in fastening sheet metals to roofs, are void, inasmuch as several of the devices essential to the combination described in the original letters are omitted, and the remaining parts, for which a separate claim is made, operate in a different way and for a different purpose.
2. Contrivances substantially the same as that set forth in the second claim of the reissued letters (*infra*, p. 544), for fastening metals together, wherein, by the use of slotted side-plates and an adjusting bolt, allowance is made for their contraction and expansion caused by changes in temperature, were in use before the issue of the original letters.

APPEAL from the Circuit Court of the United States for the Eastern District of New York.

On May 19, 1857, letters-patent were granted to Asa Johnson, the inventor, and William Higbie and Henry Link, his assignees, "for an improved mode of fastening sheet metal on roofs," &c.

The specification declares the invention to be "a new and useful mode of self-adjusting fastenings for fastening metallic coverings to buildings, and in any and all other places where metals require fastening and their contraction and expansion demand accommodation;" and there are appended to it five figures.

Fig. 1 is a side elevation of a buiding.

Fig. 2 is an end elevation or section cut through the roof in the line x x, Fig. 1.

Fig. 3 is an end elevation of the self-adjusting fastener.

Fig. 4 is a side elevation of the same.

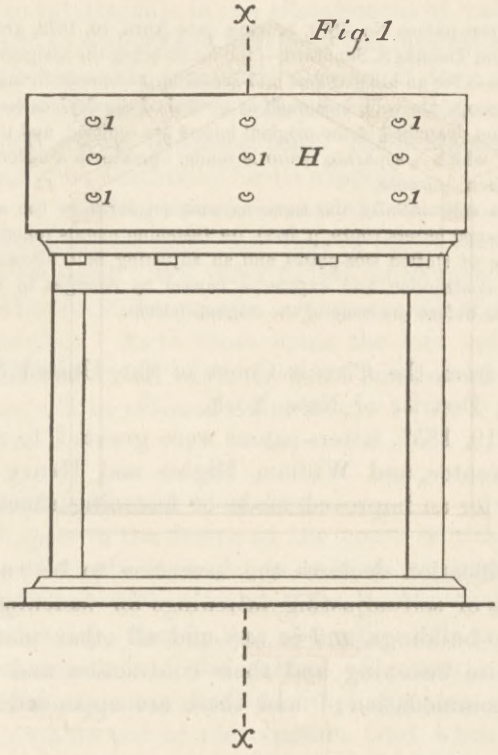
Fig. 5 is a plan view of the bottom-plate.

The specification then proceeds as follows: —

"In the operation of my invention, after sheeting the roof, if the boards do not exceed an inch in thickness, I bore a hole at the point where I wish to insert the stud, about the size as seen in vertical dotted lines in Fig. 2. The holes may be made larger or smaller to allow for contraction and expansion, so that the studs can move freely in any direction required.

"The bottom-plate is then screwed firmly to the boards by the screws (*s*) (*s*) seen in Figs. 2 and 4, and the screw 1 passes through

Fig. 1



the metallic covering into the stud 2, thus firmly fastening the covering K to the stud, as seen in Fig. 2.

"It will be further seen that the cord 7 passes through the stud 2, Fig. 4, and then through the bottom-plate, and is fastened together as at *g*, in said Fig., thus always keeping the stud in an erect position until attached to the metal.

"If the covering contract on a line parallel with the connecting-pin S, the adjustable connecting-rod 2 will move on it towards one of the flanges 4, when it expands it will move towards the opposite flange, thus moving towards the point of contraction, and from the point of expansion with this metallic covering.

"The adjustable stud, in addition to its parallel and longitudinal movement, is capable of a diagonal movement, thus accommodat-

ing itself to any direction required by the metal contracting or expanding.

Fig 2.

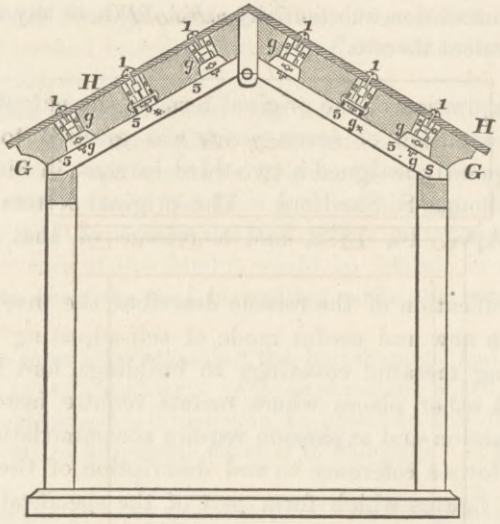


Fig. 3.

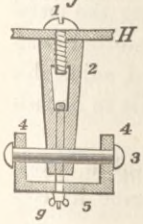


Fig. 4.

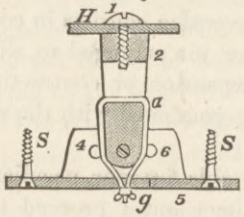
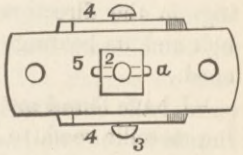


Fig. 5.



"I contemplate using them as general fasteners when it is necessary to allow for the contraction and expansion of the material used, not confining myself to buildings only. I may find, in using my adjustable fasteners, it necessary to make some of them, those that are in parallel lines with the flanges, to fit up close to the sides of the studs, as seen at 1, 1, in Fig. 2, allowing them to move in but one direction on the pin 3, which slides in the slots in the flanges 4, 4."

The claim is thus set forth: —

"In the self-adjusting fastener as described, for the purpose of attaching metallic coverings to buildings and accommodating itself to the contraction and expansion of the metal, and for fastening metals in all other places when the contraction and expansion demand accommodation, substantially as set forth, or any mechanical device equivalent thereto."

At the expiration of the original term of the patent, fourteen years, an extension of seven years was granted to Johnson, who subsequently assigned a two-third interest in his extended letters to Thomas S. Sandford. The original letters were surrendered April 16, 1872, and a reissue of that date was granted.

The specification of the reissue describes the invention generally as "a new and useful mode of self-adjusting fastenings for fastening metallic coverings to buildings, and for use in any and all other places where metals require fastening, and their contraction and expansion require accommodation."

Then follows a reference to and description of the same five illustrative figures which form part of the specification of the original patent.

The specification then proceeds as follows: —

"The principle of my invention consists in connecting the metal to be fastened with a bolt or pin arranged to slide in slotted bearings in the direction of expansion or contraction, said adjustable bolt and its bearings being combined with the materials to be fastened.

"I have found my adjustable fastener peculiarly useful in fastening metallic roofs to buildings, and I proceed to describe its construction and use.

"In using my self-adjusting fastener for fastening metallic roofs to buildings I connect the sliding bolt or pin with the roof by means of a stud fastened to the same, and I form the side-plates, which contain the bearings for the sliding-bolt, in connection with and as flanges of a bottom-plate, which is secured fast to the under side of the wooden sheathing of the building.

"In the drawing, 1 indicates the screws for attaching the metallic roof to the stud, 2 is the stud, 3 is the adjusting bolt or pin, to which the metallic roof is connected by the stud and screw, said bolt passing through the stud 2 and through the slots of the side-

plates or flanges. 4 4 are the side-plates or flanges, provided with slots, which form the bearings of the adjusting-bolts. 5 is a bottom-plate, used as a convenient means of attaching the side-plates to the wooden sheathing of the building. 6 6 are the slots in the side-plates in which the adjusting-bolt slides. 7 is an india-rubber cord which may be used in applying the adjustable fastener to buildings. It is connected with the stud by being passed through an opening in it. It then passes down on each side of the stud and through an opening in the bottom-plate, where it is fastened, as indicated at *g* in the drawing, and is used for keeping the stud in an erect position until after the stud had been inserted through the sheathing from below, and until it is attached to the metal roof. Without some contrivance of this kind it would be difficult in the position indicated to keep the stud in position while the connection was being made.

"S S are screws for attaching the bottom-plate, and with it the side-plates, to the sheathing. G is the sheathing of the roof greatly enlarged in thickness in proportion, to illustrate the details of the connection of the adjustable fastener to buildings. H is the metallic roofing.

"The method of using the invention in attaching metallic roofing to buildings is as follows: After sheathing the roof, a hole is bored in the sheathing, at the point where the adjustable fastener is to be used, of sufficient size to allow the connecting-stud to move in the same with the expansion or contraction of the metallic roof. These holes receive the slotted flanges or side-plates 4 4, and they are indicated in the drawing by the letter *a*. (See Fig. 2.) They should be of the shape and size required by the extent and direction of the contraction and expansion to be allowed for. The flanges or side-plates are inserted in the holes, and the bottom-plate is then firmly secured to the boards or sheathing G by the screws S S, as seen in Fig. 2. Where the sheathing is sufficiently thick, a hole may be bored into it to receive the fastener from above. The side-plates 4 and adjusting-bolt 3 are thus connected with the building. The connection with the metallic roof is then effected by holding the stud in an erect position by means of the rubber cord, and attaching the stud to the roofing by means of the screw 1. Both the wooden sheathing and the metallic roof are thus connected to the self-adjusting mechanism, consisting of the slotted side-plates and the bolt which slides in them.

"It is obvious that if the metal of the roofing contracts or expands in a line with the slots in the side-plates that the bolt will

adjust itself to such contraction or expansion by sliding in the slots in the proper direction.

"On the other hand, in cases where the line of contraction or expansion may be diagonal, or at right angles to the line of the slots in the side-plates, the connecting-stud is arranged to slide upon the adjusting-bolt, as it is shown it may do in Figs. 2 and 3. Where, however, the movement is only sensible in the direction of the slots, the side-plates are made to fit up close, as seen at Fig. 2 in the illustrations marked *, where the side-plates or flanges are seen in cross-section, so that the only practical adjustability shall be in the direction of the slots.

"I contemplate using my invention as a general fastener where it is necessary to allow for the contraction and expansion of the material used, not confining myself to buildings only."

The first claim of the reissue is substantially identical with the one claim of the original patent. The second claim of the reissue is as follows: —

"I claim, in combination with the adjusting-bolt and slotted side-plates, suitably connected to and combined with the materials to be fastened together for the purpose of accommodating the expansion and contraction of such materials with reference to each other, substantially as specified."

The bill in this case was filed by said Johnson and Sandford to restrain the Flushing and North Side Railroad Company from infringing the second claim of the reissued letters-patent, by using what is commonly known as the fish-plate joint for uniting the ends of railroad rails. It consists of two iron plates of proper shape and size to fit the "web," which is the upright portion of the rail between its head and base. The plates are fastened one on each side of and near the ends of two abutting rails by means of bolts and nuts, the bolts passing through corresponding holes formed in both the plates and rails. In order to permit the rails to expand and contract with the changes in temperature, their ends are not allowed to form a close joint, and the holes, either in the fish-plates or in the rails, are made larger than the bolts, and are elongated in the direction of the length of the rails. By these means the expansion and contraction of the rails is "compensated" without injury to the joint.

The answer denies the alleged infringement, and sets up as defences the invalidity of the reissued letters, because, as was alleged, the original were not lawfully surrendered, and the want of novelty in the invention covered by the second claim of the reissue.

The Circuit Court dismissed the bill, holding that the reissued letters were void because they were not for the same invention as that described in the original, and the complainants appealed.

The facts are stated in the opinion of the court.

Mr. Benjamin F. Butler and *Mr. Thomas Bracken* for the appellants.

Mr. Andrew McCallum and *Mr. S. D. Law* for the appellee.

MR. JUSTICE WOODS, after stating the case, delivered the opinion of the court.

The appellee insists that the invention covered by the second claim of the reissued patent, of which infringement is charged, is neither described in the specification nor claimed in the claim of the original patent, and that the reissue is therefore broader than the original patent, and consequently void.

It takes but slight comparison of the patents to show that this contention is well founded. The original patent was for a complicated contrivance, consisting of a number of old devices combined, and specially adapted to the fastening of metallic coverings to buildings, and for use in all other places where metals require fastening and their contraction and expansion require accommodation. To make the invention of any practical value for the purpose suggested in the specification, and for use in the "other places" referred to, all the parts of the device therein described, except, perhaps, the rubber cord, which is only for temporary use in applying the device, are absolutely essential. Nowhere in the specification is it indicated or suggested that any part of the device described can be dispensed with. It is perfectly clear that the stud and bottom-plate of the contrivance are absolutely necessary to the only specific use mentioned in the specification. If these are left out there is no connection between the two materials to be fastened together; namely, the metal roof and the wooden

sheathing under it. As the declared purpose of the invention is the fastening of these two materials together, it is difficult to see how the parts of the device essential to the fastening can be discarded, and the invention still remain perfect and unchanged.

On recurring to the second claim of the reissued patent, we find that the metal roof to be fastened, the stud, the bottom-plate, and the screw which fastens the metal roof to the stud, are all eliminated from the invention, and there is nothing left but the adjusting-bolt (3) and the slotted side-plate (4 4). As thus left, it is impossible to apply in a practical manner the device to the fastening of sheet-iron to a roof, or the fastening of any sheet metal to anything whatever.

If the second claim of the reissued patent, as insisted by appellants, covers the fish-plate joint used by the appellee, it must cover a combination of (1) the two materials to be fastened together; (2) two slotted side-plates on opposite sides of the materials to be fastened, which serve as clamps to hold such materials in position; (3) the adjusting-bolt. The claim is so interpreted by the expert witness of appellants. Under the original patent the materials or things to be fastened together are the metallic covering of the roof and the under surface of the wooden sheathing on which it is laid. The slotted plates or flanges are fastened to the under side of the sheathing by the bottom-plate, which connects the flanges, and they form a support for the adjusting-bolt; but the slotted flanges do not embrace or clamp any part of the wooden sheathing or any part of the metallic covering of the roof, much less do they embrace or clamp at the same time the sheathing and the metallic covering, which are the things to be fastened together. But in the reissued patent the slotted plates not only furnish bearings for the bolt, but perform a new and essential function, of furnishing a strong lateral support to the materials to be fastened together by clamping the same between them.

We find, therefore, that in the reissued patent several of the devices essential to the combination described in the original patent are left out and a separate claim made for the parts which remain, and to these parts a new and essential function is given, which they could not perform under the original patent.

It is, therefore, perfectly clear that the second claim of the reissued patent was not covered by the original patent. It describes another device operating in a different way and for a different purpose.

Under the circumstances of this case there can, in our opinion, be but one conclusion, and that is, that the second claim of the reissued patent is void.

There was no error in the original patent caused by inadvertence, accident, or mistake, which could have escaped the notice of the patentee and his associates for fifteen years. It is not open to dispute that the fish-plate joint, precisely such as the appellants claim is covered by their reissued patent, was in general use during nearly the entire life of the original patent. Why did not the patentee earlier discover that all this use of the fish-plate joint was really an infringement on his patent and apply for a reissue and assert his rights? He has rested supinely until the use of the fish-plate joint has become universal, and then, after a lapse of fifteen years, has attempted by a reissue to extend his patent to cover it. We think it is perfectly clear that the original patent could not be fairly construed to embrace the device used by the appellee, which appellants insist is covered by their reissue. If the reissued patent covers it, it is broader than the original, and is, therefore, void. *Giant Powder Co.* v. *Cal. Vigorit Powder Co.*, 6 Sawyer, 508; *Powder Company* v. *Powder Works*, 98 U. S. 126; *Ball* v. *Langles*, 102 id. 128; *James* v. *Campbell*, 104 id. 356.

Even if the patentee had the right to a reissue if applied for in seasonable time, he has lost it by his laches and unreasonable delay. *Miller* v. *Brass Company*, id. 350.

The defence of want of novelty set up in the answer is, in our opinion, also sustained by the evidence. The testimony shows that the device of employing slotted plates and bolts to allow of expansion and contraction caused by changes in temperature was applied in the manufacture of locomotives long before the year 1843, the earliest date at which Johnson, the original patentee, claims to have conceived his invention. By this contrivance the expansion and contraction of the boiler of the locomotive upon its frame, caused by alternate heating and

cooling, were accommodated. This device was in common use before the year 1843, and it much more nearly resembles the fish-plate joint used for uniting the iron rails of a railroad than it does the contrivance described in the original patent of Johnson.

Many other instances of the application of the principle of this device prior to the date of Johnson's original patent are shown by the evidence. Among these were the use by the Newcastle and Frenchtown Railroad Company, in 1837, of iron rails embodying substantially the present fish-plate joint, and the use of the same device by the Oswego and Syracuse Railroad Company in 1848. In the first of these instances but one plate was used for each joint, and there was an oblong hole in one end only of every rail. In the second instance two plates were used to every joint, and the holes in both ends of the plates were oblong.

There are other instances of the use of this device for joining iron rails, which the record discloses. The evidence leaves no doubt upon our minds that the device now used by the appellee and which is alleged to be an infringement on appellants' patent, was well known and publicly used for several years before the application of Johnson for his original patent in 1857.

An attempt is made to elude the force of the testimony on the question of novelty by introducing evidence to show that Johnson, as early as the year 1843, made a small model of a device similar, as is claimed, to the present fish-plate joint, and also some drawings upon the fly-leaf of a book, of the same contrivance, and these it is claimed show that Johnson was the first inventor of the fish-plate joint, and that his patent, afterwards obtained in 1857, cut off the claims of intermediate inventors, if any such there were.

We have examined the model referred to, and cannot see that it contains any suggestion of the fish-plate joint. It is simply an oblong strip of sheet-iron, having its sides bent over so as to form flanges, and with four oblong holes in each flange corresponding with similar holes in the other, and a bolt to pass through the corresponding holes in the flanges. The model is a single piece of sheet-iron, supposed to represent an

iron rail. There is no suggestion that it is to be connected with any other rail, and there are no plates or bars with which to make the connection. If the model suggests anything, it is simply the use of a bolt in slotted holes, which, as the testimony in this case shows, was a device in common use in many ways long before the year 1843.

It is alleged that the model spoken of was made by Johnson when he was about twenty years of age. It does not appear that at this time he had ever seen an iron rail such as those to which a fish-plate joint can be applied, or that he had ever seen a railroad. According to his testimony the model when finished was placed by him upon the plate under the eaves of a woodhouse, where it remained unseen by any one for thirty-three years, until the spring of 1876, when he returned to the place where he had lived in 1843, and got the model for the purposes of this suit.

It is sufficient to say that the proof fails to show that he, in 1843, or at any time before the fish-plate joint for uniting iron rails came into use, was the inventor of that device, or that he ever invented it at all. It was not described in his original patent, and he never set up any claim to it until the year 1872, when its use had become universal wherever railroads were constructed.

On both grounds, therefore, the invalidity of the reissued patent and want of novelty in the invention which appellants contend was covered by the original patent, we are of opinion that the Circuit Court was right in dismissing the bill.

Decree affirmed.