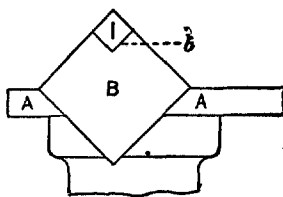


ing, cams, guides, etc., to supply and regulate the motion of the various parts, are described. The stay strip, which is paper or cloth of a proper width wrapped in a continuous roll upon a reel located to the side of the block and plunger, is fed forward and over a pasting wheel. The forward end of the roll of stay strip, after passing the pasting mechanism, protrudes transversely to the box corner, over said corner; and, at or about the time when the plunger descends, a cutting mechanism shears off the end of the strip, so as to leave a sufficient length of stay strip upon the box corner subject to the action of the affixing mechanism. When this short stay strip is thus placed over the outside of the box corner, the engagement of block and plunger die, with the box corner interposed between, applies the pressure necessary to secure such stay strip in place. In the drawings the block and die are shown with faces diverging to inclose an angle of 90° , and are thus adapted to fit the rectangular corner of a four-sided box. They are not, however, restricted to this precise shape, and the divergence of the faces may be changed to meet the varying angles which would be found in boxes with three sides, or with more than four sides, and still be clearly within the patent. The mechanism to fold the strip over the edge of the box, and affix it to the inside of the corner, is fully described. The block, B, is shown in section thus:



It is of sufficient length to accommodate the width of stay strip to be affixed. The square-sided block, B, is firmly fixed in the frame, A, so that its upwardly projecting portion displays two diverging surfaces of the proper angle to fit inside the box corner. B, of course, projects forward of the frame, A, so as to allow the operator to place the box corner on the block without obstruction by the frame. In its top is cut a V-shaped notch, b, into which fits the square-sided anvil, I. When the anvil is in place, the block and anvil fill the entire inside of the corner. When the anvil is withdrawn, so much of the inside surfaces of the box as are next the corner are free from contact with block or anvil, and an unobstructed space is left, sufficient to accommodate the tucked-in part of the stay strip. The rest of the inside surfaces are still supported by the block. In operation, the box corner is so placed upon the block that, when the cut-off stay strip falls upon it, a portion of the stay strip projects inwardly beyond the edges of the two box sides which make up the corner. In the rear of plunger, G, which, it will be remembered, falls upon the outside surfaces of the box corner, there is a secondary plunger reciprocating vertically, and synchronously with plunger, G. This

secondary plunger falls, not upon the box, but on the inwardly projecting portion of the stay strip, and bends it down. Before these plungers fall, the anvil, I, has been moved out of the V-shaped notch in block, B. It slides backward, and entirely off from the block. As soon as the secondary plunger has bent down the projecting portion of the stay strip, so that it hangs in front of the entrance to the empty V-shaped notch, the anvil, I, moves forward again into place, and, meeting on its way the downwardly hanging free edge of stay strip, pushes it forward into the inside of the box corner, smoothing it down as would the finger of an operator, and when the anvil, I, is once again in place, and both inside and outside of the box corner wholly in contact with the diverging faces of anvil block and plunger die, a final squeeze fixes the short pasted stay strip firmly in place.

After a full description of the several parts of the machine and their mode of operation (the above is a mere brief epitome of such description), the inventor proceeds:

"In many boxes the stay is simply pasted against the exterior surface of the box corner, and is not turned in or over the edge of the same, in which case the work can be done by using a nonreciprocating angular lower die or anvil, and a single upper die or plunger. In such case the form, B, will obviously not be necessary as a part separate from the die; or, in other words, a single lower die or form will take the place of the form, B, and movable lower die, I."

"In some cases a continuous stay strip may be employed, which is covered or coated with dry adhesive material, in which case water will be used in the receptacle, J, and the roller, O, will operate to moisten the strip only."

"As far as the main features of my invention are concerned, forms other than those illustrated of the several parts of the machine may be employed without departure from my invention,—as, for instance, in place of the particular mechanisms shown for feeding or delivering fastening strips or stay strips to and between the clamping dies, or for applying paste or glue to the said stay strips; other forms of strip feeding and pasting devices may be used in practice, with the same general result as above described."

The claims relied on are these:

"(1) The combination, with opposing clamping dies having diverging working faces, of a feeding mechanism constructed to deliver stay strips between said clamping dies, and a pasting mechanism for rendering adhesive the stay strips, said clamping dies being constructed to co-operate in pressing upon interposed box corners the adhesive stay strips, substantially as described.

"(2) The combination, with opposing clamping dies having diverging working faces, said clamping dies being arranged to co-operate in pressing adhesive fastening strips upon interposed box corners, a feeding mechanism constructed to feed forward a continuous fastening strip, and a cutter for severing the said continuous strip into stay strips of suitable lengths, substantially as described.

"(3) The combination, with opposing clamping dies having diverging working faces, said clamping dies being arranged to co-operate in pressing an adhesive fastening strip upon the corner of an interposed box, a feeding mechanism constructed to feed between the dies a continuous fastening strip, a pasting mechanism for applying adhesive substance to the strip, and a cutter for severing the strip into stay strips of suitable lengths, substantially as described.

"(4) The combination, with opposing clamping dies having diverging working faces, said clamping dies being constructed to co-operate in pressing an adhesive fastening strip upon an interposed box corner, of a movable plunger or strip bender constructed to bend downwardly or inwardly a projecting end of the stay strip, that one of the clamping dies which engages the inner

surface of the box corner being movable into and out of its usual working position, whereby it may engage and carry inside of the box corner the said projecting end of the stay strip, substantially as described.

"(5) The combination, with opposing clamping dies having diverging working faces, said clamping dies being constructed to co-operate in pressing an adhesive fastening strip upon an interposed box corner, of a movable plunger or strip bender constructed to bend downward or inwardly a projecting end of the stay strip, that one of said clamping dies which engages the inner surface of the box corner having a reciprocating motion in a direction parallel with the box corner, so as to carry inward and press against the inside of the box corner the said projecting end of the stay strip, substantially as described."

"(7) The combination, with opposing clamping dies having diverging working faces, said clamping dies being arranged to co-operate in pressing an adhesive fastening strip upon an interposed box corner, of a feeding mechanism constructed to feed forward a continuous fastening strip, a cutter for severing the strip into suitable lengths, and a movable part or plunger which bends downwardly or inwardly the projecting end of the fastening strip, that one of the clamping dies which engages the inside of the box corner being constructed to reciprocate in a direction parallel with the box corner, substantially as described."

These six claims cover two distinct sets of combinations; the first set including the combinations of claims 1, 2, and 3, which contain no turning-in features and contemplate only the affixing of the stay strip to the outside of the box corner; and the second set including the combinations of claims 4, 5, and 7, which have the same combinations of claims 1, 2, and 3, with the added element of the turning-in feature, and contemplate the affixing of the stay strip to both the outside and the inside of the box corner. The elements of the first claim are the opposing clamping dies, the feeding mechanism, and the pasting mechanism. The second claim omits the pasting mechanism, and adds the cutting mechanism. The third claim is substantially a combination of all the elements of the first and second.

The first three claims are broad ones, covering the particular combinations referred to without any restriction to the details of mechanical construction; and defendants concede that, if these claims are to be sustained broadly as they are expressed, they are infringed. As to this first set, therefore, the only question is whether, in view of the state of the art, Beach was entitled to appropriate as broad a combination as he has set forth in his first three claims, which cover every device for affixing stay strips to the outside of box corners, where the operation is performed by the combined action of a feeding mechanism, a cutting mechanism, and a pasting mechanism, in combination with any opposing clamping dies whose faces diverge. The circuit court sustained these broad claims, and we concur in this decision. It is hardly necessary to add anything to the elaborate discussion of this part of the case, which will be found in the opinion of the learned judge who heard it in the circuit court. The patentee indisputably made a machine which did work that theretofore was always done by hand. It is undoubtedly true that paper strips had theretofore been applied to boxes by machinery. See Orr & Wright's patents, and also Inman & Monroe's. And the strips, thus applied, did to a greater or less extent operate to stay

the corners. They completely surrounded the boxes to which they were applied, and the machines are spoken of in the record as covering machines. They wound the strip of adhesive paper around the box, pressing it on, and turning over the edge, when necessary, by means of a roller. But, despite the existence of the covering machines, paper-box makers still continued to apply shorter strips to the corners as an additional stay to the box.

Horace Inman, one of the defendants, who was in interference with the patentee, claiming to have himself first made the invention, testified in such interference proceedings:

"I got my covering machine running, and found that I needed a machine for setting up corners of boxes, as the cover needed to be set up more square and true to be covered by the machine than it did to be covered by hand. The paper, being put on by hand in short pieces, could be adjusted to the unequal corners of hand setting up better than long continuous pieces away around the box could be, as it was in the case of machine work. By 'setting up' I mean the corner stay work."

Certainly the state of the art exhibits a necessary part of the work of box making as done by hand with no machine existing in the art to do it. That machine the complainant was the first to supply. Moreover, the evidence leaves no doubt that it did the work it was devised to do. Subsequent improvements have made it do that work better, have made it practicable to apply stay strips to more varieties of box than Beach's original machine could readily handle; but that is immaterial when it is shown, as it has been here, that machines made in strict conformity to the patent have been used by manufacturers for years in doing this very work of applying short stay strips, and to the satisfaction of the users. So far as the record shows, no machine presenting the complete combination of the first three claims existed before Beach's invention, either in this art or in any other. The nearest approach to it is the Dennis & Yorke machine, which pastes address labels on folded newspapers. That has feed, pasting, and cutting mechanism combined with a vertically reciprocating plunger descending with a flat head on a flat platen, the newspaper being interposed between. This is quite a close approach to the machine of the patent. It is only necessary to change the flat head and the flat platen to clamping dies with diverging faces, and to make the machine stronger in order to enable it to fasten stay strips to box covers. That is shown by the old Dennis & Yorke machine in evidence, which has been thus altered and does such work. If this Dennis & Yorke machine were already in the box makers' art, if some one prior to Beach had cut away part of its framework, had made its flat platen rigid, and increased its power, and employed it to affix adhesive labels to the tops or sides of boxes, it might not be invention merely to change the shape of the dies so as to fit into and over box corners, and there apply adhesive strips. But no one had done this. The Dennis & Yorke machine was not in this prior art; and when Beach took it from another art, where it was doing different work, and, by modification, adapted it to efficient use in his own art, and thereby gave to his own art the first machine it ever had which could do work

necessary to be done, and always theretofore done by hand, he made an invention to the fruits of which he should be entitled.

No question as to the effect of the reissue was argued in this court. It is unnecessary, therefore, to add anything to the opinion of the circuit court on that point. Nor does the contention of the defendants that there has been some broadening or expansion of the first three claims during the long period of time that the patentee was in interference call for any extended discussion. When Beach first applied for a patent, in June, 1885, he described his entire machine, and each of the claims he submitted then covered the devices for turning in the end of the stay strip under the edge of the box. He filed amendments in May, 1886, in which he added to the specification the statement that where the stay is to be simply pasted down over the corner of the box, and is not to be turned under, the work can be done by his machine by using the angular form and one plunger with a corresponding angular notch. This was self-evident on the original specification and drawings, and the statement thus added to the specification described no new or enlarged invention. The original drawings and specifications suggest the claims finally made, which recognize and claim the two different operations of outside and inside application.

The second set of claims, Nos. 4, 5, and 7, are restricted to the combination already described for affixing the stay strip to the outside, with the addition of the devices for turning in the end of the strip. The appellants contend that these claims should be closely confined to the particular turning-in device shown and described, and that these claims should not be construed to cover any construction which does not employ the lower clamping die as a means of fastening the stay strip upon the inside of the box corner, nor to cover any machine in which the lower clamping die does not perform the "dual function of pressing the stay strip against the inside of the box corner in addition to the function of supporting the box corner while the stay strip is being pressed upon the outside of the box corner." They contend that said claims must not be restricted to a lower die "which is so constructed that it will operate with the other parts of the machine at one time, in its usual working position, to support the box corner under the pressure of the plunger, and at another time (having first been withdrawn from under the box corner) it will move outward again into the notch of the form, and complete the square of the form, and fasten the strip upon the inside of the box corner." It is unnecessary to discuss this contention, for, with all the restrictions thus insisted on, these claims cover defendant's device. Instead of withdrawing the whole of the anvil, I, defendants withdraw only such portion of it as will leave sufficient space for the end of the strip to be turned in. The rest of the anvil is rigid, being part of the block itself. When the movable part is in place, it and the rigid part together make up the anvil of the patent, and discharge the same functions of support and pressure. This movable part of the anvil defendants connect with their plunger by a shaft, the shaft and movable portion of the anvil together being

described in the record quite aptly as a tucking finger. When it is withdrawn from the notch, it swings back in the arc of a circle; but when, after being withdrawn, it again advances to the notch, it moves, as the model shows, in precisely the same direction as does the horizontally reciprocating anvil of the patent. Indeed, it is apparent that it must so move, or it would not properly smooth down the paper into place. It is only while it is moving into position, or is resting in place, that it is doing any work; and, since it does that work in the same way and in the same line of motion as the device of the patent, it is immaterial that, when it is not doing work, it moves in a different way, and is differently actuated. The defendants' machine has a secondary plunger adapted to do the same work as complainant's secondary plunger, and in precisely the same way. No doubt, when the box corner is placed on the lower die in one way, this secondary plunger will hit upon the box instead of on the projecting edge of the strip; but it is just as easy to place the box corner on the lower die, so that the secondary plunger will fall upon and bend down the projecting edge, and it may well be assumed that such will be the ordinary mode of using it. The variances from complainant's turning-in device are too trivial to avoid infringement of the fourth, fifth, and seventh claims.

Infringement by the defendants, Horace Inman, John Warner, and A. A. De Forrest, composing the Inman Manufacturing Company, is sufficiently shown in the record before this court. A machine known as No. 308 was sold by Inman November 10, 1892. It is substantially of the same structure as the model, which was before the experts when the proofs were taken, and it equally infringes the claims of the patent. The appellants say that this (No. 308) is a so-called "Jaeger machine." There is uncontradicted evidence in the case that the Jaeger machine and the Inman machine are one and the same thing, and defendants Horace Inman and the Inman Manufacturing Company expressly admit in the eleventh paragraph of the answer that they have made and sold, and are making and selling, Jaeger machines.

The contention of the appellants that there is no proof that complainant gave public notice of his patent by marking his machines relates only to the question of damages, and that is not before us on this appeal.

The decree of the circuit court is affirmed, with costs.

THE RICHARD WINSLOW.

NORTON et al. v. THE RICHARD WINSLOW.

(Circuit Court of Appeals, Seventh Circuit. January 6, 1896.)

No. 260.

ADMIRALTY JURISDICTION—MARITIME CONTRACT—STORAGE OF GRAIN IN VESSEL.
A contract made near the close of the season of lake navigation for the shipment of a cargo of grain from Chicago to Buffalo, the grain to be stored in the vessel at Buffalo until the following spring, is not maritime