

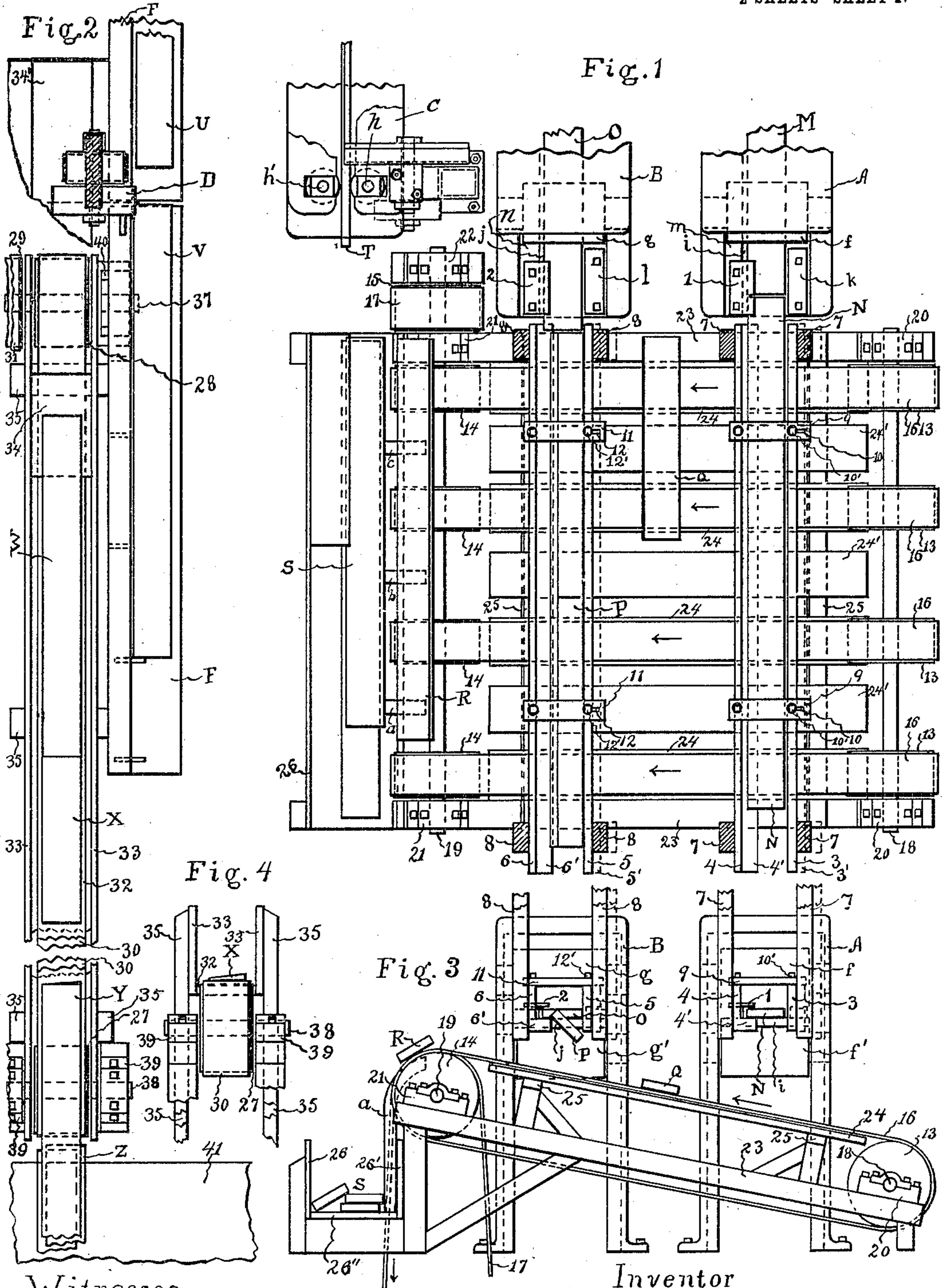
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G. W. LOGGIE.
RECEIVING TRIP AND CONVEYER.

APPLICATION FILED JUNE 16, 1906.

2 SHEETS—SHEET 1.



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RECEIVING-TRIP AND CONVEYER.

No. 837,087.

Specification of Letters Patent.

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Application filed June 16, 1906. Serial No. 322,112.

To all whom it may concern:

Be it known that I, GEORGE W. LOGGIE, a citizen of the United States, and a resident of Bellingham, in the county of Whatcom and State of Washington, have invented certain new and useful Improvements in Receiving-Trips and Conveyers, of which the following is a specification.

My invention relates to an improvement in conveyers for transmitting pieces of lumber from one machine to another during the process of manufacture and also to an improved receiving-trip by which said pieces of lumber may be properly deposited on said conveyers.

The object of my invention is threefold: to reduce the amount of floor-space required in which to conduct the several processes of manufacture, to diminish the number of machines required for said processes, and to diminish the number of men required to carry forward said work.

The application of my invention to the manufacture of bevel-siding is illustrated in the accompanying two sheets of drawings, in which similar characters refer to similar parts throughout the several views.

Figures 1 and 2, taken together, represent in plan view an arrangement of machines embodying my invention. Fig. 3 is a side elevation of Fig. 1. Fig. 4 is an end elevation of Fig. 2, and Fig. 5 is a side elevation of Fig. 2.

In Figs. 1 and 3, A and B are portions of the rear ends of two wood-planers. Projecting longitudinally from the rear of each of these planers is a receiving-trip which receives each finished board as it comes from the planer and retains it until it has passed entirely beyond the planer bed-plate, when it is allowed to drop. Beneath these trips are a number of pulleys, which move a series of belts transversely behind the planers, forming a lateral conveyer. On this conveyer the boards fall from the trips and are transferred by it to a receptacle lying parallel with, to the rear, and to one side of said planers. By the side of said planers and in line with said receptacle is the resaw C, only the front part of which is shown. The boards are taken from said receptacle and fed by hand through this resaw, and the beveled pieces produced by it are then transferred laterally by hand to the trimmer tables F and G, Figs. 2 and 5. (Trimmer-table G is not shown in Fig. 2.) The trimmer-

and parallel with the planers referred to. Between and above said trimmer-tables are hung the trimmers D and E, Figs. 2 and 5. (Trimmer E is not shown in Fig. 2.) Located between these trimmer-tables F and G is a longitudinal conveyer onto which the strips are thrown by hand after they are trimmed. This conveyer takes them to the grading-table 41, Figs. 2 and 5, all of which will now be more particularly described.

Planers A and B, as illustrated, are alike. In planer A f and f' are the upper and lower rear end rollers. i is the floor of the bed-plate. m is a fixed guide on the left-hand side, and k is a removable guide on the right-hand side, while l is a removable guide fastened on top of guide m and projecting a short distance over the floor i . Through the way limited by said floor i , side guides m and k , and top guides l the board M is driven by rollers f and f' . Registering with the bottom and sides of this way is a receiving-trip composed of side guides 3 and 4, ledge 4', spreaders 9 9, with slotted holes 10 10, and supporting-hangers 7 7 7 7. Hangers 7 7 supporting side guide 4 are rigidly attached to beams overhead, which are not shown. Hangers 7 7 supporting side guide 3 are also attached to beams overhead, which are not shown. The upper ends of these latter hangers, however, are hung on pins in said beams in line with each other and parallel to said guide, forming a hinged attachment which permits the lower end of these supports to swing when it is desired to change the space between guides 3 and 4. The board N is shown retained in this receiving-trip with one end still resting on the planer-floor i . It may be noted that while the board N is in the illustrated position it is retained by the side guides 3 and 4 and supported by the ledge 4' and planer-bed i ; but since the ledge 4' only furnishes a support for one edge of the board the guide l is required to prevent the board from turning in the receiver as soon as it has passed from between the rollers.

The receiving-trip in the rear of planer B is in all respects similar to the one above described. In planer B the board O between the rear end rollers g and g' has pushed the board P off of the planer-bed j , and it is now entirely within the receiving-trip; but since the ledge 6' only supports the board P under one edge it falls from said trip. However, since the guides and ledge of the receiving-

trip are parallel to the planer-guides and bed the board falls from a position in a right line with that in which it moved through the planer.

5 The lateral conveyer beneath the trips and behind the planers above described is composed of the horizontal shafts 18 and 19, retained in bearings 20 20 and 21 21 22, respectively. Bearings 20 21 are attached to
10 beams 23 23, and said beams are supported by suitable standards. Said bearings 20 20 and 21 21 are retained in such position that the shafts are parallel with the guides of said trip and shaft 19 preferably higher than
15 shaft 18. On shaft 18 are the fixed pulleys 13 13 13 13, and on shaft 19 are the fixed pulleys 14 14 14 14, the pulleys on each shaft being regularly spaced and paired with those on the other shaft. Belts 16 16 16 16 are
20 carried by the several pairs of pulleys. On one end of shaft 19 is fastened the driver-pulley 15, on which runs the driver-belt 17. This end of shaft 19 rests in bearing 22, which is suitably secured to a support. The belts
25 16 16 16 16 are supported between the pulleys by the under boards 24 24 24 24. These under boards are secured to the framework 25 25. The slats 24' 24' 24' are situated between the several belts and are also attached
30 to the framework 25 25. At the right-hand end of this lateral conveyer is the receptacle 26 26' 26". This receptacle may be as shown or only a platform or merely a space at the delivery end of the conveyer, where a
35 number of boards may accumulate. The guards *a b c* are fastened to the side 26" of said receptacle and prevent an accumulation of boards in said receptacle from chafing said belts. The conveyer-belts 16 16 16 16
40 are driven in the direction as indicated by the arrows. Boards *Q* and *R* are shown on this conveyer. They are assumed to have dropped from the said trips. A pile of boards *S*, occupying a place in the receptacle
45 26, are assumed to have been dropped there by said conveyer. It may be noted that said boards, whether on said conveyer or in said receptacle, are bound to register approximately with each other at the ends nearest
50 said planers.

The resaw *C* is in file line with planers *A* and *B* and opposite the end of receptacle 26. Only the front feed-rollers and a portion of the front end of this machine are shown.
55 Board *T* is shown between vertical feed-rollers *h* and *h'*. In passing through the resaw the finished boards are each cut into two pieces of beveled siding, as is well understood by those familiar with these processes. From
60 said resaw the beveled siding is transferred laterally by hand to trimming-tables *F* or *G*, Figs. 2 and 5. These trimmer-tables are located in file line and parallel with said planers and resaw. Trimmers *D* and *E*
65 (partly illustrated in Figs. 2 and 5) are sup-

ported overhead and hang over and between said trimmer-tables in file line with said planers and resaw. These trimmers are hung one in advance of the other, so that they may not collide when in operation. Trimmer *D* serves table *F*, and trimmer *E* serves
70 table *G*. Table *F* is partly removed in order to show articles behind it. Between trimmer-tables *F* and *G* and parallel with the same is a longitudinal conveyer. This device
75 has a conveyer-belt 30 running in the direction indicated by the arrows on pulleys 28 and 27. Pulley 28 is attached to horizontal shaft 37, which is supported by bearings 40 40, (one of which is not shown.) These
80 bearings are attached to and supported on suitable framework 44 45. Pulley 27 is fixed to horizontal shaft 38, which is supported in bearings 29 29, attached to framework 42 43. Shaft 38 is parallel with and preferably in a
85 higher plane than shaft 37. One end of shaft 37 carries driver-pulley 29, which is driven by belt 31. Conveyer-belt 30 is supported by under board 32, to which is attached deep side guides 33 33, which are at-
90 tached to standards 35 35 35, &c. One of said side guides is partly removed in Fig. 5, and a section of this conveyer is removed in Fig. 2 for lack of space. At the lower or re-
95 ceiving end of this longitudinal conveyer is an inclined apron 34, the lower end of which is fastened between guides 33 33 and the upper end supported on the frame of the trimmer-tables. 34' is a dust-screen which pre-
100 vents the trimmings from falling on the conveyer. A grading-table 41 (only partly shown) is located under the delivery end of the longitudinal conveyer. This table is slightly inclined downward from the side
105 nearest said conveyer. After the strips of beveled siding are suitably trimmed by said trimmers while on said trimmer-tables they are taken from thence and thrown by hand on said longitudinal conveyer, care being
110 taken, however, to so throw them that one end may strike on said apron 34 and the other end on said belt 30. These strips are frail and can be easily split by rough handling; but when they land in the conveyer,
115 as described, the flexibility of the pieces causes them to bend downward, while the ends are supported between the said apron and said belt. They are thus saved from destructive shock. The strip *W* is assumed
120 to have been thrown on the conveyer in this manner. The friction between the end of the strip on the belt and on strips of siding being carried by the belt is greater than the friction between the end of the strip and the
125 inclined apron 34. Hence the strips are drawn down and forward until they lie entirely on the belt, as illustrated by the position of the strip *X*. The strip *Y* is shown as passing from the delivery end of the con-
130 conveyer onto the grading-table 41, where a pile

of other strips Z have been assumed to have already arrived. It will be noted that the strips of siding are deposited on the grading-table with the ends nearest the conveyer lying in approximate register.

In practice I use more planers to finish the boards for delivery to the lateral conveyer than those herein illustrated and described. The other machines can also be increased in number or changed in kind as the needs of the several processes may require. The belts and other described appliances are well suited to the uses of a beveled-siding mill. However, for other uses to which my invention is also applicable chain or rope conveyers or some other variation of these appliances as described may be desirable. In many details also the apparatus as described can be changed to advantage to meet other conditions or even serve the described conditions better—as, for instance, the guides 1 and 2 on the planer bed-plates may be replaced by rollers. Therefore I do not desire to be understood as limiting myself to the specific forms and uses herein described.

With my improved apparatus the floor-space required on which to conduct the several processes necessary in finishing lumber is in the form of a rectangle measured as follows: in length by the length of the rough material when fed into the planers, plus the length of the planers, plus the length of the pieces as they lie on the lateral conveyer, and plus the length of the trimmed pieces as they lie on the grading-table, and in width by the distance required to properly set up and operate the file of planers, resaw-trimmers, and such other machinery as may be required.

As compared to the way the manufacture of bevel-siding is ordinarily carried on, my described process saves the services of one man to take the stuff from each planer. It also saves the use of one additional trimming-machine with attendant, for in practice I use two trimmers and one single and one double planer. The longitudinal conveyer also saves the use of one or more men. In this class of work pieces of material of widely-varying length are used. With my improved apparatus, as already referred to, these pieces are deposited by the conveyers with the ends nearest the next machine in order approximately registering, which is of great importance for the rapid and proper handling of the stuff.

Having thus particularly described my improvements, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of a battery of planers or similar wood-finishing machines; a receiving-trip extending longitudinally from the rear of each of said planers, said trips so constructed and placed that they will retain the stuff as it comes from the planers, in substantially the same plane as it passed through

the said planers, until it has passed entirely out of the same; and a lateral conveyer at the rear of said battery of planers and beneath said trips.

2. The combination of a battery of planers or similar woodworking-machines; a receiving-trip extending longitudinally from the rear of each machine, said trips so constructed and placed that they may retain the stuff as it comes from the planers in substantially the same plane as it passes through said machines until it has passed entirely out of the same; a lateral conveyer at the rear of said battery of machines and beneath said trips; and a receptacle at the delivery end of said conveyer.

3. The combination of a battery of planers or similar woodworking-machines; a receiving-trip extending longitudinally from the rear of each of said machines; a lateral conveyer located at the rear of said machines and beneath said trips; a receptacle at the delivery end of said conveyer; and a machine to complete the second stage in the process of manufacture, said machine located near one end of said receptacle, and preferably in file line with said battery of planers.

4. The combination of a battery of planers or similar woodworking-machines; a receiving-trip extending longitudinally from the rear of each of said machines; a lateral conveyer located at the rear of said machines and beneath said trips; a receptacle at the delivery end of said conveyer; a machine, or machines, to complete the second stage in the process of manufacture, located near one end of said receptacle, and preferably in file line with said battery of planers; and a machine, or machines, to complete the third stage in the process of manufacture located by the side of the last-mentioned machines, and in file line with said battery of planers.

5. The combination of a battery of planers or similar woodworking-machines; a receiving-trip extending longitudinally from the rear of each of said machines; a lateral conveyer located at the rear of said machines and beneath said trips; a receptacle at the delivery end of said conveyer; a machine, or machines to complete the second stage in the process of manufacture located near one end of said receptacle and in file line with said battery of planers; a machine, or machines, to complete the third stage in the process of manufacture located by the side of said last-named machines and in file line with said battery of planers; and a longitudinal conveyer the receiving end of which is located alongside of and below said last-mentioned machine, or between said last-mentioned machines, and the delivery end of which is located above a table.

6. The combination with a planer of a receiving-trip, which is designed to receive the stuff as it comes from a wood-planer, the bed

of which planer has a channel composed of a bottom and side guides; the receiving-trip comprising a top guide attached to one of said planer-bed, side guides and extending
5 over said channel-bottom; two deep, side guides registering with the side guides on said planer-bed; and a narrow, bottom guide or ledge attached to one of said deep side guides and registering with said channel-
10 bottom.

7. The combination with a planer of a receiving-trip, which is designed to receive the stuff as it comes from a wood-planer, the bed of which planer has a channel composed of a
15 bottom and two side guides; the receiving-trip comprising a top guide attached to one of said planer-bed, side guides and extending over said channel-bottom; two deep, side guides registering with the side guides on said
20 planer-bed; a narrow, bottom guide or ledge attached to one of said side guides and registering with said channel-bottom; slotted spreaders attached to said deep, side guides; and supporting-hangers also attached to said
25 deep, side guides.

8. The combination with a planer of a receiving-trip, which is designed to receive the stuff as it comes from a wood-planer, the bed of which planer has a channel composed of a bottom and two side guides; the receiving-
30 trip comprising a top guide attached to one of said planer-bed, side guides and extending over said channel-bottom; two deep, side guides registering with the side guides on said planer-bed; a narrow bottom guide or
35 ledge attached to one of said side guides and registering with said channel-bottom; slotted spreaders attached to said deep side guides; and supporting-hangers also attached to said deep side guides, one set of said hang-
40 ers is attached overhead in a hinge-joint parallel with said guides and the other set is rigidly attached overhead.

Signed at Bellingham, in the county of Whatcom and State of Washington, this 31st
45 day of May, A. D. 1906.

GEORGE W. LOGGIE.

Witnesses:

E. G. CORDINGLEY,
J. A. LOGGIE.