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B. F. WASHBURNE.

FARM WAGON BODY.

(Application filed Sept. 8, 1900.)

(No Model.)

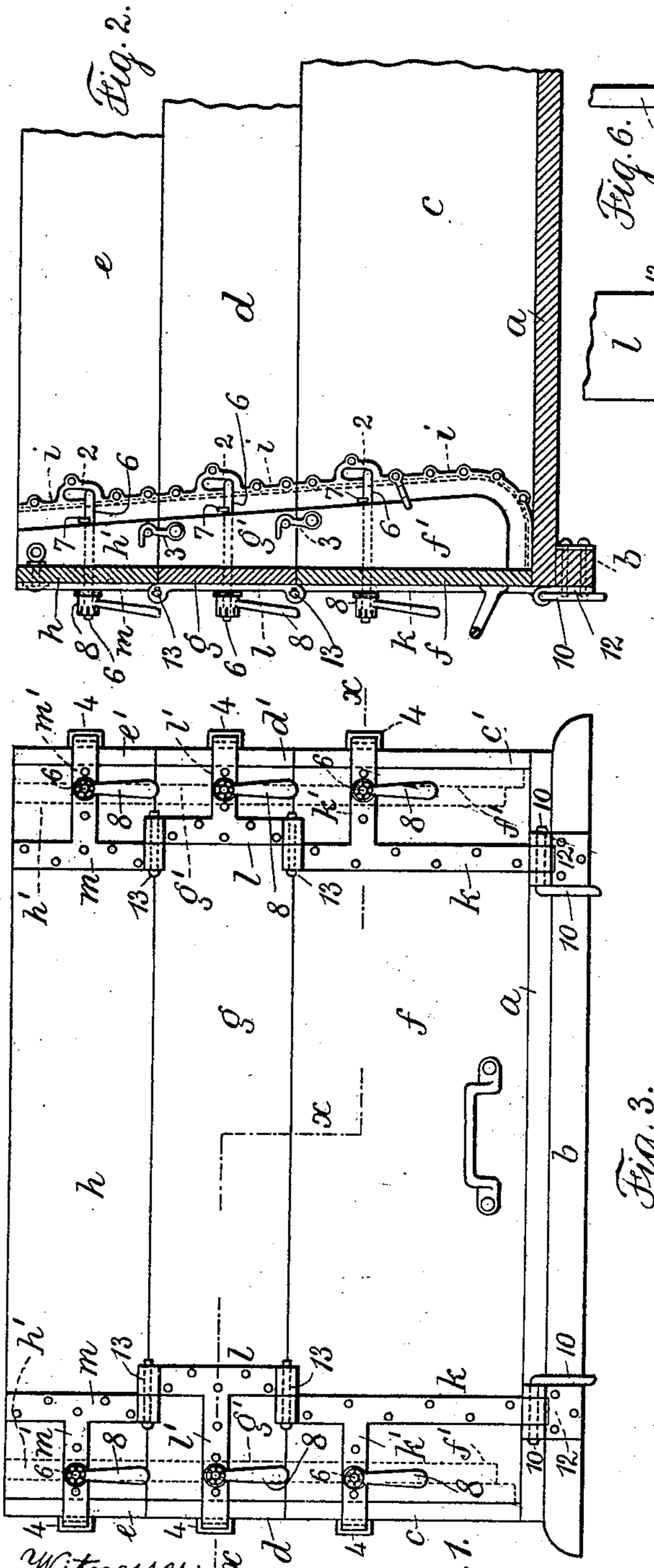

Fig. 1.

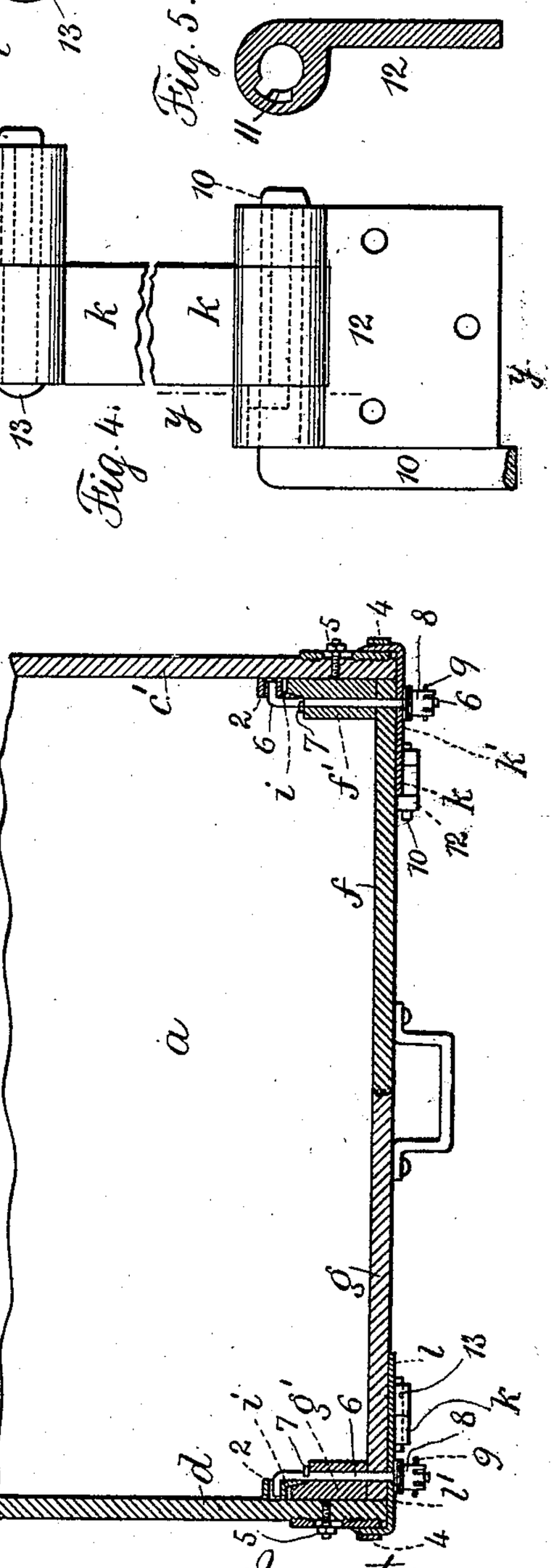

Fig. 3.

Fig. 4.

Fig. 5.

Fig. 6.

Fig. 7.

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UNITED STATES PATENT OFFICE.

BENJAMIN F. WASHBURNE, OF ROCK FALLS, ILLINOIS.

FARM-WAGON BODY.

SPECIFICATION forming part of Letters Patent No. 666,582, dated January 22, 1901.

Application filed September 8, 1900. Serial No. 29,367. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN F. WASHBURNE, a citizen of the United States, residing at Rock Falls, in the county of Whiteside and State of Illinois, have invented an Improvement in Farm-Wagon Bodies, of which the following is a specification.

My invention relates to the rear portion of the wagon-body, and especially to devices for connecting together the portions of the end-gate and extension sides, so that when the extension sides and upper sections of the end-gate are added to the fixed sides and the usual lower section of the end-gate the said parts are adapted to be firmly connected and to perform the functions assigned thereto.

In carrying out my invention the sections of the end-gate are provided with strap-hinges in pairs adapted to be connected together, so that the said sections will swing in relation to one another and so that the middle or upper sections can be removed. The said strap-hinges are so made as to engage the sides and the extension sides of the wagon-body, so that the same are held firmly to the respective ends of the end-gate sections, and I provide sectional angle-plates upon the inner surfaces of the sides and extension sides, into which the side plates of the end-gate sections are received, and devices upon the end-gate sections adapted to be brought into engagement with the said sectional angle-plates for securely fastening the end-gate sections in place, all of which devices are hereinafter more particularly set forth.

In the drawings, Figure 1 is an elevation of the rear end of a farm-wagon body, illustrating my invention. Fig. 2 is a vertical section at the rear end of the wagon-body. Fig. 3 is a sectional plan at *x x* of Fig. 1. Figs. 4, 5, 6, and 7 are detailed elevations and sections, in larger size, representing the portions of the strap-hinges and the bolts for connecting the same.

The bottom *a* of the wagon-body is provided with the fixed sides *c c'*, and the cross-bearer *b* is placed transversely of the bottom *a* at the rear edge, and the hinge-plates 12 are preferably connected to this cross-bearer *b*. Intermediate extension sides *d d'* and upper extension sides *e e'* are provided and occupy positions directly above the fixed sides *c c'*.

The end-gate preferably comprises a lower section *f*, middle section *g*, and upper section *h*. These come between the sides and extension sides and above the bottom *a* at the rear edge, the said sides fitting against the ends of the said end-gate sections. These end-gate sections are provided with side plates *f'*, *g'*, and *h'* in pairs, the slightly-inclined free rear edges of the said side plates being offset, and I provide sectional angle-plates *i*, secured to the inner faces of the respective sides and extension sides and secured to the said sides and extension sides by suitable screws or bolts (shown specially in Fig. 2) and adapted to receive the offset rear edges of the said pairs of side plates, and I prefer to curve the lower portion of the sectional angle-plates secured to the fixed sides *c c'*, as shown in Fig. 2, so that the said plates are bent rearward toward the lower section of the end-gate, and the lower edge of the side plates *f'* are shaped to fit the said angle-plates, the form of these parts being shown clearly in Fig. 2. This construction of the side plates and the sectional angle-plates has a great advantage where the wagon is filled with grain or merchandise of a similar character, because the offset feature of the rear edges of the side plates and the lapping of the angle-plates thereon prevents the escape of the grain from the wagon-body. These sectional angle-plates are each provided with mortised extensions 2, and the sides and extension sides are preferably connected together vertically by hooks 3. The end-gate sections are provided with strap-hinges in pairs, (shown specially in Fig. 1,) the lower section *f* having the strap-hinges *k* pivoted to the hinge-plates 12 and extending transversely across the lower section and having arms *k'*, with ends bent at right angles to the said frames. The middle end-gate section *g* is provided with strap-hinges *l*, extending transversely across the same and having arms *l'*, similar to the arms *k'* of the hinges *k*. The upper end-gate section *h* is provided with strap-hinges *m*, having arms *m'*, similar to the arms *k'* and *l'*, and it will be noticed that the strap-hinges *k* and *m* are placed in the same vertical plane and that the strap-hinges *l* are in a parallel plane at the right-hand side, so that the eye ends of the said hinges come into line for the connect-

ing hinge-pins. By this hinge arrangement the upper section *h* is adapted to swing on the under section *g* and the sections *h* and *g* on the section *f* or the three sections together on the pins connecting the hinges *k* and the plates 12, thus bringing the entire end-gate outward and downward to any position that it may be desired to place the same in, and devices (not shown) may be employed to fix the position of one or all of the sections composing the end-gate.

I provide the sides and the extension sides upon the outer surfaces with plates having loops 4 and adjusting-screws 5 for securing the said plates to the said sides and extension sides, said plates being so placed that when the end-gate sections are in their normal position the bent ends of the arms *k'*, *l'*, and *m'* pass over said plates and through the loops 4 to firmly bind the sides and extension sides to and in contact with the ends of the end-gate sections. This prevents open joints, looseness, and a shaking or rattling of the parts as the wagon is moved along over the ground.

The pairs of strap-hinges *l* and *m* are connected together and to the pair of strap-hinges *k* by hinge-pins 13, each having a projection at one end, and the hubs or eyes of the strap-hinges receiving the said hinge-pins are in part longitudinally slotted, (see Fig. 6 and the upper portion of Fig. 4)—that is to say, the said slots are preferably in the respective ends of the strap-hinges *l*, and the hinge-pins 13 are held firmly in the lower end of the strap-hinges *m* and upper end of the strap-hinges *k*, and when the end-gate sections are in a vertical position the projections of the pins are out of line with the said slots, but when the upper section *h* is swung over the projections and slots come in line, so that the said upper section may be removed from the middle section *g* by giving the same a longitudinal movement to the left hand, and in like manner the middle section *g* may be swung over and given a longitudinal movement to the right hand to separate the same from the lower end-gate section *f*.

The eye or hub of the hinge-plates 12 is preferably provided with bayonet-slots 11, and the horizontal pin 10 with a projection at its free end, and the lower end-gate section *f* may be removed by partially pulling out the pins 10. This construction is shown specially in Figs. 4, 5, and 7, in which Fig. 4 is an elevation, Fig. 7 an edge view, and Fig. 5 a section at *y y* of Fig. 4, Figs. 4 and 7 showing the hinge-pin with the projection coming outside of the hub of the plate 12 and showing the bayonet-slot by dotted lines and end view, and Fig. 5 in section showing the two parts of the bayonet-slot. From this position it will be noticed that if the hinge-pin 10 is swung upward into a horizontal position its projection will come into line with the horizontal portion of the bayonet-slot and that then the hinge-pin can be given a longitudinal movement to the end of the horizontal portion of the slot, after which the same can be given a further upward movement into the circumferential portion of the bayonet-slot, the pin remaining in said position and free of connection with the strap-hinges *k*, so that the lower section of the end-gate can be removed.

I provide hook-ended rods 6 in pairs passing through the end-gate sections and the pairs of side plates and so placed that the hook ends of said rods are adapted to be turned over into the mortised extensions of the sectional angle-plates *i*. These rods are preferably made with lugs 7 coming against the rear faces of the side plates to prevent the rods being withdrawn. The ends of said rods projecting outside of the surface of the end-gate extensions are threaded and are provided with a transverse hole, and I employ hubs with handles 8, the hubs screwing upon the threaded ends of the rods 6. These hubs are radially slotted, so that pins 9 can be passed through the slots and through the holes in the ends of the rods 6. These pins 9 serve to connect the hubs and handles 8 to the rods, so as to compel the rods to turn with the handles, and also provide an adjustment, so that the position of the hook ends of the rods 6 in relation to the mortised extensions 2 may be readily determined. With this construction it will be noticed that the swinging of the handles 8 in one direction will turn the hook ends of the rods 6 into the mortised extensions 2 and that turning them in the opposite direction will turn the hook ends out of the mortised extensions. When the said hook ends are disengaged from the said mortised extensions, the end-gate sections are free from the sides and extension sides, so that the parts of the end-gate may be moved rearward, and that when the hook ends of the rods 6 are in engagement with the mortised extension the end-gate sections are firmly connected to the sides and extension sides and a rearwise movement is prevented.

The parts are so placed that the handles 8 hang downward from the hubs when the hook ends of the rods 6 are in engagement with the mortised extensions 2, gravity thus assisting in keeping the parts in a locked condition to take up any looseness and insure the snug fitting of the side plates in the angle-plates and the position of the end-gate sections in relation to the sides and extension sides, so that when the hook ends of the rods 6 are in engagement with the mortised extensions 2 there is no lost motion.

One or more of the pins 9 may be withdrawn and the hub and handle 8 rotated on the threaded end of the rod to bring the parts into snug contact with the handle extending downward, and the pin 9 is then passed through the radial slots of the hub that agree with the hole in the end of the rod 6, so as to again connect the hub and the rod and cause the same to turn together.

My improvement is especially adapted for

farm-wagon bodies of large size intended to carry merchandise of considerable bulk, and the extension sides and end-gate sections are convenient for increasing the capacity of the wagon-body, and the parts hereinbefore described form convenient devices for connecting the sections of the end-gate removably together and for holding the said sections to the sides and extension sides by closed joints adapted to prevent the escape of the merchandise in the wagon.

If desired, the end-gate sections may be all loosened and swung outward on the hinge-pin 10 into a horizontal or almost horizontal position, in which said parts may be employed as a shoveling-board and be supported by chains or similar devices, as shown in my Letters Patent No. 649,229, dated May 8, 1900.

I claim as my invention—

1. In a wagon-body, the combination with the sides and extension sides, the end-gate sections and the pairs of side plates connected therewith, of strap-hinges in pairs upon the end-gate sections, and means for removably connecting the same, means connected to the said strap-hinges for passing around the corners of the sides and holding the sides to the end-gate sections, and means for holding the end-gate sections to the sides in the opposite direction to prevent a rearwise movement of the end-gate sections, substantially as set forth.

2. In a wagon-body, the combination with the sides and extension sides, the end-gate sections and the pairs of side plates connected therewith, of strap-hinges in pairs upon the end-gate sections, means for removably connecting the said hinges, so that the end-gate sections can be separated, extensions of the said pairs of hinges with bent ends passing over the ends of the sides, and plates upon the sides having loops receiving the bent ends of said extensions, whereby the sides are held against the ends of the end-gate sections, substantially as set forth.

3. In a wagon-body, the combination with the sides and extension sides, the end-gate sections and the pairs of side plates connected therewith, of strap-hinges for removably connecting together the end-gate sections, angle-plates upon the inner faces of the sides and extension sides, and adapted to receive the rear edges of the side plates, and devices passing through the end-gate sections and the side plates and adapted to engage the said angle-plates to hold the end-gate sections and the sides together and prevent a rearwise movement, substantially as set forth.

4. In a wagon-body, the combination with the sides and extension sides, the end-gate sections and the pairs of side plates connected therewith, of strap-hinges upon the outer surface of the end-gate sections, for pivotally and removably connecting the said sections to one another, sectional angle-plates secured to the inner faces of the sides and extension sides and adapted to receive the rear edges of the side plates, hook-ended rods passing through the end-gate extensions and the side plates, adjustable devices connected to the outer ends of said rods and adapted to turn the said rods by hand to bring the hook ends thereof into engagement with the sectional angle-plates to hold the end-gate sections to the sides and extension sides, substantially as set forth.

5. In a wagon-body, the combination with the fixed and extension sides, of the end-gate composed of lower middle and upper sections, side plates in pairs having offset rear edges connected to said end-gate sections and adapted to fit within the said sides, hinges for connecting the end-gate sections together and to the wagon-body, sectional angle-plates connected to the inner faces of the sides and extension sides and adapted to overlap the offset rear edges of the side plates and to receive the same, mortised extensions formed with the said angle-plates, devices for connecting the sides and extension sides together vertically, devices for connecting the end-gate sections to the sides and extension sides at the mortised extensions of the angle-plates, substantially as set forth.

6. In a wagon-body, the combination with the fixed and extension sides, of the end-gate composed of lower, middle and upper sections, side plates in pairs having offset rear edges connected to said end-gate sections adapted to fit within the said sides, hinges for connecting the end-gate sections together and to the wagon-body, sectional angle-plates connected to the inner faces of the sides and extension sides and adapted to overlap the offset rear edges of the side plates and to receive the same, mortised extensions formed with the said angle-plates, devices for connecting the sides and extension sides together vertically, devices for connecting the end-gate sections to the sides and extension sides at the mortised extensions on the angle-plates, and extensions of the hinges on the end-gate sections adapted to pass around the corners outside of the sides and extension sides to hold the sides and extension sides against the ends of the end-gate sections, substantially as set forth.

7. In a wagon-body, the combination with the fixed and extension sides, of the end-gate composed of lower, middle and upper sections, side plates in pairs having offset rear edges connected to said end-gate sections and adapted to fit within the said sides, hinges for connecting the end-gate sections together and to the wagon-body, sectional angle-plates connected to the inner faces of the sides and extension sides and adapted to overlap the offset rear edges of the side plates and to receive the same, mortised extensions formed with the said angle-plates, rods passing through the end-gate sections and through the side plates each having a hook at one end and a lug and threaded upon the opposite end, the hook ends being adapted to come into

engagement with the mortised extensions of the angle-plates, the lugs to prevent the withdrawal of the rods and hubs with handles upon the threaded ends of said rods and means substantially as set forth for adjustably connecting said hubs to said rods so as to fix the relation of said rods and insure their proper operation, substantially as set forth.

8. In a wagon, the combination with the sides, lower end-gate section and the side plates connected therewith of a pair of strap-hinges upon the face of said section and the hinge-plates 12 to which the same are pivotally and removably connected, angle-plates upon the inner faces of the sides receiving the rear edges of the side plates, devices passing through the end-gate section and side plates and adapted to engage the said angle-plates to hold the end-gate section and sides together and prevent a rearwise movement, substantially as set forth.

9. In a wagon, the combination with the sides, lower end-gate section and the side plates connected therewith, of a pair of strap-hinges upon the face of said section and the hinge-plates 12 to which the same are pivotally and removably connected, extensions of said strap-hinges with bent ends passing over the ends of the sides and plates upon the sides having loops receiving the bent ends of said extensions whereby the sides are held against the ends of the end-gate section, substantially as specified.

10. In a wagon, the combination with the sides, lower end-gate section and the side plates connected therewith, of a pair of strap-hinges upon the face of said section and the hinge-plate 12 to which the same are pivotally and removably connected, angle-plates upon the inner faces of the sides receiving the rear edges of the side plates, devices passing through the end-gate section and side plates and adapted to engage the said angle-plates to hold the end-gate section and sides together and prevent a rearwise movement, extensions of said strap-hinges with bent ends passing over the ends of the sides and plates upon the sides having loops receiving the bent ends of said extensions, whereby the sides are held against the ends of the end-gate section, substantially as specified.

Signed by me this 24th day of August, 1900.

BENJAMIN F. WASHBURNE.

Witnesses:

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