(No Model.)

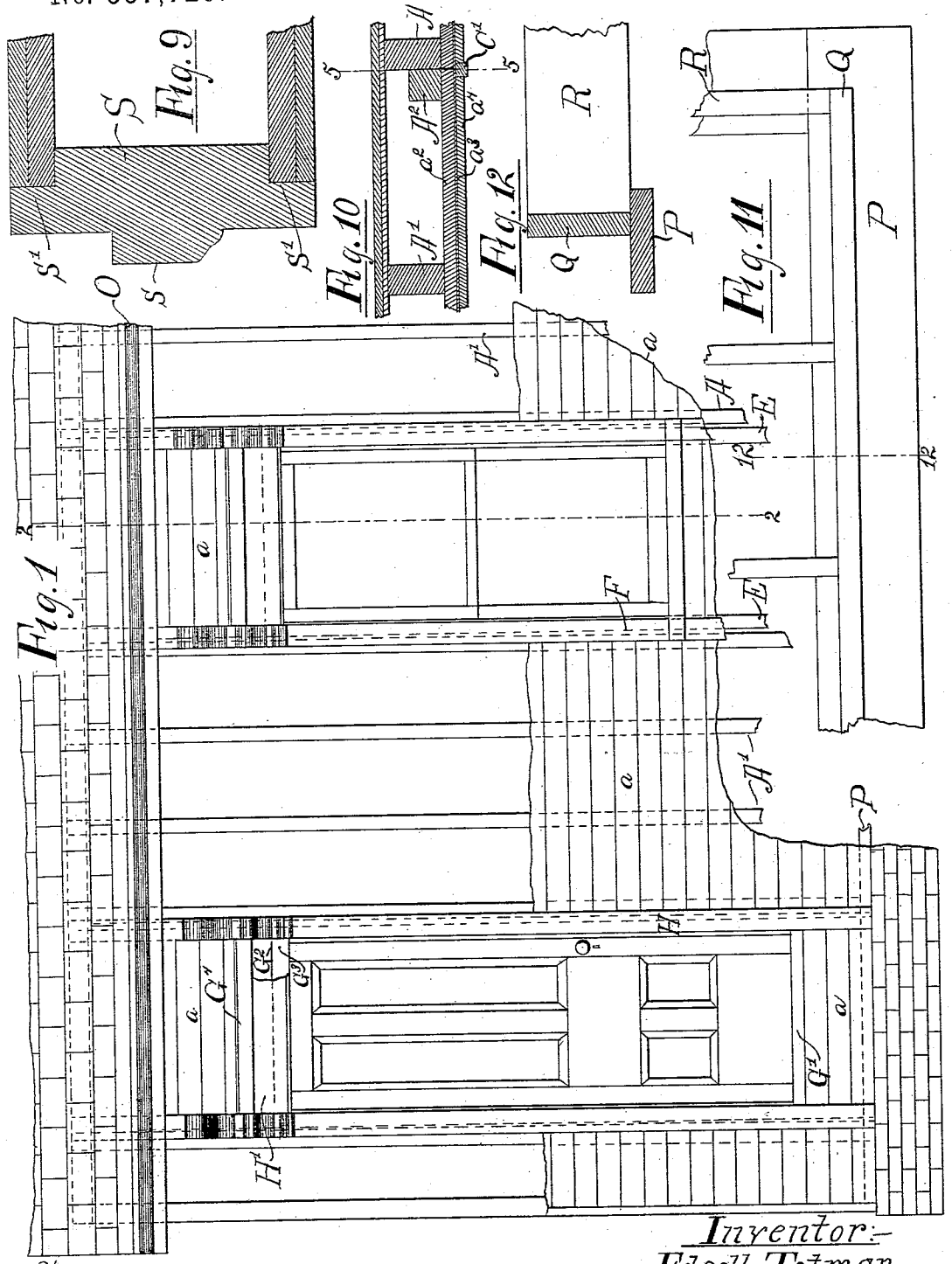
2 Sheets—Sheet 1.

E. TOTMAN.

HOUSE CONSTRUCTION.

No. 557,726.

Patented Apr. 7, 1896.



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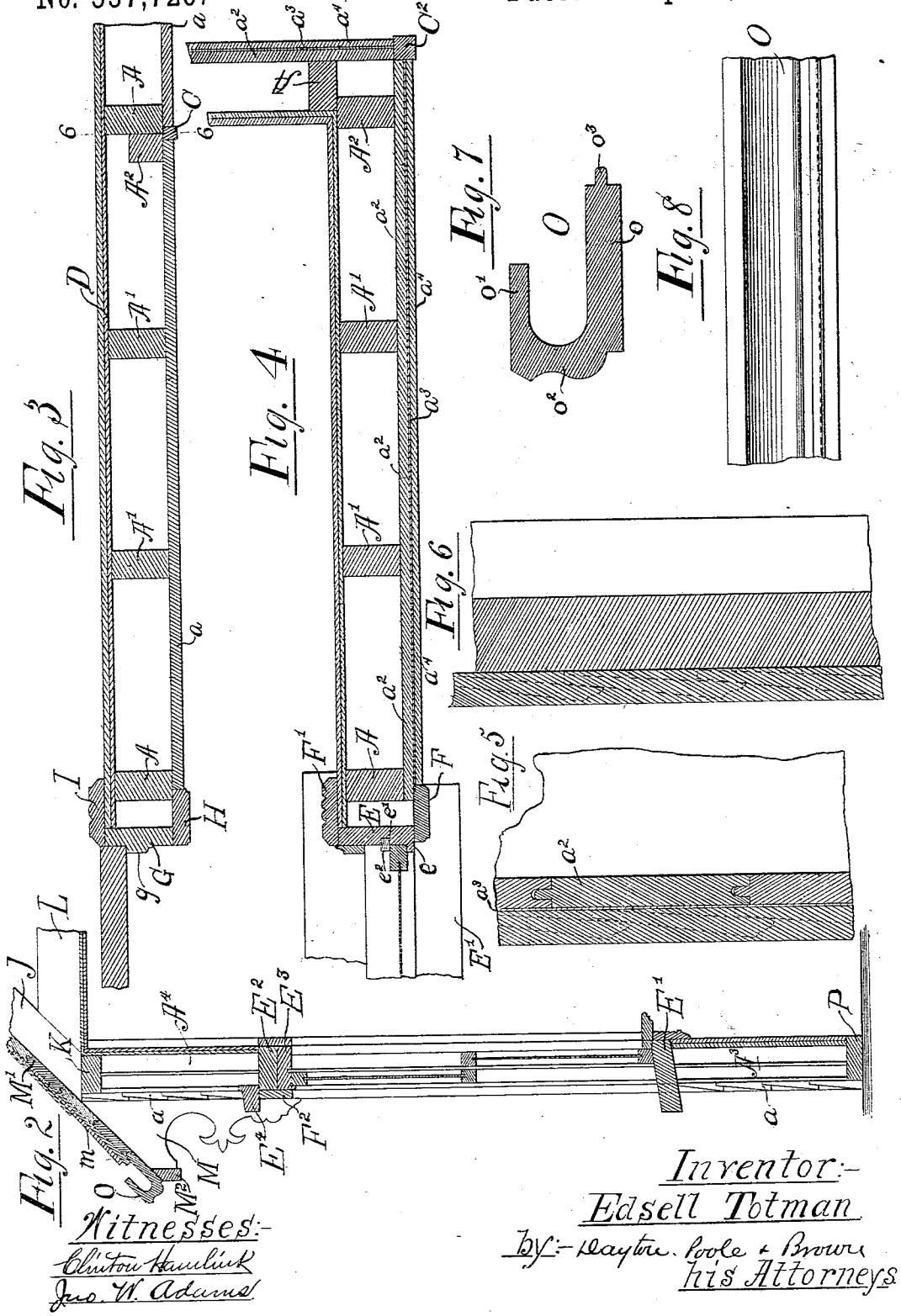

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UNITED STATES PATENT OFFICE.

EDSELL TOTMAN, OF LA GRANGE, ILLINOIS.

HOUSE CONSTRUCTION.

SPECIFICATION forming part of Letters Patent No. 557,726, dated April 7, 1896.

Application filed May 14, 1894. Serial No. 511,221. (No model.)

To all whom it may concern:

Be it known that I, EDSELL TOTMAN, of La Grange, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in House Construction; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in house construction, and more particularly to what are known as "portable" houses, or those in which the principal parts composing the same are made or constructed at a mill or factory and shipped to the place at which the house is to be erected in readiness to be put together.

The invention consists in the matters hereinafter described, and pointed out in the appended claims.

In the accompanying drawings, illustrating my invention, Figure 1 is a view in side elevation of a part of a house wall and roof, illustrating one form of construction embodying my invention. Fig. 2 is a vertical section of the same, taken on line 2 2 of Fig. 1. Fig. 3 is a horizontal section taken horizontally through one section or panel of the house-wall, showing a door-casing at one side of the panel. Fig. 4 is a similar section showing a wall-section or panel with a window-casing at one side thereof and the corner of a house at the opposite side. Fig. 5 is a vertical section taken through the joint between two of the panels and the strip which covers said joint on line 5 5 of Fig. 10. Fig. 6 is a similar section taken on line 6 6 of Fig. 3. Fig. 7 is a sectional view of a wooden gutter-strip shown in Fig. 2. Fig. 8 is an edge view of the strip shown in Fig. 7. Fig. 9 is an enlarged detail section showing the construction of the jamb of a door in a partition-wall. Fig. 10 is a cross-section showing a structure like that seen in Fig. 4, but illustrating the joint between two sections or panels thereof. Fig. 11 is a plan view of a house-sill and floor-joists. Fig. 12 is a section taken on line 12 12 of Fig. 11.

To first describe the construction of a single one of the wall panels or sections shown in Figs. 1, 2, 3, and 6, the same is made as follows: Said panel consists generally of studs or uprights A A′ A^2, of which there may be two or more, according to the width of the panel, and transverse sheathing-strips or clapboards *a a*, which are nailed to the said studs to form the outer surface of the house-wall. The clapboards do not reach to the outer surfaces of the external studs A and A^2, but terminate short of the same, so as to leave, when the clapboards are nailed to the studs, right-angled grooves or rabbets, the purpose of which is to aid in forming the joints between the sections or panels, as clearly seen at *a a* of Fig. 3. Each of the panels, as constructed for shipment, consists of the studs and transverse sheathing or clapboards only, the said panels being without any frame-pieces at their upper and lower ends, it being intended that the studs thereof should be secured at their lower ends to a suitable sill and at their upper ends to a suitable plate at the time of erecting the house, as will be hereinafter described. The said Fig. 3 shows the house-wall as having an interior finish of lath and plaster, as seen at D; but this is supplied after the sections are erected and connected with each other in the manner now common in house construction.

In erecting a wall with the use of wall sections or panels, such as above described, the panels are erected side by side with their side edges in contact, as clearly seen in Fig. 3, the external stud A^2 of one section coming in contact with the adjacent exterior stud A of the other section when the panels are placed together. When the panels are thus placed together, a groove or space will be formed between the adjacent ends of the sheathing-boards or clapboards *a*, and this space is filled by means of a vertical strip C of proper width to fit closely within the space or groove formed by the ends of the boards and the parts of the studs A^2 and A, which project beyond the same, said strip being nailed to the studs and thereby not only filling said groove or space, but covering the meeting line at the adjacent edges of the studs and closing the space between the panels. Inasmuch as the two external studs come together in erecting the panels, it is unnecessary that both of them should be of full size or thickness, and I therefore make the stud A^2

at one side of each panel narrower than the other studs A and A', as clearly seen in Fig. 3.

Figs. 4, 5, and 10 illustrate wall-sections similar to that seen in Fig. 3, but provided with a double external sheathing with interposed paper, this construction being intended for use where a more substantial wall is required in cold climates. In this instance sheathing-boards a^2 are first applied to the studs A, A', and A^2. A layer of paper a^3 is then placed over the same, and clapboards a^4 are then secured over the paper in the same manner as now common in house-building. In this instance the sheathing-boards a^2 are made flush at their ends with the external studs A and A^2, while the clapboards a^4 terminate on a line a short distance inward from the outer faces of said studs, so as to form, when the sections are put together, grooves or recesses to receive the covering-strip C' like the strip C. (Shown in Fig. 3.)

In erecting a wall by the use of sections made as shown in the several figures above referred to a sill P is first laid on the foundation-wall. The sections are then erected on the sill with their edges in contact and the studs properly nailed or spiked to the sill. A plate K, as seen in Fig. 2, is then placed over the upper ends of the sections and nailed to the studs thereof, and the joints between the studs are then closed tight by means of covering-strips C or C' applied between the ends of the external sheathing or clap boards in the manner above described.

In either of the forms of panels shown the joint between the panels at the corner of the house is made by extending the sheathing-boards or clapboards past the studs until they meet at the corner and inserting a square corner-strip in such manner as to fit between the adjacent ends of the said boards. The construction referred to is clearly seen in Fig. 4, wherein the adjacent side studs A and A^2 of the corner-sections are brought together in such manner as to afford proper corner-supports for the lath at the inner surface of the wall, and the sheathing-boards a^2, as well as the clapboards a^4, are extended past the studs A and A^2 and terminate in a straight line adjacent to each other, and are sawed off at right angles with the side faces of the walls, so as to form two surfaces at right angles with each other, against which may be secured a square corner-piece C^2, which forms a finish at the corner of the house and serves to make a close joint between the two corner sections or panels.

I have also shown in Figs. 1, 2, 3, and 4 an improved construction for the frames and casings of the doors and windows. The construction of the window-casing is clearly shown in Figs. 1, 2, and 4. As seen in these figures, E indicates a vertical strip which forms the jamb of the window, and is located at a distance from the side stud A of an adjacent panel (see Fig. 4) sufficient to form the necessary space or pocket for the sash-weights. The strip E is shaped to provide an external stop *e* for the window-sash, and has a groove *e'* to receive an intermediate stop e^2 in the usual manner. The space between the stud A and strip E is closed by means of a casing-strip F, which is nailed against the ends of the sheathing-boards a^2 and the outer face of the strip E and fits at its outer edge against the end of the external sheathing or clap boards a^4, as clearly seen in Fig. 4. In case a single layer *a* of clapboards is employed, as seen in Fig. 3, the strip F will be nailed directly to the stud A, and will abut at its edge against the ends of the clapboards in the same manner as does the similar strip H of the door-casing shown in Fig. 3. At the inner surface of the wall the jamb-strip E is extended inwardly, so that its edge is flush with the surface of the plaster, and a casing-strip F is applied in the same manner as common in ordinary house construction, said casing-strip being nailed to the inner edge of the jamb-strip and to the stud A and extending over the plaster in an obvious manner. The jamb-strip E is extended at its lower end downwardly to the sill P and at its upper end upwardly to the plate K in the same manner as are the exterior studs of the solid panels or sections. The window-sill E' is secured at its ends to said strips E E, preferably by being inserted at its ends in notches or gains formed in the said strips in a familiar manner, the outer parts of the sills being extended past the said strips so as to terminate in line with the outer edge of the casing-strip F, as clearly seen in Figs. 1 and 4. At the top of the window a horizontal casing-strip E^3 extends between the jamb-strips E E and is secured thereto at its ends preferably by being inserted in notches or gains formed in the jamb-strips. Said casing-strip E^3 corresponds in form with the jamb-strip E, and thereby forms a proper finish at the top of the window to receive the upper sash, as clearly seen in Fig. 2. Above the casing-strip E^3 is placed a cross-piece E^2, the same being also secured at its ends to the jamb-strips E E. Said cross-piece affords a support to which the outer casing-strip F^2 at the top of the window may be nailed, and on which the water-table E^4 rests.

The space between the jamb-strips E below the window-sill E' is closed by means of clapboards *a a*, which are nailed at their ends to the said jamb-strips, resting against the parts thereof which extend beyond the casing-strips F, said clapboards being arranged to abut at their ends against the said casing-strip in the same manner as do the corresponding clapboards of solid panels.

The space above the window is closed by means of similar clapboards *a* similarly nailed at their ends to the parts of the jamb-strips E, which project beyond the casing-strips F, so as to abut against said casing-strips.

Where the external wall consists of two layers, as shown in Fig. 4, the projection *e*, to which the single thickness of clapboards

would be nailed, is removed above and below the window and short studs inserted, which studs will be nailed against the inner faces of the jamb-strips. The inner or sheathing boards a^2 will then be nailed at their ends against the short studs and the clapboards then applied so as to abut against the casing-strips F in the same manner as in case of the solid panels.

The door jamb and casing, as shown in Figs. 1 and 3, are made substantially in the same manner as the corresponding parts of the window or door, consisting of an upright strip G arranged adjacent to and parallel with the marginal stud A or A^2 of the solid panel and extending from the still P at its lower end upwardly to the plate K at the top of the house-wall. A cross-strip G^3 corresponding in shape with the jamb-strip G is secured by having its ends inserted in notches or gains in the jamb-strip and forms the top of the door-opening. Above the strip G^3 is placed a strip G^2, on which rests the water-table G^4. The said jamb-strip G and top strip G^3 are shown as shaped to form an integral stop g, against which the door closes. At the inner surface of the wall the door is finished by a casing-strip I, which is nailed to the jamb-strip and adjacent stud and extends over the plaster in the usual manner. An external casing-strip H is nailed to the jamb-strip and to the adjacent stud of the panel with its edge abutting against the clapboards a, and a horizontal casing-strip H′ covers pieces G^2 and G^3 at the top of the door. The space between the jamb-strips G G above and below the door are closed by clapboards in the same manner as before described in connection with the window.

It will be observed in the case of both the door and window that the uprights or jamb-strips, arranged as described in connection with other parts of the window-frames, and the sheathing or clap boards above and below the same constitute integral door and window panels, which may be made complete at a factory in the same manner as a solid section and erected with the solid sections to form a complete house-wall.

As an improved construction in the parts adjacent to the roof and eaves of the house, the rafters J are sawed off at the level of the plate K and rest on the top surface of the plate. The ceiling-joists L are shown as resting at their ends on said plate. For the purpose of supporting the eaves of the roof outside of the line of the wall a series of brackets M are attached to the wall, the upper edges of the said brackets being inclined to correspond with the inclination of the rafters J. Sheathing-boards M′ of the roof are secured to the rafters J and extend continuously downward therefrom over the baackets M to the lower edge of the latter. Shingles m are shown as applied to the roof-sheathing in the usual manner. A finish is provided at the lower edge of the roof by means of a vertically-arranged board or strip M^2, which is nailed to the outer or projecting ends of the brackets and fits at its upper edge against the under surface of the marginal sheathing-board of the roof.

In case the edge of the roof is finished in the usual manner, either with or without a gutter, the shingles will be extended over or projected past the marginal sheathing-board in the usual manner; but, as herein shown, I finish the edge of the roof by means of a wooden strip of special form, which forms a gutter for rain-water and also constitutes an ornamental finish or molding for the edge of the roof. Said strip is shown at O in Figs. 1 and 2 and is illustrated in detail in Figs. 7 and 8. Said gutter-strip is made generally of U form, having a lower wall o and an upper wall o' approximately parallel with each other and a connecting or body part o^2. The lower part o is preferably made the same thickness as the sheathing-boards M′ of the roof and has a tongue o^3 adapted to engage a groove in the adjacent sheathing-board, so as to make a tight joint therewith. The lower or tongued part of the strip is preferably made somewhat longer than the upper part o' thereof, so that when the strip is applied in an inclined position to the roof, as seen in Fig. 2, the said lower part will extend upwardly approximately to the same level as the upper edge of the upper part. The U-shaped strip thus applied obviously forms a finish for the eaves, while at the same time it constitutes a gutter for rain-water. The connecting part o^2 of the strip O is preferably finished in the form of an ornamental molding, so as to give a neat and elegant finish to the eaves. It will be observed that the gutter-strip O, arranged as described, forms a gutter which is practically invisible, the said strip to the eye appearing to constitute merely the usual ornamental molding applied to the edge of the roof.

In Figs. 11 and 12 is shown an improved construction in house-sills which is specially adapted for houses of the character above described. The sill consists of wooden pieces or planks, preferably the same size as the floor-wall joists, one of which, P, is laid flat on the foundation and the other, Q, placed on edge upon the top of the piece P at a distance from the outer edge thereof practically equal to the thickness of the uprights or studs of the walls. The piece P is made of such width as to extend inwardly past the piece Q, so that the lower joists R may rest at their ends on the inner part of the said piece P in such manner as to abut against the upright piece Q. When the parts of the sill thus arranged are nailed firmly to each other and the floor-joists put in place and nailed thereto, a firm and rigid structure is formed, especially adapted to receive the studs of the house-walls, which rest on the lower part P of the sill and may be nailed thereto and also to the upright part Q thereof.

Fig. 9 illustrates the application of a jamb-strip, such as shown at G in Fig. 3, to the doorway in an interior partition. In this instance the jamb-strip (indicated by S) has formed upon it a stop *s*, and at its outer or rear side is provided with two grooves or rabbets *s' s'* of the same depth or thickness as the lath and plaster composing the sides of the partition, the plaster being finished flush with the outer edges of the strip S, so that door-casings may be applied thereto in the usual manner.

I claim as my invention—

The combination with adjacent sections or panels each comprising studs or uprights and transverse sheathing or clap boards secured thereto with their ends terminating short of the outer faces of the marginal studs, of a window or door panel or section comprising jamb-strips which extend from the top to the bottom of the section, a sill and top cross-piece extending between the jamb-strips and secured to the latter, transverse sheathing or clap boards secured to said jamb-strips above and below the door or window opening with their ends terminating short of the outer surfaces of the said jamb-strips, and external casing-strips extending from the top to the bottom of the section and attached to the said jamb-strips and the said marginal studs with their edges abutting against the sheathing or clap boards secured thereto, substantially as described.

In testimony that I claim the foregoing as my invention I affix my signature in presence of two witnesses.

EDSELL TOTMAN.

Witnesses:

C. CLARENCE POOLE,

W. L. HALL.