

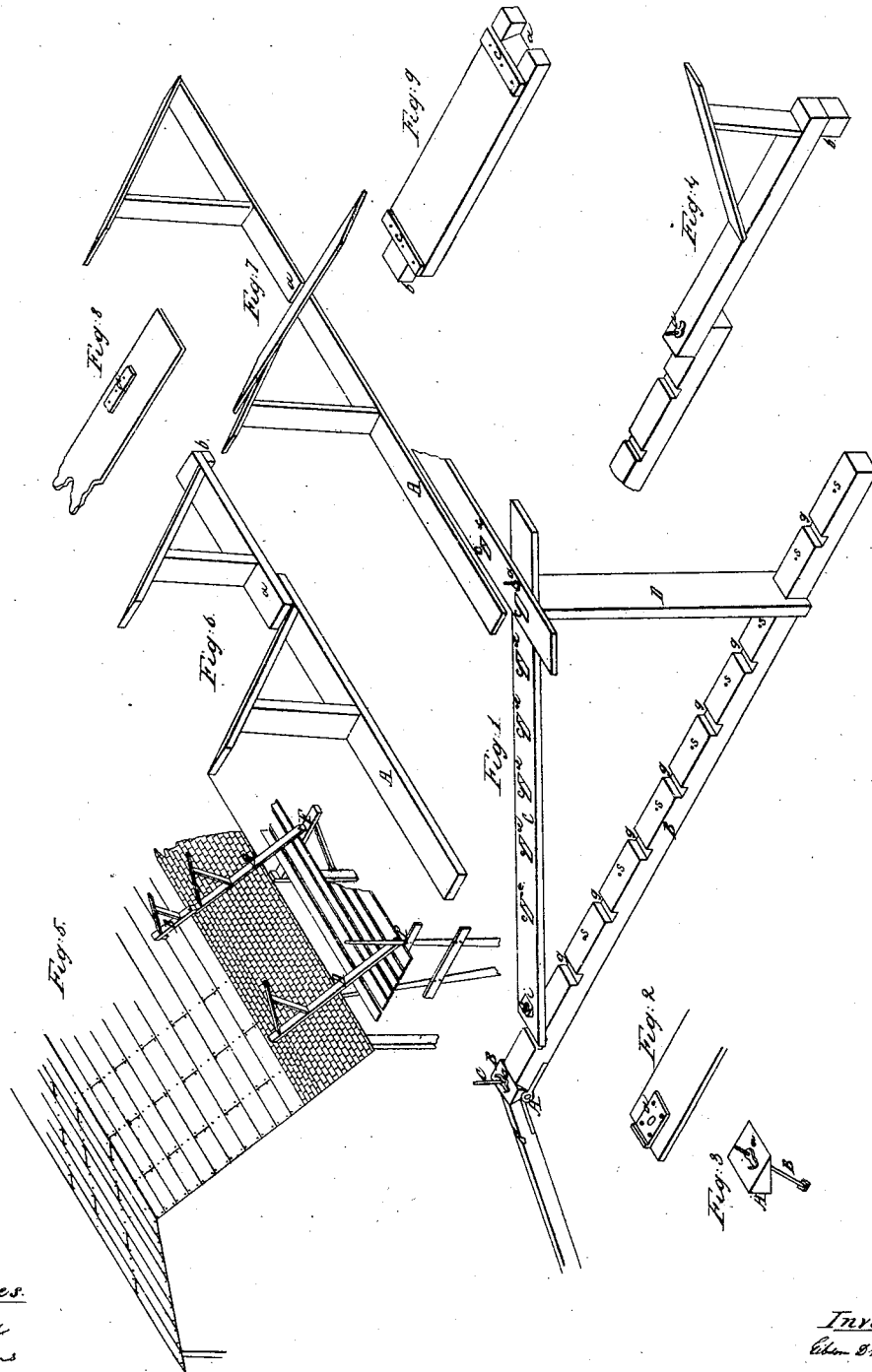
E. D. Walker

Sheet 1 - 2, Sheet 18.

Scaffold.

No 49,017.

Patented Jul. 25, 1865.



Witnesses.

*Samuel Ward
Geo. Hopkins*

*Inventor
Edw. S. H. Allen*

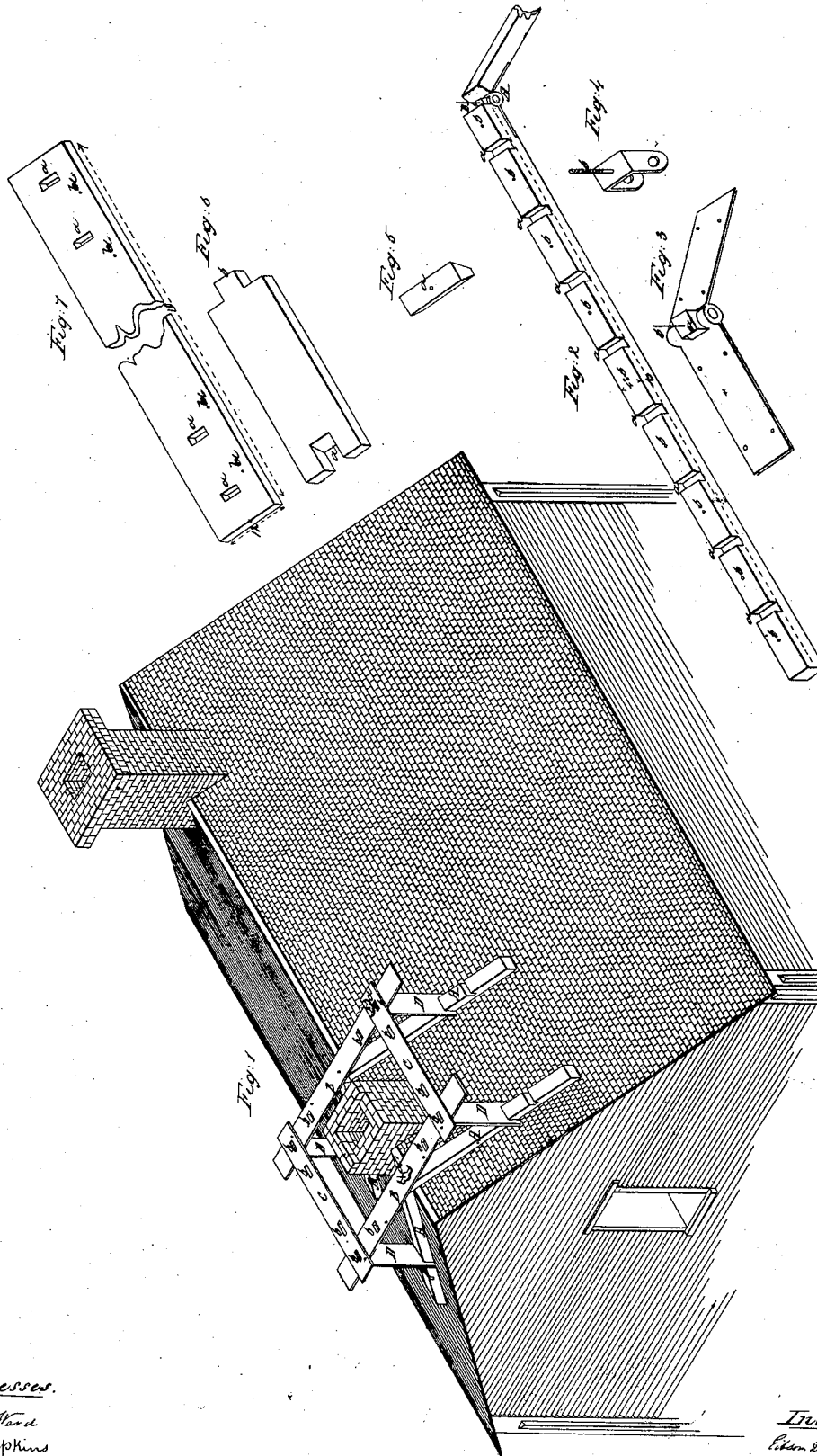
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James Ward
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UNITED STATES PATENT OFFICE.

EDSON D. WALKER, OF MILLBURY, MASSACHUSETTS.

IMPROVEMENT IN STAGING FOR BUILDING PURPOSES.

Specification forming part of Letters Patent No. **49,017**, dated July 25, 1865.

To all whom it may concern:

Be it known that I, EDSON D. WALKER, of Millbury, in the county of Worcester and Commonwealth of Massachusetts, have invented a new and Improved System of Staging for the Roofs of Buildings; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in providing a safe and convenient method for the erection of staging for the purpose of chimney building or repairing, and for the purposes of slating or shingling upon the roofs of buildings without nailing any portion of the staging to the roof, and is intended to avoid the danger, inconvenience, and loss resulting from the direct attachment of staging and brackets to the roof by means of nails.

The danger existing when brackets are nailed to the roof arises from the fact that the nails cannot be driven in the direction of their greatest resistance to the force calculated to break or draw them. The inconvenience in the same case consists in cutting boards for brackets and staging for each and every roof to be worked upon, while the loss consists in waste of nails and the damage done to the roof by leaving nail-holes, which in time become serious leaks.

The means by which I obtain the above ends are described as follows:

For staging, when the chimney comes through, the ridge of the roof, I make use of four pieces of scantling ten feet long by four inches wide and three inches deep. These are attached together, two by two, by means of a hinge, forming two "straddle-pieces," so called, which stride the ridge of the roof and rest upon each side of it. (Plate 1, Fig. 1, A.) These straddle-pieces have gains cut in them one foot apart, one inch deep, and one and one-half inch wide. (Plate 1, Fig. 2, a.) The hinge by which they are joined is made of iron three-eighths of an inch thick, and in such a manner as to admit a collar between the joints of the hinge, which is held in its place by the bolt passing through the joints of the hinge. Plate 1, Fig. 3, is the hinge with the collar *a* attached. Plate 1, Fig. 4, is the collar enlarged, showing the holes through which the hinge-bolt passes. (Holes marked *a*.) In this collar is fastened an up-

right bolt, (Plate 1, Figs. 2, 3, and 4, B and *b*,) which passes through a block of wood, (Plate 1, Fig. 5,) which fills the opening between the ends of the straddle-pieces and rises to the level of their highest point. (Plate 11, Fig. 1, B.) The two sets of straddle-pieces are placed one on each side of the chimney, and in the gains are placed standards (Plate 1, Fig. 1, D) made as follows: Boards about eight inches wide are cut of varying lengths, and upon the lower end is cut a gain four inches wide and two inches deep. (Plate 1, Fig. 6, a.) This gain allows the standard to rest on the roof and fill the gains of the straddle-pieces. (Plate 1, Fig. 1, D.) Upon the upper end of the standard is cut a tenon four inches long by three inches deep. (Plate 1, Fig. 6, b.) Four standards of the same height are placed in corresponding gains of the straddle-pieces, (Plate 1, Fig. 1, D,) and the two upon each one are connected together by a piece about ten feet in length, eight inches wide, and one and one-fourth inch thick, (Plate 1, Fig. 1, B, and Plate 1, Fig. 7,) having mortises cut in them of corresponding size with the tenons on the standards. (Plate 1, Fig. 7, a.) These pieces pass over the blocks between the ends of the straddle-pieces, and the upright bolt, before spoken of, passes through them, and they are secured to it by means of thumb-screws. (Plate 1, Fig. 1, a'.) These cross-pieces are again connected together by other pieces of similar size, having mortises of the same size, but running in an opposite direction, for the tenons of the standards. (Plate 1, Fig. 1, C.) These pieces are then fastened together by means of bolts running through them at each standard and held fast by thumb-screws. (Plate 1, Fig. 1, a.) This completes the frame for a staging for a chimney at the ridge, as shown complete in Plate 1, Fig. 1.

When the chimney is not upon the ridge, but down upon one side, so that all of the staging must be upon side, I make use of the straddle-pieces as before, and they are prevented from pulling over on the side where the staging is by securing the block already spoken of between the ends of the straddle-pieces at the hinge by means of the upright bolt in the collar and a thumb-screw. (Plate 11, Fig. 1.) B is the block in place, C the bolt, and *a* the thumb-screw. A standard (Plate 11, Fig. 1, D) is

made use of, as before, and the horizontal pieces are of the same size as before; but attached to one end of the horizontal piece running in the direction of the straddle-piece is a plate of iron about eight inches long, four inches wide, and one-fourth of an inch thick, turned at the end in such a way as to form a hook which fits into the gains of the straddle-piece. Plate 11, Figs. 1 and 2, shows the method of hooking and the means made use of. Fig. 2, *a*, is the iron plate with holes, for the bolt to pass through. This piece is then made secure by a bolt passing through a block of wood, the piece itself and the straddle-piece being fastened by a thumb-screw. (Plate 11, Fig. 1, *i* and *a*, and Fig. 3, A B *a*.) Cross-pieces are made use of, as before, to connect the standards of the straddle-pieces, and are fastened to the other pieces by bolts and thumb-screws, as before. (Plate 11, Fig. 1, E and *a*.) If a small staging is wanted below the main staging, a bracket is bolted to each of the straddle-pieces, as shown in Plate 11, Fig. 4, *a*. If the chimney be so low down upon the roof as to be out of the reach of the straddle-pieces, a piece similar in construction to one side of the straddle-pieces is bolted to the straddle-piece and the staging constructed upon this extended straddle-piece.

The staging for slating and shingling is constructed as follows: Brackets are made, as shown in Plate 11, Fig. 7, A, of a suitable length—say seven feet—so that their lower ends may abut against the poles of the side staging or upon jacks, according as one or the other may be used, to uphold the side staging, or upon the side staging itself. (Plate 11, Fig. 5.)

A is the bracket abutting against and fastened to the pole at P and to the jack at F, their upper ends resting on the roof as high up on it as the extent of the shingles laid from the side staging. From the staging found on these brackets shingles or slates are laid as far up as convenient, and a new set of brackets are then placed with their ends abutting against the staging on those already used, (Plate 11, Fig. 7, *a*), and are prevented from slipping up on the said staging by blocks of wood nailed to the staging, as shown in Plate 11, Fig. 8, *a*, or by bolting the ends together, as shown in Plate 11, Fig. 6, *a*. These brackets are made of any convenient width and thickness—say six inches wide by one inch thick—and long enough to reach from one staging to the extent of the slating or shingling laid by a man from one staging—say about four and one-half feet.

Should it ever occur that the side staging is so low that the long bracket (Plate 11, Fig. 5, A, and Fig. 7, A) will not reach it, a piece of plank is used upon the side staging with its length at right angles to the side staging, and sufficiently long to meet and support the bracket, itself being fastened to the side staging by nails and a block against the building and between the plank and eaves.

What I claim as my invention, and desire to secure by Letters Patent, is—

The mode of construction of the staging with its straddle-pieces, brackets, standards, &c., as within described.

EDSON D. WALKER.

Witnesses:

JONAS WARD,
JNO. HOPKINS.