(No Model.) 3 Sheets—Sheet 1.

G. HAYES.

SKYLIGHT.

No. 292,486. Patented Jan. 29, 1884.

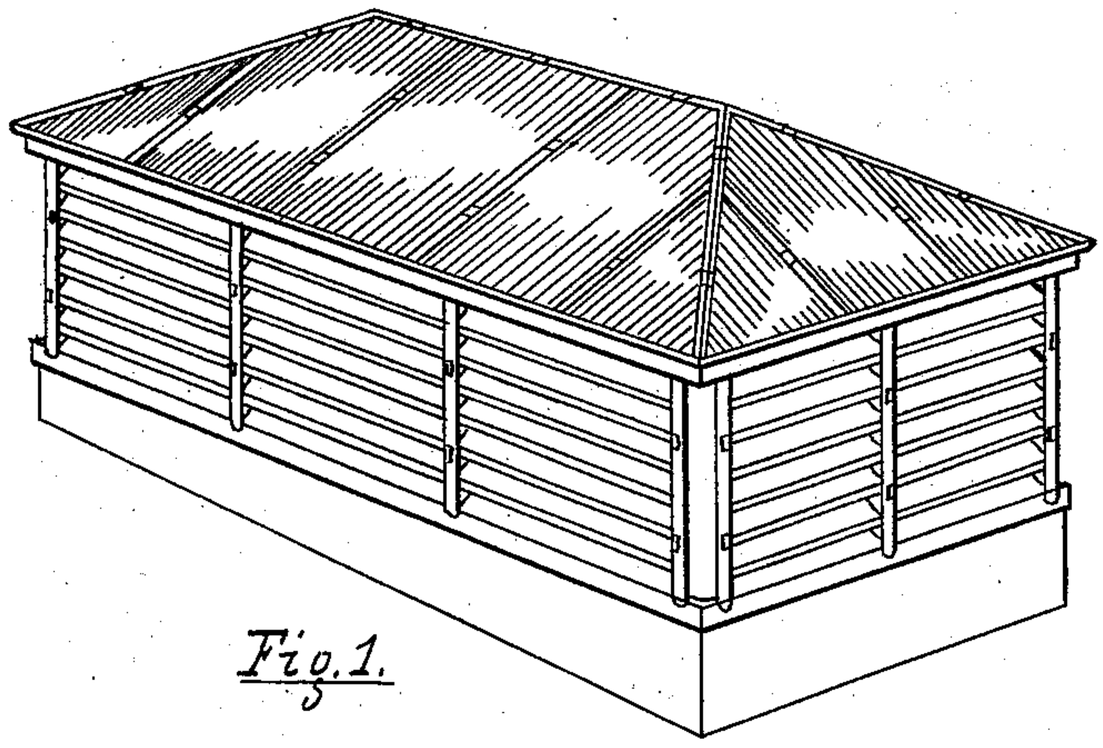

Fig. 1.

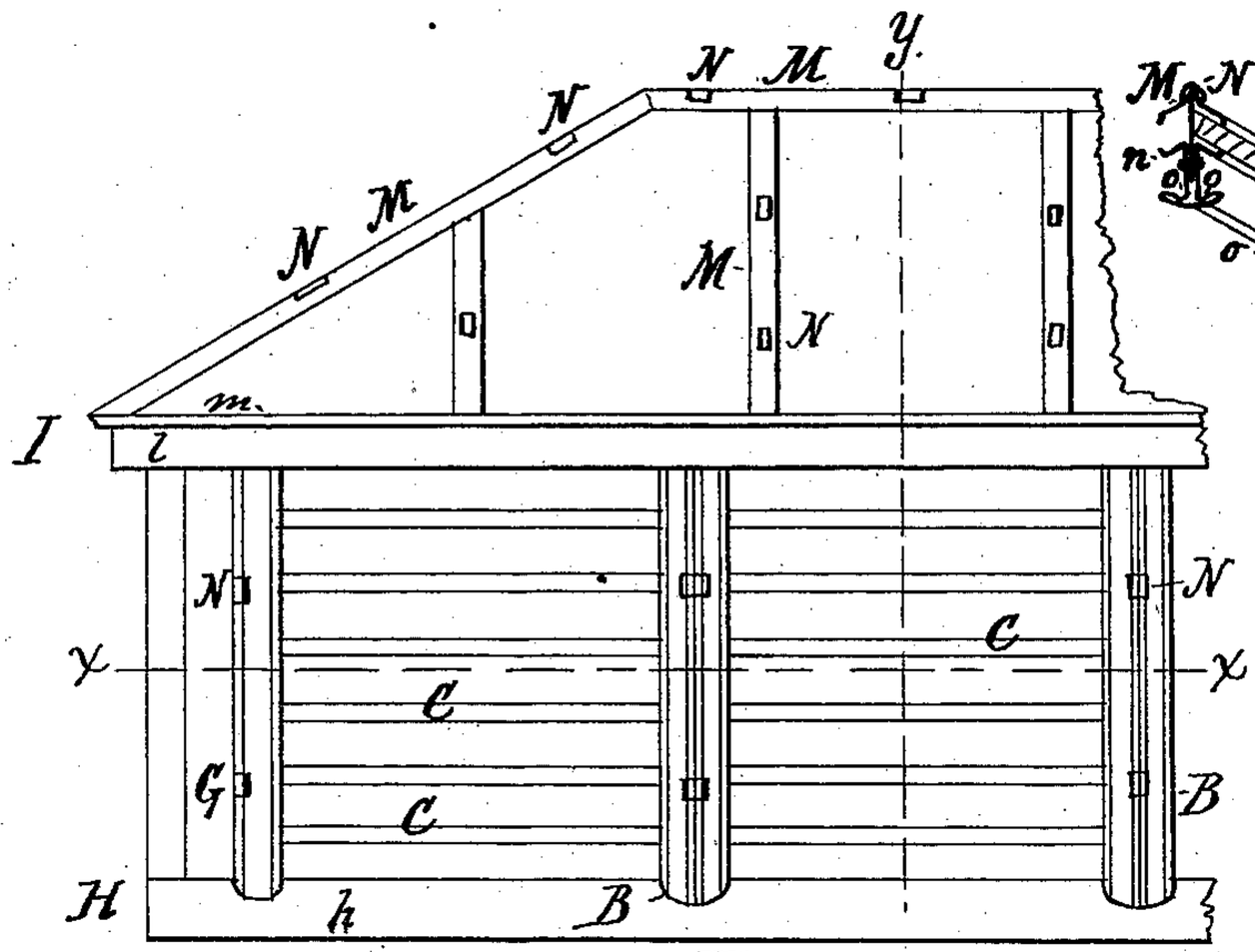

Fig. 2.

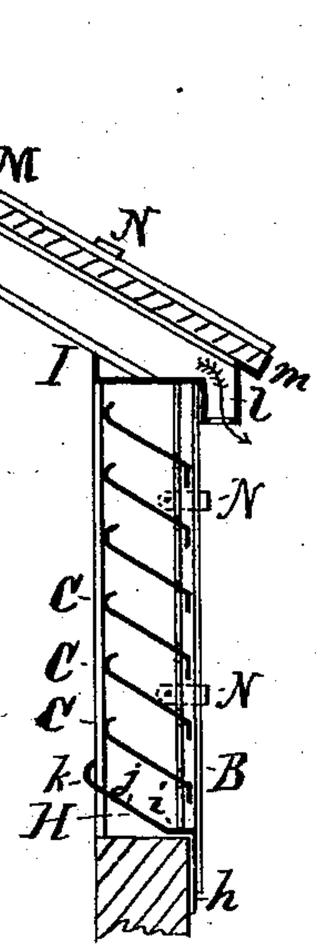

Fig. 4.

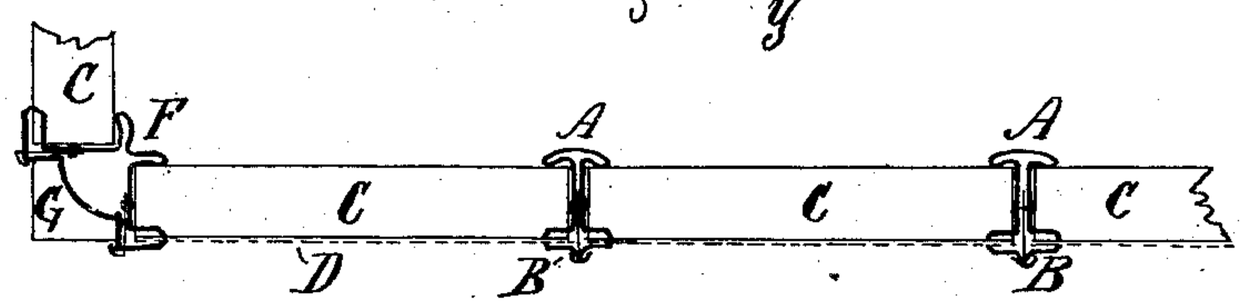

Fig. 3

Witnesses:
Jacob Koch
Frank E. Verder

Inventor:
George Hayes.

(No Model.) 3 Sheets—Sheet 2.

G. HAYES

SKYLIGHT.

No. 292,486. Patented Jan. 29, 1884.

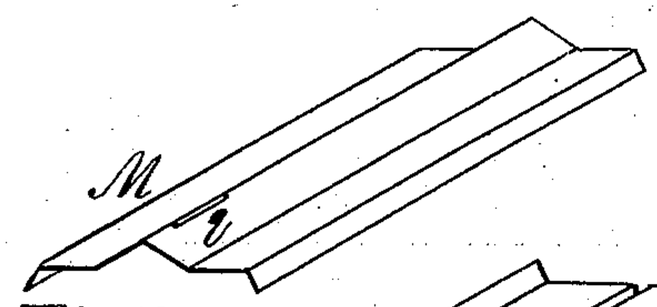

Fig. 12.

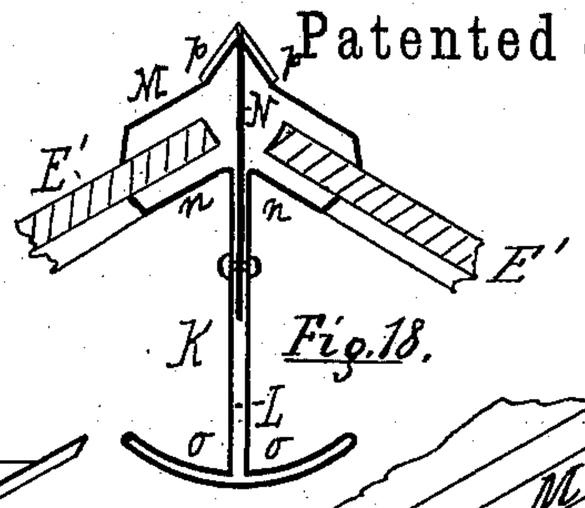

Fig. 18.

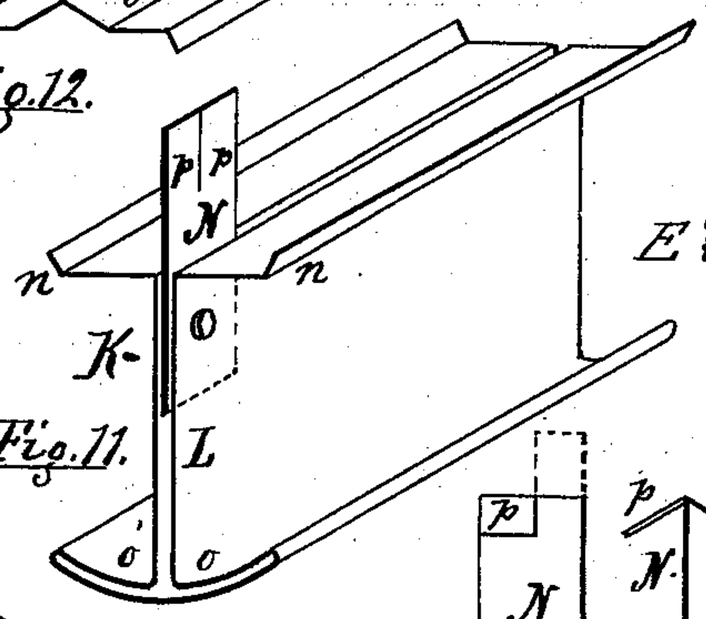

Fig. 11.

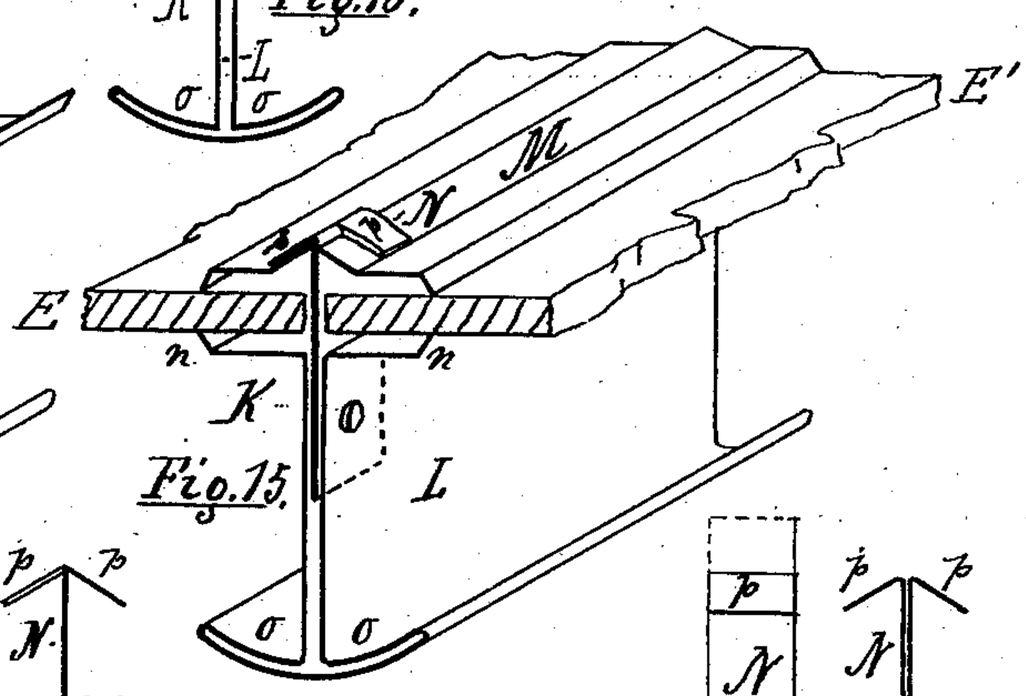

Fig. 15.

Fig. 13.

Fig. 14.

Fig. 16.

Fig. 17.

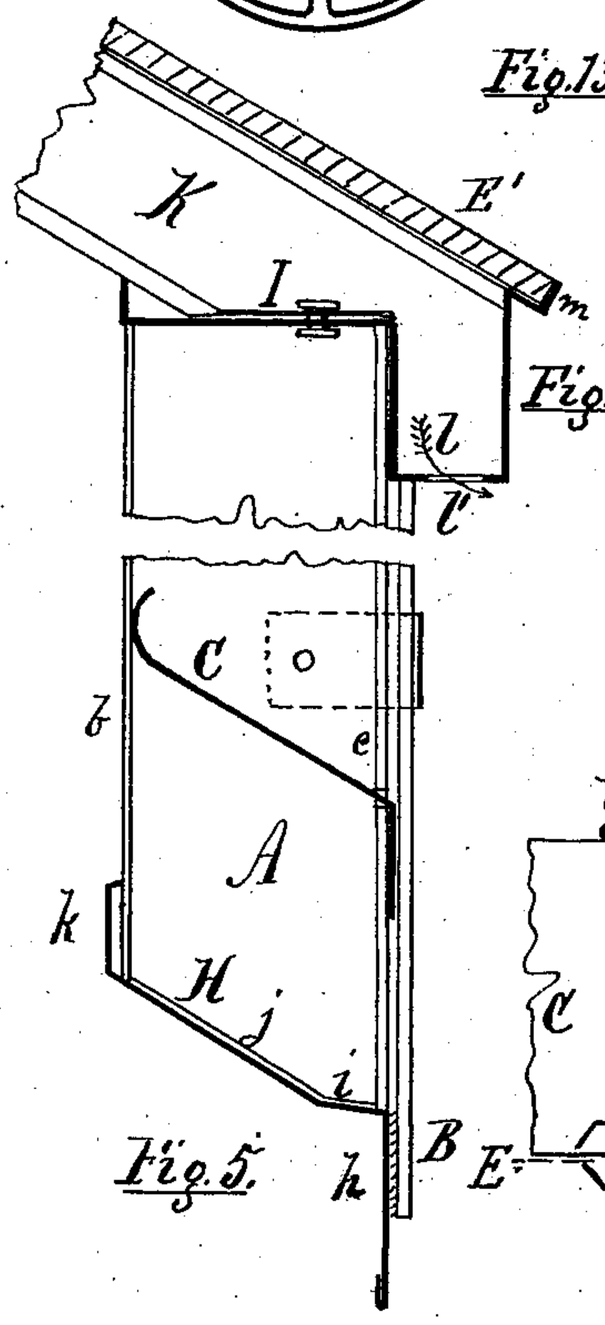

Fig. 6. Fig. 5.

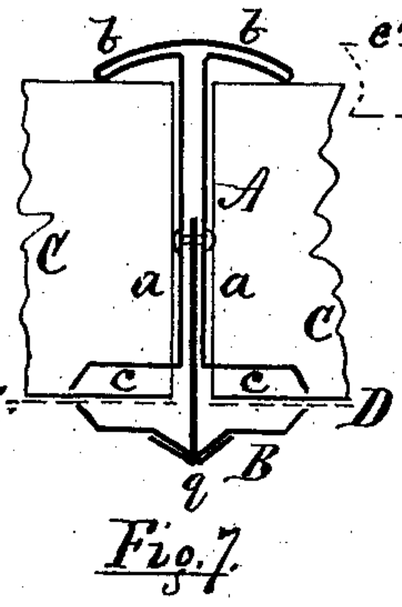

Fig. 7.

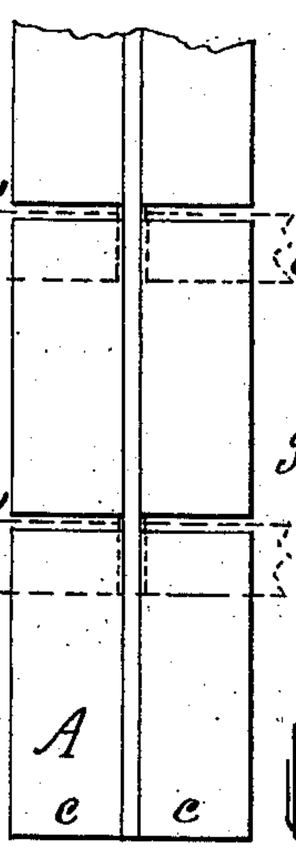

Fig. 8.

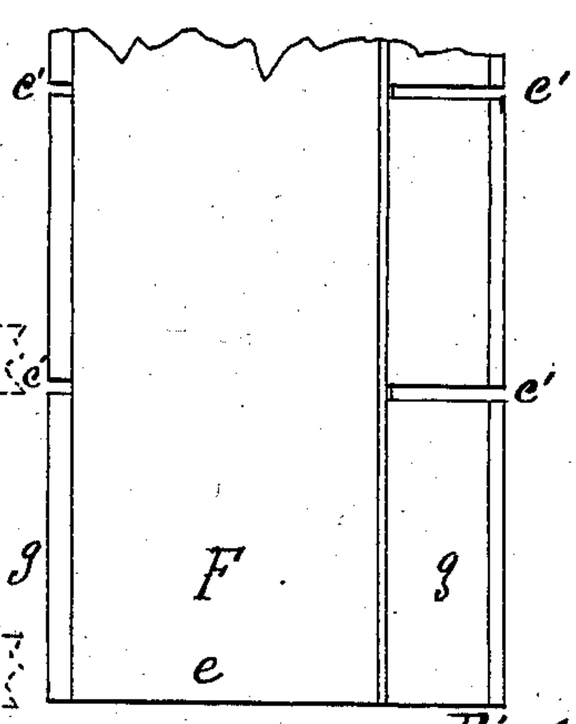

Fig. 10.

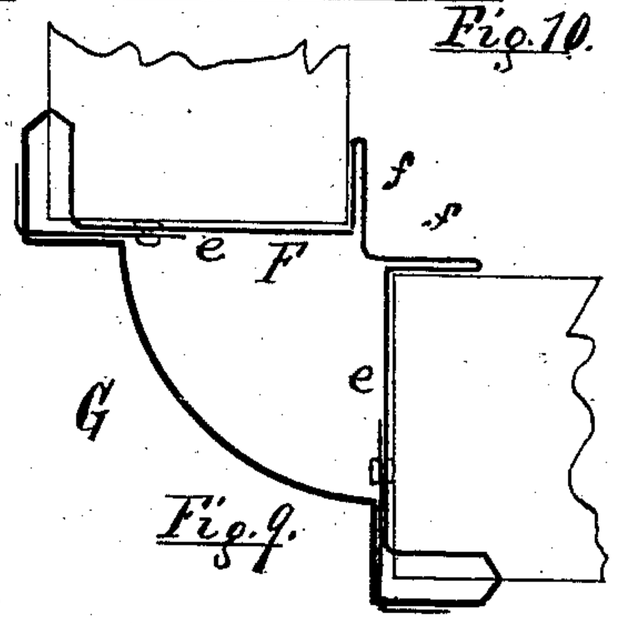

Fig. 9.

Witnesses:
Jacob Koch
Frank E Verder

Inventor:
George Hayes

(No Model.)

3 Sheets—Sheet 3.

G. HAYES.

SKYLIGHT.

No. 292,486. Patented Jan. 29, 1884.

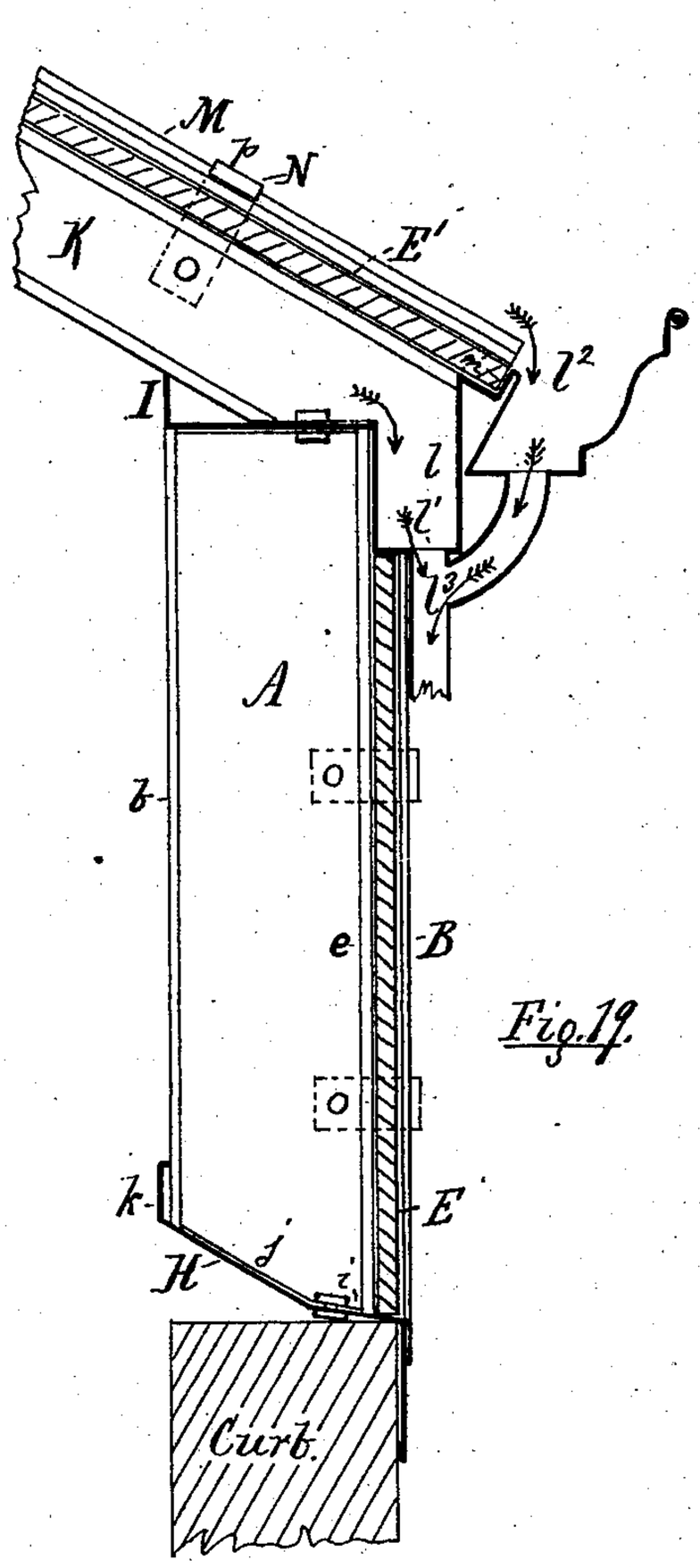

Fig. 19.

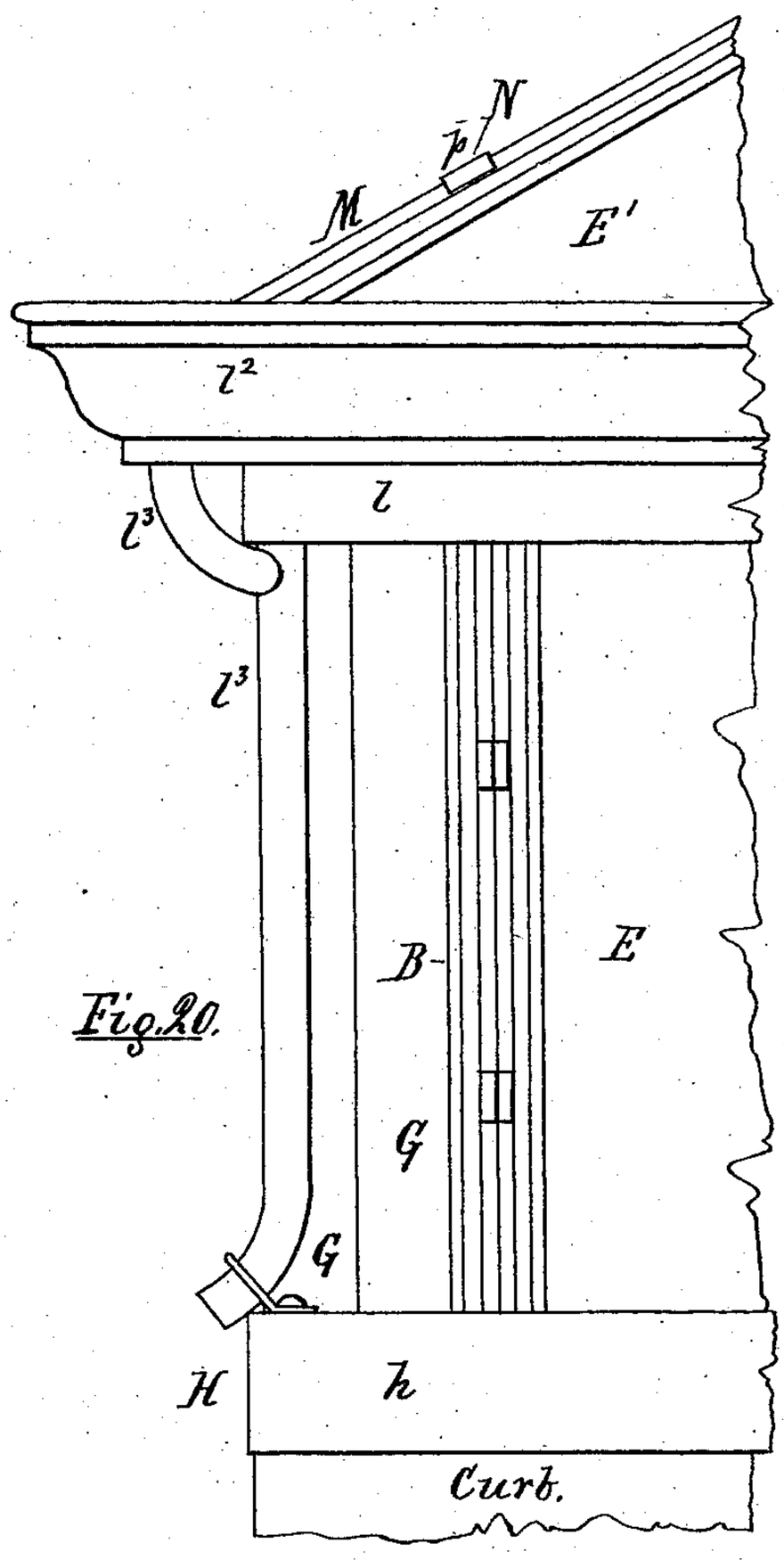

Fig. 20.

Witnesses:
Jacob Koch
Charles Hayes

Inventor:
George Hayes.

UNITED STATES PATENT OFFICE.

GEORGE HAYES, OF NEW YORK, N. Y.

SKYLIGHT.

SPECIFICATION forming part of Letters Patent No. 292,486, dated January 29, 1884.

Application filed May 12, 1883. (No model.)

To all whom it may concern:

Be it known that I, GEORGE HAYES, a resident of the city, county, and State of New York, and a citizen of the United States, have invented a new and Improved Turret Skylight, of which the following is a specification.

My invention consists, first, in the posts of the turret-walls, which are constructed of sheet metal with two sides close together (or nearly so) and having two interior lateral flanges and two exterior lateral flanges. The metal is so folded that no joint is exposed to the inside of the structure, the post showing a smooth face inside. A joint is left at the outer edge of the posts, between the outer flanges, wherein is placed a securing-strip used to secure a covering strip or cap after the insertion of louver-slats, glass plates, or apertured screen, as hereinafter described, and the two outside flanges of the post are cut in at intervals up their height for the reception of louver-slats, which are put in before the covering and securing cap is applied and secured.

It consists, second, of the combination of louver-slats with the posts before mentioned, the slats being of sheet metal and passed through the cuts in the flanges of the posts at each side, and held therein by any suitable means, their ends abutting against the posts, their lateral edges fitting into the cuts. Each louver is provided with an outside or apron flange fitting down outside the cuts of the flanges of the posts, and the louver-slats may be of any desired shape as to curve and inclination inside.

It consists, third, of the combination of covering strip or cap with the posts before mentioned, the cap being secured thereto by metal strips inserted between the two sides of the post, riveted thereto, and the outer end thereof passed through slots in the cap and then bent backward, forming hooks fastening the cap securely while permitting ready removal for repairs, insertion of louvers, snow-screen, or glass plates, when desired.

It consists, fourth, in the peculiar construction of the corner-posts of the turret, which are formed of one piece of sheet metal with diverging plates or faces, angle inside, and lateral inside flanges without joint inside, and lateral outside flanges provided with cuts for reception of louvers at intervals up their height. They are also provided with securing strips or hooks for securing a cap in analogous manner to those described for intermediate posts, hereinbefore mentioned.

It consists, fifth, in the combination of an angular, curved, or molded corner-cap to the posts of the corners, covering the space between the diverging plates of the post as well as their outside lateral flanges, and securing louver-slats, glass plates, recticulated or perforated screen, analogous to the caps of the intermediate posts.

It consists, sixth, in the peculiar form of the base-plate of the vertical walls of the turret, which is constructed of sheet metal with an apron-flange, and slopes, and set-back curve or flange, enabling it to fit over the curb of the roof of a building, and also to enable it to serve as a louver in returning water to the outside of the structure, in combination with the posts hereinbefore mentioned.

It consists, seventh, in the combination of a guttered transom with the posts before mentioned, the transom also formed to answer as a base to the skylight or roof portion of the turret, as hereinafter described.

It consists, eighth, in the combination of a screen of wire-gauze or perforated sheet metal with the posts hereinbefore mentioned, the screen being applied after the louvers are in against the posts, after which the cap is secured, holding the louvers and screen in position.

It consists, ninth, in the combination of glass plates (arranged vertically) with the posts before mentioned, in place of the screen before mentioned, where desired for lighting purposes, and ventilation unnecessary.

It consists, tenth, of a skylight bar or rafter consisting of a supporting part and a cap, as hereinafter described, the bar supporting glass plates and collecting and carrying off leakage or drip from condensation, and the cap combined therewith, covering the joints above the glass to prevent leakage and secure the plates and connected with the supporting part by strips of metal inserted in the supporting part and riveted, the upper ends passed through in the cap and bent backward to form hooks, permitting ready removals of the cap and glass

in repairing, the operation of glazing rendered thereby expeditious, inexpensive, and security complete.

It consists, eleventh, in a combination of all the above-mentioned devices in one structure, to effect a saving of expense, saving of time in construction, and a saving of material, coupled with lightness and strength.

It consists, twelfth, of a combination of outside molded gutter with inside gutter in base-frame of skylight or transom, the outside gutter receiving the water flowing from the roof and discharging through suitable leader-pipes at the corners of the turret downward to the roof of building, the same leader also being used as a discharge-pipe for inside gutter, the two gutters so combined constituting a cornice for the turret. The outer gutter may be dispensed with where saving of expense therefor is desirable.

In the drawings accompanying, Figure 1 is a perspective view of a turret-skylight constructed entirely after my invention, and provided with louver ventilation. Fig. 2 is an elevation of a portion of the same. Fig. 3 is a horizontal section of the same at *x x*. Fig. 4 is a vertical section of the same at *y y*. Fig. 5 is a vertical section of base frame or plate with side face of intermediate post and section of louver slat. Fig. 6 is a vertical section of turret-transom, face view of upper end of post. The transom is provided with a gutter which is covered by the glass plates of the roof or skylight portion; but its lower part or gutter is over or outside the vertical wall of the turret. This transom forms at the same time cap to the post and base-frame for the skylight portion of turret, and is therefore both transom and base-frame in effect. Fig. 7 is a horizontal section of intermediate post and covering-strip, with top view of ends of louver-slats. Fig. 8 is a vertical face view of posts without covering-strip, illustrating the cuts in the flanges to receive the louver-slat, the edge of which is shown by dotted lines, giving its front flange. Fig. 9 is a horizontal section of corner-post and its angular or curved covering-strip, portions of louvers shown in connection by top view thereof. Fig. 10 is a vertical face view of corner-post, showing cuts in the flanges to receive louver-slats. Fig. 11 is a transverse section and portion, in perspective, of the roof or skylight bars or rafters, showing the fastening-strips by which the cap is secured, the cap being omitted and strips not bent over. In this position the bar and strips are ready to receive the glazing, after which the cap is applied, the strips being passed through slots therein and the ends bent over, forming hooks, effectually securing the cap, but permitting its ready removal for repairs to glazing, &c. The caps to vertical posts are secured in a similar manner by similar strips after the louvers are in place, their edges in the cuts of the posts. Fig. 12 is a section of the cap to bars of skylight with portions of bar in perspective. Fig. 13 is a face view of securing-strips. Fig. 14 is a section of the same. Fig. 15 is a section and partial perspective of skylight-bars, with glazing and cap, showing also the securing-strips. Fig. 16 is face view of another style of securing-strip. Fig. 17 is a section or end view of the same. Fig. 18 is a section of the ridge and hip-bars of the skylight, showing how the upper or glass-supporting flanges are bent downward to suit their position. These bars are to be provided with caps like, and secured like, those of the other bars and vertical posts. Caps and edges of glass are shown in section. Fig. 19 is a vertical section, showing how an outside gutter is added, taking water from roof outside and discharging through leader-pipes, used also for discharge from inside gutter. The two gutters together constitute a molded cornice to turret. Fig. 20 is an elevation of the same, a corner of turret shown.

A represents the turret, intermediate posts of sheet metal bent to form sides *a a*, flanges *b b*, and flanges *c c*, the latter being cut in at intervals, as at *c'*, for the reception of louver-slats whose edges are slid into the cuts *c'* up to their position, and held by a cap afterward applied and secured.

B represents the cap, placed on after the louvers are in, or other devices—such as glass plates or snow-screens—are in place.

C represents the louver-slats, which may be of any suitable shape convenient to be secured by being slid through the cuts *c'* of the posts.

D in dotted lines, Fig. 7, shows a perforated plate or reticulated screen, with fine perforations or meshes, which may or may not be used in connection, as desired, to suit location. It is placed vertically against the flanges of the posts and louver-slats, and secured by the cap B or covering-strip which covers the joints, preventing leakage.

E represents glass plates, which also may or may not be used, (according to the season,) as in Figs. 19 and 20. In winter it is sometimes desirable to dispense with the amount of ventilation furnished by the louvers. They are readily removed by taking off the cap B, and glass plates inserted after the manner of the perforated screen and in its place, being securely fastened by the same means as the cap B, the glass giving additional light, sometimes also desirable. The glass is thus secured without putty. If the joints require to be very tight, felt, &c., may be used as a bed for the edges. The louver-slats are inserted, held, and supported without solder, resulting in a great saving of time in constructing as well as expense. At F are shown the corner-posts, also of sheet metal, bent to form diverging plates *e e*, flanges *f f*, and flanges *g g*. A corner-cap is shown at G, secured in similar manner to the cap B. This cap may be curved or angular, or molded ornamentally, as desired.

H represents base-plate or base-frame of the turret, the posts resting thereon and secured thereto by solder, rivets, or other suitable means. This base-plate is bent into portions

h, *i*, *j*, and *k*, to render it fit for its position over the curb in a roof, and also so that its upper surface will set back and return water to the outside of the structure, as a louver-slat.

I represents the transom of the turret, capping the upper ends of the posts and forming base for the roof of the turret or its skylight portion. The transom is provided with a gutter, *l*, to catch the water running down bar-gutters from condensation or leakage underneath the glass plates, and it is located outside or beyond the posts A, so that by or through perforations in its bottom at *l'*, it may discharge the same outside the structure. It may discharge at the corners, if desired, and by means of suitable leader-pipes, l^3, in connection. The transom is also provided with glass-supporting clip or stop *m*, to receive ends of glass plates and prevent their slipping down.

K represents the intermediate bars or rafters of the roof portion of turret. They are of sheet metal, bent to form central portion, L, glass-supporting flanges *n n*, and gutters beneath at *o o*. A cap, M, is secured thereto by strips N, after glazing, so that the joints may be properly covered and rendered watertight. The strips N are secured between the two sides of the bar by rivets or other suitable means. By the same means the cap B is secured to the posts A of the turret-walls. The strips are formed with ends *p p*, which, after being passed through slots *q* of the caps, are bent down over the top, as in Figs. 7, 9, 11, 14, 15, and 17. The glazing is applied to the bars, as shown in Figs. 6, 15, and 18 at E'. The ridge and hip bars have their upper flanges bent downward at an angle, as shown in Fig. 18, to suit their position.

By means of the devices herein shown and described a turret-skylight may be built much quicker and cheaper than heretofore, the saving being in time, and metal and solder to the louvers dispensed with.

Whenever greater strength is requisite, as in very large turret-skylights, the roof-bars and vertical posts may be constructed with inside core-plate inserted between the two adjacent faces thereof.

Heretofore in constructing turret-skylights it has been customary to construct the vertical walls with a transom or head-frame, and the roof portion with a base-frame set over and resting on the transom or head-frame of the vertical walls.

In constructing this turret-skylight I am enabled to place the roof portion in direct combination with the vertical walls, and thereby dispense with the necessity of double frame between them by making the base-frame of the roof portion with a flat portion adapted to rest upon the tops of the posts, and its gutter extended beyond the posts, reaching down against their face. The upper end of the straight portions of the posts are bent over at their tops, forming flanges which are secured to the under side of the guttered frame by rivets and solder, so that it answers for both transom and base-frame of skylight in one.

At l^2 is an outside molded gutter receiving the discharge from roof outside, and forming cornice to turret.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The turret-posts A, of sheet metal, folded to form two sides, *a a*, inside lateral flanges, *b b*, and outside lateral flanges, *c c*, the flanges *c c* cut in at intervals for reception and support of louver slats, essentially as shown and described.

2. In combination with posts A and strips B, constructed essentially as set forth, louver-slats C, set in and secured substantially as shown and described.

3. In combination with posts A and strips or caps B, constructed and combined essentially as set forth, the reticulated screen or perforated sheet-metal plate D, secured thereto, substantially as shown and described.

4. The combination of posts A, caps B, louver-slats C, and screen D, substantially as shown and described.

5. The corner-posts F, constructed of one piece of sheet metal, formed with diverging portions *e e*, inside flanges, *f f*, and outside flanges, *g g*, the outer flanges cut in at intervals for the reception and support of louver-slats, essentially as shown and described.

6. In combination with the corner or angle posts F, the caps or angle-pieces G, secured thereto by strips N, substantially as shown and described.

7. The base-plate H, having apron *h*, flat portion *i*, slope *j*, and "set-back" or curve *k*, substantially as shown and described.

8. In combination with the posts A F and rafters or bars K, constructed as set forth, the transom I, provided with gutter *l* and clip *m*, substantially as shown and described.

9. The vertical walls of a turret, consisting of posts A F, base H, transom I, louver-slats C, all constructed, arranged, and combined essentially as shown and described.

10. The combination of outside gutter, l^2, with inside gutter, *l*, substantially as shown and described.

GEORGE HAYES.

Witnesses:
JACOB KOCH,
CHARLES HAYES.