

Nov. 30, 1937.

J. H. McDERMENT

2,100,785

RIDGE VENTILATOR

Filed Feb. 9, 1937

4 Sheets-Sheet 1

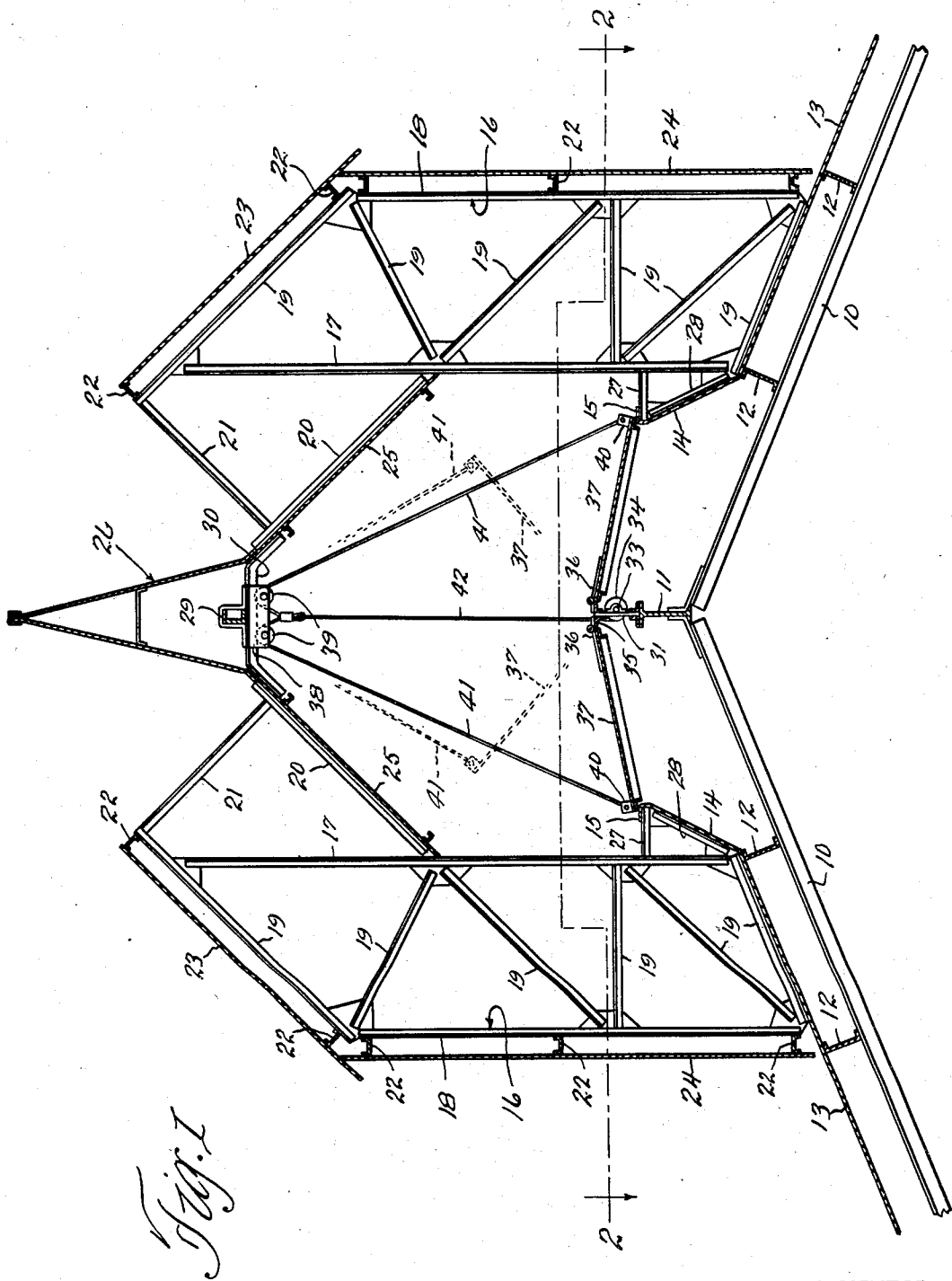


Fig. 1

INVENTOR.

J. H. McDermont
BY *Hull Brock & West*
ATTORNEY.

Nov. 30, 1937.

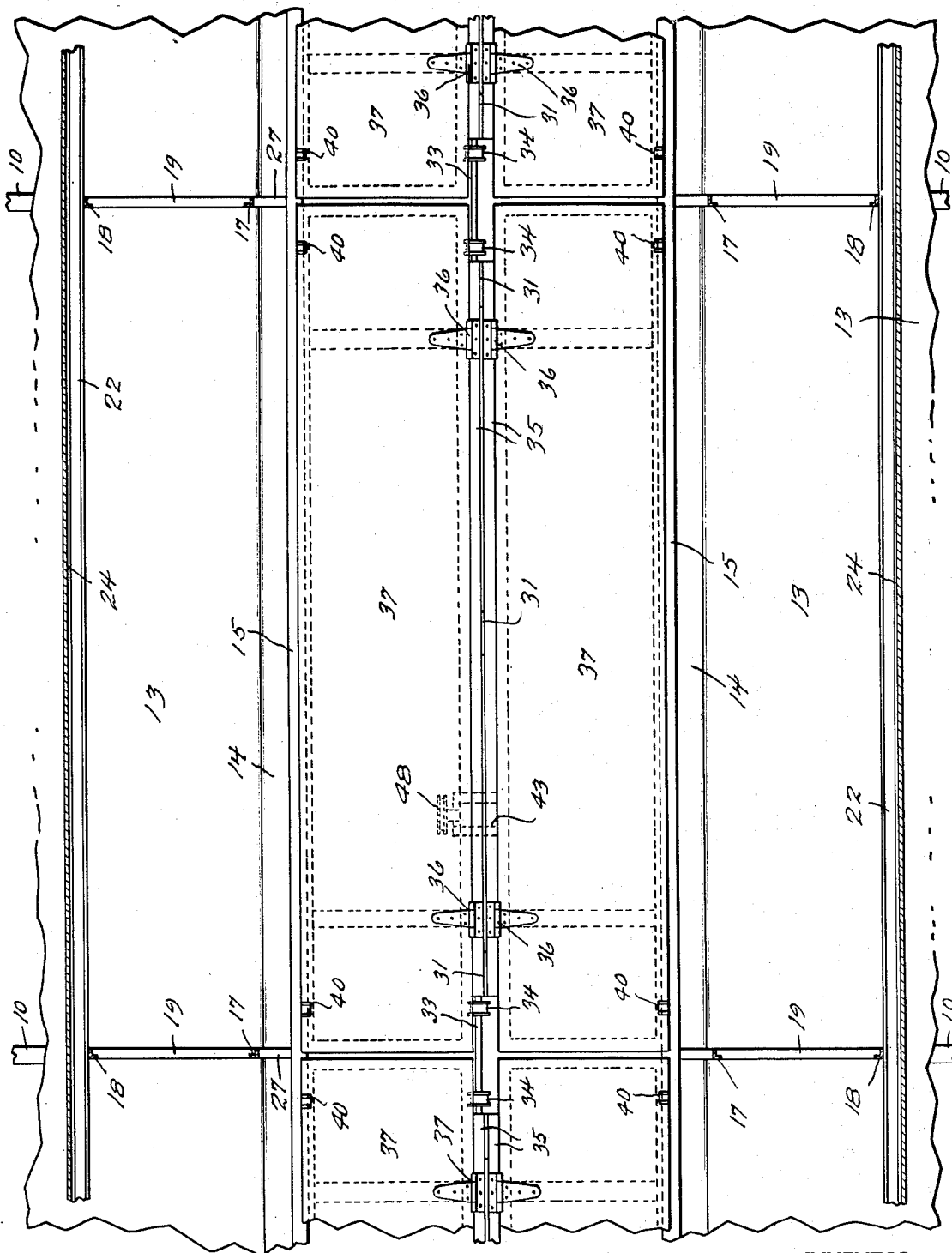
J. H. McDERMENT

2,100,785

RIDGE VENTILATOR

Filed Feb. 9, 1937

4 Sheets-Sheet 2



INVENTOR.

J. H. McDermont

BY

Hull Brock + West

ATTORNEY.

Nov. 30, 1937.

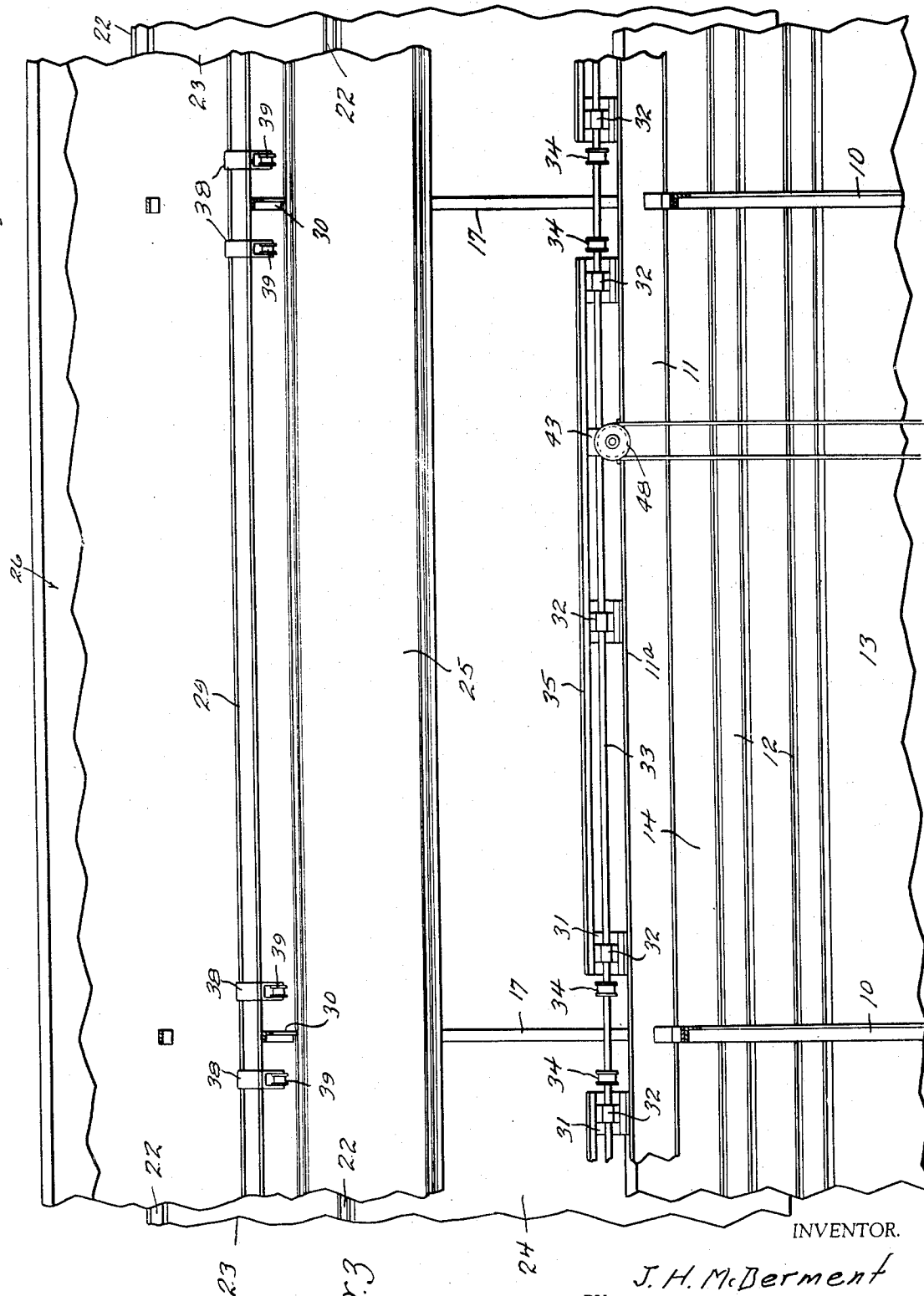
J. H. McDERMENT

2,100,785

RIDGE VENTILATOR

Filed Feb. 9. 1937

4 Sheets-Sheet 3



INVENTOR.

BY *J. H. McDerment*
Hull Brockrest
ATTORNEY.

Nov. 30, 1937.

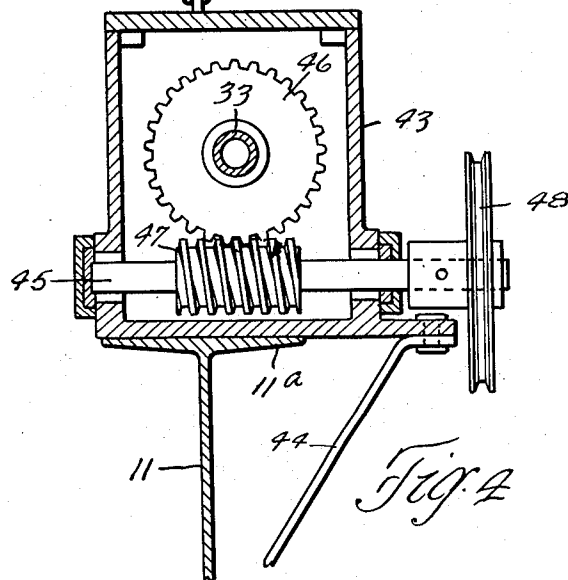
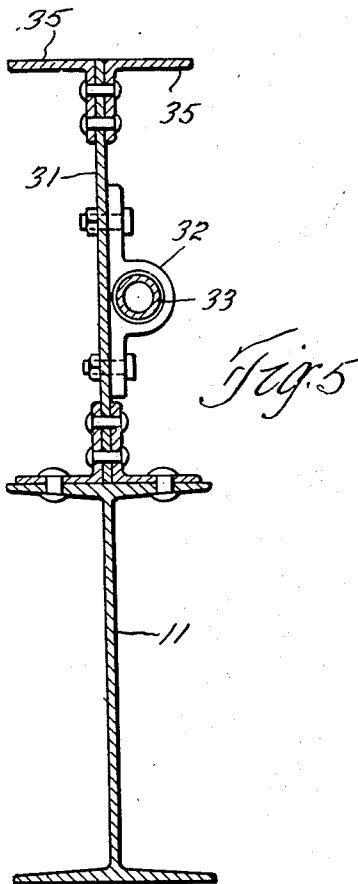
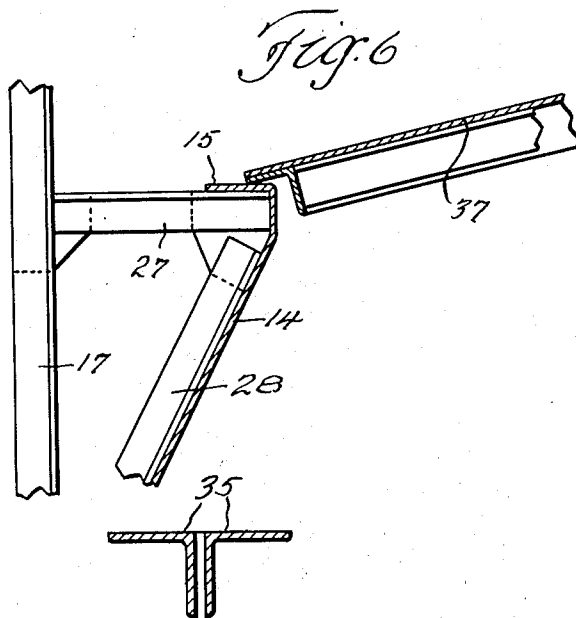
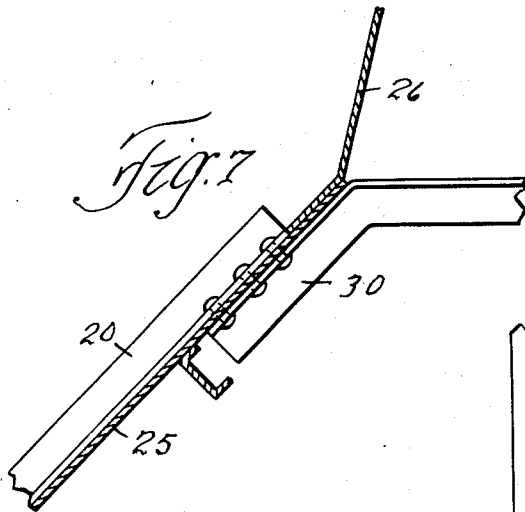
J. H. McDERMENT

2,100,785

RIDGE VENTILATOR

Filed Feb. 9, 1937

4 Sheets-Sheet 4



INVENTOR.

J. H. McDermont
BY *Hull Brock & Co.*

ATTORNEY.

UNITED STATES PATENT OFFICE

2,100,785

RIDGE VENTILATOR

James H. McDerment, Cleveland, Ohio, assignor
to The Swartwout Company, Cleveland, Ohio,
a corporation of Ohio

Application February 9, 1937, Serial No. 124,867

4 Claims. (Cl. 98—42)

This invention relates to a ventilator construction particularly adapted for use in connection with large ventilation openings and being preferably installed as an integral part of new building constructions.

An object of the invention is the production of a ventilator construction such as will meet the special problems of large installations and wherein advantage is taken of the type of construction rendered necessary for the large size device to simplify the mounting of the baffles. A further object is to provide a damper of special construction peculiarly adapted for use in the large construction and to provide simple and effective operating means for the novel damper construction.

Other and more limited objects will be in part apparent and in part pointed out hereinafter in connection with the accompanying drawings wherein Fig. 1 is a fragmentary transverse vertical section taken through a roof and showing the novel ventilator construction in position of use; Fig. 2 is a section on the line 2—2 of Fig. 1; Fig. 3 is a central longitudinal vertical section taken through Fig. 1 and substantially centrally thereof; Fig. 4 is a detail section of the control mechanism for operating the pulley rod; Fig. 5 is an enlarged detail section showing the support for the inner edges of the closures and the mounting for the pulley rod; Fig. 6 is an enlarged detail showing the relationship of the outer edge of the closures forming the damper and the roof opening to be closed thereby and Fig. 7 is an enlarged detail showing the connection of the baffle supporting trusses to the central support or connector.

Referring now to the drawings, the numeral 10 indicates frame elements of the roof of a building which may be suitably secured at their upper ends to a longitudinally extending I-beam 11. Extending transversely of the elements 10 are spacing channels 12 upon which may be mounted the sheet material 13 comprising the exposed portion of the roof. The elements 13 extend upwardly to about the position of the uppermost spacers 12 whereupon they bend sharply upwardly as indicated at 14 and terminate in outwardly turned flanges 15. The angles formed by the portions 14 and 15 may be regarded as the lateral edges of the ventilation opening.

Supported on the roof adjacent the edges of the ventilation opening are spaced trusses indicated generally by the reference character 16. These trusses are positioned with their edges presented toward the opening and lie in vertical planes perpendicular to the edges of the ventila-

tion opening. The trusses 16 include vertical elements 17 and 18 positioned respectively adjacent to and spaced from the edges of the ventilation opening and bracing elements 19 forming triangles whereby to impart rigidity to the structure. The lowermost element 19 is parallel to and may rest upon the roof while the uppermost of such elements may project somewhat beyond the upper end of the element 17. Extending inwardly at an angle to the element 17 are bracing elements 20 which are connected to the uppermost elements 19 by braces 21. Mounted on the outer edges of the trusses 16, that is, on the element 18 and the uppermost element 19, are spacing channels 22 to which are secured sheet metal baffle plates 23 and 24 which may conveniently be of the same construction as the roofing elements 13. Secured to the underside of the elements 20 are baffle plates 25 which form the lower extremities of a generally V-shaped ridge roll 26. At the lower inner edges of the trusses 16 are bracing elements 27 and 28 forming with the lower portion of the elements 17 triangular bracing portions adapted to hold the portions 14 and 15 of the roofing elements 13 in position. It will be noted that in view of the large construction, the trusses 16 are well adapted to supporting the baffle elements and that they lend themselves readily to positioning the baffle elements in proper relation to each other by the simple expedient of connecting the outer baffle plates 23 and 24 to the outer edges of the trusses 16 while connecting the lower portions of the ridge roll 26 to the inner edges thereof. Extending longitudinally of the ventilator is a channel 29 which carries transverse connecting elements 30. The trusses 16 are both connected to the element 30. The connection of the trusses at opposite sides of the ventilation opening together makes possible the use of the beam or channel 29 of smaller size than would be required were it not for the fact that the trusses are supported principally by the roof at their lower ends and connected together. With the construction as shown, the principal function of the beam 29 is to tie the various pairs of trusses together, holding them in upright position and provide support for the control elements desired to be located between the various pairs of trusses.

By reference to Fig. 5 it will be seen that there is mounted on the I beam 11 a fabricated I beam 31 which carries intermediate its ends journals 32 adapted to receive a mounting rod 33 for a plurality of winding drums 34. The journal elements 32 are mounted at intervals along the I beam 31. Pivoted to the upper flanges 35 of the I

beam 31 as by means of suitable hinges 36 are closure elements 37. These elements are adapted to extend from the flanges 35 to overlie the flanges 15 of the roofing element 13. It will be noted by reference to Fig. 2 that the closure elements 37 are arranged in pairs, each pair being in end to end relation with another pair so that the roof opening may be as long as desired while the length of the closure elements is kept to reasonable proportions. It will be noted that the I beams 31 terminate short of the ends of the closures 37 and that the winding drums 34 are located between the ends of the I beams 31 and the ends of the closures 37 so that a flexible element 15 may pass between the closure elements.

Attached to the beam 29 is a bracket 38 supporting spaced pulleys 39. At the outer edges of the closures 37 are lugs 40 to which are attached flexible elements 41. These elements pass over the pulleys 39 and are connected to a downwardly extending flexible element 42 which in turn passes to the corresponding winding drum 34. It will be apparent from Fig. 2 that there is one winding drum 34 corresponding to each pair of lugs 40 and that a winding drum and pair of lugs is positioned adjacent the end of each pair of closures. The units are complete and independent except that the rod 33 which carries the winding drums extends the full length of the opening whereby to provide a single control for as many pairs of closures as are necessary to close the ventilation opening.

The rod 33 is operated by a remote control device shown in Fig. 4. This device includes a housing 43 mounted on the I beam 11 and secured thereto, both to the upper flange 11^a thereof and by means of a brace 44 to a lower portion thereof. The housing 43 embraces journal means for the rod 33 and for a shaft 45 extending transversely of the rod 33. Mounted on the rod 33 within the housing 43 is a worm gear 46 which meshes with a worm 47 carried by the shaft 45. Secured to the outer end of the shaft 45 is a pulley 48 over which may be trained an endless belt extending downwardly to a position to be accessible to an operator.

While I have shown and described the present preferred embodiment of my invention I wish it understood that the same may be realized in different forms and that I am limited only in accordance with the appended claims.

Having thus described my invention, what I claim is:

1. In combination with a roof having an opening therein, trusses at each side of said opening and spaced therealong, said trusses extending upwardly and inwardly whereby to have a portion overlying said opening, means securing the trusses at one side of said opening to those at the other side thereof, a ridge roll having terminal edge portions extending along the upper portion of the inner edges of said trusses, said ridge roll overlying and extending laterally beyond said opening, baffle walls covering the outer edges of said trusses and terminating above said roof, damper means adapted to close said opening and com-

prising a pair of closures, each being pivoted about an axis extending longitudinally of said opening, and means for operating said closures.

2. In combination with a roof having an opening therein, trusses at each side of said opening and spaced therealong, said trusses extending upwardly and inwardly whereby to have a portion overlying said opening, means securing the trusses at one side of said opening to those at the other side thereof, a ridge roll having terminal edge portions extending along the upper portion of the inner edges of said trusses, said ridge roll overlying and extending laterally beyond said opening, baffle walls covering the outer edges of said trusses and terminating above said roof, damper means adapted to close said opening and comprising a pair of closures pivoted about an axis extending longitudinally of said opening, and means for operating said closures, said last means comprising pulley means above said damper means, flexible elements secured to said closures in spaced relation to the pivots thereof and extending over said pulley means and downwardly, a winding drum operatively associated with said flexible elements, a worm gear rotatable with said winding drum, a worm meshing with said worm gear and remote control means for operating said worm.

3. In combination with a roof having an opening therein, trusses at each side of said opening and spaced therealong, said trusses extending upwardly and inwardly whereby to have a portion overlying said opening, means securing the trusses at one side of said opening to those at the other side thereof, a ridge roll having terminal edge portions extending along the upper portion of the inner edges of said trusses, said ridge roll overlying and extending laterally beyond said opening, baffle walls covering the outer edges of said trusses and terminating above said roof, damper means adapted to close said opening and comprising a plurality of pairs of closures pivoted about axes extending longitudinally of said opening, each pair being arranged in end to end relation to another pair, and means for operating said closures, said last means comprising a rotatable rod parallel to the axes of said closures and carrying a winding drum for each pair of closures, means including a flexible element for connecting said closures to said winding drums for operation thereby, and remote control means for operating said rod.

4. In combination with a roof having an opening therein, trusses at each side of said opening and spaced therealong, said trusses extending upwardly and inwardly whereby to have a portion overlying said opening, means securing the trusses at one side of said opening to those at the other side thereof, a ridge roll having terminal edge portions extending along the upper portion of the inner edges of said trusses, said ridge roll overlying and extending laterally beyond said opening, baffle walls covering the outer edges of said trusses and terminating above said roof, damper means adapted to close said opening and means for operating said damper means.

JAMES H. McDERMENT.