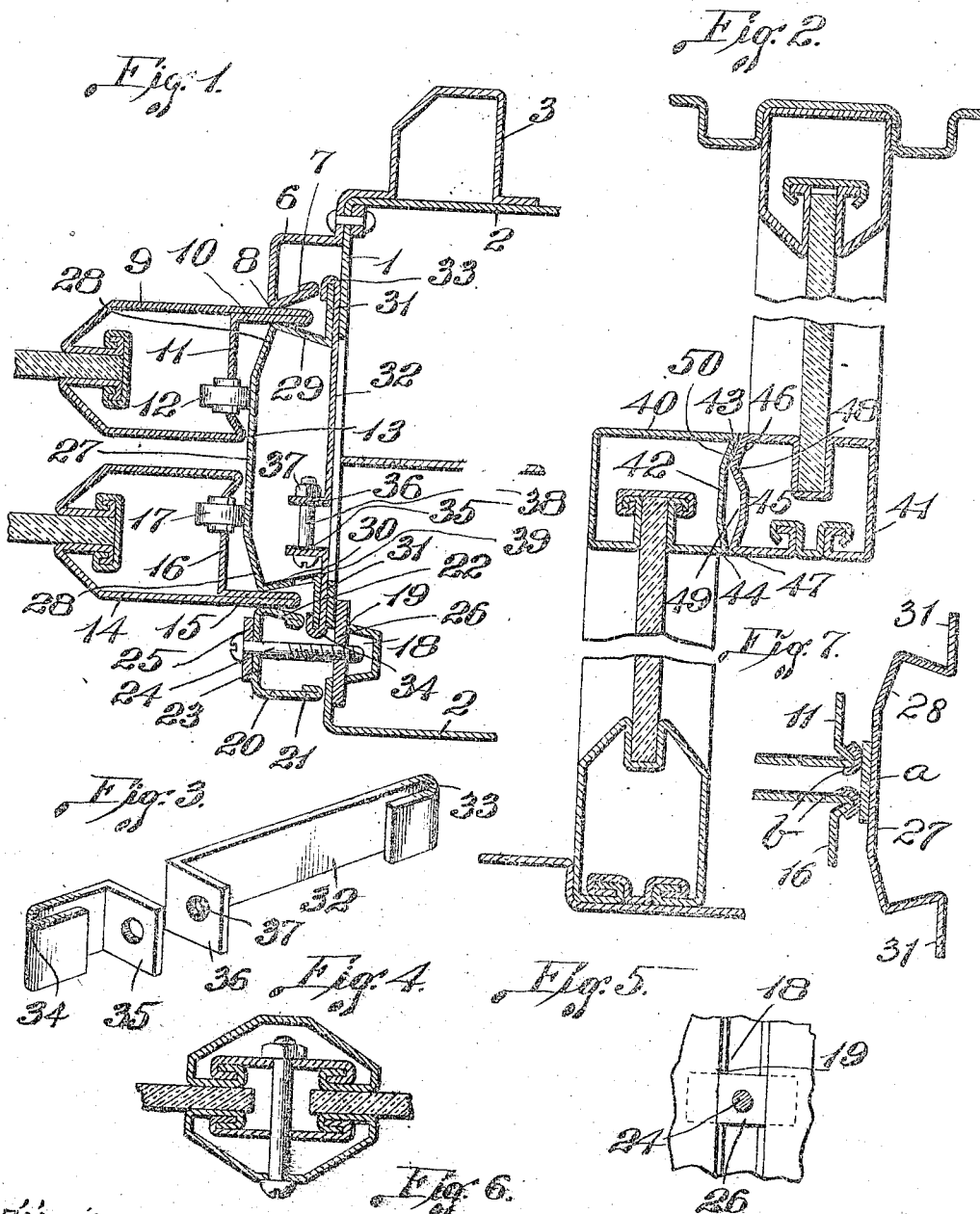


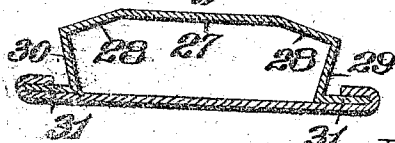
1,028,392.

J. F. RUTH.
METALLIC WINDOW.
APPLICATION FILED SEPT. 10, 1907.

Patented June 4, 1912.



Attest.
E. M. Harrington
Edgar T. Farnsworth



Inventor:
John H. Ruth.
By N. J. Dowd, Attorney

UNITED STATES PATENT OFFICE.

JOHN F. RUTH, OF ST. LOUIS, MISSOURI.

METALLIC WINDOW.

1,028,392.

Specification of Letters Patent.

Patented June 4, 1912.

Application filed September 10, 1907. Serial No. 392,137.

To all whom it may concern:

Be it known that I, JOHN F. RUTH, a citizen of the United States, and resident of St. Louis, Missouri, have invented certain new and useful Improvements in Metallic Windows, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in metallic windows, and has for its object to provide an auxiliary, removable and adjustable jamb one or both sides of the window frame, against which engage portions of the stiles of the window sash, which auxiliary jamb provides means for regulating the opening between the stiles and stationary jamb of the window frame, and is also a parting strip between the sash. Said auxiliary jamb is removable, adjustable within itself, and may be adjusted inwardly or outwardly with respect to the stationary stop of the window frame.

My invention has further for its object the employment of an inside stop or guiding strip for the lower sash, which stop is removable and adjustable to and from the lower sash, or transversely with respect to the stationary jambs of the window frame.

My invention has still further for its object the reducing to a minimum of the frictional contact between the stiles of the window sash and the adjacent parts of the window.

With the above purposes in view, my invention consists in certain novel features of construction and arrangement of parts, which will be hereinafter more fully set forth, pointed out in the claims, and illustrated in the accompanying drawings, in which:—

Figure 1 is a transverse section taken through one side of the window frame and the stiles of the sash; Fig. 2 is a vertical section taken through the upper and lower sash; Fig. 3 is a detail perspective view of an attachment for adjusting the auxiliary jamb; Fig. 4 is a transverse section of the mullions of the window sash; Fig. 5 is a detail view illustrating the means by which the inside stop or guide is adjusted; Fig. 6 is a cross section of a modified form of the auxiliary jamb. Fig. 7 is a detail, sectional plan illus-

trating the modified form of anti-friction devices between the stiles and the auxiliary jamb.

Referring by numerals to the accompanying drawings:—1 designates the jamb of the window frame, formed of suitable sheet metal of the required size, and formed integral with this jamb 1 are the side portions 2.

Mounted on the jamb 1 and side portions 2 of the window frame is a sheet metal section 3, which section is secured to the jamb in any suitable manner, preferably as shown, by means of rivets. The portion 6 of said sheet metal section 3 forms an outside stop or guide for the upper window sash, and is provided with a tongue 7, which projects toward the jamb 1. The tongue 7 is slightly yielding, and lies in contact with the jamb 1 or a slight distance therefrom prior to the assembling of the different parts of the window, the function of said tongue will be made clear hereinafter. The outside stop or guide 6 is bent so as to form an abrupt bend 8.

9 designates the stile of the upper sash, provided with an integral flange 10, which is located adjacent to the abrupt bend 8. 11 designates the face of said stile, which is depressed, and located on said face is an anti-friction roller 12. Said stile is provided with an abrupt corner or edge 13.

14 designates the stile of the lower sash, which is similar in construction to the stile 9, and is provided with an integral flange 15 carrying the face 16 and anti-friction roller 17.

The jamb 1 is provided with openings for the insertion of the sash weights, and is also provided with a vertical groove 18, stamped directly from the material of which it is composed. Said groove 18 is formed with a series of openings 19 adjacent the jamb 1.

20 designates the inside stop or guide for the lower sash, said stop being removable and adjustable transversely of the jamb 1. Said stop 20 is provided with a flange 21, which normally lies in contact with the jamb 1, and with a flange 22 spaced apart from the jamb 1, which flange 22 is bent inwardly toward the flange 21. 23 designates the face of this stop, which face 23, flange 22, and the flange 21 are stamped from a single piece of metal; and the edges of the flange 21 and

flange 22 being reinforced by the metal being bent upon itself, as illustrated. Formed in the face 23 is a series of openings for the reception of screw bolts 24 and mounted on said screw bolts 24 are washers 25. The illustrations show only one of said bolts and washers. Located in the openings 19 are movable plates 26, in each of which is formed a screw threaded opening for the reception of the screw bolts 24. The illustrations show only one of the plates 26. By means of the screw bolts 24 and the plates 26, the stop 20 is secured to the jamb, and also is adjusted transversely of the jamb, and to and from the flange 15; and also clamps the vertical flange 31 in between the jamb 1 and the tongue 22 of the stop, whereby the auxiliary jamb is securely held in place. The wall of the groove 18 prevents the sash weights from coming in contact with the plate 26 and the inside end of the screw bolt 24; in other words, this wall answers as a housing for that portion of the stop securing and adjusting means located on the inside of the jamb 1.

In the construction of metallic windows, I have found by experience that it is necessary to provide a substantial clearing space between the jambs and the inside faces of the stiles of the upper and lower sash, for the reason that if a mistake is made in fitting the sash into the frame, neither the sash nor the frame can be changed without tearing them apart. The existence of this substantial clearing space being necessary, it is necessary to fill up this space and to provide means for the proper bearing adjustment of the sash. In order to do this, I employ what might be termed "auxiliary jambs," which also perform the function of a weather strip and an adjustable parting strip between the sash. Said auxiliary jambs are made of sheet metal, and are constructed of the proper size and length, equal to the distance between the inside measurements of the window frame. The same are removable and adjustable; and, when in use, are disposed vertically between the flange 8 of the upper sash and the flange 15 of the lower sash, and rest normally against the jamb 1. Said auxiliary jamb is formed with a plane, straight face 27, inclined faces 28, opposing side walls 29 and 30, and lateral flanges 31. The auxiliary jamb is made of flexible material, and when the side walls 29 and 30 are bent toward each other, the plane face 27 is caused to expand, and will bulge outwardly, and the transverse dimension of the jamb is reduced. In order to adjust the plane face 27 inwardly or outwardly, as may be necessary to bring the same to or from the inside faces of the stiles of the upper and lower sash, I employ an adjusting clamp, (illustrated in Fig. 3,) which consists of a strip of metal 32, provided on each end with hooks 33 and

34. These hooks are adapted to be engaged over the vertical flanges 31 of the auxiliary jamb. Formed on said strip 32 is a perforated ear 35, and a perforated ear 36 and secured to said perforated ear 36 is an interiorly screw threaded nut 37. Located in said perforated ears and adapted to engage in said screw threaded nut 37 is a screw bolt 38, by means of which the plane face 27 of the auxiliary jamb may be delicately adjusted and the opening or space in which the flange 8 of the upper sash and the flange 15 of the lower sash may be regulated.

Formed in the side wall 30 of the auxiliary jamb is an opening 39, through which a screw driver or other proper tool may be inserted, for operating the screw bolt 38 for the desired adjustment, it being assumed in this connection that when this adjustment is effected, it is necessary to remove the inside stop and swing out the lower sash. It will be seen from the foregoing description that said auxiliary jamb, as heretofore stated, not only performs the function of an auxiliary jamb, but the additional function of a weather strip and a parting strip between the sash and, in so far as its function is concerned, it might be termed a combined auxiliary jamb, adjustable weather and parting strip.

As metallic windows are principally employed in fireproof construction, there has been difficulty experienced with the heat and flame passing between the meeting rails of the sash and, to better this condition, and to partially retard, if not to prevent, the passage of heat and flame between the meeting rails, I construct a peculiar form of meeting rail for the lower sash, and also for the upper sash. These meeting rails are illustrated in sectional view in Fig. 2, wherein 40 designates the meeting rail of the lower sash, and 41 the meeting rail of the upper sash. The meeting rail of the lower sash is provided with a depressed face 42, and projecting portions 43 and 44, whereas the meeting rail of the upper sash is provided with a depressed portion 45, a receding portion 46, and projecting portions 47 and 48.

As clearly shown in Fig. 2, the above described construction of the meeting rails forms a circuitous passage way between the meeting rails of the sashes in order to retard the passage of heat and flame between said rails of the sashes. In sashes properly hung and adjusted the meeting rails are in contact with each other and hence no passage way or opening therebetween exists, but in the event that the sashes become loosened and there is an opening therebetween it is desirable that this opening or passage way be circuitous.

In Fig. 6 of the drawing I have illustrated a modified form of the auxiliary

jamb. This jamb is not susceptible of adjustment, it being used in cases where it is not desired to adjust the same to and from the stiles of the sash.

5 In the modification shown in Fig. 7, the auxiliary jamb is provided on its outer face with a vertically disposed strip *a*, of brass or analogous metal; and arranged on the corners 13 of the side rails of the window sash are vertically disposed strips *b*, of brass or analogous material, which bear upon the strip 8 when the sash are moved vertically, thus doing away with the anti-friction rollers 12 and 17.

15 This invention is an improvement on the invention disclosed in the application filed by me on the twenty-first day of May, 1907, Serial Number 374,930.

I claim:—

20 1. In a metal window, the combination with jambs and sash operating therein, of an auxiliary jamb arranged between the sash and the jamb and capable of being bent toward or away from the jamb, and stops located on the jamb, one of which is adjustable in the direction of the bend of the auxiliary jamb.

2. In a window frame, the combination with metallic jambs and a metallic sash operating therein, of an auxiliary jamb capable of being bent toward or away from the jamb, a fixed stop for securing one of the margins of the auxiliary jamb and a movable stop for securing the opposite margin of the auxiliary jamb.

3. In a metallic window, the combination with metallic jambs and a metallic sash operating therein, of an auxiliary jamb capable of being bent toward or away from the jamb, a fixed stop secured to the jamb for holding one of the side margins of the auxiliary jamb and a movable stop secured to the jamb for securing the opposite margin of the auxiliary jamb, said auxiliary jamb and stops serving as a guide for said sash.

4. In a window provided with a frame, sashes and stops located in the frame, there being a longitudinal groove formed in the jamb of said window, a detachable stop, a movable plate carried by the wall of said groove and a screw bolt carried by said plate, whereby the said stop may be adjusted and held in its desired adjustment.

5. In a window provided with a window frame, sashes and stops located in the frame, there being a longitudinal groove formed in the jamb of said window frame, a detachable stop, a movable plate carried by the wall of said groove and a screw bolt carried by said plate located in said groove and protected by said wall, whereby the said stop may be held in position.

6. In a window, provided with a window frame, sashes, and outside stops, a longitudinal groove formed in the jamb of said

window frame, a detachable and transversely adjustable inside stop, a movable plate carried by the wall of said groove, and a screw bolt carried by said plate whereby the said inside stop may be adjusted and held in its desired adjustment.

7. In a window, provided with a window frame, sashes, and outside stops, a longitudinal groove formed on the jamb of said window frame, a detachable and transversely adjustable inside stop, a movable plate carried by the wall of said groove, and a screw bolt carried by said plate, located in said groove, and protected by said wall, whereby the said inside stop may be adjusted and held in its desired adjustment.

8. In a window, the combination with metallic jambs and metallic sashes provided with flanges, of an auxiliary jamb capable of being bent to take up the lateral play of the sashes, a fixed stop secured to the jamb and coacting with said auxiliary jamb for guiding one of the sashes and an adjustable stop coacting with said auxiliary jamb for guiding the other sash.

9. In a window, the combination with a metallic jamb and a metallic auxiliary jamb, the body portion of which is capable of being bent laterally relative the jamb, a fixed stop for holding one margin of the auxiliary jamb, the body portion of which is spaced apart from the auxiliary jamb, and a detachable, adjustable stop secured to the jamb, the body portion of which is spaced apart from the auxiliary jamb.

10. In a window, the combination with metallic jambs and metallic sashes having flanges operating between the jambs, of a metallic auxiliary jamb, the body portion of which is capable of being bent toward or away from the jamb, a fixed stop for securing one margin of the auxiliary jamb, the body portion of which is spaced apart from the auxiliary jamb to form a guide for one of said flanges, and an adjustable stop for securing the opposite margin of the auxiliary jamb, the body portion of which is spaced apart from the auxiliary jamb forming a guide for another of the flanges.

11. The combination with a metallic jamb and metallic flanged sashes, of a metallic, auxiliary jamb carrying means for transversely bending its body portion laterally relative the jamb, stops, one of which is adjustable, for securing the auxiliary jamb to the jamb, the body portions of said stops being spaced apart from the auxiliary jamb forming guides for said flanges, the body portions of the sashes engaging with the body portion of the auxiliary jamb.

12. In a window, the combination with a hollow, metallic jamb, of an auxiliary jamb capable of being bent laterally relative the jamb, the body portion of which stands away from the jamb, a fixed stop for en-

gagement with a marginal extension of the auxiliary jamb, the body portion of which stop is spaced apart from the body portion of the auxiliary jamb, and a movable stop for securing the opposite marginal extension of the auxiliary jamb, the body portion of which movable stop is spaced apart from the auxiliary jamb.

13. In combination with a metallic jamb and metallic sashes provided with rollers and flanges, a metallic, auxiliary jamb, the body portion of which stands away from the jamb for engagement with said rollers and which body portion may be bent to take up lateral play of the sashes between the jambs, a fixed stop for engagement with a marginal extension of the auxiliary jamb, the body portion of which stop is spaced apart from the body of the auxiliary jamb forming a guide for one of said flanges, a movable stop arranged for engagement with an opposite marginal extension of the auxiliary jamb, the body portion of which is spaced apart from the body of the auxiliary jamb forming a guide for another flange.

14. The combination with a window frame, provided with stops, of window sashes operating in the frame, flanges on the side rails of the sashes, a combined auxiliary jamb weather and parting strip located on the jamb of the frame between the stops, which auxiliary jamb is provided with shoulders which normally occupy positions directly opposite the inner faces of the stops to form grooves which receive the flanges of the sashes, and means whereby one of the stops is adjusted to vary the friction on the flanges of the sashes.

15. The combination with a window frame, provided with stops, of window sashes operating in the frame, flanges on the side rails of the sashes, a combined auxiliary jamb weather and parting strip located on the jamb of the frame between the stops, which auxiliary jamb is provided with shoulders which normally occupy positions directly opposite the inner faces of the stops to form grooves which receive the flanges of the sashes, means whereby the body of the auxiliary jamb between the shoulders is adjusted to and from the side rails of the sashes, and means whereby one of the stops is adjusted to vary the friction on the flanges of the sashes.

16. The combination with a window frame, of sashes arranged for operation in the frame, flanges on the side rails of the sashes, a single auxiliary jamb held on the window frame between the flanges of the sashes, stops arranged on the window frame outside the flanges on the sashes one of which stops is adjustable so as to vary the width of the spaces between the auxiliary jamb and said stops, in which spaces the flanges of the sashes operate.

17. The combination with a window frame, of an auxiliary jamb positioned on the frame, stops located on the frame adjacent the sides of the jamb, and said stops being spaced apart from the auxiliary jamb so as to form slots which extend the entire height of the window, window sashes arranged for operation in the window, flanges on the side rails of the sashes, which flanges operate in the slots, and means whereby the width of the slots is varied to vary the friction on the flanges operating in the side slots.

18. In a window of the class described, a jamb, having a longitudinal groove, there being openings formed through the walls of said groove, plates having screw seats inserted through said openings and supported by the walls of said groove, a stop and screws carried by said stop arranged for engagement with said plates.

19. In a window of the class described, a jamb having a longitudinal groove, there being openings formed through the side walls of said groove, plates having screw seats arranged in said openings and supported by said side walls of the groove, said plates being of greater length than the transverse dimension of said groove.

20. In a window provided with a frame, sashes and stops located in the frame, there being a longitudinal groove formed in the jamb of said window, a detachable stop, a movable plate carried by the wall of said groove, and means carried by said plate, whereby the said stop may be adjusted and held in its desired adjustment.

21. In a window, a laterally movable auxiliary jamb and a pair of stops between which jamb and stops the sash operates, and means for holding the auxiliary jamb in any desired position.

22. In a window, a laterally movable auxiliary jamb, means for holding the jamb in any desired position, and a pair of stops the body portions of which are spaced apart from said jamb forming grooves in which the sash operates, the adjustment of the jamb being for the purpose of varying the widths of said grooves.

23. In a window, a stop, a sash operating in engagement with said stop, and an auxiliary jamb capable of being moved toward or away from said stop and arranged to engage said sash in opposition to said stop.

24. In a window, a pair of stops, sashes operating between said stops, and an auxiliary jamb capable of being moved laterally between said stops.

25. In a window, a pair of stops, an auxiliary jamb arranged between said stops, means whereby said auxiliary jamb may be moved laterally with relation to said stops as required to control inward and outward movements of the sashes operating between the auxiliary jamb and said stops, and

means whereby a portion of the auxiliary jamb may be moved as required to control the lateral movements of the sashes.

26. In a window, a jamb, a fixed stop, a removable and laterally adjustable stop, an auxiliary jamb held in place by said stops and arranged for lateral movement relative to the fixed stop.

27. In a window, a jamb, a fixed stop, a removable and laterally adjustable stop, an auxiliary jamb held in place by said stops and capable of lateral movement with relation to the fixed stop, and means for bending a portion of the auxiliary jamb toward or away from the jamb.

28. In a sheet metallic window, a hollow jamb arranged to receive a balance weight for the sash, a portion of the face of the jamb proper being extended into the hol-

low of the jamb, a stop, and means carried by said portion of the jamb extended into the hollow for removably and laterally adjustably securing said stop.

29. In a sheet metal window, a hollow jamb arranged to receive a balance weight for the sash, a portion of the face of the jamb being open to receive stop-securing means, and means carried by the jamb to protect the stop-securing means against being engaged by said balance weight.

In testimony whereof, I have signed my name to this specification, in presence of two subscribing witnesses.

JOHN F. RUTH.

Witnesses:

E. E. LONGAN,
M. P. SMITH.