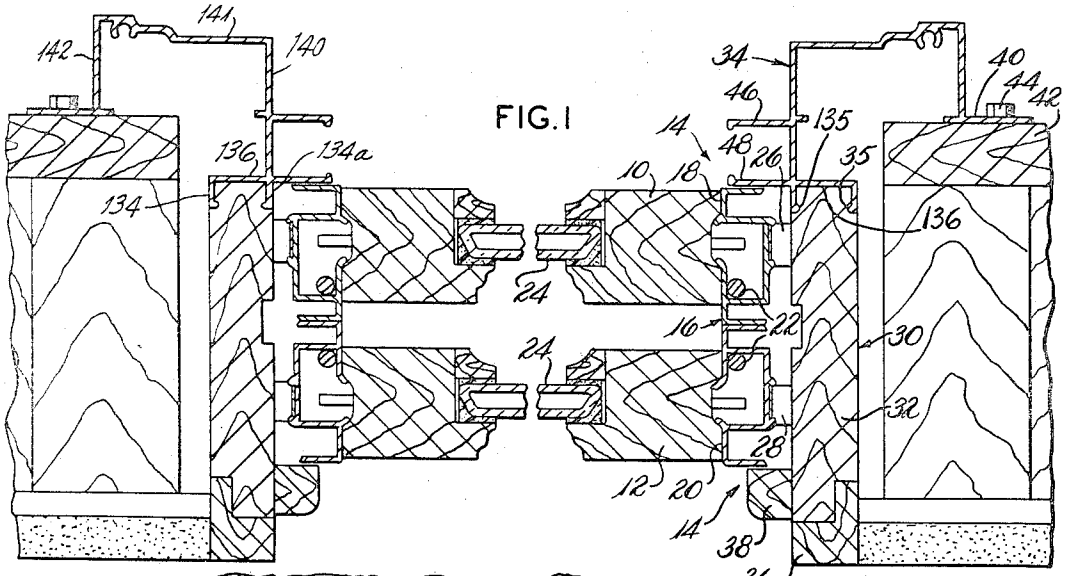
Sept. 24, 1968 W. O. JOHNSON 3,402,510

COMBINED METAL AND WOOD SIDE JAMBS
FOR A WINDOW AND SASH ASSEMBLY
Filed April 22, 1966

FIG. 1



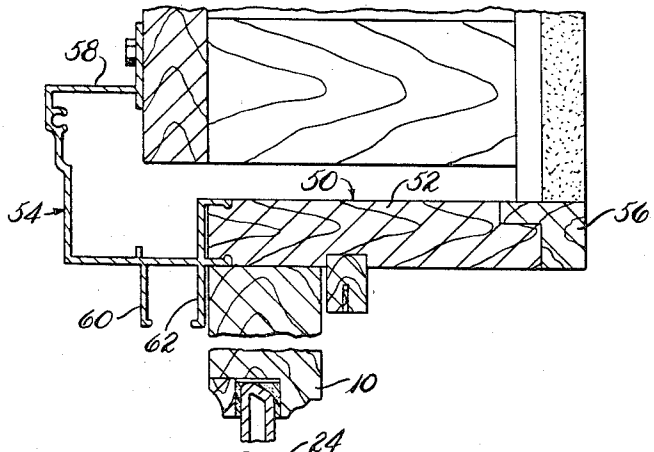
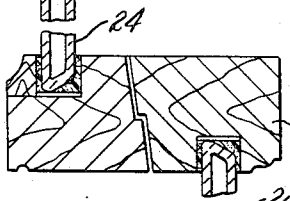
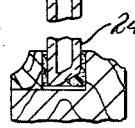
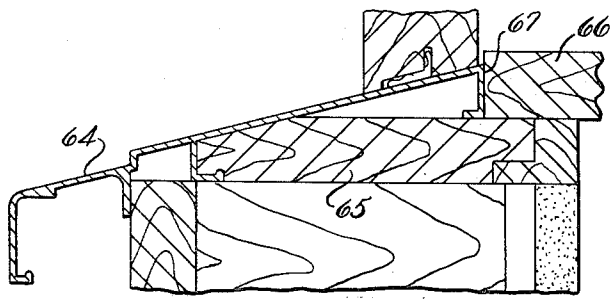


FIG. 2







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3,402,510

COMBINED METAL AND WOOD SIDE JAMBS FOR A WINDOW AND SASH ASSEMBLY

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7 Claims. (Cl. 49—414)

ABSTRACT OF THE DISCLOSURE

A window sash assembly is disclosed and it includes a pair of vertically extending jamb liners and an upper and lower sash engaging the jamb liners. A pair of side jambs mount the jamb liners with each side jamb being formed from a wooden member and a metal member which is on the outside portion of the side jamb. The metal members in the side jambs each have a pair of axially inwardly extending parallel sections formed thereon and with edge ribs on such sections so that the wooden member, which is contoured complementary at one end thereof to the axially inner portion of the metal member, can have interlocked engagement with such metal members.

This invention relates to a window frame and sash assembly which utilizes vertically extending side jambs and headers made from a combined inside wood portion and outside metal portion.

Heretofore there have been various types of sash and window frame assemblies made wherein the side jamb of the window frame assembly is made from an extruded metal part which extends completely from the inside to the outside of the window frame. As a result, it always has been a problem to eliminate objectionable sweating and best transfer action of the window frame since the metal part forming the metal window jamb acts as a good conductor. Thus, on cold days heat from the inside of the room leaks out through the metal window jamb, and the outside cold causes objectionable sweating on the inside portion of the metal jamb.

It is the general object of the present invention to provide an inexpensive and efficient window frame assembly having combined wood and metal side jambs which effectively eliminate the sweating and heat transfer action problems found in window frames having all metal jambs.

A further object is to construct jambs of the frame assembly from wooden members forming the inside portions of the jambs and combining and securing them to metal members forming the outside portions of the jambs.

In the drawings, FIG. 1 is a horizontal section, partially broken away, of a preferred embodiment of the window frame and sash assembly of the invention; and

FIG. 2 is a vertical section, partially broken away, of the assembly of FIG. 1.

Referring to the drawings, the numerals **10** and **12** indicate upper and lower sash members, respectively, of any suitable construction which are slidably positioned in a window jamb, indicated generally by the numeral **14**. Since both sides of the sash and window jamb assembly are identical to each other, for reasons of convenience and to avoid confusion, only one side of the window jamb assembly will be explained in detail, it being understood that the opposite side is similar thereto.

The window jamb **14** includes a vertically extending jamb liner **16** which slidably positions the sashes **10** and **12**. The jamb liner **16** usually comprises a pair of suitable plastic or metal runners **18** and **20**. Positioned in each of the runners **18** and **20** are vertically extending springs or balance means **22** which act in known fashion to permit

the sashes **10** and **12** to be easily raised or lowered in the window jamb assembly. Carried by each of the sashes **10** and **12** is a glass pane **24** which is suitably mounted therein.

The vertically extending jamb liner **16** is resiliently pressed inwardly to bias the sashes in the window jamb assembly by a pair of elongated flat metal springs **26** and **28**, or equivalents which are suitably mounted on a vertically extending side jamb indicated generally by the numeral **30**. The side jambs **30** extend completely from the outside to the inside of the window frame construction and as a feature of the invention are formed from a combined wooden member **32** and metal member **34**. As is best illustrated by FIG. 1, the wooden member **32** forms the inside portion of the side jamb **30** and it has a suitable preferably interlocked engagement at **35** with the adjacent metal member **34** which forms the outside portion of the side jamb **30**.

It should be noted that in the side jamb **30** any suitable connection can be used to connect the metal member **34** to the wooden member **32**, but it has been found that the best results are achieved when the metal member **34** is slidably interlocked or forcibly engaged with the wooden member **32** to be fixedly clipped or secured thereto. The metal member **34** has a pair of axially extending parallel sections **134**, **134***a* formed therein on the axially inner end thereof and they extend axially inwardly from a base section **136** of the metal members. Small enlargements or ribs **35** are provided at the ends of the sections **134**, **134***a* and they are formed to extend towards each other. The wooden member **34** is contoured at its axially outer end to engage the sections **134**, **134***a* and the ribs **35** thereon. The end of the wooden member is shown abutting on the base section **136**. It should also be noted that the respective length relationship between wooden member **32** and metal member **34** of the side jamb **30** is not critical and the length of the wooden member **32** depthwise of the window can be shortened with the metal member **34** being respectively lengthened without departing from the scope of the invention. Preferably the wooden member **32** extends the depth of the sashes and has the sash runners attached thereto.

As can be readily visualized, the unique and novel engagement of the wooden member **32** with adjacent metal member **34** to form the side jamb of the window frame assembly eliminates any sweating which would occur where the side jamb **30** was constructed entirely of metal and extended from the outside to the inside of the window construction. The inside edge of wooden member **32** is rabbeted to engage with a suitable edge or trim strip **36**, and a conventional wood trim strip or stop **38** can be utilized to impart an attractive finish to the inside of the window frame assembly while at the same time serving to help mount the jamb liner **16** in the jamb assembly.

The metal member **34** forming the outside portion of side jamb **30** has an integral axially outwardly extending section **140** connecting to a laterally outwardly extending section **141** that terminates by an axially inwardly extending section **142** having a foot **40** which acts as a trim strip bordering a portion of the window jamb assembly, and the foot is suitably secured to the outside of a building structure **42** by suitably mounting means **44**. Such foot **40** is spaced axially outwardly of the window assembly from a plane defined by the upper, or outer sash **10**. The metal member **34** forming the outside portion of side jamb **30** also usually has a pair of integral vertically extending flanges **46** and **48** which form a substantially U-shaped channel adapted to receive a screen (not shown) for positioning in the sash and window jamb assembly.

Referring to FIG. 2, it is seen that substantially the

same construction as that of the side jamb **30** is utilized to form the top header **50** of the window jamb assembly. The header **50** is made from a wooden member **52** which is suitably engaged with an adjacent metal member **54** that forms the outside portion of the header. As stated previously, the respective lengths of the wooden member **52** and the metal member **54** of top header **50** is not critical since the invention merely contemplates combining the wooden member forming the inside portion of the top header with a metal member forming the outside portion thereof, and the wooden member **52** can be lengthened or shortened accordingly without varying from the scope of the invention. Wooden member **52** of top header **50** is suitably engaged with a top frame strip or edge piece **56**.

Also similar to the side jamb structure, metal member **54** of top header **50** has an integral outwardly extending foot **58** which acts as a trim strip bordering a portion of the window jamb assembly with the foot **58** being secured to the building structure in like manner as foot **40** of metal member **34** of the side jamb. Metal member **54** also has a pair of longitudinally extending integral flanges **60** and **62** which form a U-shaped channel adapted to receive a screen (not shown).

The jamb liner means of the invention may be contoured to resemble conventional wood window frames in the foot **40** and the foot **58** portions thereof, if desired.

As illustrated by FIG. 2, a sill **64** of the window jamb assembly can be made completely from metal since it does not provide any objectionable exposure length along the inside portion of the window. Such sill suitably engages a sill support **65** and extends outwardly of the building for drainage. A suitably sill guard or edge strip **66** is positioned at the inner edge or vertical section **67** of the metal sill **64** to insulate and cover it.

As can be readily visualized, the invention contemplates combining in a unique fashion the better features of both metal and wooden window frame assemblies. Window jambs made from an extruded metal such as aluminum are light, inexpensive, and easy to install. Yet they do have the characteristic of not providing as good of an insulation as a wooden window jamb. This problem is eliminating by forming the inside portion of the side jambs and top header from a wooden member and by forming the outside portion of the side jambs and top header from a metal member.

While a certain representative embodiment and details have been shown for the purpose of illustrating the invention, it will be apparent to those skilled in this art that various changes and modifications may be made therein without departing from the spirit or scope of the invention.

What is claimed is:

1. In an assembly of a sash slidably positioned in a window jamb, the combination of:

a pair of vertically extending jamb liners,

an upper and lower sash slidably engaging said jamb liners, and

a pair of vertically extending side jambs mounting said jamb liners, said side jambs each being formed from a wooden member and a metal member with the wooden member forming the inside portion of the side jamb,

said metal members each having a pair of axially inwardly extending parallel sections formed thereon with an edge rib on each section extending towards the rib on the adjacent section, said wooden member having its axially outer end contoured complementary to the space defined by said parallel sections and being interlocked therewith.

2. The combination according to claim **1** wherein the metal member forming the outside portion of the side jamb has an integral axially outwardly extending section connecting to a laterally outwardly extending part that terminates by an axially inwardly extending section having a foot portion thereon which acts as a trim strip bordering a portion of the sash and window jamb assembly, said foot portion being adapted to be secured to the building structure in which the assembly is positioned, and being spaced axially outwardly from the plane of said upper sash.

3. The sash and window jamb assembly according to claim **1** including a top header formed from a wooden member and a metal member with the wooden member forming the inside portion of the top header and being interlocked with the metal member which forms the outside portion of the top header in the same manner as said first-named wooden and metal members.

4. The combination according to claim **1** wherein a metal sill member is provided, and

a wooden sill support is interlocked with one portion of sill member.

5. In an assembly of a sash slidably positioned in a window jamb, the combination of:

a pair of vertically extending jamb liner means, an upper and lower sash slidably engaging said jamb liner means, and

a pair of vertically extending side jambs mounting said jamb liner means and extending from the outside of the building structure in which the assembly is positioned to the inside of the building structure, said side jambs each being formed from a wooden member and a metal member with the wooden member forming the inside portion of the side jamb and extending axially outwardly of the assembly substantially the depth of said sashes,

said members having complementary shaped interlocking sections former thereon which are in interlocked slidably engagement to provide unitary handling of said side jambs.

6. The combination according to claim **5** wherein said metal member is a unitary part that is positioned to form the axially outer portion of the window jamb.

7. The combination according to claim **5** wherein the metal member forming the outside portion of the side jamb has an integral axially outwardly extending section connecting to a laterally outwardly extending part that terminates by an axially inwardly extending section having a foot portion thereon which laterally outwardly extending section acts as a trim strip bordering a portion of the sash and window jamb assembly, said foot portion being adapted to be secured to the building structure in which the assembly is positioned, and being spaced axially outwardly from the plane of said upper sash.

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