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PACKAGING FOR ASSEMBLED DOOR AND FRAME

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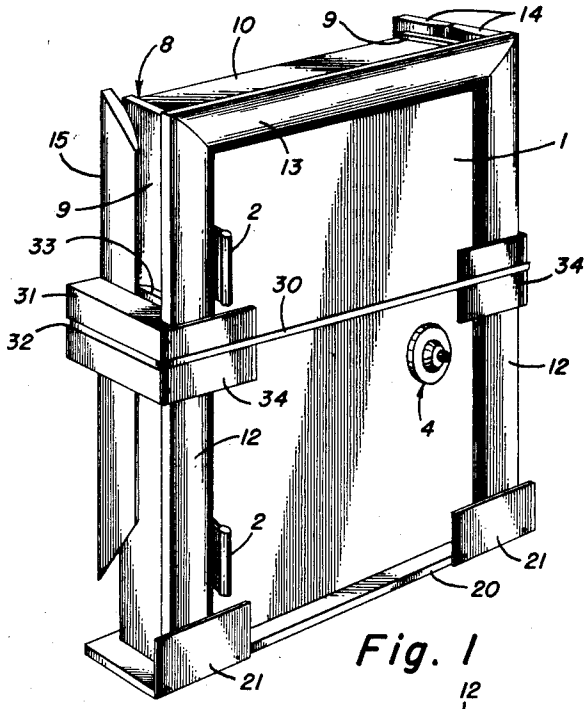


Fig. 1

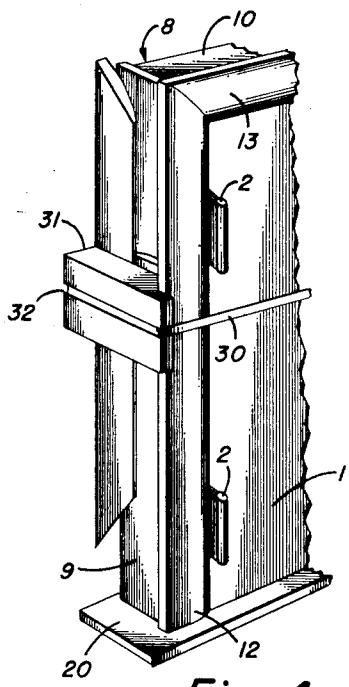


Fig. 4

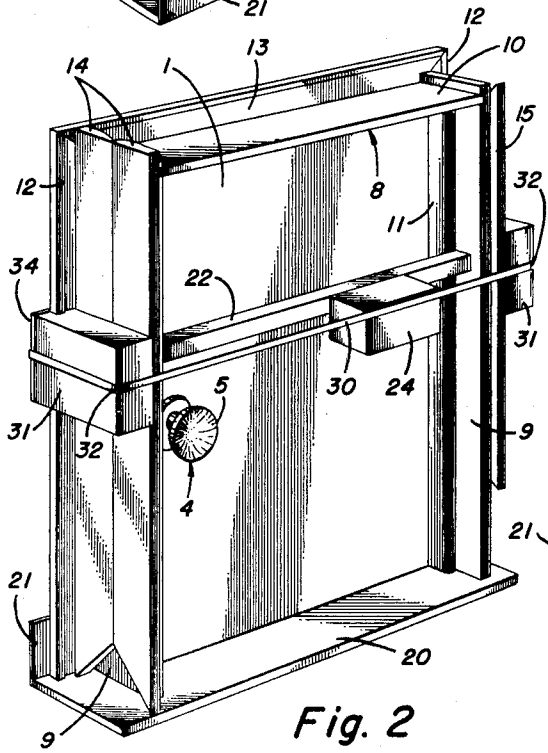


Fig. 2

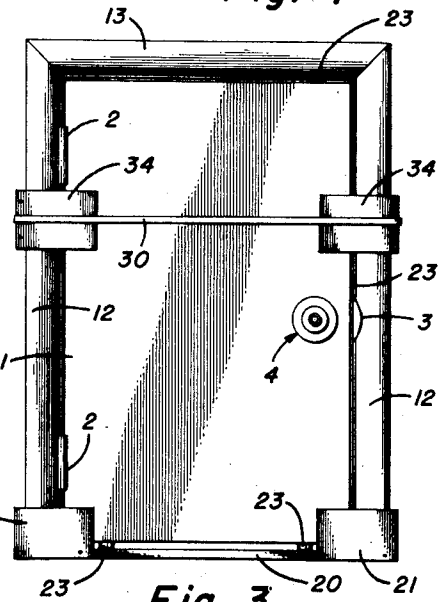


Fig. 3

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PACKAGING FOR ASSEMBLED DOOR AND FRAME

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3 Claims. (Cl. 206—60)

This invention relates to a packaging for an assembled door and frame. More particularly, this invention relates to a packaging structure which is easily placed on an assembled door and frame, assures safety to the door and frame during normal transit, and is quickly and easily removed upon arrival at its destination where the door is to be installed.

The practice of using precut and factory assembled door and casing combinations rather than custom cutting and fitting of this structure at the point of installation has become quite common in the building art. Builders order assembled door casing combinations to specification and install them in their corresponding rough openings, thereby saving the time and craftsmanship required to properly assemble the casing and mount the door within it. The advantages of such an arrangement are many, as both time and money are saved for all concerned.

However, this arrangement also presents a serious problem for all concerned, and this problem is proper packaging for shipment. First, the packaging must be as inexpensive as possible. Secondly, it must be both easy and non-time consuming to apply to the assembled door and casing. It must also be simple and non-time consuming to remove from the door and casing upon arrival at its destination. It is also necessary that the packaging prevent racking of the articles so the door and its casing will not be sprung or twisted. Also, the packaging must be capable of protecting the door and casing against damage during shipment and storage. This last element is quite important. Unless great care is taken during shipment, the door will not operate properly when mounted. Thus, the type of packaging for shipment employed by a manufacturer of assembled doors and casings often determines the difference between profit and loss in the operation.

It is, therefore, an object of this invention to provide an inexpensive means of packaging an assembled door and casing.

Another object of this invention is to provide such packaging means of simple construction and characterized by ease and speed in mounting and removal.

Another object of this invention is to provide such a packaging which prevents the assembled door structure from being damaged during normal transit.

Still another object of this invention is to provide a package for an assembled door and frame eliminating the need for specially constructed brackets and fittings.

Other objects of this invention will become obvious to those skilled in the art of packaging upon reading the accompanying specification and examination of the accompanying drawings.

In the drawings:

Fig. 1 is an oblique view of the front face of the packaged door and casing assembly.

Fig. 2 is an oblique view of the rear face of the packaged door and casing assembly.

Fig. 3 is a front elevation view of the packaged door and casing assembly.

Fig. 4 is a fragmentary, oblique view of the front face of a modified form of the packaged door and casing assembly.

Briefly, this invention relates to a shipping package for a door mounted in its casing with the trim molding mounted on one face thereof. This package includes a foot plate detachably mounted to the bottom of the casing, a strap mounted around the casing and spaced from the casing by spacer blocks adapted to hold the header trim and the side trim for the inside of the door jamb firmly against the side rails of the door jamb, a brace positioned between the side rails of the door jamb, and a plurality of shipping wedges placed between the door and the casing and the door and the foot plate.

Referring to the drawings, Fig. 1 shows a door **1** mounted within an assembled frame. The foot plate **20** is detachably mounted on the bottom of the frame or casing and the strap **30** is mounted around the casing, spaced from the casing by the spacer blocks **31**. The brace **22** is mounted within the casing (Fig. 2) and the shipping wedges **23** are inserted between the door **1** and both the casing and the foot plate **20** (Fig. 3). The side trim members **15** and header trim **14** for the inside of the door casing is firmly secured between the spacer blocks **31** and the casing (Fig. 1).

The assembled door and frame is of conventional structure old and well-known to the art of door making, and is not important to this invention except to the extent that it forms a part of the combination package. A description thereof follows so that those familiar with the art of packaging might better understand the particular structure with which this invention is to be utilized.

The door **1** is mounted within the casing or frame by hinges **2**. The strike plate **3** is mounted on the casing and is adapted to cooperate with the latch assembly **4**. The latch assembly has an inside knob **5** and an outside knob (not shown). The frame includes the door jamb **8**, having the side rails **9** and header **10**, and the blind stops **11** mounted adjacent the inside of the door within the door jamb **8**. The side trim **12** and header trim **13** are mounted on the outside of the frame. The package comprising this invention is to be utilized with this type of assembled door and frame.

This assembled door and casing package includes the foot plate **20** detachably mounted on the bottom of the side rails **9** of the door jamb **8**. The edge margins of foot plate **20** extend beyond the edge margins or end silhouette of the casing and the side molding trim **12**, thereby giving protection to the assembled door and casing, which will be explained in more detail hereinafter. The shields **21** are mounted on the foot plate **20**, extending upwardly to protect the bottom of the side trim **12**.

Fig. 2 shows the brace **22** mounted within the side rails **9** of door jamb **8**. The brace **22** is of such a length that it can be fitted between these side rails to give the needed support and rigidity to the assembled door and frame during transit. The brace **22** is positioned generally parallel to the foot plate **20** and engages the side rails at points within the door jamb corresponding to the location of the spacer blocks **31** on the outside of the door jamb. When the strap **30** is tightened around the assembled door and frame, as will be described hereinafter, tremendous pressures are exerted on the structure to assure rigidity. The brace **22** is thus positioned so that the assembled door and frame is not crushed when pressure is exerted on it by the strap **30** to properly rigidify the assembly. Stapled to the brace **22** is a small carton which contains the outside knob of the latch assembly **4** of the door **1** during shipment.

A plurality of shipping wedges **23** are inserted between the door and the door jamb **8** and the door and

foot plate 20 to aid in giving needed support and rigidity (Fig. 3). These shipping wedges prevent the door 1 from racking the casing, and at the same time give the casing a rigid inner structure which absolutely prevents its normal rectangular shape from twisting into the shape of a parallelogram, thereby causing serious damage to the casing. Thus, both the door and the casing are protected.

The strap 30 is secured around the assembled door and frame and spaced from the casing 7 and side trim 12 by the spacer blocks 31. The edge margins of the spacer blocks extend beyond the edge margins of the casing 7 and the side trim 12 in a manner corresponding to the edge margins of the foot plate 20. The spacer blocks 31 are positioned generally mid-way between the header 10 and the foot plate 20 outside of the points where the brace 22 contacts the side rails 9 of door jamb 8, thereby allowing the strap 30 to be wrapped around the middle of the casing and parallel to the foot plate 20 or header 10. This positioning of the strap 30 with relation to the foot plate 20 is important because these elements thereby cooperate to assure that the casing will maintain its rectangular shape, the brace 22 assuring that the tightening of the strap 30 will not crush the assembled door and frame. Shields 34 are attached to the spacer blocks to protect the trim molding 12 already mounted on the assembled door and frame. Notches 32 are fashioned in the spacer blocks 31 to prevent the strap 30 from slipping out of position.

The spacer blocks 31 provide a means to secure the trim to be mounted on the inside of the door frame while in transit as well as space the strap 30 in the manner described. The two side trim members 14 for the inside of the door frame are secured between the spacer block 31 on one side of the door frame and the corresponding jamb rail 9. The header trim 15 for the inside of the door frame is secured between the spacer block 31 on the other side of the door frame and the corresponding jamb rail 9. A small spacer block 33 (usually of waste trimmings) is inserted beside the header trim 15 between the corresponding spacer block 31 and the side of the door frame to properly position the spacer block and to assure proper clamping pressure on the header trim 15 to lock it in position.

It will be noted that no specially constructed brackets or braces are required for this package. The parts may be fashioned from ordinary waste or scrap products normally found around a door and frame assembly plant. The fabrication of the parts and the assembly thereof is, therefore, simple. The foot plate 20 may be fabricated from any piece or type of wood so long as it is of sufficient strength and size. The foot plate 20 is detachably mounted on the bottom of the side rails 9 of the door jamb 8, small nails accomp ishing this quite well. The edge margins of foot plate 20 extend beyond the edge margins of the assembled door and frame, thereby preventing any other object at floor level from engaging and damaging it. The shields 21 are mounted on the foot plate 20 in a manner allowing them to lie in front of the side trim members 12 already mounted on the assembled door and frame. These shields also may be fabricated from small pieces of scrap wood.

The brace 22 is inserted between the side rails 9 of door jamb 8 about midway between the header 10 and the foot plate 20, brace 22 being a rigid piece of wood of a size allowing it to slidably remain in position between the side rails. Carton 24 is stapled to the brace 22, the carton holding the outside knob of the latch assembly 4 of door 1 to prevent it from protruding beyond the otherwise slim, symmetrical package. The carton may be the same one in which the original latch assembly was packed. Shipping wedges 23 are mounted on the door at the time the door itself is fabricated. Thus, they now properly space the door from the door jamb 8 and foot plate 20. These shipping wedges are merely small pieces of wood or metal and may be easily fabricated from scrap found around the plant. Their proper insertion prevents the door from rattling within its frame during transit, thus preventing damage to the hinges 2 and latch assembly 4 as well as the door itself. They also provide a rigid inner structure for the casing, helping to assure that the casing will retain its proper rectangular shape.

The spacer blocks 31 are then placed one on each side of the assembled door and frame at the approximate points where the ends of the brace 22 contact the side rails 9. These blocks, again, may be fabricated from any suitable wood avaliable which is found around the plant. These blocks are adapted to firmly secure the trim molding to be mounted on the inside of the door frame during transit. Thus, the two side trim members 14 are placed against one side rail 9 of door jamb 8 and a spacer block 31 placed against it. The header trim 15 and a small spacer block 33 are placed against the other side rail 9 of the door jamb 8 and the other spacer block 31 placed over it. The strap 30, which is fabricated of an inexpensive wire band, is then drawn tight around assembled door and frame, the spacer blocks 31 spacing it therefrom, and suitably secured. This rigidifies the assembled door and frame so that it can withstand the vibration given it during shipment, the notches 32 in the spacer blocks 31 keeping the strap in place. The edge margins of the spacer blocks 31 extend beyond the edge margins of the door and frame in a manner corresponding to the edge margins of the foot plate 20, thereby preventing other packaged objects from engaging the door and frame during shipment. It will be noted that the packaged door and frame is a completely symmetrical structure, there being no protuberances extending therefrom. Shields 34, similar to shields 21, are attached to the spacer b'ocks 30 to further protect the side trim members 12 of the assembled door and frame. The assembled door and frame is then packaged and ready for shipment.

It should be noted that the shields 21 and 34 are not absolutely necessary to this invention and may be omitted from it. They merely afford added safety. Since the edge margins of the foot plate 20 extend beyond the edge margins of the assembled door and frame, this offers sufficient protection during normal shipment to the bottom of tne structure. However, when the shields 34 are not mounted on the spacer blocks 31, the edge margin of the spacer blocks must be extended beyond the side trim members 12 to assure that the strap 30 does not contact them. This modification is shown in Fig. 4.

After the packaged door and frame reaches its destination, removal of the packaging is extremely easy. By simply gripping the structure and stepping on foot plate 20, it is removed. The strap 30 is clipped, causing it and the spacer blocks to fa'l off. Then the brace 22 and shipping wedges 23 are knocked from position. One is then ready to mount the assembled door and frame, attach the inside trim molding and place on the outside knob. This unpackaging procedure takes but a very short time.

It will be seen that this invention provides a package for an assembled door and frame which is very inexpensive to construct, as its parts can be fabricated from scrap material, normally found around the plant. Also, no specially constructed, therefore expensive brackets or fittings, are needed. Another reason this package is less expensive is the fact that only one strap is used and the strap extends around the middle of the casing, parallel to the header which is the smaller peripheral distance around the average casing. To place bands around the casing such that they embrace the sides, top and base of the door jamb as has been done in the past is quite expensive as the cost of the strap is quite high. In this invention, the parts are so related that only one band is required and it traverses the shortest distance around the casing.

The packaging of the assembled door and frame is easy and takes but a short time. During shipment, the door and frame is protected from other objects in transit, the door cannot rack within its frame and the frame itself is held in rigid position. These features are possible in this package because of the interaction of each of its component parts. The shipping wedges keep the door from racking within the casing, and at the same time gives the casing an extremely rigid inner structure, helping to prevent it from twisting out of its proper rectangular shape. The foot plate at the bottom of the casing and the strap wrapped around its middle parallel to the foot plate also prevents the casing from tending to be twisted into the shape of a parallelogram, thereby ruining the assembled door and frame. The strap mounted on with great tension assures that proper positioning is maintained. Therefore, the twisting and racking created during shipment cannot damage the door, a factor which is of great importance to all concerned. Thus, this package gives safe shipment to the door and frame. Also, upon arrival at its destination, the package is very simply and quickly removed. Thus, this package achieves all of the objects set forth herein.

It should be understood that this invention might be practiced in certain other embodiments without departing from the spirit and scope of this invention. Such embodiments are included in this invention unless the accompanying claims expressly state otherwise.

I claim:

1. As a shipping package for a door mounted in its casing with the trim molding mounted on one face thereof, a foot plate detachably secured to the bottom of said casing; guard shields mounted on said foot plate lying in front of the outer side trim of said casing; a strap mounted around said casing, said strap generally lying midway between said foot plate and the header of said casing and generally parallel to said foot plate; said strap spaced from said casing by spacer blocks; said spacer blocks clamping the header trim and side trim for the inside of the door jamb of said casing firmly against the side rails of said door jamb; guard shields mounted on said spacer blocks lying in front of the outer side trim of said casing; and a plurality of shipping wedges placed between said door and said casing and said door and said foot plate.

2. As a shipping package for a door mounted in its casing with the trim molding mounted on one face thereof, a foot plate detachably secured to the bottom of said casing; said foot plate having edge margins extending beyond the edge margins of said casing and trim molding mounted on one face thereof; a strap mounted around said casing, said strap generally lying midway between said foot plate and the header of said casing and generally parallel to said foot plate; said strap spaced from said casing by spacer blocks, the edge margin of said spacer blocks extending beyond the edge margins of said casing and trim molding on said one face thereof, said end margins of said spacer blocks lying generally in the same plane as said end margins of said foot plate; said spacer blocks clamping the header trim and side trim for the inside of the door jamb of said casing firmly against the side rails of said door jamb; a brace positioned between the side rails of the door jamb of said casing; and a plurality of shipping wedges placed between said door and said casing and said door and said foot plate.

3. As a shipping package for a door mounted in its casing with the trim molding mounted on one face thereof, a foot plate detachably secured to the bottom of said casing; said foot plate having edge margins extending beyond the edge margins of said casing and trim molding mounted on one face thereof; guard shields mounted on said foot plate lying in front of the outer side trim mounted on said casing; a strap mounted around said casing, said strap generally lying midway between said foot plate and the header of said casing and generally parallel to said foot plate; said strap spaced from said casing by spacer blocks, the edge margin of said spacer blocks extending beyond the edge margins of said casing and trim molding on said one face thereof, said end margins of said spacer blocks lying generally in the same plane as said end margins of said foot plate; said spacer blocks clamping the header trim and side trim for the inside of the door jamb of said casing firmly against the side rails of said door jamb; guard shields mounted on said spacer blocks lying in front of the outer side trim mounted on said casing; a brace positioned between the side rails of the door jamb of said casing; and a plurality of shipping wedges placed between said door and said casing and said door and said foot plate.

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