Feb. 23, 1937. R. T. HENDRICKS 2,071,791

VENETIAN BLIND

Filed Dec. 16, 1935

Fig. 1.

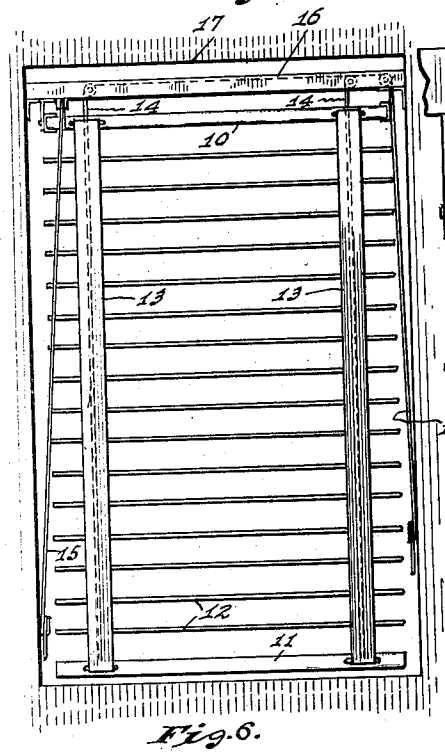



Fig. 2.

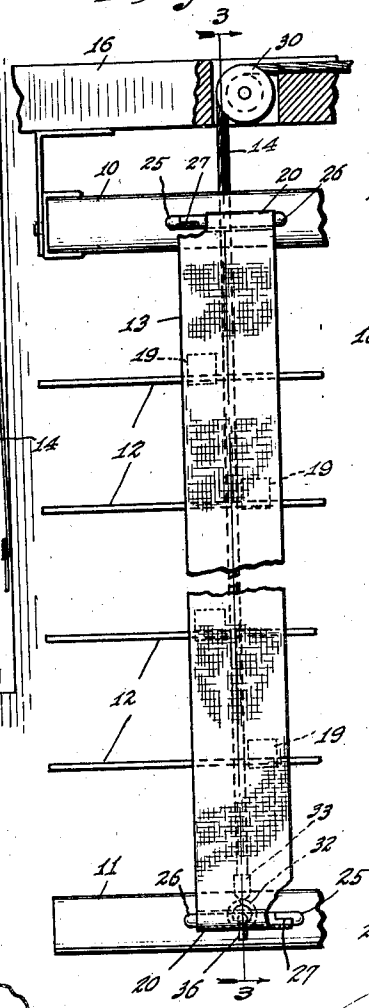



Fig. 3.

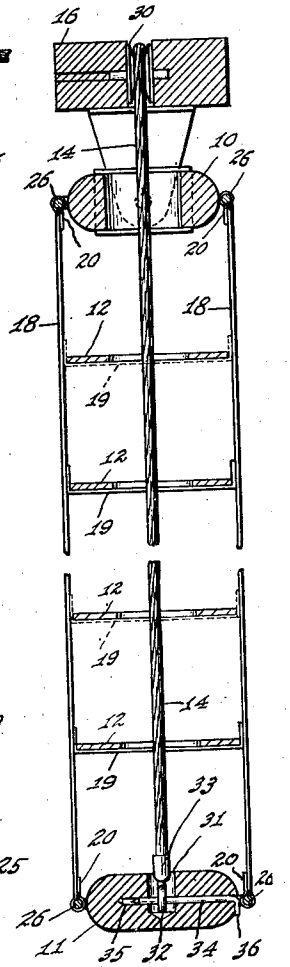



Fig. 6.

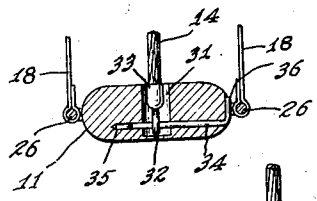



Fig. 4.

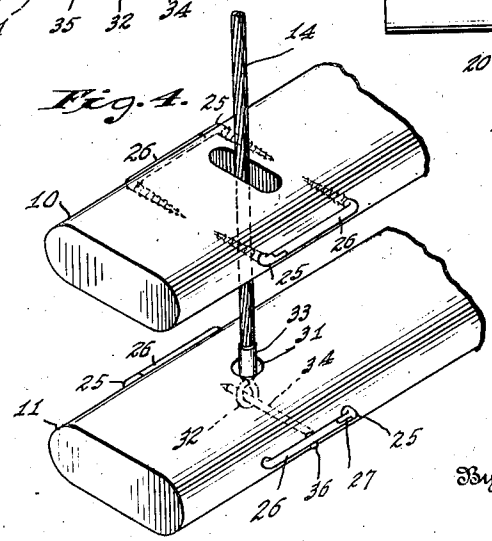
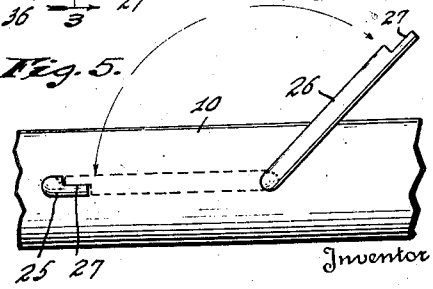



Fig. 5.




Inventor

RALPH T. HENDRICKS,

By Jobling & Trask

Attorneys

Patented Feb. 23, 1937 2,071,791

# UNITED STATES PATENT OFFICE

2,071,791

## VENETIAN BLIND

Ralph T. Hendricks, Indianapolis, Ind., assignor to Patterson Shade Co., Indianapolis, Ind., a corporation of Indiana

Application December 16, 1935, Serial No. 54,604

8 Claims. (Cl. 156—17)

My invention relates to Venetian blinds, and more particularly to releasable fastenings for the tapes and lifting cords thereof.

It is the fundamental object of my invention to provide a simple, inexpensive, and reliable releasable fastening for the tapes and lifting cords of Venetian blinds, so that by releasing them the slats may readily be removed and replaced, as in cleaning and assembling and repairing breakages without the necessity of dismounting the blind either wholly or partly.

With this fundamental object in view, it is more specifically the object of my invention to provide a simple and inexpensive releasable fastening means for the ends of the tape-ladders of such blinds, to permit them to be readily detached when desired while preventing the tapes from coming loose accidentally; and also to provide a simple fastening means for the lower ends of the lifting cords, so that such cord-ends may also be released at will but are otherwise firmly held in place; and to arrange said cord-fastening means both so that it is concealed and protected by the aforesaid tape-fastening means and so that no hole is necessary in the under face of the bottom slat and in consequence such under face may be unbroken.

The accompanying drawing illustrates my invention. In such drawing: Fig. 1 is a front elevation of a Venetian blind embodying my invention in place in a window; Fig. 2 is a fragmental view, on a somewhat larger scale, showing one of the tape ladders and its association with the several slats, and particularly the attaching means to the bottom and top slats; Fig. 3 is a vertical section substantially on the line 3—3 of Fig. 2; Fig. 4 is a fragmental perspective view, on a still larger scale, showing fragments of the top and bottom slats, the tape-attaching means, and the cord and the means by which it is attached to the bottom slat; Fig. 5 is a fragmental large-scale elevation of the top slat and one of the tape-fastening devices associated therewith; and Fig. 6 is a fragmentary cross-section of a modified form of my invention as applied to the bottom slat.

The venetian blind per se may be of any conventional type, having a rockable top slat 10, a bottom slat 11, intermediate slats 12, ladder tapes 13, lifting cords (or cables) 14, rocking cords 15 for rocking the top slat 10 and thereby rocking the other slats through the action of the ladder tapes 13, and suitable mechanism, usually including a header bar 16, for mounting the blind and its operating devices in a window frame 17. Each ladder tape, for there are two or more of them, consists of a pair of normally vertical tapes 18 connected by staggered cross-tapes 19 on which the intermediate slats 12 rest; and the vertical tapes 18 are each provided at their upper and lower ends with loops 20 by which they are attached to the upper and lower slats 10 and 11 by attaching means which constitute a main feature of my invention.

Each such tape-attaching means consists of a split staple having two parts 25 and 26. Each part is L-shaped, with one arm of the L screw-threaded so that it may be screwed into the associated top slat 10 or the bottom slat 11, as is clear from Fig. 4. The unthreaded arms of the staple portions 25 and 26 normally extend toward each other and meet on a lap joint 27; and this joint is located very close to the screw-threaded arm of the staple-part 25, for which purpose the unthreaded arm of that staple part is very short and the unthreaded portion of the other staple part 26 is long. The length of the unthreaded part of the staple-part 25 may be made as small as desired, or even zero. By having the unthreaded arm of the staple-part 25 very short, the tendency for that staple-part to be turned around the axis of its screw-threaded arm by the pull of the tape is made so small that such turning does not occur; and this resistance to turning is desirably still further augmented by so arranging the parts that the pull of the tape on the staple-part 25 tends to screw that staple-part farther into the wood. The other staple-part 26, however, with its long unthreaded arm, may be turned very readily about the axis of its screw-threaded arm, as is clear from Fig. 5, to open the staple to allow a loop 20 at an end of a vertical tape 18 of a tape ladder to be slipped on it in assembling and off it in disassembling. The lap joints 27 of the several staples 25—26 are so arranged that the pull of the tapes tends to close such joints; so that to open such joints the staple parts 26 of the top slat 10 must be swung upward while those of the bottom slat 11 must be swung downward, as is clear from Figs. 2, 4, and 5.

Each lifting cord 14, for there are at least two, has an end fastened to the bottom slat 11, and extends upward therefrom through holes in the intermediate slats 12 and in the top slat 10, to suitable mechanism (usually associated with the header bar 16 and shown here as a pulley 30) by which the lifting cords may be pulled upward to lift the bottom slat 11 to any desired height, and to carry the necessary intermediate slats upward

with such bottom slat. The cord-end which is associated with the bottom slat 11 is attached thereto by mechanism which is another main feature of my invention.

In such attachment, the upper face of the bottom slat 11 is provided with a hole 31 which extends downward therein to any suitable depth but desirably does not extend through the lower face thereof. This hole 31 is of suitable size to receive an eye 32, suitably mounted on the end of the lifting cord 14 as by being on a ferrule 33 with which such cord-end is provided. When such eye 32 is in place in the hole 31, it may receive and be fastened in place by a cross-pin 34 which is slidably mounted in a hole 35 which extends transversely both of the hole 31 and of the bottom slat 11. One end of the hole 35 is open to the surface of the bottom slat 11, at the edge thereof, so that the pin 34 may be freely moved in and out to associate it with and disassociate it from the eye 32. Desirably the pin 34 has a fairly free fit within the hole 35, so that it may freely be moved by the fingers longitudinally of such hole.

To prevent accidental removal of the pin 34, the opening of the hole 35 to the surface of the bottom slat 11 is desirably at an edge of such slat and substantially under one of the staple-parts 25—26. Because of this, when the staple-part 26 is swung to closed position, so that it engages the staple-part 25, it substantially overlies the open end of the hole 35, and prevents the pin 34 from being withdrawn from such hole. The hole 35 may be substantially in the same plane as the tape-attaching staple associated with the bottom slat 11, as shown in Figs. 1 to 5, or offset downward from that plane as shown in Fig. 6. In either case, and especially when a tape is on such staple, it substantially seals such hole and the pin-end. The pin-end may be of any desired character, but is conveniently a mere bent end 36, as is clear from Figs. 2, 3, 4, and 6, which is desirably received in a shallow groove formed in the edge of the bottom slat 11 by striking the pin-end a light blow with a hammer.

I claim as my invention:—

1. In a Venetian blind, a releasable tape-fastening device which consists of a two-part staple each part of which has a threaded portion which may be screwed into a slat-edge, one of said staple-parts being provided with an arm which extends transversely of its screw-threaded portion to overlap the other staple-part and to provide an arm for receiving a loop of a tape-ladder of said Venetian blind.

2. In a Venetian blind, a releasable tape-fastening device which consists of a two-part staple each part of which has a portion which may be screwed into a slat-edge, one of said staple-parts being provided with an arm which extends transversely of its screw-threaded portion to overlap the other staple-part and to provide an arm for receiving a loop of a tape-ladder of said Venetian blind.

3. In a Venetian blind, a releasable tape-fastening device which consists of a two-part staple each part of which is L-shaped with one arm of the L threaded to screw into a slat-edge and the other arm normally extending toward the other staple-part to overlap the unthreaded arm of the latter part, the unthreaded arm of one staple-part being shorter than the unthreaded arm of the other staple-part so that the lap-joint is close to the axis of the screw-threaded arm of the first staple-part.

4. In a Venetian blind, a releasable tape-fastening device which consists of a two-part staple each part of which is L-shaped with one arm of the L threaded to screw into a slat-edge and the other arm normally extending toward the other staple-part to overlap the unthreaded arm of the latter part, the unthreaded arm of one staple-part being shorter than the unthreaded arm of the other staple-part so that the lap joint is close to the axis of the screw-threaded arm of the first staple-part, the staple being arranged so that the pull of the associated tape on the unthreaded arms of the staple-part tends to screw inward the staple-part with the shorter unthreaded arm.

5. In a Venetian blind, a releasable tape-fastening device which consists of a two-part staple each part of which is L-shaped with one arm of the L mounted in a hole in a slat of the Venetian blind and the other arm normally extending toward the other staple-part to overlap a mating arm of the other staple-part, the overlapping arm of one of said staple-parts being very short and the overlapping arm of the other one correspondingly long.

6. In a Venetian blind, the combination of a lifting cord provided at its end with an eye, a bottom slat having a hole adapted to receive said eye and with a transverse hole communicating with the first hole; and a fastening pin adapted to be inserted in the second hole to enter the first hole and engage said eye, and an openable tape-attaching staple which in closed position covers the end of said fastening pin.

7. In a Venetian blind, a releasable tape-fastening device which consists of a two-part staple each part of which has a threaded portion which may be screwed into a slat-edge, one of said staple-parts being provided with an arm which extends transversely of its screw-threaded portion into releasable attachment with the other staple-part and to provide an arm for receiving a loop of a tape-ladder of said Venetian blind.

8. In a Venetian blind, a releasable tape-fastening device which consists of a two-part staple each part of which is L-shaped with one arm of the L threaded to screw into a slat-edge and the other arm normally extending toward the other staple-part into releasable attachment with the unthreaded arm of the latter staple-part.

RALPH T. HENDRICKS.