Aug. 9, 1966 E. E. FOSTER 3,265,017

IRONING BOARD

Filed Oct. 5, 1964 2 Sheets-Sheet 1

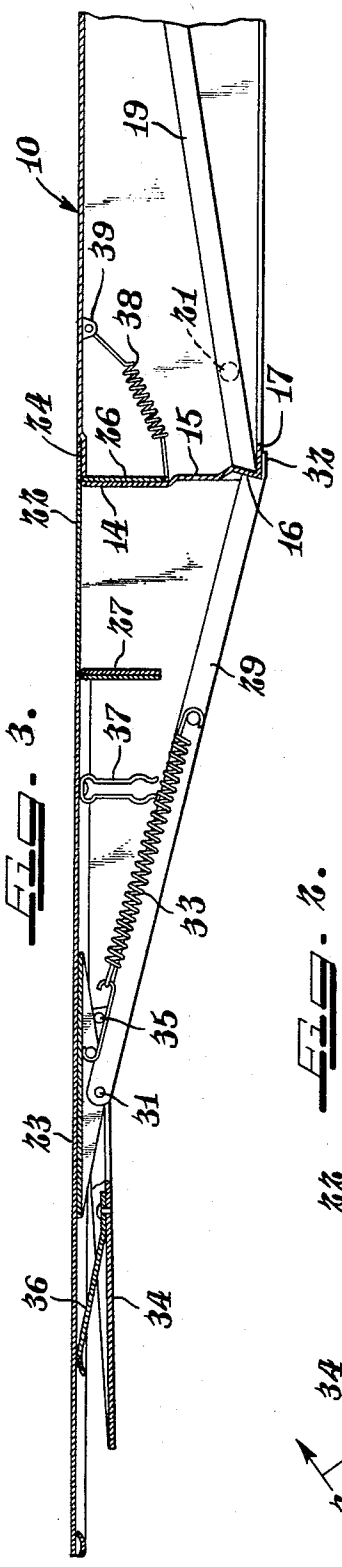


FIG. 3.

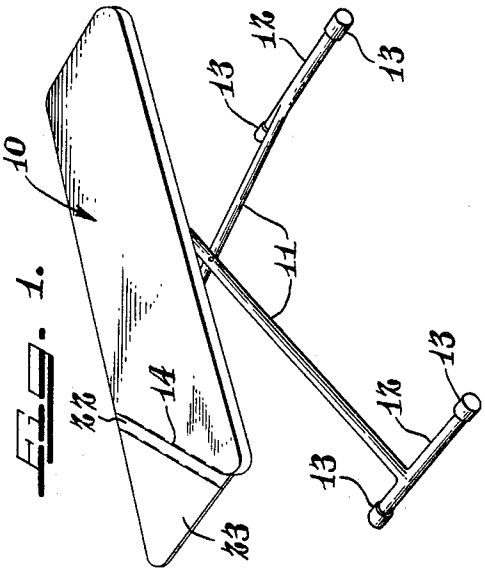


FIG. 1.

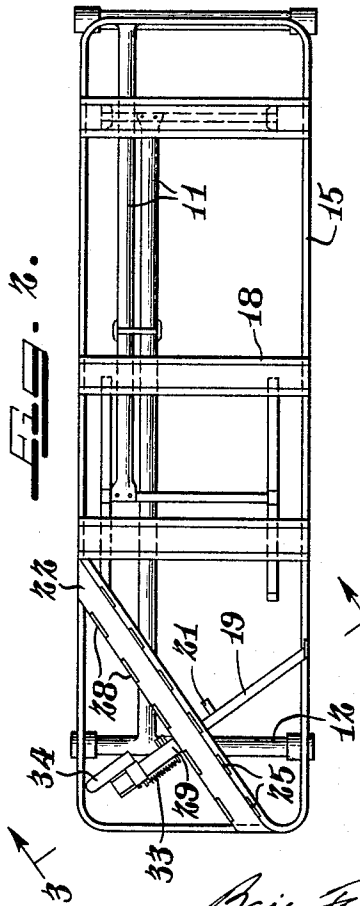


FIG. 2.

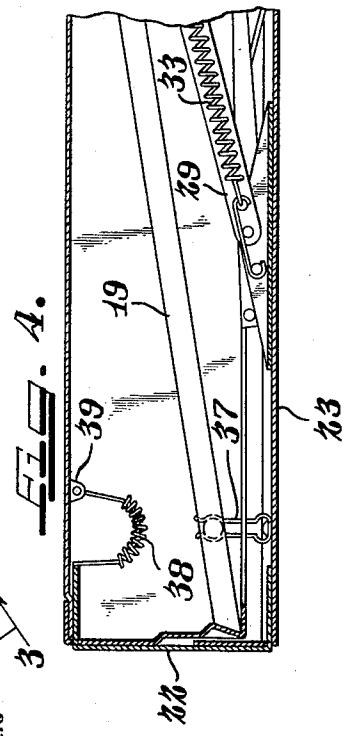


FIG. 4.

INVENTOR.
EDWIN E. FOSTER
BY
Bair, Freeman & Molinare
Attys.

Aug. 9, 1966 E. E. FOSTER 3,265,017

IRONING BOARD

Filed Oct. 5, 1964 2 Sheets-Sheet 2

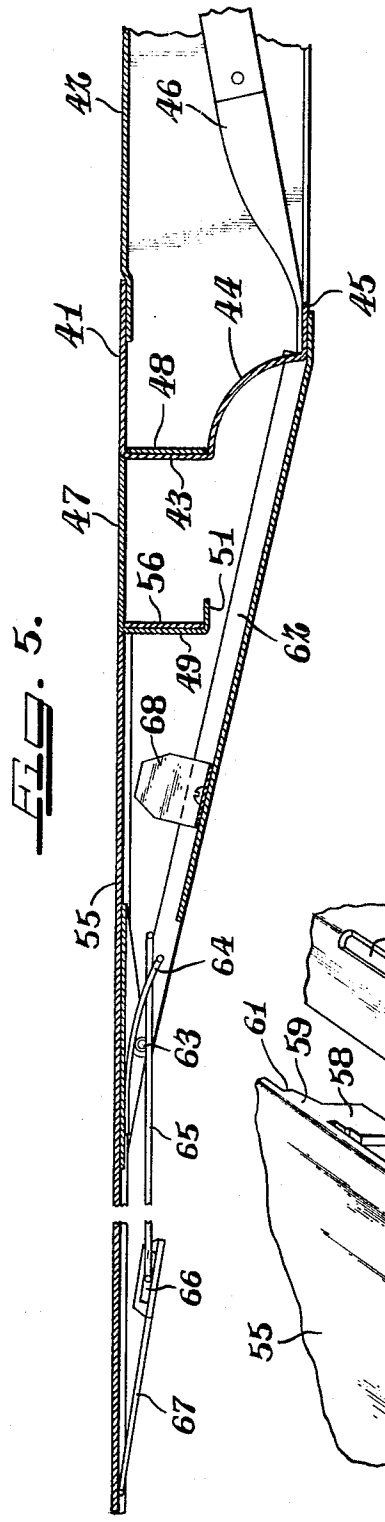


Fig. 5.

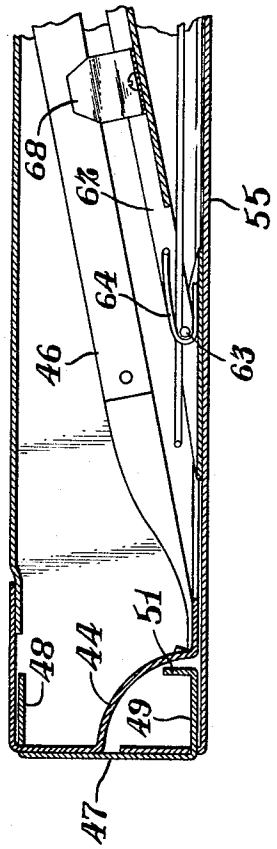


Fig. 6.

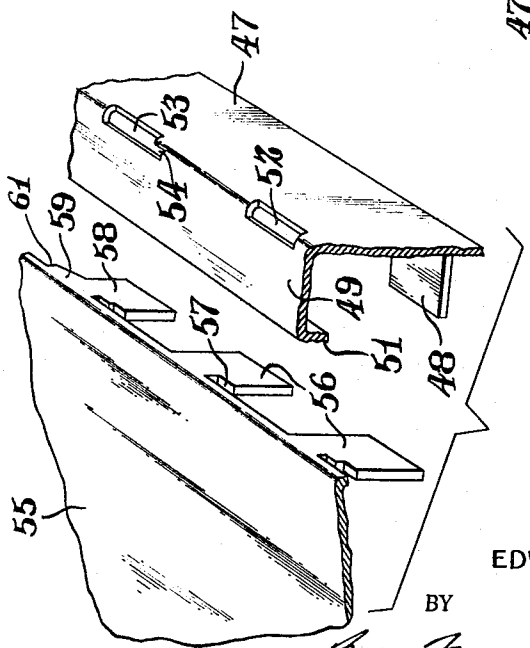


Fig. 7.

INVENTOR.
EDWIN E. FOSTER

BY

Brair Freeman & Molinare
Attys.

United States Patent Office 3,265,017 Patented August 9, 1966

3,265,017

IRONING BOARD

Edwin E. Foster, Austin, Tex., assignor to Majik-Ironers, Inc., Austin, Tex., a corporation of Texas

Filed Oct. 5, 1964, Ser. No. 401,362
7 Claims. (Cl. 108—82)

This invention relates to ironing boards and more particularly to a board provided with a folding corner to function selectively as a full rectangular board or as a tapered end board.

In my Patent No. 2,729,005 I have provided a board of the general type to which the present invention relates and which has a sheet metal triangular corner piece hinged to a sheet metal board to swing through an angle of approximately 180° from a position coplanar with the board to a folded position beneath the board. The present invention provides an improvement in boards of this general type in which the board may be formed with an edge flange to provide adequate strength therefor without interfering with folding of the corner piece.

An object of the invention is to provide an ironing board in which the triangular corner piece is connected to the board through a connector strip hinged to the board and to the corner piece to overlie the edge of the board and to permit the corner piece to swing to a flat position beneath the board. This construction further provides the advantage of two 90° bends at spaced points rather than a single 180° bend thereby allowing the cover and pad to fold more easily with less likelihood of damage.

According to another feature of the invention, the board may be made in the same way by the same tools to be sold either with or without the corner piece and connector strip thereby resulting in substantial manufacturing economy.

The above and other objects and features of the invention will be more readily apparent from the following description when read in connection with the accompanying drawings, in which:

FIG. 1 is a perspective view of a complete ironing board embodying the invention;

FIG. 2 is a top plan view of the board with the top surface removed;

FIG. 3 is an enlarged partial section on the line 3—3 of FIG. 2;

FIG. 4 is a section similar to FIG. 3 showing the corner piece in folded position;

FIG. 5 is a view similar to FIG. 3 of an alternative construction;

FIG. 6 is a view similar to FIG. 4 of the alternative construction; and

FIG. 7 is a partial perspective view of a portion of the corner piece and connector strip.

The complete board, as shown in FIG. 1, with the exception of the novel foldable corner construction is generally conventional and comprises a flat ironing board **10**, preferably formed of sheet metal with a porous or perforated top and which is supported on hinged legs **11**. The legs are connected to cross pieces **12** which carry foot members **13** and are foldable from an extended position, as shown in FIG. 1, to a folded position in which the legs closely underlie the board for storage. Since this mechanism is conventional and forms no part of the present invention, it will not be further described herein.

The board **10** is of generally rectangular configuration but is cut away at one corner along a sloping line **14** which is at an acute angle to the length of the board and which extends from a point intermediate the width of the board at one end thereof to a point at one side of the board spaced from but adjacent to said one end. The board may be formed of an outer sheet metal frame **15**, as shown in FIG. 2, with a separate cover sheet of expanded or perforated metal secured thereover. According to the present invention, the frame **15**, as best seen in section in FIG. 3, is of generally channel shaped configuration and extends downwardly at right angles to the upper surface of the board with upper and lower flanges thereon which are bent inwardly. Preferably, at least along the edge **14**, the frame **15** is bent in section to provide a short portion **16** lying at an acute angle to the lower flange **17** thereof to cooperate with latching and bracing structures, as described more fully hereinafter. The board may be reinforced by cross braces **18** and by a diagonal corner brace **19**, as shown in FIGS. 2 and 3. The corner brace **19** may have a latch pin **21** projecting therefrom for a purpose to appear more fully hereinafter.

The board is completed by a relatively narrow connector strip **22** hinged at the edge **14** of the board and a triangular corner piece **23** which is hinged to the strip. The strip and corner piece may be raised to a position coplanar with the top of the board, as illustrated in FIGS. 1 to 3, to make a full rectangular ironing board for ironing relatively large objects or may be folded under the corner portion of the board along the edge **14**, as shown in FIG. 4, to provide a relatively narrow point on the board for ironing small tubular articles. The connector strip **22**, as best seen in FIGS. 3 and 4, is formed of sheet metal of a width approximately equal to the thickness of the board frame **15**. For hinging the connector strip to the board frame **15**, the frame is formed at the juncture of the top flange **24** of the frame and the edge portion thereof along the line **14** with a series of openings, as seen at **25** in FIG. 2. The connector strip **22** is formed with a series of tabs or lugs **26** pressed therefrom and extending at a right angle thereto which extend through the openings **25** to define a hinge connection therebetween.

In a similar manner the triangular corner piece **23** is formed at the edge thereof which abuts the connector strip with a series of projecting ears or tabs **27** which extend through openings **28** in the opposite edge portion of the connector strip **22** to define a hinge connection therebetween. As will be noted from FIG. 3, the ears or lugs engage the adjacent flanges on the adjacent part when the connector strip and corner piece are in their erected position coplanar with the upper surface of the ironing board to assist in maintaining proper alignment between these members. It will be apparent that the ears or lugs **26** and **27** could be provided with short slots adjacent to their connection to the piece on which they are carried so that by a slight lateral shifting they would be locked in place in which they are received against accidental removal.

In order to hold the corner piece and connector strip in erected position a latch mechanism is provided. As shown, this comprises a strut **29** pivoted at one end at **31** to the lower surface of the corner piece at a point spaced from its hinge connection to the connector strip. At its opposite end the strut is formed with a short flange **32** which will fit under the edge flange **17** of the frame so that the end of the strut can abut the angular flange portion **16**, as shown in FIG. 3, to hold the corner piece and connector strip erected. A spring **33** is connected to the strut tending to urge it upwardly so that the latch will automatically engage when the corner piece is raised.

In order to release the latch to permit lowering of the corner piece a finger lever **34** is hinged on the axis **31** and carries a pin **35** at its inner end engaging the upper edge of the strut **29**. A leaf spring **36** secured to the finger piece engages the bottom of the triangular corner piece **23** normally to hold the finger piece in the position shown in FIG. 3. To release the strut or latch the finger piece may simply be squeezed by an operator which will cause the pin **35** to engage the strut **29** and swing it downwardly to clear the corner of the frame.

At this time, the connector strip and corner piece can

be folded under the corner portion of the board, as shown in FIG. 4. It will be noted that the connector strip **22** spans the thickness of the frame **15** so that the corner piece **23** can be folded under the board and closely adjacent to the undersurface thereof. To retain the parts in this position the corner piece carries a spring clip **37** which will frictionally engage the pin **21**.

Preferably a compression spring **38**, which may be of the type more particularly described and claimed in my Reissue Patent No. 23,974, is connected between a lug 39 secured to the undersurface of the board top and the lower edge of the ears or lugs **26** on the connector strip. This spring will insure that during folding in of the corner piece and connector strip the corner piece will first bend 90° relative to the connector strip and the connector strip will then bend 90° relative to the frame to position the corner piece properly beneath the board. This insures a proper sequence of bending movements and eliminates any possibility of binding in the hinge joints.

With the construction as so far described it will be seen that the corner piece is folded under the board through two spaced 90° bends rather than through a single relatively narrow hinge which hinges through 180°. This makes it easier to fold the corner piece with a pad and cover in place on the board and minimizes stretching and likelihood of damage to the pad and cover piece through breakage due to excessive bending. The construction is at the same time relatively simple and inexpensive and is extremely easy to use.

FIGS. 5, 6 and 7 illustrate a modified construction wherein the frame of the board, at least along the fold line **14**, is formed of a special configuration. As shown in FIGS. 5 and 6, the frame at this point comprises upper horizontal flange **41** which joins and supports the board top **42**. The frame portion is bent down in a flat strip **43** at a right angle to the flange **41** throughout approximately one-half the thickness of the board and then curves inwardly in an arcuate portion **44** which terminates in a flat bottom flange **45**. A brace **46** corresponding to the brace **19** of FIGS. 1 to 4 is secured to the flange **45**, as shown, and may be in the form of a tubular rod.

A connector strip **47** is hinged to the edge strip by means of ears or lugs **48** on the connector strip projecting through openings in the edge strip at the juncture of the flange **41** and flat edge portion **43** thereof. These ears or lugs are of such a length that when the connector strip is in coplanar relationship with the ironing board top they will rest on the arcuately curved portion **44** to hold the connector strip at the same level as the flange **41**. At its opposite edge the connector strip has a downwardly turned flange **49** terminating in an inwardly turned strip **51** and is provided with a series of slots **52** at the juncture of the upper surface **47** and flange **49**. One of the slots, as shown at **53**, is preferably provided with a short extension **54** to provide interlocking engagement between the corner piece and connector strip, as described hereinafter.

The board is completed by a triangular corner piece **55** which is formed at its edge with a series of downwardly projecting ears or lugs **56**, as best seen in FIG. 7. These ears or lugs are formed with short notches **57** at the point where they join the corner piece so that they can be inserted through the openings **52** and shifted slightly to interlock with the openings to prevent accidental removal. One of the lugs, as shown at **58**, is provided at one edge with a short extension **59** terminating in a square shoulder **61** and this lug is adapted to cooperate with the specially formed slot **53** in the corner piece. By bending or warping the corner piece slightly when the parts are being assembled, the tapered projection **59** can be forced through the opening **53** with the shoulder **61** engaging one end of the opening to hold the corner piece against accidental shifting relative to the

connector strip which might tend to align the lugs with the openings so they could accidentally be removed therefrom.

The corner piece is latched in its raised position by a strut or prop **62** hinged thereto at **63** and adapted to engage the lower edge of the curved surface **44**, as shown in FIG. 5. A mousetrap type spring **64** is connected to the strut or prop urging it upwardly so that it will properly engage the lower edge portion of the frame to hold the connector strip and corner piece in their raised positions.

To release this latch a U-shaped spring **65** is looped over the top of the strut **62** and beneath extensions of the hinge pin **63**. The end of the U-shaped spring is received in a guide slot **66** in a finger piece **67** which is hinged or hingably connected to the corner piece adjacent to the corner edge thereof. When the finger piece **67** is raised the spring **65** will urge the strut **62** downwardly to clear the frame so that the corner piece and connector strip can be folded under the board, as shown in FIG. 6. The parts are held in the folded position by a spring clip **68** which frictionally engages the brace **46**. It will be noted that in the folded position the flange **49** and edge strip **51** of the connector strip are received in the external cavity defined by the arcuate edge portion **44** so that adequate clearance is provided. When the connector strip and corner piece are raised, the lower ends of the ears or lugs **48** will ride easily over the convex surface of the curved edge portion **44** of the frame to insure that the connector strip moves upward to the same level as the flange **41** of the frame. Similarly, the ears or lugs **56** of the corner piece will ride over the inturned edge **51** of the connector strip to insure that the corner piece and connector strip are at the same level. In this construction, as in that of FIGS. 1 to 3, the corner piece is folded under the board in two 90° bends, rather than in a single 180° bend, so that the pad and covering on the board can fold easily with less likelihood of damage. It will further be observed that with both constructions the board can be made in exactly the same manner for use either with or without a corner piece thereby minimizing the tooling required.

While two embodiments of the invention have been shown and described herein, it will be understood that they are illustrative only and not to be taken as a definition of the scope of the invention, reference being had for this purpose to the appended claims.

What is claimed is:

1. An ironing board comprising an elongated board generally rectangular in outline but cut away at one corner along a straight line intersecting one end of the board adjacent to one side thereof and intersecting the other side of the board at a point spaced from said one end but intermediate the length of the board, the board at said straight line being formed of sheet material bent downwardly from the surface of the board to define a relatively thick hollow edge, a connector strip of sheet material of a width substantially equal to the thickness of said edge, one edge of the connector strip being hinged to the upper corner of said edge on the board for swinging from a first position coplanar with the board to a second position overlying said edge of the board, a triangular corner piece of sheet material hinged to the other edge of the connector strip for swinging from a first position coplanar with the connector strip and board to a second position at right angles to the connector strip and closely underlying the board, and latch means to hold the connector strip and corner piece in said first and second positions.

2. The ironing board of claim **1** in which the hinge connections between the board and connector strip and between the connector strip and corner piece are formed by tabs projecting at right angles from one of the members fitting in openings in the other of the members.

3. The ironing board of claim **1** in which the hinge

connection between the board and connector strip comprises tabs projecting at right angles to the connector strip and extending through openings at the upper corner of the board edge to lie against the inner surface of the board edge when the connector strip and board are coplanar, the other edge of the connector strip and the adjacent edge of the corner piece being formed respectively with an angular flange having openings at the corner where it joins the connector strip and angular tabs extending through the openings and engaging the flange when the connector strip and corner piece are coplanar.

4. The ironing board of claim 1, in which the latch means comprises a strut pivoted to the corner piece and engageable with the board edge to hold the connector strip and board in their first positions, a spring urging the strut upwardly toward its engaging position, a finger piece connected to the strut to move it away from the board edge, and releasable means to hold the connector strip and corner piece in their second positions.

5. An ironing board comprising an elongated board generally rectangular in outline but cut away at one corner along a straight line intersecting one end of the board adjacent to one side thereof and intersecting the other side of the board at a point spaced from said one end but intermediate the length of the board, the board of said straight line being formed of sheet material bent down along a sharp corner and then bent inwardly and downwardly in an inwardly and downwardly curving surface and formed with a plurality of openings at said corner, a connector strip of sheet material formed at one edge with a plurality of tabs extending through said openings and hingedly connecting the connector strip to the board for swinging from a position coplanar therewith to a depending position, the tabs being of a length to engage said inwardly and downwardly curving surface when the connector strip is coplanar with the board to hold the connector strip at the level of the board, a triangular corner piece hinged to the other edge of the connector strip to swing from a position coplanar with the board and connector strip to a position beneath the board, and latch means to hold the corner piece in said positions.

6. An ironing board comprising an elongated board generally rectangular in outline but cut away at one corner along a straight line intersecting one end of the board adjacent to one side thereof and intersecting the other side of the board at a point spaced from said one end but intermediate the length of the board, the board of said straight line being formed of sheet material bent down along a sharp corner and then bent inwardly and downwardly in an inwardly and downwardly curving surface and formed with a plurality of openings at said corner, a connector strip of sheet material formed at one edge with a plurality of tabs extending through said openings and hingedly connecting the connector strip to the board for swinging from a position coplanar therewith to a depending position, the tabs being of a length to engage said inwardly and downwardly curving surface when the connector strip is coplanar with the board to hold the

connector strip at the level of the board, the connector strip having a downturn flange at its other edge terminating in an inturned lip, and having a plurality of openings at the juncture of the connector strip and flange, a triangular corner piece having angular lugs at one edge fitting through the last named openings and hingedly connecting the corner piece to the connector strip for swinging from a position coplanar with the connector strip and board to a position beneath the board, the lugs on the corner piece being of a length to engage said lip when the corner piece and connector strip are in said coplanar positions to hold the corner piece at the level of the connector strip and board, and latch means to hold the corner piece in said positions thereof.

7. An ironing board comprising an elongated board generally rectangular in outline but cut away at one corner along a straight line intersecting one end of the board adjacent to one side thereof and intersecting the other side of the board at a point spaced from said one end but intermediate the length of the board, a relatively narrow connector strip hinged to the board along said straight line for movement from a first position in the plane of the board to a second position extending downwardly from the board substantially at a right angle to the plane thereof, a triangular corner piece hinged to the connector strip for movement from a first position in the plane of the connector strip to a second position substantially at a right angle thereto and underlying the board, the connector strip being of a width substantially equal to the thickness of the board whereby the corner piece will underlie the board closely, a strut pivoted to the corner piece and engageable with the edge of the board to hold the connector strip and corner piece in their first positions and swingable under the board when the connector strip and corner piece are in their second positions, a spring urging the strut upwardly toward the bottom of the board, a finger piece on the under surface of the corner piece to swing the strut down away from the edge of the board, and friction means engageable with a part on the board when the connector strip and corner piece are in their second positions releasably to hold them in such positions.

References Cited by the Examiner

UNITED STATES PATENTS

88,281	3/1869	Montigny	108—112
359,432	3/1887	Colvin	108—82
1,244,619	10/1917	Lautenbach	108—63
1,651,586	12/1927	Crosgrove	108—77
2,295,094	9/1942	Teague	108—80
2,432,932	12/1947	Peters	38—139
2,729,005	1/1956	Foster	38—139
3,027,664	4/1962	Dailey	38—139
3,143,086	8/1964	Turner	108—82

FRANK B. SHERRY, *Primary Examiner.*

F. K. ZUGEL, *Assistant Examiner.*