THE FEASIBILITY OF CONSTRUCTING A CARRYING CASE, PORTABLE ALTAR, AND ALTARWARE TO BE USED IN MISSIONARY WORK FOR THE CATHOLIC CHURCH

by

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PREFACE

Father Brendan Downey, O.S.B., of the St. Lawrence Catholic Student Center, University of Kansas, Lawrence, Kansas, suggested the thesis topic. According to Father Brendan, Catholic missionary priests find it inconvenient to carry all the items which are needed to celebrate Mass. They also find it inconvenient to locate a makeshift altar table in each of the localities that they visit. Father Brendan suggested that a wooden altarware carrying case be made, which could be used as an altar table.

The objective of this thesis was to determine the feasibility of constructing a compact unit, which could function as a carrying case for the altarware and as a platform on which to celebrate Mass.
ACKNOWLEDGMENTS

Acknowledgment is given to Professor C. H. Smith, Professor Victor Temmerman, Father Brendan Downey, O.S.B., Monsignor Michael Moran, Monsignor Francis J. Senecal, and Father John B. Terbovich, O.F.M. Cap. for their advice and assistance in preparing this thesis.
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CHAPTER I

INTRODUCTION

The central act of worship of the Catholic Church is the sacrifice of the Mass, celebrated by both the priest and congregation. The Mass is performed by the priest on an altar with ecclesiastical objects that function in the various parts of the ritual.

The Catholic Mass is usually celebrated on permanent altars in churches. However, frequently the Mass must be celebrated, not in church, but where a group of people congregate. Through conversations with Father Brendan Downey, it was found that portable altars are used in areas without a permanent place of worship. According to Father Brendan, missionary priests carry the altarware in a case. There is no commercially manufactured unit that acts both as an altar table and as a carrying case for the altarware.

The thesis problem was to determine the feasibility of constructing a liturgical altarware carrying case that could be converted into a table or platform on which to say Mass.

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1Father Brendan Downey is the chaplain of the St. Lawrence Catholic Student Center, Lawrence, Kansas.
CHAPTER II

FACTORS DETERMINING THE DESIGN OF
THE ALTAR AND ALTARWARE

The thesis problem involved the design and construction of items that are used in the celebration of the Mass. These items include a portable altar, portable altar encasement, and the liturgical altarware. The altarware consists of the altar cards, altar cloths, altar crucifix, Book of Epistles and Gospels, candles, candle holders, chalice, ciborium, communion plate, corporal, cruets, finger towel, Missal Romanum, missal stand, pall, paten, and purificator.

Three factors determine the design of an altar and the altarware. They are the functions of the items, the symbolism of the items, and Catholic Church specifications regarding the items. These factors were determined through writings by liturgical art authorities (see bibliography), the Code of Canon Law, and through conversations with Father Brendan Downey, O.S.B., chaplain of Catholic Student Center, Lawrence, Kansas.

A. PORTABLE ALTAR

There are two kinds of altars. The first, a fixed altar, is a table and altar stone consecrated as a unit.
The second, a portable altar, or sacred stone, consists of only a consecrated altar stone. The structure which encases the altar stone is not referred to as the portable altar.¹

**Function.** The portable altar supports the consecrated altar bread and paten, and the chalice during the celebration of Mass.²

**Specifications.** A portable altar must consist of a single slab of natural stone not easily broken. It must be either square or rectangular in shape. The stone must contain a hole in its top surface to contain the relic of a saint. Five crosses must be engraved on the top of the altar stone.³ It should be small and not too heavy for ease in carrying. The portable altar should be recessed about an inch from the front edge and centered in an encasement. It must be either slightly raised or lowered from the surface of the encasement so that a priest can feel its position.⁴


³Ibid., p. 648.

⁴O’Connell, op. cit., pp. 154-156.
Symbolism. The portable altar symbolizes Christ, the cornerstone of the Church. The five crosses represent the five wounds of Christ.5

B. ALTAR CANDLES

Altar candles refer to those candles that are used on the altar in the celebration of every Mass.

Function. The altar candles illuminate the altar during ceremonies.6

Specifications. Candles used for ritual purposes must be made of beeswax. Two candles are used for Low Mass, and six are used for High Mass.7

Symbolism. The Church uses the lighted candle as a symbol of His soul. The flame is the symbol of His divinity. The white candle is an emblem of joy and gladness.8

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5O'Connell, op. cit., p. 139.
6Ibid., p. 66.
8Ibid.
C. CANDLE HOLDERS

Altar candle holders are those candle holders that are used on the altar during the celebration of every Mass.

**Function.** The candle holders elevate and support the altar candles.

**Specifications.** Church authorities feel that the candle holders should follow the characteristics of the altar. Their size should not dominate the altar crucifix.⁹

**Symbolism.** The candle holders are strictly functional. They serve no symbolic purpose.

D. ALTAR CARDS

The three cards that contain some of the prayers from the Order of the Mass are called altar cards.¹⁰

**Function.** The altar cards are placed on the altar during Mass to act as a memory aid for the celebrant.¹¹

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¹⁰Ibid., p. 227.
¹¹Ibid.
Specifications. The Church specifies that the altar cards be small, legible, simple, and inconspicuous. The cards are generally framed and glazed.\textsuperscript{12}

Symbolism. No reference to the symbolism of the altar cards was found.

E. ALTAR CLOTHS

The three white linen cloths that cover every altar on which Mass is celebrated are called altar cloths.

Function. Altar cloths are used as decorations for the altar. Two altar cloths cover the sacred stone. A third cloth is placed over the first two cloths and covers the top of the altar and its sides.\textsuperscript{13}

Specifications. The Church has ruled that the altar cloths should be made of linen or hemp, and that a heavy linen of not too fine a weave is desirable.\textsuperscript{14}

\begin{itemize}
\item \textsuperscript{12} O'Connell, \textit{op. cit.}, p. 228.
\item \textsuperscript{13} Ibid., pp. 196-198.
\end{itemize}
Symbolism. The linen material of the altar cloths symbolizes the shroud for the body of Christ.15 The use of three cloths represents the Blessed Trinity.16

F. ALTAR CRUCIFIX

The altar crucifix is a cross with a corpus attached to it. It must be present on the altar during the celebration of Mass.

Function. The altar crucifix has no other function than to represent the purpose of the Mass (see symbolism).

Specifications. The crucifix should be greater in size than the other items on or near the altar. It is generally made of the same material as the candlesticks. It is obligatory to place the crucifix in the middle of the altar.17

Symbolism. The altar crucifix represents the purpose of the Mass, the sacrificing of the body and blood of Christ.18

15O'Connell, op. cit., p. 197.


17Wuest, op. cit., p. 253.

G. BOOK OF EPISTLES AND GOSPELS

The Book of Epistles and Gospels contains passages from the Bible.

Function. Passages from the Book of Epistles and Gospels are read to the congregation by the priest or a lay reader.

Specifications and Symbolism. No reference was found regarding Church specifications for, or the symbolism of, the Book of Epistles and Gospels.

H. CHALICE

The chalice is one of the two cup-like vessels that are used during the celebration of Mass. The cup rests on a stem and a base.

Function. The chalice contains the wine which the priest uses at the offertory, consecration, and communion of the Mass.\textsuperscript{19}

Specifications. The cup of the chalice must be gold or silver gilt. A suitable material, such as ivory or wood, may be used for the base.\textsuperscript{20}

\textsuperscript{19}Lesage, \textit{op. cit.}, p. 32.

\textsuperscript{20}Ibid., p. 47.
Symbolism. The chalice represents the wine cup used by Christ at The Last Supper with his apostles.21

I. CIBORIUM

The ciborium is the second of the two cup-like vessels that are used during the celebration of Mass. The ciborium cup rests on a stem and a base.

Function. The ciborium holds the consecrated altar bread for distribution to the faithful.22

Specifications. The ciborium cup must be made of gold or silver gilt. A suitable material, such as ivory or wood, may be used for the base. The ciborium must have a closely fitting cover of the same material as the cup.23

Symbolism. The ciborium has no symbolic significance.

J. COMMUNION PLATE

The communion plate is a small shallow plate with, in some cases, a handle attached.

21Lesage, op. cit., p. 28.
22Ibid., p. 34.
23Ibid., p. 158.
Function. The communion plate is held under the chins of the faithful receiving communion to catch the host, or fragments of it, should it fall.24

Specifications. The communion plate must be made of metal. The upper surface must be gold plated and without decoration.25

Symbolism. There is no reference to the symbolism of the communion plate.

K. CORPORAL

The corporal is one of the three linen cloths known as the chalice linens.26

Function. The corporal rests on top of the altar cloths directly over the altar stone to protect it during the Mass.27

Specifications. The corporal must be made of linen or hemp.28

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24 West, op. cit., p. 171.
25 Ibid., pp. 170-171.
26 O'Brien, op. cit., p. 83.
27 Ibid.
28 West, op. cit., p. 226.
Symbolism. The linen material of the corporal symbolizes the shroud of Christ.\textsuperscript{29}

I. CRUETS

The cruets are the two small pouring vessels used during the celebration of Mass.

Function. The cruets contain the wine and the water that the priest uses at the offertory and the consecration, and later to wash his fingers and the chalice after communion.\textsuperscript{30}

Specifications. The Church prefers cruets made of glass or crystal, so that the wine and water may be plainly visible. Cruets of gold or silver are tolerated, but must be clearly marked to designate the wine from the water.\textsuperscript{31}

Symbolism. There is no reference to the symbolism of the cruets.

\textsuperscript{29}O'Brien, \textit{op. cit.}, p. 83.
\textsuperscript{30}O'Connell, \textit{op. cit.}, p. 229.
\textsuperscript{31}Lesage, \textit{op. cit.}, p. 77.
\textsuperscript{32}Kuest, \textit{op. cit.}, p. 271.
M. FINGER TOWEL

The finger towel is a small linen cloth. It is not one of the chalice linens.

Function. The finger towel is used to dry the priest's hands after he has washed them with the wine and water. It is also used to cover the cruets to keep foreign particles from entering the wine and water.33

Specifications. The finger towel must be made of linen or hemp.34

Symbolism. There is no reference to the symbolism of the finger towel.

N. MISSAL ROMANUM

The Missal Romanum is a large book printed in Latin. It contains all the Masses that are to be said throughout the year.

Function. The priest reads parts of the Mass from the Missal Romanum. The book gives directions for performing the various actions of the Mass.35

33 Quest, op. cit., p. 234.
34 Ibid.
35 O'Brien, op. cit., p. 139.
Specifications. The Missal should not be too heavy, because it must be carried about, often by a small boy assisting the priest as a server. It should be well printed and well bound. 36

Symbolism. The Missal Romanum has no symbolic significance.

O. MISSAL STAND

The missal stand is the book stand which rests on the altar during Mass.

Function. The missal stand supports the Missal Romanum during the Mass. 37

Specifications. The missal stand is generally made of silver or wood. It must be stoutly constructed and well balanced. Since the Missal and stand are carried from one side of the altar to the other, the stand needs to fit comfortably in the hands. 38

Symbolism. The missal stand has no symbolic purpose.

37 O'Brien, op. cit., p. 140.
P. PALL

The pall is a small square of stiffened linen or cardboard covered with linen. It is one of the chalice linens.

**Function.** The pall covers the chalice to protect the wine from foreign particles. 39

**Specifications.** The pall must be made of linen or hemp. It should be square in shape and large enough to cover the paten and chalice. 40

**Symbolism.** The linen material of the pall symbolizes the shroud of Christ. 41

Q. PATEN

The small shallow plate which rests on top of the chalice is the paten.

**Function.** The paten holds the altar bread from the beginning of Mass until the celebrant offers it to God at

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the offertory. It is used at communion to support the consecrated altar bread destined for the priest.  

**Specifications.** The paten should be made from the same material as the chalice cup. If it is not gold, the top surface must be gold plated. The diameter of the paten should be larger than the diameter of the chalice cup. Its upper surface should be concave and free of ornamentation.

**Symbolism.** There is no reference to the symbolism of the paten.

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**R. PURIFICATOR**

The purificator is one of the linen cloths included in the chalice linens.

**Function.** The purificator is used to dry the chalice after communion.

**Specifications.** The purificator must be made of linen or hemp.

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42 Lesage, op. cit., pp. 32-33.
43 West, op. cit., p. 156.
44 O'Brien, op. cit., p. 85.
45 West, op. cit., p. 232.
Symbolism. The linen material of the purificator symbolizes the shroud of Christ.\(^{46}\)

\(^{46}\) O'Brien, *op. cit.*, p. 83.
CHAPTER III

APPROACH TO THE PROBLEM

Because liturgical calligraphy, stone cutting, book binding, candle making, and glass blowing are specialized skills, the following items had to be purchased: altar cards, altar stone, Book of Epistles and Gospels, altar candles, cruets, Missal Romanum, and the linen for the construction of the altar cloths.

The remaining items needed for the celebration of Mass were designed and constructed.

A. PURCHASED ITEMS

Some items were purchased from liturgical art dealers in Kansas City, Missouri. Others were purchased in various retail stores.

1. Altar cards. Commercially manufactured altar cards were purchased because of their readability, light weight, and sound construction. They are laminated to fiber board and sealed in transparent plastic. The dimensions of the cards are 10 inches by 13½ inches by ⅛ inch. There are two small cards and one larger one (see Figure 1).

2. Altar candles. The altar candles are made of pure beeswax. They are 12 inches tall.
FIGURE 1
ALTAR CARDS
3. **Alter stone.** The altar stone is white Italian marble. Its dimensions are 9 inches by 3/4 inch. Five crosses are carved in the top of the stone. They are located in each of the four corners and the center of the stone.

The stone rests on a platform in the altar case. Three aluminum braces, which are anchored to the case, elevate the stone to the height of the altar top (see Figure 2).

4. **Book of Epistles and Gospels.** The book is bound in synthetic leather as is shown in Figure 3. It was published by the Catholic Publishing Company of New York in 1958.

5. **Cruets.** The cruets are made of glass. They were chosen for their small size and simple design. The cruets are easy to clean because of their geometric shape and wide lip and pouring area (see Figure 4).

6. **Missal Romanum.** The altar missal is a missionary missal. It is bound in red Morocoo leather and has six ribbon markers (see Figure 5). The type is large and easy to read.
FIGURE 2

ALTAR STONE AND BRACE
FIGURE 3

BOOK OF EPISTLES AND GOSPELS
FIGURE 4

CRUETS
FIGURE 5
MISSAL ROMANUM
B. CONSTRUCTED ITEMS

The remaining items needed to complete the portable altar and altarware were constructed.

1. **Case.** A box of mahogany and mahogany veneer, which acts as a carrying case for the altarware and as an encasement for the altar stone, was constructed.

   The top of the box consists of two panels that overlap a third panel. The two top panels open outward to form the outer two sections of a platform, which supports the altarware during the celebration of Mass. The third panel forms the center section of the platform. The center panel is attached to the mahogany box with piano hinges. This panel can be raised in order to gain access to the liturgical altarware that is stored beneath it (see Figure 6).

   The dimensions of the case, when it is closed, are 6 inches by 21 inches by 30 inches. Figure 7 shows the closed case.

   When the box is open, the dimensions are 5 inches by 21 inches by 60 inches (see Figure 8).

   The mahogany and mahogany veneer were stained with walnut stain to enrich the color and to bring out the grain of the mahogany. After two coats of stain, the wood was rubbed with steel wool. Then, a thin coat of shellac was
FIGURE 6
RAISED CENTER PANEL
FIGURE 7

ALTAR CLOSED
FIGURE 8

ALTAR OPENED
applied. This was rubbed with steel wool, and several coats of paste wax were applied.

Aluminum corner trim was attached to the seams of the box and the edges of the center panel to protect them during transit.

Since the two outside panels support part of the altarware during the celebration of the Mass, four aluminum shelf brackets are used to support the outside panels when they are open (see Figure 9). The aluminum brackets are dismantled and attached to the sides of the case when not being used. They can support great weight but are light in weight themselves.

The inside of the box is lined with red felt. The felt cushions the liturgical altarware while it is being transported.

Strips of elastic were attached to the bottom of the case and to the back of the center panel with small washers and wood screws. Figures 10 and 11 show the placement of these strips. The elastic strips hold the altarware in place while the portable unit is being carried.

The major problem in constructing the box was finding hinges which allowed the overlapping panels to open 180 degrees and rest at the same level as the inside panel. A special type of cabinet hinge, commercially called a soss hinge, was used because it allowed these panels to function properly.
2. **Altar cloth, corporal, purificator, pall, and finger towel.** The altar cloths, corporal, purificator, pall, and finger towel were made from a coarse, fine quality Irish linen which was purchased in a fabric shop.

The cloth covering the top of the altar is 66 inches by 22 inches. The two smaller cloths measure 15 inches by 15 inches.

The corporal measures 18 inches by 18 inches.

The purificator measures 9 inches by 9 inches.

The pall was made from horsehair, a stiffened material, covered with linen. Its dimensions are 5½ inches by 5½ inches.

The finger towel measures 6 inches by 12 inches.

Ornamentation on the linen was avoided because the cloths were meant to serve as symbols of Christ's clothing and shroud (see Figure 12).

3. **Candle holders.** A curved and textured bar of aluminum, 18 inches by 2 inches by ½ inch, was used as the candle holder on the thesis altar. A hole was drilled on each end of the aluminum bar so that the candles could be inserted in the holder during the Mass. A notch, large enough for the altar cross to pass through, was cut in the middle of the holder (see Figure 13).
FIGURE 9
ALUMINUM BRACKETS
FIGURE 10

ELASTIC BANDS
FIGURE 11
ELASTIC BANDS
FIGURE 12

ALTAR CLOTHS, CORPORAL,
PURIFICATOR, PALL
FINGER TOWEL
FIGURE 13
CANDLE HOLDERS
The bar is raised 1 3/4 inches from the altar by two 3/4 inch aluminum tubes. The tubes are placed in two openings in the top of the altar. Two wooden rods, which are inside the tubes, support the weight of the candle holders.

Aluminum was chosen because of its strength and light weight.

Two candles are sufficient because a missionary priest seldom celebrates a High Mass.

4. Chalice and paten. The chalice was constructed from sterling silver. The cup was raised from a circular piece of 18 guage sterling silver, 5 1/2 inches in diameter. The raised cup measures 2 inches deep and 3 1/2 inches in diameter. A satin finish was applied to the exterior surface of the cup. The interior surface of the cup was gold plated.

Figure 14 shows that the stem and the base were combined into two rectangles that formed a triangle. Twelve guage sterling silver was used to construct the rectangles. A ball burr and a flexible shaft drill were used to texture the base.

Sixteen guage sterling silver in the form of a hand was soldered on the base of the chalice. A pierced design of grapes was added beneath the hand (see Figure 14).
FIGURE 14

CHALICE AND PATEN
The hand symbolizes God, and the grapes symbolize the contents of the chalice, the wine. The symbols indicate the front of the chalice.

The finished chalice was 5½ inches high.

The priest's paten was formed from sterling silver. It is a shallow plate five inches in diameter (see Figure 14). The entire paten was given a satin finish. The top surface was gold plated.

5. Ciborium and cover. The ciborium was constructed from the same materials as the chalice. They differ in design only in the dimensions of the cups and the symbols on the bases.

The ciborium cup measures 2 inches deep and 4 inches in diameter. The interior surface of the cup was gold plated.

The wheat design on the ciborium was substituted for the grape design on the chalice (see Figure 15). The wheat symbolizes the bread, the material of the Eucharist.

A sterling silver cover was included with the ciborium. The cover had a handle, which was shaped like a cross, in the center. The surface of the cover was textured with a ball burr and flexible shaft drill.

6. Communion plate. The communion plate is identical in size, design, and material to the priest's paten.
FIGURE 15

CIBORIUM AND COVER
Since communion plates of the past functioned well without handles, one was omitted on the communion plate (see Figure 16). The entire surface of the plate was given a satin finish. The top surface was gold plated.

7. **Crucifix.** The crucifix is composed of two parts. One part is a sterling silver corpus. The second part is a textured aluminum bar.

The corpus, a figure representing the crucified Christ, was constructed from \(\frac{1}{2}\) inch by \(\frac{1}{16}\) inch sterling silver rectangular wire and 20 guage sterling silver sheet. The figure is 6 inches high with an arm span of 6 inches. The elongated arms are meant to convey the idea of a cross. (see Figure 17).

A sterling silver rectangular collar was soldered to the feet of the corpus. The collar slips over the top edge of the aluminum bar, attaching the corpus to the bar. (see Figure 18).

The aluminum bar elevates the corpus above the altar-ware. The bar slips through notches in the candle holder and the center panel and rests on a brace inside the wooden case. The brace and the two notches support the aluminum bar and the corpus. The dimensions of the bar are 27 inches by 1 inch by \(\frac{1}{8}\) inch.
FIGURE 16
COMMUNION PLATE
FIGURE 17

ALTAR CRUCIFIX
FIGURE 18

CORPUS ATTACHED TO ALUMINUM BAR
The crucifix can be dismantled for storage and for cleaning.

8. Missal stand. The missal stand was constructed from 2 inch by 3/4 inch mahogany. Four pieces, 6 3/4 inches long, were used as the back support on the stand. One piece, 13 inches long, was used as the ledge (see Figure 19). To prevent the missal stand from tipping backwards, mahogany supports were attached to the backs of the two center pieces of wood.

The mahogany was stained with walnut oil stain, rubbed with steel wool, and waxed. The bottom of the stand was covered with red felt. Attached to the bottom of the stand are silver gliders, which allow the priest to move the stand easily.

A linear cross of sterling silver was attached to the left side of the missal stand (see Figure 19). The cross may be removed for cleaning and for storage in the case.

9. Canvas bag. A canvas bag was constructed to support and protect the wooden carrying case during transit. The dimensions of the bag are 6 inches by 21 inches by 30 inches. Webbing was sewn to the bag to help support the wooden case and to act as handles (see Figure 20).
FIGURE 19
MISSAL STAND
FIGURE 20

CANVAS BAG
FIGURE 21
ALTAR AND ALTARWARE
CHAPTER IV

SUMMARY AND CONCLUSIONS

The purpose of this thesis was to determine the feasibility of constructing a portable unit that could be used as a carrying case for liturgical altarware and as a platform on which to celebrate Mass in missionary work for the Catholic Church. The thesis problem involved the design and construction of an altar table, a liturgical altarware carrying case, and the liturgical altarware.

Because of Church specifications and the special skills needed to construct certain items, some of the items had to be purchased. Those items were the altar cards, altar stone, Book of Epistles and Gospels, candles, cruets, altar missal, and linen for the altar cloths.

Pieces that were constructed were the wooden carrying case, altar cloths, corporal, pall, purificator, finger towel, chalice, paten, ciborium and cover, communion plate, crucifix, missal stand, and canvas bag.

Completion of the thesis project involved two major considerations.

First, the project called for a combined knowledge of silversmithing, metal working, sewing, and woodworking.

Second, in order to achieve the most desirable forms of the altarware, an understanding of the function, symbolism, and the Catholic Church specifications regarding these items
was necessary.

CRITICISMS

The finished thesis project was shown to Monsignor Michael Moran of Sacred Heart Parish, Russell, Kansas, and to Monsignor Francis J. Senecal of Schoenchen, Kansas. Monsignor Moran and Monsignor Senecal believed that the portable unit was a practical solution to some of the problems of the missionary priest. Both priests indicated that they especially liked certain items. Monsignor Moran favored the missal stand. Monsignor Senecal liked the design of the chalice, ciborium, and cruets.

Both priests also indicated certain dislikes. Monsignor Moran felt that the case, with all its contents, was too heavy to carry very far. Monsignor Senecal suggested that the chalice and ciborium have larger bases. He also suggested that the cruets have lids.

AUTHOR'S CONCLUSIONS

The following are the author's conclusions regarding the purpose, design, and construction of the carrying case and the altarware.

First, the case could have been lighter and easier to carry. The writer felt that if he had had more experience in woodworking he would have been able to use less wood in
the construction of the carrying case.

Aluminum was considered as a possible material for the construction of the case. The metal needed to be \( \frac{1}{4} \) inch thick in order to support the weight of the altarware. A case constructed of this gauge aluminum would have weighed approximately two times that of the wooden case. Hence the aluminum was not used.

Second, all the liturgical items could be contained within the case during transit.

Third, when the case was open, it was able to support the items used in the celebration of the Mass (see Figure 21).

Fourth, the unit was small enough to be carried and assembled by one man.

Fifth, the design of the individual pieces of altarware could be changed to satisfy personal preference without hindering the efficiency of the portable unit.

This writer concludes that it is feasible to construct a liturgical altarware carrying case that can be converted into an altar table for use by a missionary priest.
BIBLIOGRAPHY


