


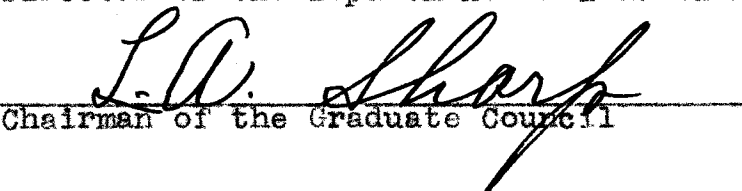
DETERMINATION OF AN ADEQUATE COURSE OF INDUSTRIAL ARTS
FOR NINTH GRADE IN TERMS OF CHILD NEEDS, PSYCHOLOGICAL
POSSIBILITIES, AND SOCIAL NEEDS

APPROVED:


Major Professor


Minor Professor


Director of the Department of Education


Chairman of the Graduate Council

DETERMINATION OF AN ADEQUATE COURSE OF INDUSTRIAL ARTS
FOR NINTH GRADE IN TERMS OF CHILD NEEDS, PSYCHOLOGICAL
POSSIBILITIES, AND SOCIAL NEEDS

THESIS

Presented to the Graduate Council of the North
Texas State Teachers College in Partial
Fulfillment of the Requirements

For the Degree of

MASTER OF SCIENCE

By

Alex Tomkins, B. S.

El Paso, Texas

August, 1942

100550

100550

TABLE OF CONTENTS

	Page
LIST OF TABLES	iv
LIST OF ILLUSTRATIONS	v
Chapter	
I. INTRODUCTION	1
Statement of the Problem	
Delimitations	
Terminology	
Sources of Data	
Treatment of Data	
Related Studies	
II. ANALYSIS OF CHILD NEEDS	7
Recreational Needs	
Vocational Needs	
Home Needs	
Community Needs	
Summary of Needs	
III. AN ANALYSIS OF THE COURSE OFFERED	56
IV. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS	98
Summary	
Conclusions	
Recommendations	
BIBLIOGRAPHY	104

LIST OF TABLES

Table	Page
1. Projects Selected by Ninth-grade Boys for Home Use	33
2. Projects Found in Visiting Homes	36

LIST OF ILLUSTRATIONS

Figure	Page
1. Match Scratcher	62
2. Pin Tray	63
3. Bread Board	64
4. Tortilla Board	65
5. Note Book Covers	66
6. Broom Holder	67
7. Tooth Brush Holder	68
8. Match Box	69
9. Whisk Broom Holder	70
10. Flower Pot Stand	71
11. Mail Box	72
12. Bracket Shelf	73
13. Pencil Rack	74
14. Shoe Rack	75
15. Necktie Rack	76
16. Towel Roller	77
17. Match Box Holder	78
18. Pen and Ink Stand	79
19. Book Rack	80

Figure		Page
20.	Book Shelf	81
21.	Book Ends	82
22.	Handkerchief Box	83
23.	Glove Box	84
24.	Foot Stool	85
25.	Revolving Cake Tray	86
26.	Camp Serving Table	87
27.	Pin Trays	88
28.	Ash Trays	89
29.	Spindle Turning Projects	90
30.	Candle Stick Holders	91
31.	Candle Stick Holder	92
32.	Candle Holders	93
33.	Candle Stick Holder	94
34.	Candle Stick Holder	95
35.	Table Lamp	96
36.	Boudoir Lamp	97

CHAPTER I

INTRODUCTION

Statement of the Problem

This is a study to determine an adequate course for ninth-grade industrial arts in terms of child needs, psychological possibilities, and social needs, as indicated by the ninth-grade boys in Bowie High School, El Paso, Texas.

Delimitations

This study was limited to the boys of the ninth grade in Bowie High School of El Paso, Texas, and to their needs in terms of psychological possibilities and social needs. The students were of Spanish-speaking origin and a large per cent came from homes of the laboring class of society. There is a junior high school on the campus with the above-mentioned senior high school. There is no course offered in this junior high school that could be considered as prerequisite to the industrial arts course in the ninth grade.

Terminology

In this study the term "adequate" will mean the meeting, as far as possible, of recreational, civic, vocational, and home needs of the community.

Sources of Data

The students involved in this study live in a Spanish-speaking district in south El Paso. The majority of the students in the study come from the families of the laboring class of people. The sanitary conditions are poor in many cases; although there is a small per cent who live in government housing projects, most of the homes are comparatively small and ill-kept. A large per cent of the families in the entire district have electric lights and running water in their homes. Many of these families have an automobile or truck of some kind. There are few places in the tenement section that have yard fences. Those homes that are more of the individual dwelling type are quite often enclosed by yard fences which are in most cases built of wood paling or wire. Many of the houses are not adequately screened. In many of the homes of pupils there are problems that could be used as projects in an industrial arts shop course.

The course of study as offered is planned as a woodwork shop course exclusively, and the projects are arranged in the ascending order of difficulty, with regard to skill in the fundamentals of woodwork and the technique in handling tools. Related subject matter is stressed as twenty per cent of the course.

It has been said that when a youth is uncomfortable,

his first impulse is to get himself to feeling comfortable again; and it is difficult for him to learn that he must endure tension until he has found a way of releasing it that is socially acceptable. The industrial arts shop is an excellent place for the youth to explore the field of opportunities for expression.

We can establish and maintain certain relationships with other people only by meeting our physical needs and realizing the possibilities in our own personalities. In order to mix well with other people, we must feel comfortable in their presence. It is not easy to disregard self-consciousness in our relations with others unless we are free from the fear of not being loved or lovable, and the fear of personal failure, of not being successful as a person.

This free feeling can be gained only through the convincing enjoyment during one's childhood of the kind of family life that will enable one as an individual to find himself through the possibilities within the field of industrial arts.¹

Treatment of Data

The study utilized the findings of a community survey and a check sheet with the students in shop woodwork to determine the type and nature of projects they desired to make.

¹W. H. Bristow and others, Family Living in Our Schools, pp. 62-63.

At the same time, the physical possibilities of the shop were kept in mind. The writer also used suggested problems from current periodicals and measured the above findings in terms of child needs, psychological possibilities, and social needs. Then he used tables and analyses to explain the data gathered by the students and the problems chosen from other sources.

The purpose was to determine whether the course offered was what should be offered in terms of child needs, psychological possibilities, and social needs.

With the aid of several references, the writer has attempted to show the relation of shop woodwork to the home needs, to community or social needs, and to recreational needs.

The aim of all education is to fit the individual into society in such a way that he may become a useful citizen and enjoy the privileges of life. It is the purpose of the industrial arts program to contribute to this richness of life by providing a more general education, and it is believed that this study and the offerings herein will help in this attainment.

Related Studies

The study made by Coleman on the need for a course in ornamental iron work for senior high school, based upon the conditions of an average senior high school, determined

the type and quantity of ornamental iron projects there were in a representative number of homes in a particular community. Coleman also had his students to suggest the names of projects that they would like to make if they were given the opportunity to take a course in ornamental iron. In addition, suggestions offered by several current periodicals were used.

The results of his findings give some evidence that the demand for a course in ornamental iron was sufficient to justify the introduction of a course of this nature in the senior high school. Since there are more projects in ornamental iron that would be worthwhile to make than one would roughly estimate, the proposal is justifiable.²

The study made by Wells to determine the needs for a practical arts course in junior high school was based upon his findings in the Denton Junior High School with sixth-grade boys as subjects. He used objective type tests, interest sheets, activity sheets, and information sheets, tabulated the results, and found that a practical arts course would be a valuable asset for a junior high school. The avocational and practical arts interests of the students and of their parents were carefully analyzed. He

²Ralph Coleman, "Ornamental Iron for Senior High School" (Unpublished Master's Thesis, Department of Education, North Texas State Teachers College, 1939).

made a thorough study of the home environment of the individuals and of the course content to be used to aid in the development of practical arts interests and to care for needs which are in line with their domestic surroundings.³

The study conducted by Lamb to determine the possible use which should be made of an art metal course in junior high school was based upon his work with the seventh grade in the Demonstration School of the North Texas State Teachers College. He used data gathered with the aid of these students, together with some from other sources. Blue prints were made of representative art metal projects which were chosen by the pupils.

He recommends that similar studies be made of other junior high schools, in keeping with the best ways and means by which art metal may be taught best in junior high schools.⁴

³J. Haskin Wells, "Practical Arts Course for Junior High School" (Unpublished Master's Thesis, Department of Education, North Texas State Teachers College, 1936).

⁴J. J. Lamb, "Art Metal Work in Junior High School" (Unpublished Master's Thesis, Department of Education, North Texas State Teachers College, 1936).

CHAPTER II

ANALYSIS OF CHILD NEEDS

Recreational Needs

The purpose of this division of the study is to make an analysis of the recreational needs of youth of the age included in this study to determine to what extent these recreational needs may be met by work which could be included in a shop or industrial arts program in a school.

There is little question regarding the desirability of each individual's having the maximum degree of mental health. For some individuals mental health can be improved by industrial or occupational types of work, particularly those developing skills in the crafts. This is an example of the possible contribution of a shop course.

Some writers believe that the school can no longer limit its influence to a few hours a day, but that it should promote a constantly expanding program of development for the youth, in which handicraft, woodwork, metal work, electrical work, and other courses of practical value included in the industrial arts fields can be offered with

abundant success in the form of mental and physical recreation.¹

The health function should reach into and become a part of every portion of the entire educational program because a wide-awake and active mind requires good health conditions.

The recreational program of a given group of boys may necessitate certain equipment which could be constructed in the shop.

Equipment for many recreational hobbies can be better constructed in connection with a shop than in other places. Examples of this are radio sets and cases for them, ornamental gifts, carvings, metal work, and leather crafts.

In the field of industrial arts, a number of different types of modern recreational facilities are available to the students of most modern high schools. There are many of the pieces of athletic and recreational equipment, such as basketball goals, goal posts, and backstops for ball courts that can be made by the industrial arts department. In this way there are many problems arising in a recreational program that can be solved in the industrial arts shop.²

¹N. L. Engelhardt, "Leisure Education and Recreation -- an Educator's Responsibility," Journal of Health and Physical Education, VIII (June, 1937), 343-344.

²A. H. Maehlman, "Recreation and Youth for Junior and Senior High School," Clearing House, X (February, 1936), 338-341.

There have been some excellent outgrowths for both students and teachers in various phases of shop work. There has been a demand for more vocational men since the present world crisis began than ever before. Teachers who have followed up their hobbies as they worked with a group interested in making bows and arrows for archery, in making parts for photographic equipment (such as pans for solutions in a developing room), in making stands for music racks, in making cases for travel pictures, and in making frames for pictures have seen their students in a new light. Teachers have seen constructive roles played by their students. Timid boys have found unsuspected ability in fields requiring concentration of thought and coordination of mind and muscle to a degree of skill that was unthought of before.³

Recreation is a relief from exertion in contrast to the daily work. Through recreation we must acquire mental and spiritual values. Recreation differs from creation in that it is more mature; with the young, amusement is instinctively spontaneous.⁴

In a study it has been disclosed that from 1928 to 1934 the number of high school boys not gainfully employed increased to approximately fifty per cent of all the boys

³G. D. Baker, "Hobby Clubs in South Pasadena Junior High School," Clearing House, X (February, 1936), 334-337.

⁴E. J. Brown, "Building of a Better Citizenry Through Recreational Activities," National Elementary Principal, XVI (October, 1936), 5-6.

enrolled in a large high school.⁵ This fact increases the need for a well-organized program of recreation, including such hobbies and hand work as could be done in a shop and those which could be done with a trained supervisor in charge.

In certain tenement-house districts in New York City in 1930 there were sixty per cent of the families engaged in industry of the sweat-shop nature, earning no more than three to five dollars per week per family, with no means of recreation, and parents affirm that home-work can be made to earn a living only with the aid of children.⁶

These conditions are basic facts that provide more evidence for the urgent need of an adequately planned and active recreational program, which should include the various hobbies as well as sports and other forms of recreation.

To meet the problems of life, to be self-sustaining, to be useful and happy, one must be prepared for living.

Education is the process of mastering the knowledge, the tools, the skill, and the institutions which mankind has slowly accumulated, by learning how to work with others, by understanding and making the most of one's self, and

⁵H. G. Abraham, "Methods for Determining the Needs for Supervised Summer Recreation," Elementary School Journal, XXXVI (March, 1936), 516.

⁶Lloyd Allen Cook, Community Background of Education, p. 183.

by forming ideals and habits.

Since we live in a constantly changing and expanding world, the content of human knowledge continually becomes greater and human existence is becoming increasingly more complicated. Besides, there is infinite variety in nature, capacities, and character of individual human beings.⁷

Therefore, education cannot be standardized or static; it must grow with each advance of civilization, and it must, at the same time, fit those who are to be educated to the extent that they will not be misfits in life, in terms of recreation or vocation in the field of industrial arts.

The first group of basic personality needs which Prescott discusses in Family Living and Our Schools are needs which arise out of the physical needs of our bodies.

1. These essential materials and conditions for physical growth include foods and liquids, clothing and shelter, sunshine, fresh air, protection from illness and injury. These things are in a very real sense the raw materials of life.

2. There should be balance between activity and rest. The human organism is constantly manufacturing energy for its own use. What is used must be continuously replaced. Very little can be kept in reserve. Since one cannot borrow human energy when he does not have it, it is important

⁷Thomas J. Mangan, Education for American Life, Chapter I.

not to try to use more energy than one is able to create. Most people need to plan carefully all of their lives to maintain a balance between activity and rest for the sake of their own efficiency. This relaxation period could well be spent on a hobby of some kind in a craft shop or elsewhere.

3. Appropriate release of physiological tensions is important. Feelings of tensions arise whenever basic personality needs are not met. This is nature's way to inform us that we require some new material or some new experience as a hobby for further development, such as woodwork. Among the strongest of these tensions are those that occur when essential materials and conditions for physical growth and physiological development are not supplied. Many a baby has been spanked for being naughty when he was really crying because he was hungry. Failure to meet emotional and integrative needs also produces tensions which are sometimes unbearable. The lonely person, the person who is baffled or confused is in a state of acute discomfort which demands relief, for which a hobby work shop might be the answer.

An interesting difference between the behavior of adults is the difference in the way tensions are handled. When a child is uncomfortable, his first impulse is to get himself feeling comfortable again, and it is hard for him to learn

that he must endure tension until he has found a way of releasing it that is socially acceptable.⁸

This can often be solved in a school program by offering a course in laboratory of industries.

One of the outstanding illustrations of what a social laboratory free from adult interference can mean to young people is described in some detail in a recent publication. During their leisure time junior high school pupils were free to use a house next door to the school in any way that interested them. Part of this house could well be used as a work shop for hobbies and recreation. This experience seemed to satisfy an important need for working out their social relationships in the group. It seemed to make possible some social adjustments for some pupils with their own or with the opposite sex which would have been difficult without the clubhouse.

No school that believes in cooperation between school, home, and community will view its plant and equipment alone as adequate facilities to be used. Homes in the community, houses being constructed, school shops and grounds may all be helpful in enabling young people to have experiences significant in improving home and family living.⁹

The following needs of a recreational nature which a shop might help meet have been discovered in this analysis:

⁸Bristow, op. cit., pp. 60-61.

⁹Ibid., p. 213.

1. For some individuals, mental health can be contributed by industrial or occupational types of work.
2. The school program should be constantly expanding to meet the every need of youth.
3. The industrial arts shop can profitably build some recreational and athletic equipment as class projects.
4. Many youths in America spend an abundance of free or leisure time. The busy person is the happy person.
5. Education should not be standardized.
6. Good health calls for a well-rounded program of activity, wholesome food, water, rest, and shelter, which will help people to meet their emotional and social problems with greater ease and satisfaction.
7. Recreation officials should, when feasible, make use of all available facilities.

Vocational Needs

There are few teachers who have the personal qualities and fewer still who have the knowledge necessary for effective counseling, while all are too busy with their regular duties to give the vocational interests and needs of their students adequate attention.¹⁰

Burdge, in a study of 245,000 boys between the ages of sixteen and eighteen, in New York State, found that:

Twenty-three per cent hold, on an average, one job a year.

¹⁰Maurice Joseph Neuberg, Principles and Methods of Vocational Choice, p. 6.

Twenty-six per cent hold, on an average, two jobs a year.

Twenty-three per cent hold, on an average, three jobs a year.

Twelve per cent hold, on an average, four jobs a year.

Six per cent hold, on an average, five jobs a year.

The remaining ten per cent hold, on an average, more than five jobs a year.¹¹

There is a significant tendency for science, psychology, economics, English, and liberal arts courses to be mentioned for addition or extension, and Latin and foreign language, for reduction or omission.¹²

There is a lack of adequate educational guidance in the selection of courses in our present-day high schools. For the exclusive reason that a student in school should be making preparation for a better and more useful life in order to be a worthwhile investment for society, until the school meets the needs of the oncoming generation, its courses are of little value.

It is commonly accepted that teaching based upon pupil interest is far superior to the compulsion type stretched over a broad span of time. The temporary interest may have to be so planned by the teacher in charge as to create a definite and logical situation in which the student may

¹¹Ibid., p. 8.

¹²Marlin Ray Chauncey, The Educational and Occupational Preferences of College Seniors, p. 69.

realize the aim. The results of the study presented herewith seem to emphasize the commonly accepted idea that lack of interest reduces learning. The above study was based upon vocabulary tests and it may be said in this respect that in many cases the teacher may well depend entirely upon other motives and regard interest merely as an incidental development.

A Bunch of Keys

Shop teachers have a bunch of keys
 To open wide their classroom door.
 Regard them highly, if you please;
 They really open a great deal more
 Than just a shop. They open to youth
 Some time-worn facts and the seeds of truth.
 They open the hearts of growing boys
 And place inside life's hidden joys --
 Ideals, ambitions, yes, more than these
 Are opened by some teachers' keys.
 --Ornille Haybord.¹³

It seems to be true, according to the opinion of Gilbert L. Betts of West Allies, Wisconsin, that the whole movement for reform in our schools of today is based on the assumption that interest causes learning and that dislike for school (presumably a learning situation) is indicative of a profound maladjustment on the part either of the pupil or of the school, which can in many cases be solved in an industrial arts shop. But since a study was made by this writer, only a short time before the present one, which showed that in some cases motive could be the primary

¹³Gilbert L. Betts and Roy R. Van Duzee, "Interest and Learning," Industrial Arts and Vocational Education, XXV (May, 1936), 135-136.

objective instead of interest to create a real learning situation, he continued to pursue the study to a more satisfactory conclusion. As a result, in his next study, he found that vocabulary growth was very susceptible to school or teacher influence notwithstanding the fact that a vocabulary test is considered the best single measure of intelligence.

The test as given was conclusive evidence that there is more possibility of making errors in a subject where study is required than where there is no demand for study. This is because there is a need for the study and there is more evidence that a learning situation exists and is either caused from a definite interest or motive.

The enrollment in the senior high school in this same town had decreased fifty per cent from the original enrollment in the freshman class. But during the period of compulsory attendance, the enrollment was heavy. However, as soon as this period closed, those who disliked school withdrew. In the case just mentioned, dislike for school seemed to increase steadily until it reached a peak in the freshman class of the senior high school. In many cases the field of industrial arts might have been a valuable aid or drawing card to keep these students in the school.

The sooner the schools are transformed into the appealing type instead of the compulsory type, the sooner there will be a much more effective bit of teaching done, and in like manner,

the students will more often get something that is profitable to both the individual and to society.¹⁴

There are some sources where occupational information may be secured if sought in the proper way, many of which are invaluable in a course of vocational guidance, otherwise known in some schools as the laboratory of industries. Here students are given brief introductory courses in several phases of work like mechanical drawing, general science, woodwork, electricity, sheet metal, etc., followed up with some one of the above-mentioned courses in more detail, chosen according to the student's interest and ability followed with brief occupational try-outs. This seems to be the most practical method to follow.¹⁵

There is reason to believe that

. . . no amount of the educative training actually secured is adequate unless it recognizes the division of attention into which the child is being educated, and faces the question of what the worth of such divisions may be. External mechanical attention to a task as a task is inevitably accompanied by random mind wandering along the lines of the plausible.¹⁶

The result is often a growing disinterest, if there ever was any interest to start with, and sometimes children who would not think of causing a disturbance may become constant

¹⁴Gilbert L. Betts, "Maladjustment and Learning in Relation to Interest," Industrial Arts and Vocational Education, XXVI (August, 1937), 237-238.

¹⁵N. L. Ricktenwald, "Sources of Occupational Influence," Industrial Arts and Vocational Education, XXVI (August, 1937), 239-240.

¹⁶Ibid., p. 240.

discipline problems, and this results in their quitting school, due to the teacher's lack of skill in his or her work or because the school system did not lend itself to meet the need of the students. While this condition may obtain all too frequently, on the other hand, if the student had had the proper guidance at the right time, his outlook on the school situation might have been entirely different.¹⁷

It is sometimes very noticeable how charm of manner and method and skill of presentation may contribute to the formation of the choicest interests that may attach themselves to the studies whereby people are educated.¹⁸ And this is frequently done to a great degree of satisfaction through the proper means of vocational guidance, which can be industrial arts shop work. This is a definite means of bringing the pupil into contact with the thing that is aimed at as an interest or a motive, driving toward a definite goal that perhaps might not be reached through some other channel.¹⁹

Factors affecting the need for other kinds of guidance show that some thirty-five years ago only ten per cent

¹⁷John Dewey, Interest and Effort in Education, pp. 5-11.

¹⁸Charles De Garmo, Interest and Education, pp. 119-126.

¹⁹W. M. Proctor, Educational and Vocational Guidance, Chapter I.

of the youth of high school age were enrolled in school, while today nearly seventy per cent are enrolled, a fact which causes much greater needs in every field which is worthy of being maintained. Then, as has been mentioned, the present world status makes the need for vocational guidance much more imperative. As there is now a call for some three million workers in industry, two million workers to be women and one million to be men, the school has a direct responsibility to help in preparing the youth of the land to meet the needs caused by the present world crisis.²⁰

Vocational guidance as defined by the National Vocational Guidance Association in 1937 is "the process of assisting the individual to choose an occupation, prepare for it, enter upon and progress in it." It is concerned primarily with helping individuals make decisions and choices involved in planning a future and building a career -- decisions and choices necessary in affecting satisfactory vocational adjustments which can be successfully aided.

Guidance is one of youth's most pressing necessities. If for no other reason than because of its financial advantages to the individual's success in life, this is still true. Vocational guidance must be recognized as a need

²⁰American Educational Research Association, "Vocational Education," Review of Educational Research, III (June, 1933), 214-215.

of great importance. And neither should it be misconstrued by youth to the end that he merely accepts the trade or profession of his father just because the father made good at it and thought the son should follow his occupation, because father and son can easily be of entirely different personality and talents.

The financial loss is often much more than the average person would think, for the lack of guidance as in the case of a boy who served two years as apprentice in the printers' trade, then decided to change to the machinists' trade and in the course of time or life's work, considering that he gets promotions as often as he is eligible and goes on to the top and serves as a shop foreman or superintendent, by the time he has reached the age of retirement he will have lost \$5,000 which is a nice little saving for any one who has to earn his livelihood by the sweat of his brow. And perhaps it could have been avoided with the proper guidance. If costly errors of this kind were rare it might be well to question the economic need for individual vocational guidance.²¹

The economic advantages of vocational guidance to employers is of no little importance because business and industry suffer heavily from a financial standpoint due to the large labor turn-over in many different ways that probably are unthought of by the employee who is seeking the change. This is one of the chief reasons for the ban enacted in 1942 to prevent war defense workers from changing jobs.

There is greater need for specially trained workers

²¹George E. Meyers, Principles and Techniques of Vocational Guidance, p. 3.

now than ever before in the history of the world, and this necessarily calls for more definite guidance of shop nature in order that students now at the vital point of decision may not make the serious mistake of choosing something that they may form a dislike for or something that may not have a promising future.

Full many a gem of purest ray serene
 The dark unfathom'd caves of ocean bear:
 Full many a flower is born to blush unseen,
 And waste its sweetness on the desert air.

Some village Hampden that with dauntless breast
 The little tyrant of his fields withstood,
 Some mute inglorious Milton, here may rest,
 Some Cromwell guiltless of his country's blood.

--Thomas Gray ("Elegy
 Written in a Country
 Churchyard")

The final cost of the labor turn-over and the lack of vocational guidance is borne by society. Sometimes in the turn-over the conservation of health fails when with the proper guidance the health of the individual might have been protected. The lack of guidance has allowed many a person to become an outcast from society by preparing for one occupation and then realizing that they are wholly unsuited for that which they have fitted themselves to do, and become disgusted and ashamed to be recognized as failures, and at being found at whatever they are forced to fall back to at the expense of society.

In many cases the misfits in society might have been

marvelously benefited had they been afforded the able and efficient type of guidance that many students now receive in some of our best and most modern schools with highly skilled, well trained instructors and counselors who make it their business to know pretty accurately what it will take to meet certain needs, the requirements for certain specific fields of industry, and what the possible future holds for it.²²

It is particularly important to give careful attention to social environment data, which may be obtained easily in any community. It is generally recognized that clubs, "gangs," Boy Scouts, and various other social organizations for boys aid in the discovery of aptitudes and in the development of vocational and avocational interests, and that they can make contributions toward building a program that is definitely planned as an asset to the health and character of its members. And if used to advantage by the teacher, these organizations can be of much benefit in the program of guidance or industrial arts.

Guidance is an important feature in any phase of education that is to be used as a vocation or an avocation, because unless the student succeeds in making a wise choice in his vocation and avocation he cannot become as

²²Ibid., pp. 60-81.

happy in his occupation as if he had had some industrial training of a practical nature.

According to the United States census, over two million youths annually reach a given age, eighteen years or even earlier, when they are entering the senior high school, when a shop course can be the making of youth. It is also a known fact that approximately fifty per cent of the university graduates of Texas who do not have a vocation to follow that they can enter with any degree of intelligence and efficiency are total misfits in society. Many who desire to enter various professions are not adequately prepared for the desired field of work, which fact sometimes causes students to miss a vital opportunity for hobbies or vocational training.

The large majority of students expect too great a return from the vocation that they choose; also they fail to choose a field that is not over-crowded, which only makes matters more disappointing to them after having prepared for the chosen vocation.

Too often students who succeed in getting jobs are more concerned with the superficial conditions of their work or with the satisfaction of having any kind of a job, than with particular opportunities which their jobs offer and as a result many of them are never satisfied after getting the job.²³

²³Ibid., pp. 229-231.

Statistics show that in normal times those youths who drop out of school before the age of sixteen years do not all go readily into vocational pursuits. About forty-six per cent of them remain unemployed for an average of three and one-half years, and the average duration of unemployment for all of these youths is one year and eleven months.

A very large per cent of youth assert that economic security is their most urgent personal need. This can sometimes be improved by having had some industrial work or training while in school.

At present, world conditions have caused unnumbered problems of guidance in industry, asking for enlargement of various types of industry and the production of supplies to meet the current and future demands; without an all-inclusive course in vocational guidance, the individual may encounter costly difficulties both to him and to society.²⁴

The greatest integration of the individual as a self and as a cooperative member of society will come from creativeness that springs from the drives common to many human beings and is directed to a fuller life for all.²⁵

In this division the writer is attempting to analyze vocational needs in relation to an industrial arts shop. The teaching personnel of the majority of our schools are

²⁴Ibid., pp. 249-251.

²⁵L. Thomas Hopkins, Integration, Its Meaning and Application, p. 160.

not fully prepared to do intelligent counseling in the manner of guidance for industry, and entirely too many others are not interested, and manage to find too many excuses in order to avoid this responsibility.

A careful study shows that students entering industry without having completed high school or at various grade levels down through the seventh grade are handicapped by a lack of training, for the less education they have acquired, the smaller are their chances of earning a living wage; and their entire economic situation is in accordance with this situation.

There is good evidence to substantiate the statement that students make more errors in courses that require some study or preparation than in those that require no outside preparation.

Careful studies have shown that the lack of a well-planned, properly executed course in vocational and avocational guidance has been quite costly to the people in industry. And in turn there is a considerable economic strain placed upon industry and business due to the above-mentioned reasons.

The vast demands of industry caused by the present great world struggle make the need for an adequate course in vocational guidance, particularly of an industrial arts nature, all the more urgent.

Home Needs

The problem of this division of the study is to determine whether we need worthy homes for our country, and whether these can be aided by a program of industrial training in our schools. In order for our youth to be enabled to face the world squarely, they must understand the American standard of living. We have yet to wipe out our undesirable districts before we can resettle industry in a way more suitable to modern means and technology. We have harnessed our vast potential store of electric power before we have made any serious efforts toward the restoration of our cities and our rural areas. We have, by means of government enterprise and by private corporations, provided eighty-nine per cent of our people with employment; but the eleven per cent of unemployed constitute a problem that is serious and disconcerting. We have a generation of activity confronting us.

The government housing, planning, and rehabilitation projects were primarily for the purpose of providing work for the unemployed during the depression. These efforts developed into a national economic crusade, a crusade with ample room for state and private enterprise, which in turn created more need for industrial arts shops in the secondary schools. It also created real wealth values that were enduring.

Until almost yesterday any symposium on housing and planning would have been exhortation, imaginative word pictures, painting a hoped-for future. Today we are able for the first time to present a program, report progress that in our American way has been so fast that we must take stock of it all, and make sure that it does not stop as abruptly as it started or is not diverted into associated but unfruitful channels.²⁶

Housing begins at home in the daily lives of every one of us, whether rich or poor, and for this reason the industrial arts shop is an important subject for training.

Provision should be made not only for the information, skills, and resourcefulness wherein an industrial arts shop program is often found to be valuable in helping the students to understand and solve homemaking problems, even under highly diverse housing and living conditions, but also for homemaking and family life as vitally important opportunities for both men and women to find personal fulfillment and discharge their basic social responsibilities.²⁷

There is a function for every agency in the community, and the public school must do its part. Some time could be well spent at such repair work as is constantly called for by the regular usage of a school plant.

There are many small repair jobs to be found in the

²⁶Albert Meyer, "Building Our Home Line," Survey Graphic, XXIX (February, 1940), 55-57.

²⁷American Association of School Administrators, Nineteenth Yearbook, p. 45.

homes of the local school district that would be excellent problems for industrial arts shop and that would also be of value to the homes.²⁸

The democracy of the home is one of the few places where the members of the family may receive that affection, respect, and encouragement so necessary for the richest development of each individual. It is here that the individual may have the opportunity of choice in the type of work that he wishes to do, and which can very easily result in some kind of a vocation or avocation that may be done in part of the homes and such other parts in the various fields according to their several fields of importance.²⁹

The conditions affecting gainful occupations are of prime significance for family life and the home. The characteristics of occupational life today, whatever may be the individual's capacity and skill, may be found within the field of industrial arts and his chance for employment may be greatly increased, even though his employment is subject to abrupt termination or a radical change which may affect the home life of everyone concerned.

Anything that affects the wage-earning capacity of an individual has its influence upon his home life, and where there are children in the family, their environment is

²⁸Bristow, op. cit., p. 5.

²⁹Ibid., pp. 6-7.

automatically affected by the necessary changes in home conditions.³⁰

An individual may believe in himself in order to feel that he is meeting reasonably well the requirements of life as they come along. This may be done by contact with realities that concern his own body, such as work in a craft shop. He has to learn his own strength and weaknesses in relation to actual demands from his environment.

It is very difficult for a child who is protected from the consequences of his own behavior to know how other people really feel about what he says and does. When a child is allowed to express his hostilities by kicking the door which he cannot open, he is deprived of a valuable learning experience. He cannot begin to feel power over materials until he has come success in working with them, which is most appropriate for an industrial shop.

The friendly, informal atmosphere provided in a home-making cottage, an apartment, a clubhouse, a social recreation area, a work shop for craft work, etc., can be one of the significant elements in young people's heterosexual adjustments.

The school shops may often be open to parents as well as to secondary school students for making or repairing furniture, clothing, and furnishings for their own home.

³⁰Ibid., p. 12.

If, through their efforts, homes could be made happier places in which to live, and the high school students could feel that the shop work in which they have had a part is a career with unlimited possibilities, they would feel that their efforts have been fruitful.

In some new high schools there is a well-equipped nursery school as a part of the family life of the school. Industrial arts students have helped to paint these nurseries and have been responsible for helping to get needed equipment.

The school shop is sometimes the place where satisfying adjustments are made by contacts with their own and with the opposite sex, during adolescence.³¹

In 1939 there were six and one-half million pupils enrolled in the secondary schools, which prove to be the end of formal education for a large portion of them; and many who enter the ninth grade never graduate from high school.

There is much evidence that all students, early in the high school program, should be given the opportunities of taking courses in homemaking and guidance in industrial arts to promote a better citizenry.³²

Bristow points out some of the financial problems of families in the United States from 1935 to 1936 as follows:

Fourteen per cent of all non-relief families received less than \$500.00 during the year studied; forty-two

³¹Ibid., pp. 63-64.

³²Ibid., pp. 140-141.

per cent received less than \$1,000; sixty-five per cent less than \$1,500; and eighty-seven per cent less than \$2,500. Forty-two per cent of families with incomes under \$1,000 received less than sixteen per cent of the aggregate (income) while the three per cent with incomes of \$5,000 and over received twenty-one per cent of the total. The income of the top one per cent accounted for a little over thirteen per cent of the aggregate.³³

The above data indicate that training in the secondary school to make home life produce a better citizenry should be stressed for those in low-income brackets.

If, however, community influences are disregarded and the school program is made up of courses unrelated to these conditions, either the youths' actions and attitudes will be determined by these outside influences, or serious conflicts will arise because opposing viewpoints cannot be reconciled.³⁴

It is sometimes possible to re-work or revise the traditional subjects by the contribution and cooperation of the teachers of the different departments through the teachers' experience with various home activities prevailing in a given locality.

In cases in which boys and girls in secondary schools have been given a part in planning their programs and have been permitted to offer such suggestions as affected their home life and in turn benefited the community as a whole, they have rapidly become enthusiastic over the opportunity

³³Ibid., p. 153.

³⁴Ibid., p. 161.

to find something of vocational competency which helped them to know how to manage their resources wisely. Thus we see that one of the most important roles of the school is the enrichment of family life.³⁵

Table 1 presents a list of industrial arts projects selected by the ninth-grade boys included in this study. This particular list contains projects which the boys considered useful in the home. These projects were for suggestive purposes only, and provided opportunity for individual initiative in the solution of problems. The number of pupils selecting each project is also shown in the table.

TABLE 1
PROJECTS SELECTED BY NINTH-GRADE
BOYS FOR HOME USE

Project	Number of Boys Selecting Each Project	Rank According to Number of Boys Selecting Each Project
Match scratcher..	66	1
Notebook corners.	52	2
Book rack.....	33	3
Tortilla board...	30	4

³⁵Ibid., pp. 184-195, 315.

TABLE 1 -- Continued

Project	Number of Boys Selecting Each Project	Rank According to Number of Boys Selecting Each Project
Tortilla roller...	26	5
Broom holder.....	25	6
Radio and clock shelves.....	25	6
Toothbrush rack...	20	7
Mail box.....	20	7
Handkerchief box..	20	7
Ash tray.....	18	8
Magazine basket...	18	8
Necktie rack.....	17	9
Towel roller.....	17	9
Pen and ink stand.	14	10
Magazine rack.....	14	10
Book ends.....	11	11
Hot dish rack.....	11	11
Glove box.....	11	11
Door stop.....	11	11
Corner shelves....	11	11
End table.....	11	11
Flower pot stand..	9	12
Book shelves.....	8	13

TABLE 1 -- Continued

Project	Number of Boys Selecting Each Project	Rank According to Number of Boys Selecting Each Project
What-not shelves...	8	13
Match box.....	7	14
Shoe rack.....	7	14
Foot stool.....	6	15
Potato masher	6	15
Match box holder...	5	16
Whisk broom holder.	5	16
Taboret.....	5	16
Step ladder.....	4	17
Bracket shelf.....	3	18
Revolving coke tray	2	19
Serving table.....	2	19
Chest.....	2	19
Candle stick holder	2	19
Tool chest.....	2	19
Book trough.....	1	20
Coffee table.....	1	20

Table 2 shows a list of projects found in visiting some of the homes in the district studied. This list also serves the purpose of providing suggestive subjects for the students, leaving room for individual initiative in problem solving.

TABLE 2
PROJECTS FOUND IN VISITING HOMES

Project	Number of Homes Having Each Project	Rank According to Number of Homes Having Each Project
Radio sets, portable	15	1
Ash tray.....	12	2
Odd chairs.....	12	2
Wall shelves.....	9	3
End tables.....	9	3
Picture frame.....	8	4
Corner shelves.....	7	5
Candle holders.....	6	6
Smoker stands.....	6	6
Foot stool.....	5	7
Ironing board.....	5	7
Radio cabinet.....	5	7
Necktie rack.....	5	7
Book ends.....	5	7

TABLE 2 -- Continued

Project	Number of Homes Having Each Project	Rank According to Number of Homes Having Each Project
What-not shelves....	5	7
Handkerchief box....	5	7
Flower pot holder...	4	8
Bed room suite.....	4	8
Study table.....	4	8
Flying model planes.	4	8
Table lamp.....	4	8
Flower pot stand....	3	9
Bracket shelf.....	3	9
Small work table....	3	9
Wash bench.....	3	9
Medicine cabinet....	3	9
Stand table.....	3	9
Wooden mail box.....	3	9
Living room suite...	3	9
Kitchen wall cabinet	3	9
Book rack.....	2	10
Breakfast suite.....	2	10
Towel roller.....	2	10
Pencil box.....	2	10

TABLE 2 -- Continued

Project	Number of Homes Having Each Project	Rank According to Number of Homes Having Each Project
Vanity dresser.....	2	10
Vanity dresser stool.....	2	10
Glove box.....	2	10
Broom holder.....	2	10
Tortilla board and roller.....	2	10
Bread cutting board.	2	10
Small bed.....	2	10
High chair.....	2	10
Porch chair.....	2	10
Pen and ink stand...	2	10
Porch seat.....	1	11
Match box holder...	1	11
Vanity box.....	1	11
Kitchen stool.....	1	11
Pencil holder.....	1	11
Piano and bench.....	1 each	11

The projects listed in Table 2 were noted by the writer in a survey which he made of a representative number

of homes in the Bowie High School district of El Paso, Texas.

As a result of the analysis made in this division of the study, the following summary seems justified:

1. The country is in need of more industrial training work.

2. We must try to keep our shops functioning, to meet the ever-growing needs of youth.

3. Every organization as well as individuals should have a part in the community program.

4. An industrial arts course can be quite valuable in helping the individual to make occupational adjustments.

5. A reasonable amount of self-confidence is imperative to anyone's success in meeting his environmental problems.

6. Children need guidance in experiencing life problems.

7. The industrial arts shop can sometimes be valuably used by the parents and adults of the community during out-of-school hours.

8. It is sometimes profitable for industrial arts students to be permitted to do repair work for the school.

9. There is need for guidance courses to be offered early in the secondary curriculum.

10. The direct need for occupational guidance of

youth appears to vary somewhat in keeping with the income bracket in which the parents are located.

11. The student reaction to a course of study is sometimes effective, and can be valuable to the curriculum-building committee, especially if the students are permitted to participate in the program.

Community Needs

In the opinion of Engelhardt the education of the pupils should not be forgotten for the sake of saving a few dollars in the school treasury.³⁶

An auditorium-gymnasium is neither "fish" nor "fowl." It stifles the program for music, public speaking, dramatics, and fine arts. It provides for only a limited program in the field of health, recreation, and leisure time where bodily exercises are involved. No educator having tried it wants it again, unless he has a very limited vision of what his educational program should do for the children of his school. Such a structure is not expensive to build, and true economy does not result. Leisure activities, to be at all significant, must be educational activities. There is no such thing as a leisure activity without educational import. The program of the school as a community center is to invite and encourage the entire community and be freely broad enough to reach all with an abundance of power.

³⁶Engelhardt, op. cit., pp. 343-344.

An instance of the work of one school acting in its capacity as a community center is the case of a successful recreational program which was planned and carried out in a Mexican community. The problem of this community included vice and treachery as well as many other social and moral problems; however, due to the untiring efforts of Pearl Coe, a national recreational leader, appointed by the Federal Government; the school, under her supervision, inaugurated a program of recreation which has never been surpassed.

The Mexican community where this successful program was carried out was Independence Square, a small town in southern California. The program was first started with the boys of teen-age and later included the young women and their mothers. Finally, the fathers and smaller children came in for their share in the recreational program.³⁷

That students all over the nation are becoming more and more interested in the organized recreational activities in the schools is considered an important factor in the decrease of juvenile delinquency. This is a vital point in the growth and well-being of the youths of any community, since they will become the problem-solvers of tomorrow.³⁸

In order to make the new leisure an asset in the community life there must be a great increase in facilities, leisure-time training, greatly

³⁷H. O. Want, "Recreational Program for a Mexican Community," Sierra Educational News, XXXIII (April, 1937), 26-27.

³⁸Ibid.

enriched and expanded programs, and skilled, sympathetic, and highly qualified leadership. It must be recognized that all people do not seek recreation in the same way and that facilities and programs must serve all ages and types of people the year around and at convenient centers.³⁹

Braden says: "It is a more difficult task to teach men to use leisure time correctly than to instruct them in how to labor efficiently."⁴⁰ It is indeed likely that the wise use of increasing leisure may become for the masses, as well as for a few, the chief end in education.

Points worth considering for a good community program are:

1. Nature contacting and nature crafts -- nature lore, Indian lore, camp, hikes, outings, nature guidings, nature books, collections, and museums.

2. Social recreation -- training for right social practices and contacts; the technique and management of parties, dances, and dinners; the management and control of social recreation centers; and special planning of social contacts of young people of marriageable age.

3. Physical activities -- the culture of the body as a fine art; the Greek emphasis; physical education as equipment for fine and abundant living rather than as a preparation for sports and pastimes which are an end in themselves;

³⁹R. L. Davis and C. Edgecomb, "Community Recreation," Sierra Educational News, XXXVI (December, 1940), 46.

⁴⁰G. W. Braden, "Avocational Training for the New Leisure," Proceedings of the National Education Association, 1935, pp. 435-436.

the cultivation of self-chosen activities which carry over into adult life: dancing, aquatics, hiking, horseback riding, tennis, badminton, archery, or golf.

4. Recreative music -- music for the joy of self-expression through sound-creation: bands, orchestras, chorals, harmonica bands, or folk music.

5. Recreative drama -- pageants, the major and minor festivals; processions, pantomimes, and tableaux; dramatized costume parties; shadow graphs, puppetry. There needs to be a tremendous expansion of the dramatic emphasis, which has been too largely confined to the production of plays.

6. Rhythmic -- fundamental training in rhythmic: folk, national, athletic, interpretative, gymnastic, classical, naturalistic, and social dancing.

7. Recreative art of line, color, form, and perspective: painting and sculpture, plastics, relief, and photographic arts.

8. Handicraft arts -- work in wood, metal, textiles, paper, leather, reed, raffia, bead, and wire work.

9. Scientific experimentation hobbies -- astronomical, botanical, electrical, chemical, aeronautical, and radio. Thousands of boys are tinkering with automobiles, radio, aircraft, and boat building.

10. Linguistic arts -- old-fashioned spelling-bees, debates, forums, essay writing, topical writing, short-story

writing, play writing, linguistic arts, memory contests of familiar library expressions, and the cultivation of recreational reading.⁴¹

In the opinion of the writer, the above-mentioned points cover the subject at hand.

The study referred to here shows that from 1928 to 1934 the number of high school boys not gainfully employed during the summer increased to approximately fifty per cent, and this fact makes the need for supervised play and recreation during the summer vacation much more imperative, as this is the case in almost any average community.

The disintegration of the home and the small villages becomes very plain in many cases, though in some instances there are a few people who still desire a normal, more balanced life, with a moderate amount of recreation and who encourage the traditional family circle idea.

During the period from 1920 to 1930, between seventy-five and eighty per cent of the movie films dealt with crime, love, and sex, which certainly did not tend to decrease the need for wholesome recreation.

During the year 1931 there were two million campers and four million picnickers who used the national forests. Even real-estate agents became conscious of the trend and began including playgrounds in their developments. But the

⁴¹Ibid.

pre-industrial districts took more interest in recreation than any other group.⁴²

The United States Office of Education indicates that guidance service is being received by only about 28.7 per cent of approximately 7,166,000 students enrolled in the white schools of the nation.

The employment office and the school should cooperate in making available to the public vocationally significant information that has been acquired about the vocational interests and potentialities of each pupil, because vocational guidance is so definitely the controlling influence in a program of occupational adjustment. Selecting one's own vocation is the important thing.⁴³

In a study of married youths it was found that in the group with an average age of 20.4 years, over forty per cent were living with their parents. About fifty per cent of the single boys and sixty-five per cent of the single girls discussed their personal problems with their parents; but this percentage decreased almost half after marriage. Twenty-five per cent of the boys as against thirteen per cent of the girls contributed partial or total support to their families. However, this situation varied in accordance with the occupation of the father.⁴⁴

⁴²George S. Counts, Social Foundation of Education, pp. 283-310.

⁴³Howard M. Bell, Matching Youth and Job, pp. 18-19.

⁴⁴Howard M. Bell, Youth Tell Their Story, pp. 17-26.

"What is clearly needed is a more effective educational, vocational, and recreational program for all youth."⁴⁵

About fifty per cent of the youths from sixteen to eighteen years of age are not in school. As the age increases, school attendance decreases up to and including twenty-four years.⁴⁶

That only one youth in a hundred was found to have received vocational guidance from officials in public or private employment agencies makes it more imperative for the school to offer more vocational guidance.⁴⁷

Over forty-five per cent of the employed youth who had had the benefit of helpful vocational counseling felt that their school experience had, in general, been of great economic value. Of those employed who had not received vocational guidance, only twenty-six per cent felt that their school experience had been of similar value.⁴⁸

It is significant to note that ninety-three per cent of the youths from the laboring class had dropped out of school before completing the sixth grade, but on the other hand eighty-four per cent of the college graduates came from professional, technical, sales, or skilled labor groups.

Of 398 employed youths who left school before completion of the sixth grade, ninety-four per cent were found to

⁴⁵Ibid., p. 48.

⁴⁶Ibid., p. 52.

⁴⁷Ibid., p. 75.

⁴⁸Ibid., p. 78.

be working at unskilled, semi-skilled, or domestic-personal jobs. Of 564 employed youths who had left at the completion of the eighth grade, over seventy-five per cent were discovered working in the same classes of occupations. Out of 1,608 high school graduates, sixty per cent were employed as professionals, technicians, or salesmen. This shows more conclusively that proper guidance is important.

The occupation of the father profoundly affects the amount of schooling the youth is likely to receive. The amount of schooling the youth receives in turn very largely determines the type of employment he is able to secure. In a similar manner the youths of the lower occupational levels usually marry earlier and, as a rule, have larger families than those of the higher occupational levels. This practice tends toward social and economic stratification and strengthens social barriers. All of these conditions substantiate the theory that a national program of constructive and profitable activity for youth should be carried out.⁴⁹

In addition to such existing agencies as full-time and part-time schools, employment offices, and community recreation centers, new agencies, such as vocational clinics, should be created.⁵⁰

There is considerable evidence to suggest that once youths becomes conscious of the fact that an organization exists in their community which is dedicated to the single purpose of meeting their needs, the basic problem of reaching them will have been solved.⁵¹

⁴⁹Ibid., pp. 92-97.

⁵⁰Ibid., p. 156.

⁵¹Ibid., p. 188.

Therefore a community center properly functioning would be a valuable asset to any town or community.

The National Recovery Act Code had a very outstanding influence upon child labor in that between the years 1929 and 1934 the number of children in mechanical and manufacturing occupations dropped from some twenty thousand to one hundred. Since this time the employment of youths sixteen years of age and up rapidly rose. Gradually youth began suffering from a dearth of suitable jobs.

The school is the best place to undertake the vocational adjustment of youth, although it is well for the local agencies to cooperate with the school and certainly with the home.⁵²

In 1930, studies showed that due to the decline of the birth rate, only fifty-seven per cent of all families consist of husband, wife, and children.⁵³

In 1935, the National Recreational Association found that public recreation was reported in 4,190 communities, and 43,419 leaders were employed. The aggregate attendance in terms of individual visits at outdoor centers exceeded three hundred million, and at outdoor centers, seventy-five million. These figures tell us that leadership in recreational activities is a very important field.

During the frontier days of our country the daily

⁵²Homer P. Rainey, How Fair American Youth, pp. 20-40.

⁵³Ibid., p. 136.

tasks of life included a part for every member of the family in accordance with their various abilities. While in more recent years the National Youth Administration and the Civil Conservation Corps have done some wonderful work toward solving these problems, the Junior Red Cross, the Boy and Girl Scouts, and Four-H Clubs have also greatly aided the guidance program.

A community is organized when it can assimilate new ideas and objects to its mode of life and use them to further its own corporate growth and well-being. At the same time it is disorganized when its members cannot agree on a program of action in meeting the problems and crises occasioned by social change.⁵⁴

In either of the above cases a well-rounded program of guidance would be most valuable to the youth.⁵⁵

The great majority of boy "gangs" arise from the spontaneous contacts of youngsters who live on the same street or meet at the same school or settlement house.⁵⁶

In the period from 1800-1930, the enrollment in secondary schools increased from 110,277 or 2.8 per cent of all persons 14-17 years of age inclusively, to 4,354,815 or 46.6 per cent of all persons 14-17 years.

In 1940 there were estimated to be 200,000 less children 14 years of age than in 1930. But the need for proper guidance was still important.⁵⁷

⁵⁴Paul Robert Hanna, Youth Serves the Community, pp. 31-41.

⁵⁵Lloyd Allen Cook, Community Background of Education, p. 90.

⁵⁶Ibid., p. 144.

⁵⁷Ibid., pp. 159-160.

A survey conducted by the United States Census Committee shows that only 11.3 per cent of American youth ten to seventeen years of age out of a total of 18,964,000 youths of this age group were at work for pay in 1930. Almost two fifths of the nation's seventeen-year-olds were at work, and 235,000 children from ten to thirteen years of age were gainfully employed. At all age levels the percentage of boys at work was about twice that of employed girls, although there was a decrease of thirty-seven per cent in child labor from 1920 to 1930.⁵⁸

"In 1935 about one-seventh of the nation's population was partly dependent on public relief."⁵⁹ In 1937, another survey showed approximately eighty-five per cent of the people with incomes of less than two thousand dollars per year with a radio set in their homes.⁶⁰

When radio brings into our homes cruelty, crime, false standards, vulgar humor, I feel it is having a bad influence on my children's lives. When it brings beautiful music, familiar songs, the opportunity to dance, good fun, and interesting suitable stories, I feel that it is adding greatly to the enrichment of their lives.⁶¹

The type of school that a community needs is one that will furnish universal educational opportunities, a democratic, character-building education, good teachers, useful and up-to-date programs, removal of obstacles, freedom of

⁵⁸Ibid., p. 177.

⁵⁹Ibid., p. 197.

⁶⁰Ibid., p. 236.

⁶¹Ibid., p. 246.

thought, and more concrete, specific problems of actual life. A more complete program for the community welfare, recreationally speaking, is significant. Economy is an important factor in this program, but not to the extent of the sacrifice of valuable needs.⁶²

As a result of the analysis made in this division of the study the following conclusions are justified:

1. There is not necessarily a justifiable amount of economy in sacrificing the educational advantages of the pupil to save a few dollars in school plant construction.
2. Leisure activities may be educational.
3. The school should be a place of interest for youths and patrons, not a place of compulsion.
4. The United States Recreational Service has given evidence of some successful work for a better citizenry in many places. Shops have been used in some cases.
5. The community recreational program should meet the social leisure-time needs of the community.
6. It is sometimes difficult to teach men how to use their leisure time rightly. Shop work attracts some men.
7. There are many good points to be considered when planning a community recreational program.
8. The study mentioned shows that a large number of youths are not gainfully employed during the summer.

⁶²Thomas J. Mangan, Education for American Life, pp. 43-44.

9. The problem of disintegration caused many recreational problems, which only time and skillful guidance will help to solve, together with the able assistance and cooperation of all agencies in the community.

10. Motion pictures and radios have caused a marked effect upon the present generation's citizenry.

11. The need for guidance is increasingly imperative.

12. Counseling at home, in school, and by community agencies can be valuable.

13. The National Recreational Administration Code affected youth, labor, and employment conditions. Also the National Youth Administration and the Civilian Conservation Corps have been very aggressive in youth work, as well as other government agencies.

14. The nature of the father's occupation often greatly affects the complete status of the entire family.

Summary of Needs

The divisions of this study are analyzed as follows:

Recreational needs. -- The following recreational needs should be pointed out:

1. Mental health can be supported and maintained by industrial or occupational types of work for some individuals.

2. The school program should be constantly expanding to meet the needs of youth not otherwise met.

3. The industrial arts shop can profitably build some recreational and athletic equipment as class projects.

4. Many youths in America spend an abundance of free or leisure time. The busy person is the happy person.

5. Education should not be standardized.

6. Good health calls for a well-rounded program of activity, wholesome food, water, rest, and shelter, which will help us meet our emotional and social problems with greater ease and satisfaction.

7. Recreation officials should make use of all available facilities, when feasible.

Vocational needs. -- The section on vocational needs may be summarized in the following manner:

1. The teaching personnel in many of our schools are either not fully prepared for the work in their assignment or are not willing to cooperate.

2. Those students who finish high school ordinarily have considerable advantage over those with less education in dealing with life's problems.

3. There is some justification for the statement that shop courses, using laboratory and applied practice, cause some children to form favorable attitudes toward school and society in general.

4. A few years ago there was a vast decrease in enrollment from freshman to senior years in high school.

5. The economic importance of vocational guidance is realized by both employee and employer.

6. Vocational guidance is the process of assisting the individual to choose an occupation, prepare for it, enter upon and progress in it. Shop work can aid in these functions in many areas.

7. The present world conditions present increasing needs for vocational training, particularly along those mechanical and scientific lines in which the shop can contribute effectively.

Home needs. -- In connection with home needs the following statements are pertinent:

1. We must try to keep our shop functioning to meet the ever-growing needs of youth.

2. Every organization as well as individuals should have a part in the community program.

3. An industrial arts course can be quite valuable in helping the individual to make occupational adjustments.

4. A reasonable amount of self-confidence is imperative to anyone's success in meeting his environmental problems. The shop can give this self-confidence to some people.

5. Children need guidance in experiencing life problems.

6. The industrial arts shop can sometimes be valuable when used by the parents and other adults of the community in out-of-school hours to develop home interests.

7. It is sometimes profitable for industrial arts students to be permitted to do repair work for the school.

8. There is a need for guidance courses to be offered early in the secondary curriculum.

9. The direct need for occupational guidance of youth appears to vary somewhat in keeping with the income bracket in which the parents are located.

10. In some cases student participation in curricular programs is valuable.

Community needs. -- The following aspects of community needs should be recalled:

1. There is a lack of economy in sacrificing educational advantages of the pupil to save a few dollars in school plant construction.

2. Community recreational programs should meet the social leisure-time needs of the community.

3. The problem of disintegration has caused a number of recreational problems to arise, requiring skillful guidance and the cooperation of all to make a successful future.

4. Skillful counseling is often valuable to youths.

5. Moving pictures and radios have greatly affected youth's leisure-time activities.

6. The nature of the father's occupation often affects the status of the entire family.

CHAPTER III

AN ANALYSIS OF THE COURSE OFFERED

The purpose of this chapter is to analyze the course in industrial arts by showing the work projects, as nearly as possible, with blue prints and with some of the supplementary work that the students were asked to do. However, due to government regulations, the writer is not permitted to use the drawings of the supplementary work in this analysis.

The school used as a basis for this study was the Bowie Senior High School, El Paso, Texas, with an approximate enrollment of 1,200 students. A junior high school is also located on the same campus. The students in these two schools are of Spanish-speaking origin.

The first week of the course was utilized in discussing in detail the various shop procedures and in the making of one simple project which involved several of the fundamental procedures in woodwork.

The next five weeks were used to develop further skills in the above processes by making a minimum of one more project from a suggested list, the student to choose the project he would like to make. Some of the skills developed

through this project were the use of the compass and the coping saw; fastening with screws; the use of brads in fastening wood, applying finish and countersinking screws; recognizing the kinds and sizes of screws and brads and their uses; the composition and uses of enamel, stain, and varnish; the kinds of lumber and their uses; and other related information.

The following five weeks were spent in studying project selection and construction similar in nature to the previous period except in a more complex manner, with a minimum of two additional projects for the period. The use of expansive bids, chiseling a square hole, assembling projects, the use of pumice stone, and laying out irregular curves were used for practice in skill development. The kinds of chisels and their uses, safety in using chisels, standard sizes and grades of lumber, hardware and decorations were used as related information.

The last five weeks of the last semester's work were used to study furniture construction and the different types of finishing work, with the exception of one week, which was devoted to the making of toys and jig-saw puzzles for the children of El Paso whose families were unable to buy these types of things for enjoyment. Again, a minimum of one regular project was required.

The proportion in laying out designs, the use of the turning saw, coping saw, and jig-saw in chisel cutting, the

uses and advantages in dado, cross lap, end lap, mortise and tenon, and dowel joints were used for practice in skill. Instruction in proportion in laying out designs, composition and uses of glues, and the uses of different kinds of decorations were also offered.

The first week of the second semester was given over to instruction in project selection and shop problems as well as the types of construction in a wood shop. A brief review of operations, sketching of selected projects, laying out and use of the scale, the care and use of tools, and a stock list furnished for rough stock and complete cost of material were used for practice in certain skills. Then a review of the uses of multiview drawing, measuring and scale, the names and uses of tools required to make specific projects, and designing were given, together with techniques in planning a project.

The next eleven weeks were used in project construction, with a minimum of two projects. The further development of skills in previously mentioned operations, selecting designs, panel construction, the use of dowel pine, drawer construction, and table construction were used for practice in technique. This was followed by a review of the kinds, sizes, and uses of screws, brads, and nails, new designs and their limitations, the uses of dowels in table construction, drawer construction, and the regulations concerning table construction.

The next six weeks were used for job projects or assignments in ornamentation, face plate work, checking, the use of and the care of the lathe and lathe finishing, step cuts as concave and convex, French polishing, oiling, shellacing, pumice stoning, filling, and wax finishing were used as practice in given skills. The care and use of lathe tools, centering and speeds, operations used in cutting, application of French polish, application of filler, the content of filler, and the brushing of varnish and shellac were used as related knowledge. An emergency project which was used in place of the regular course of study was undertaken for the last twelve weeks of the second semester, when model airplanes were made for the United States Army and Navy for the teaching of gunnery and identification of the different types and kinds of planes used by the different countries participating in the present war. Complete sets of plans and instructions were furnished for each plane by the United States Department of Naval Aeronautics Education. The plans consisted of a complete description of the plane both in drawing and in words and a set of templates of tough cardboard ready to be cut out for measuring each part of the plane along with instructions for assembling the planes. All planes were designed to one seventy-second scale. The instructions further called for a one-sixteenth inch hole to be drilled

through the body of the plane at the point of balance with a shallow counterbore at the same point from the bottom side of the plane, in order that a string might be threaded through the plane to suspend it into the air for the purpose of giving it the appearance of a plane in flight. All of the planes were painted solid black.

The students participating in this work were given certificates of award with the rank of cadet, ensign, lieutenant junior grade aircraftsman, etc., according to the specifications of the various classifications.

The patriotic enthusiasm shown by many of the students was more than satisfactory.

The purpose of this chapter, as has been stated, is to attempt an analysis of the manual training course as offered at Bowie High School, El Paso, Texas. By way of summary, the following statements may be recalled:

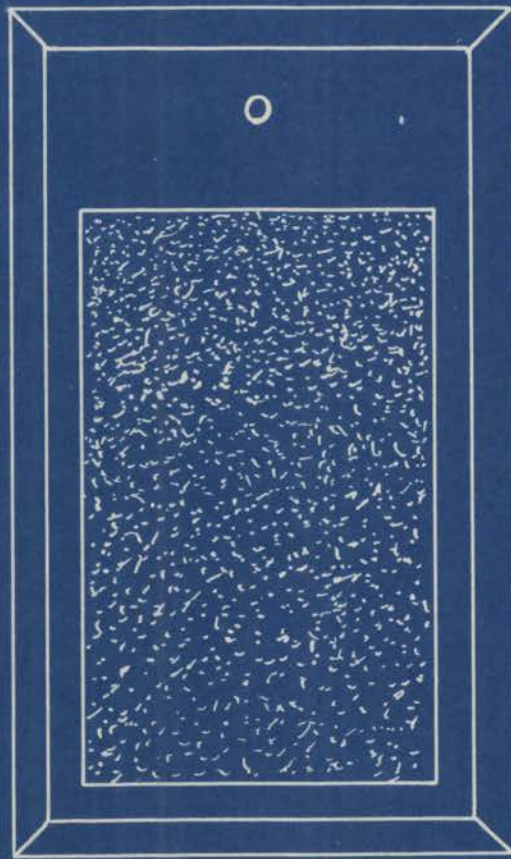
The course was presented to the students with blue prints, in laboratory exercises, supplementary materials, and other related work.

It was further noted that the students of the Bowie High School, El Paso, Texas, were of Spanish-speaking origin.

The original course as planned for the entire year was set out in ten units of irregular numbers of weeks, depending upon the type and kind of work involved for a total of thirty-six weeks.

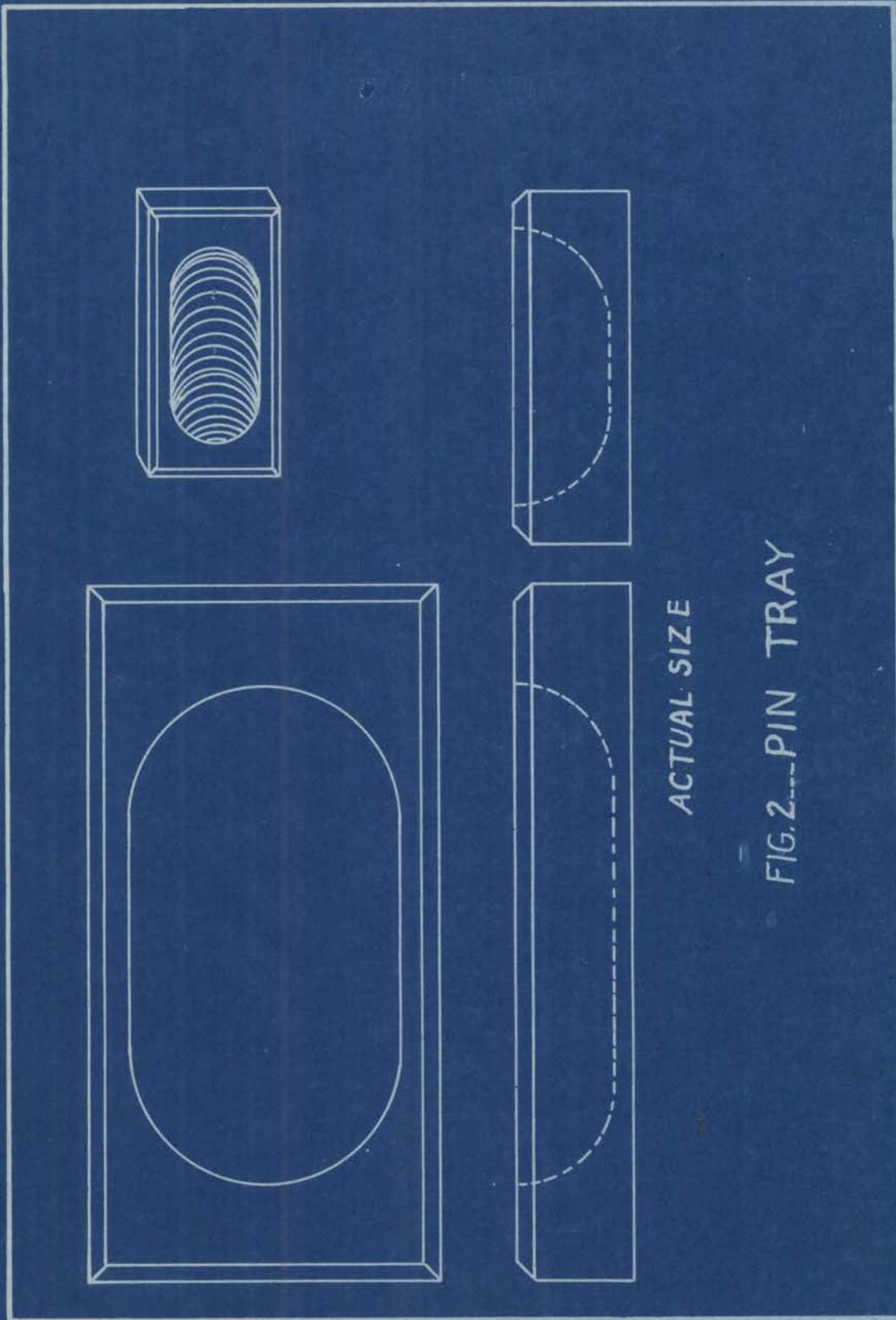
There were only two periods of interruption in the course. The first was for one week, which was spent on toys and jig-saw puzzles, and the second was for twelve weeks, during which time the students worked on model airplanes as a contribution to the national defense effort.

The blue prints included in the following pages are representative of many of the work projects of the course as it was originally planned. These blue prints have been carefully selected for economy of material and a reasonable amount of labor in keeping with the students' varied abilities, and they have met with the approval of the art and the industrial arts departments of the school in which this survey was conducted.



SCALE $\frac{3}{4} = 1''$

FIG. 1.-- MATCH SCRATCHER



ACTUAL SIZE

FIG. 2. PIN TRAY

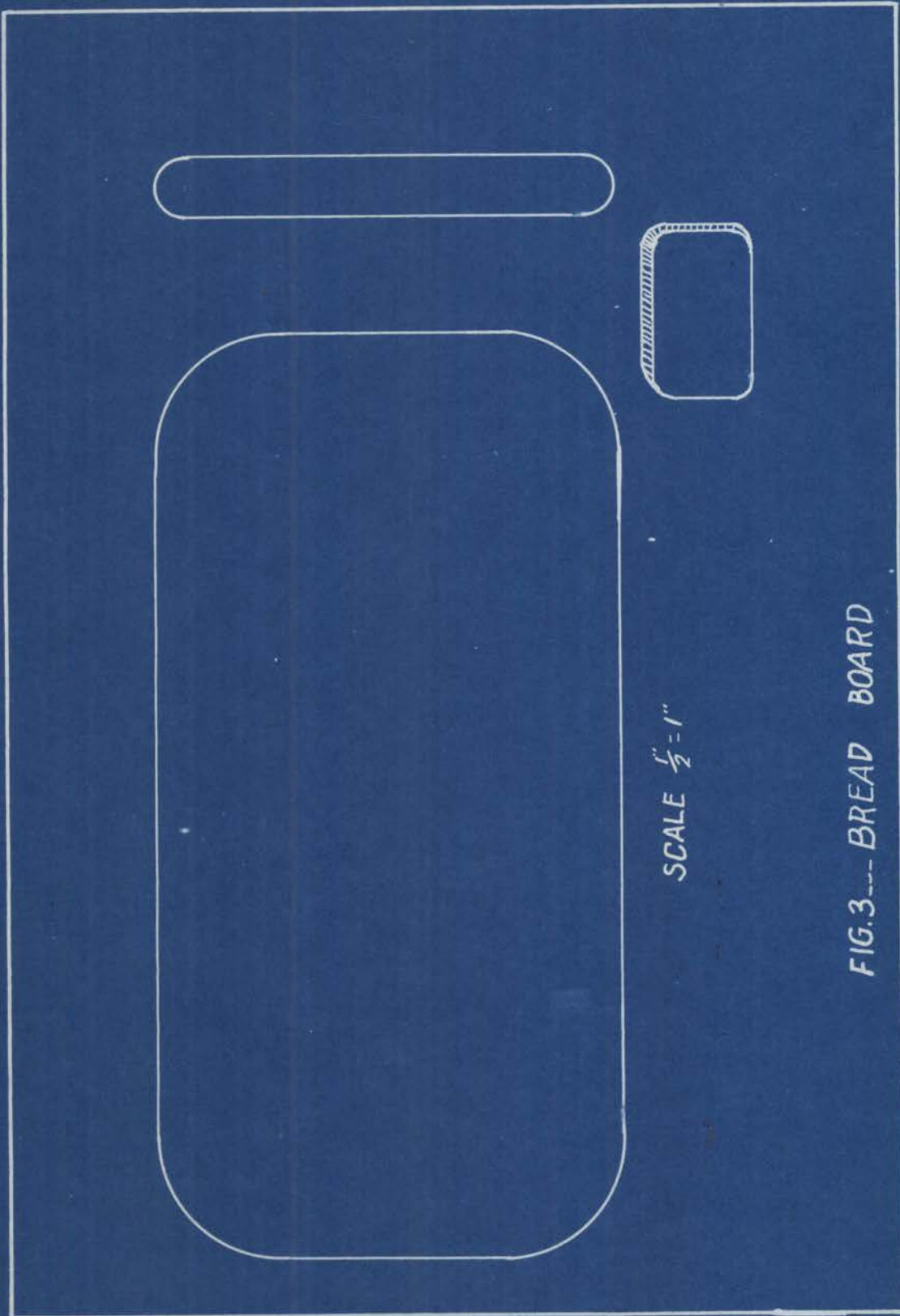


FIG. 3--- BREAD BOARD

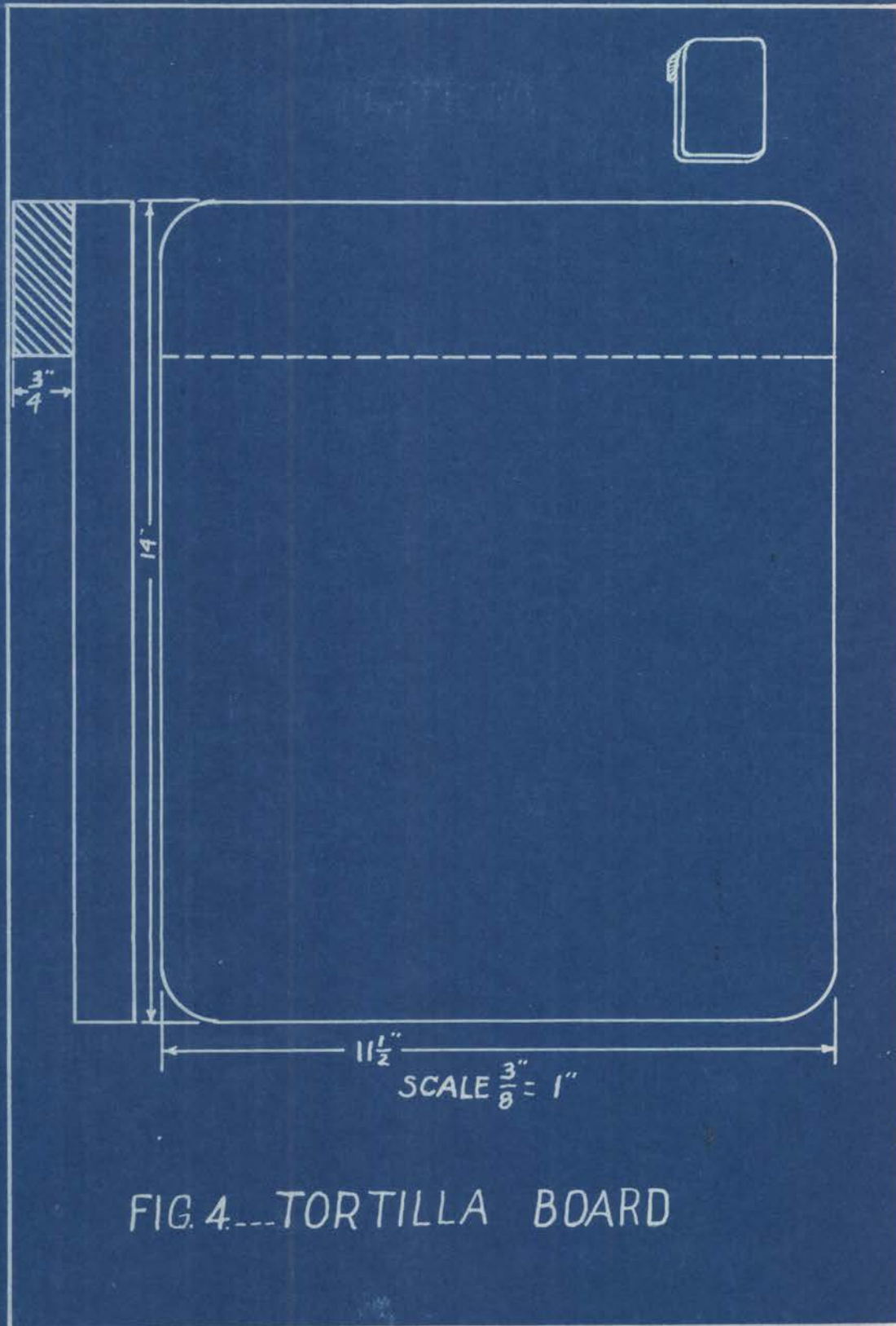


FIG. 4---TORTILLA BOARD

NOTE :- TO BE MADE OF
 $\frac{1}{4}$ " THICK PANEL, SCALE $\frac{3}{8} = 1$ "

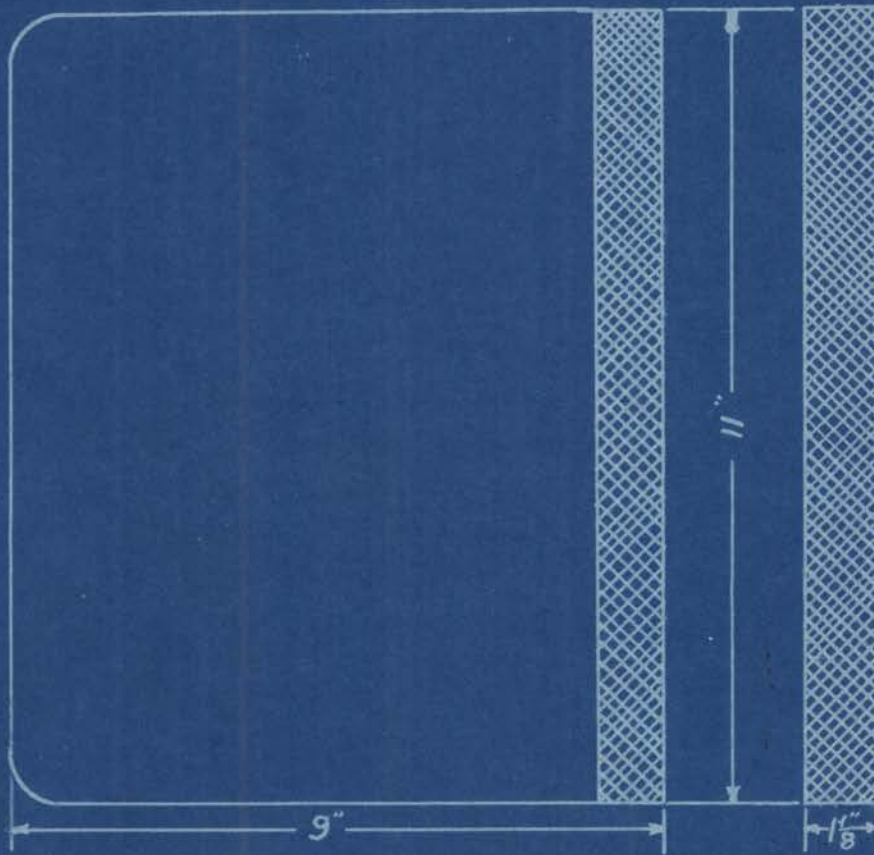
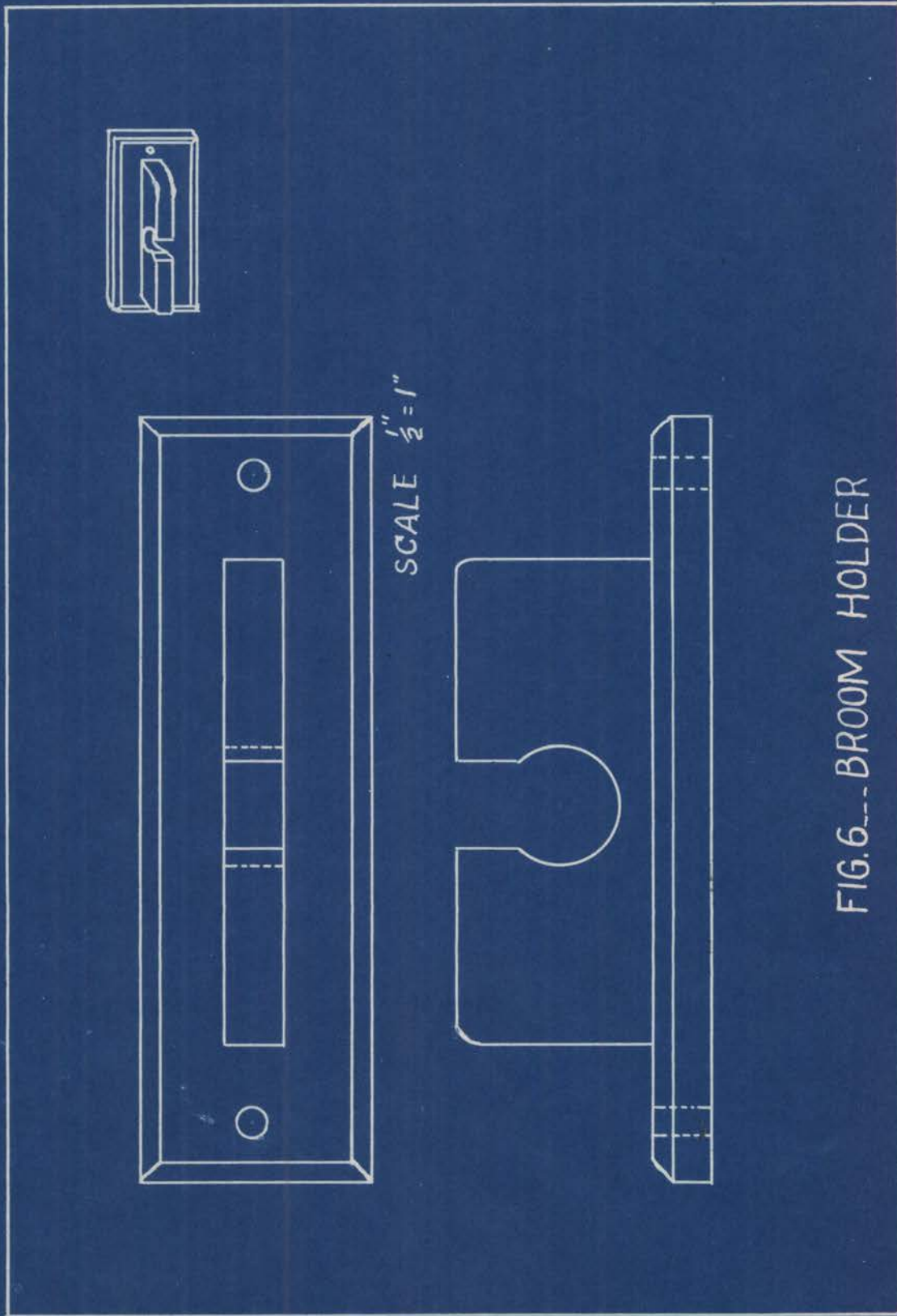


FIG.5...NOTE BOOK COVERS



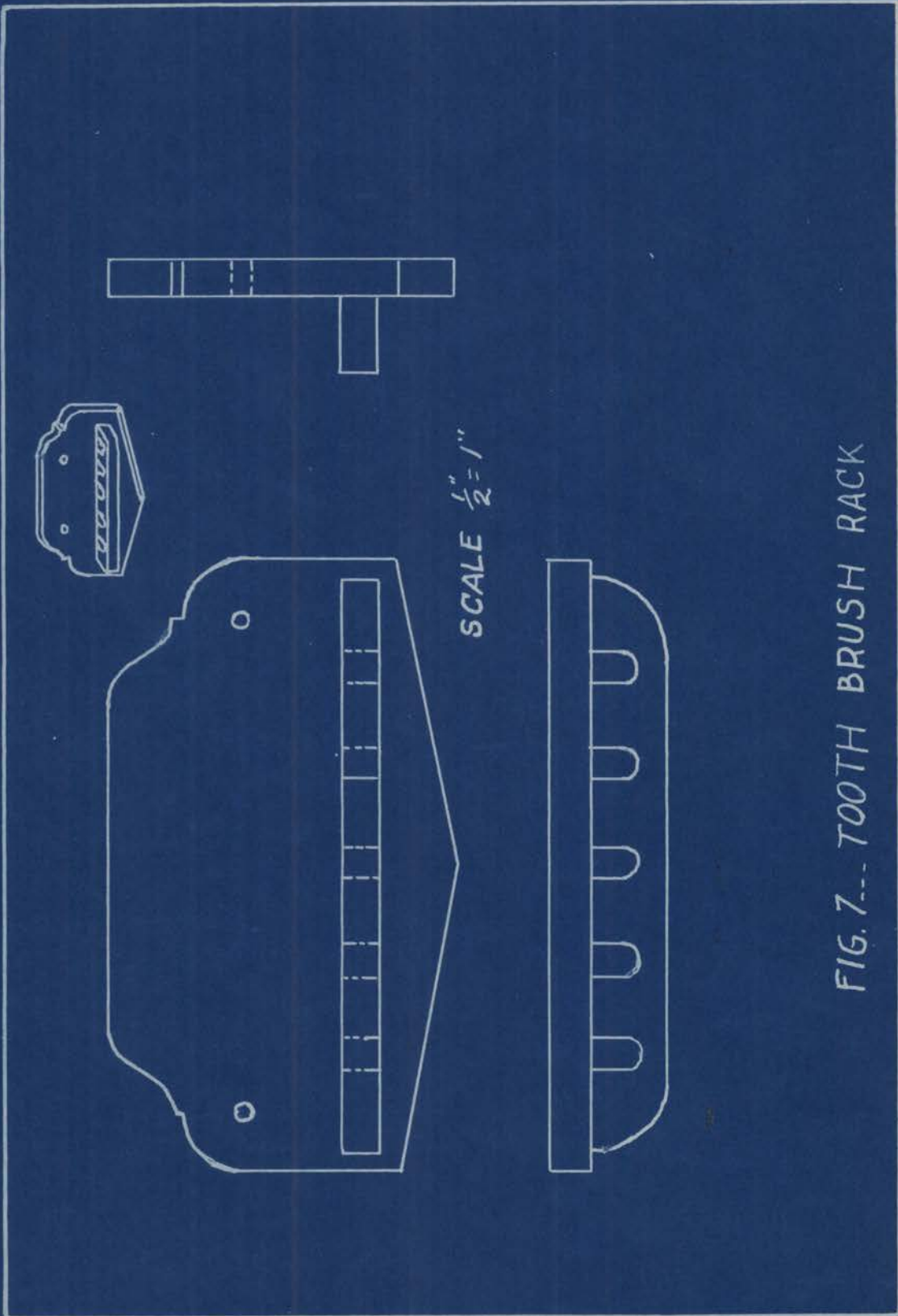


FIG. 7.-- TOOTH BRUSH RACK

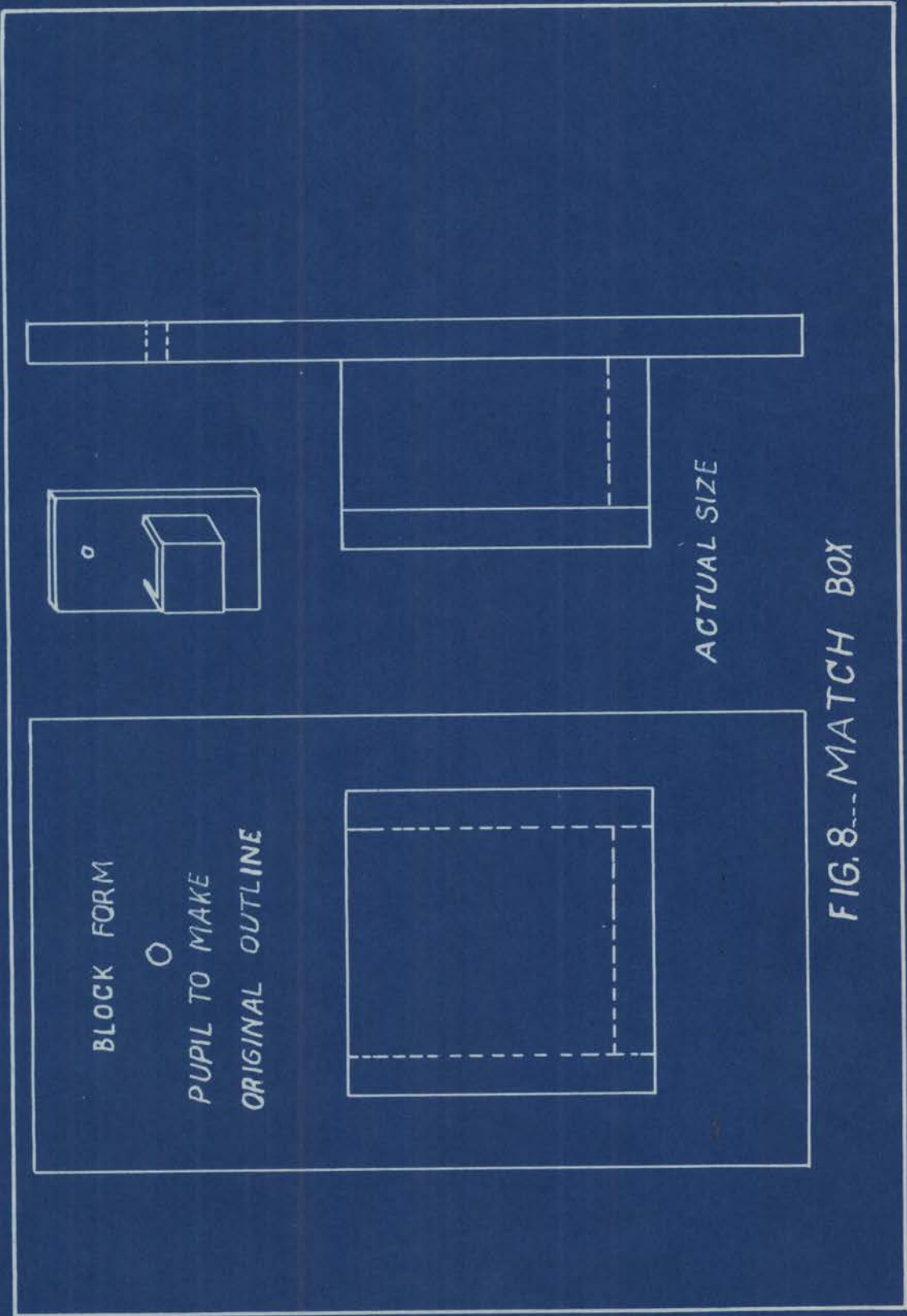


FIG. 8---MATCH BOX

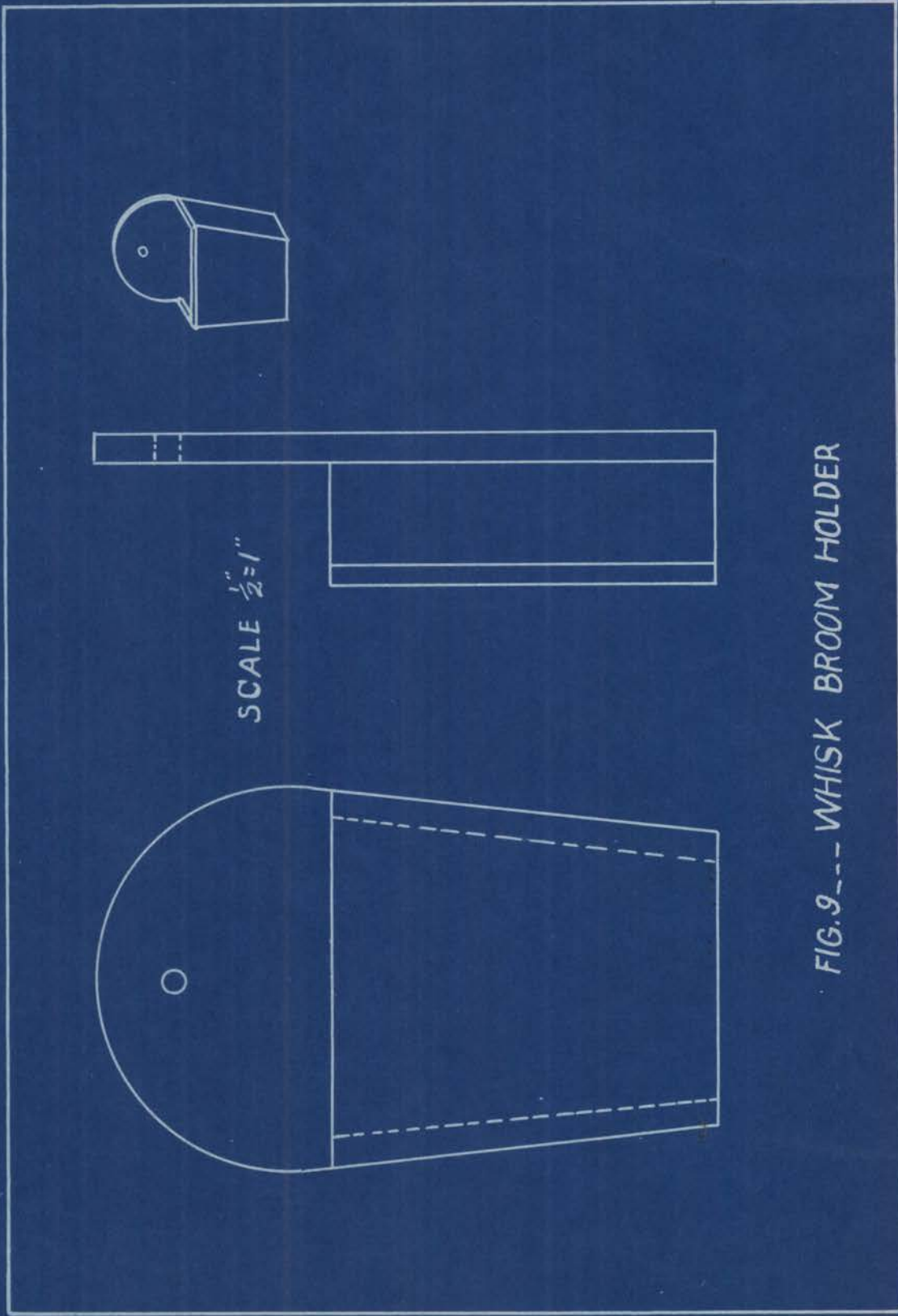


FIG. 9.--- WHISK BROOM HOLDER

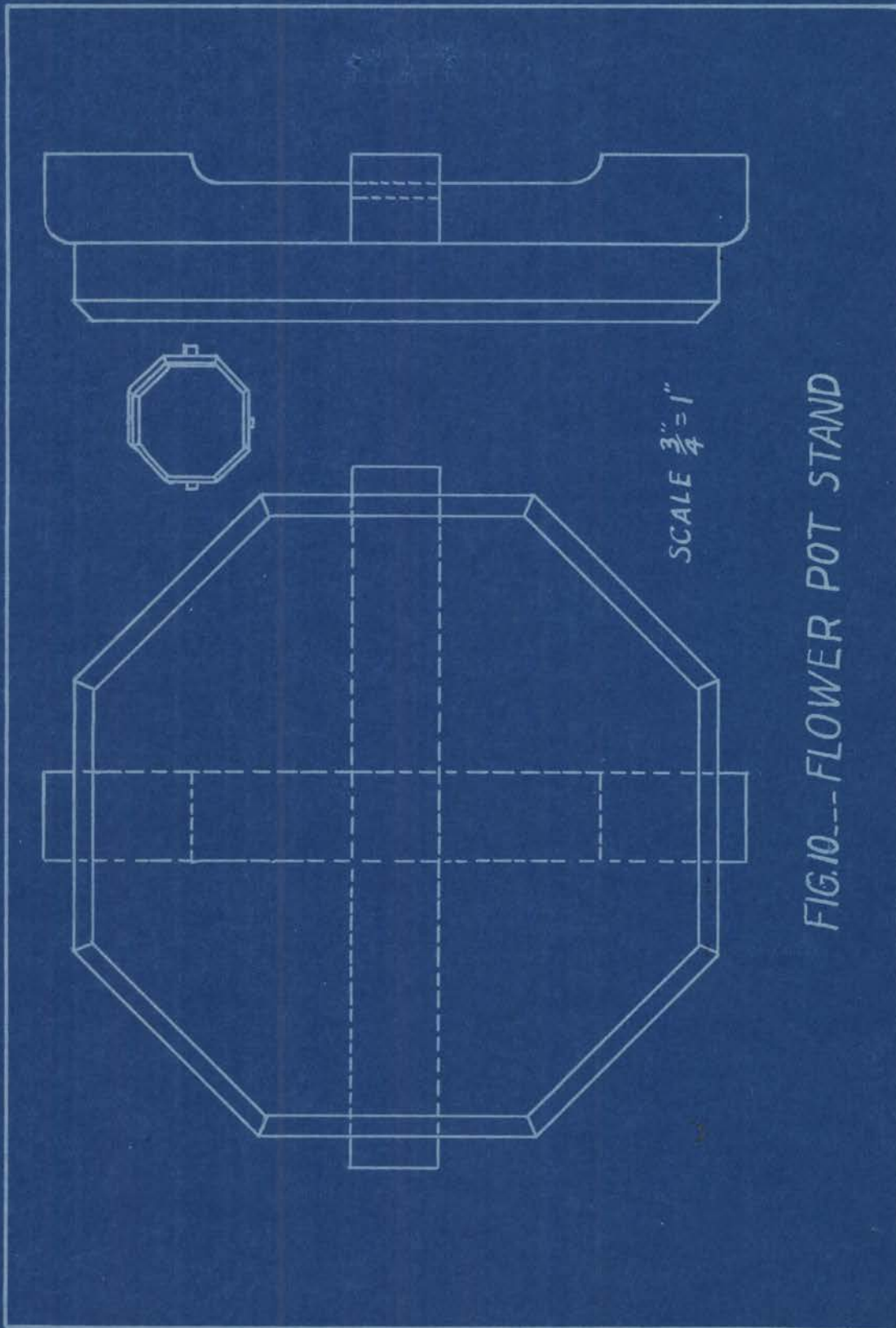
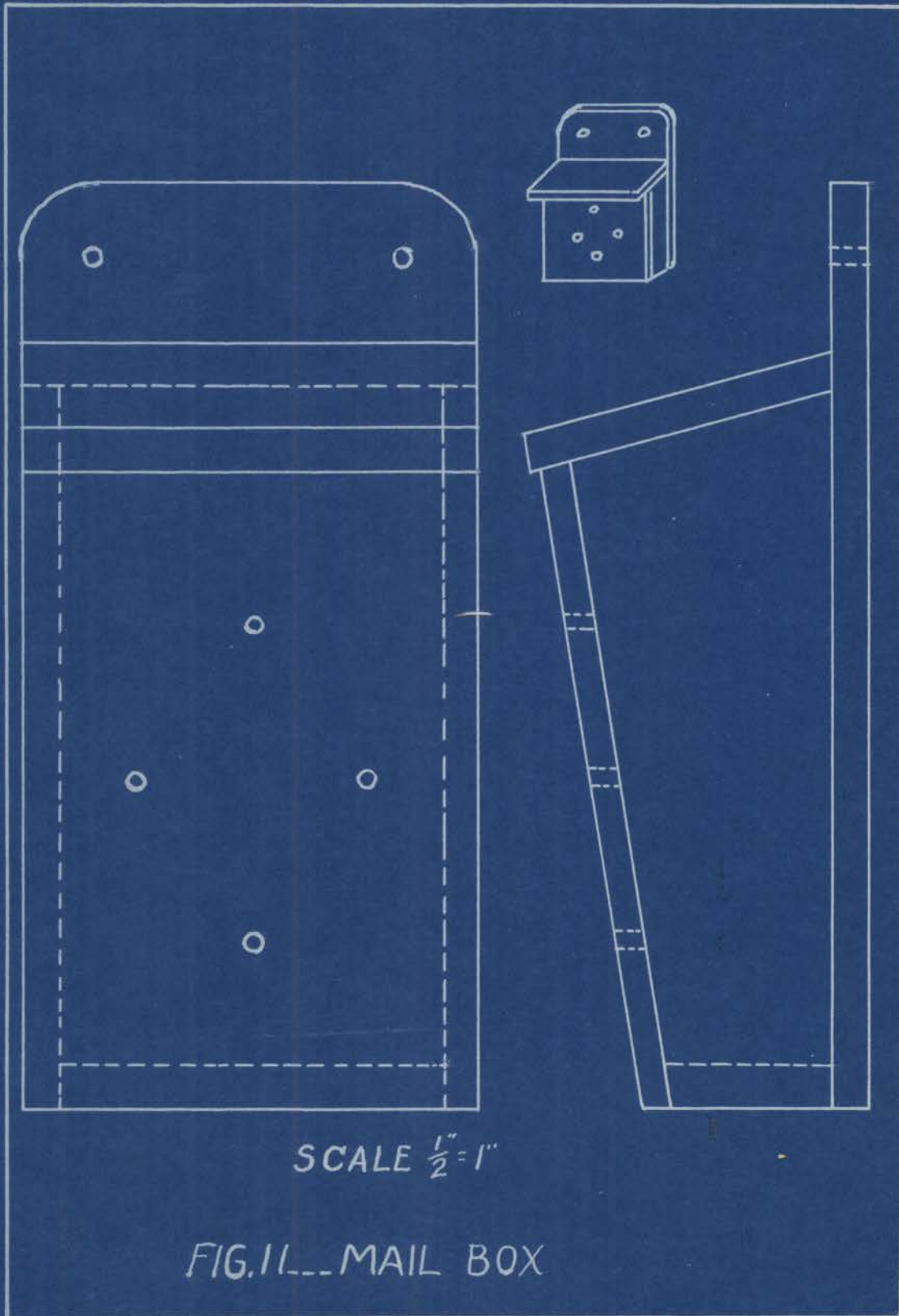


FIG.10.-- FLOWER POT STAND



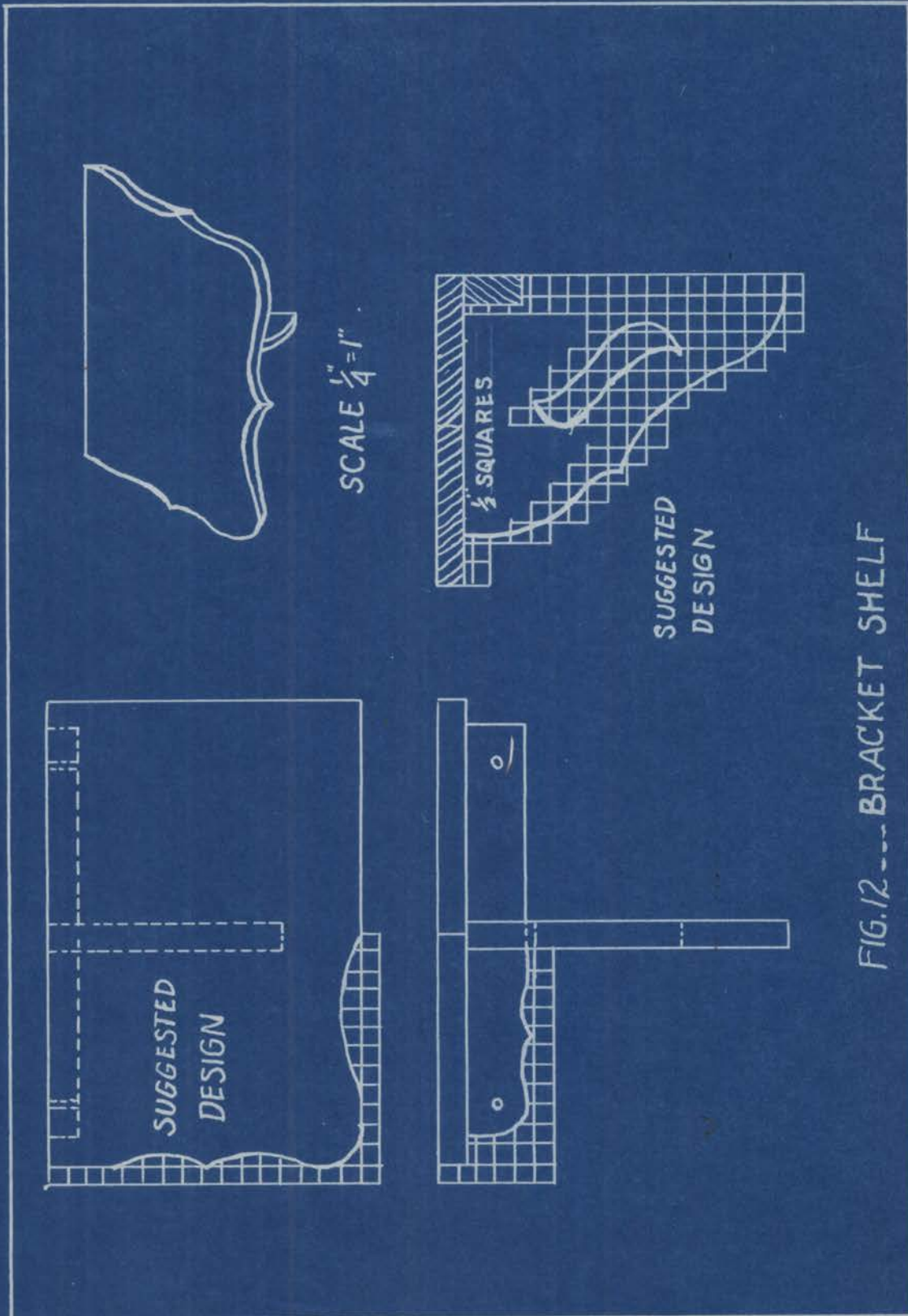


FIG. 12 ---- BRACKET SHELF

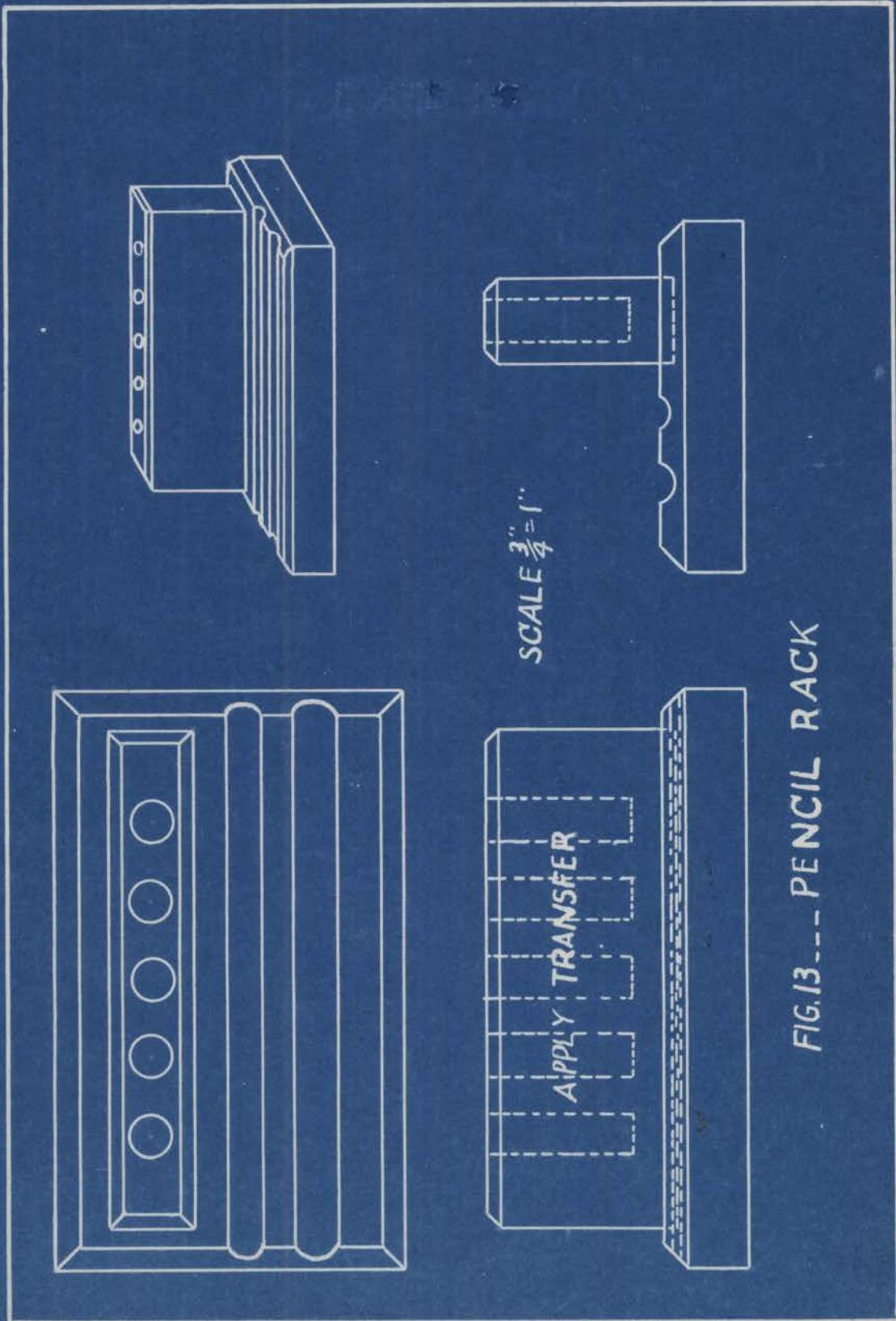


FIG. 13--- PENCIL RACK

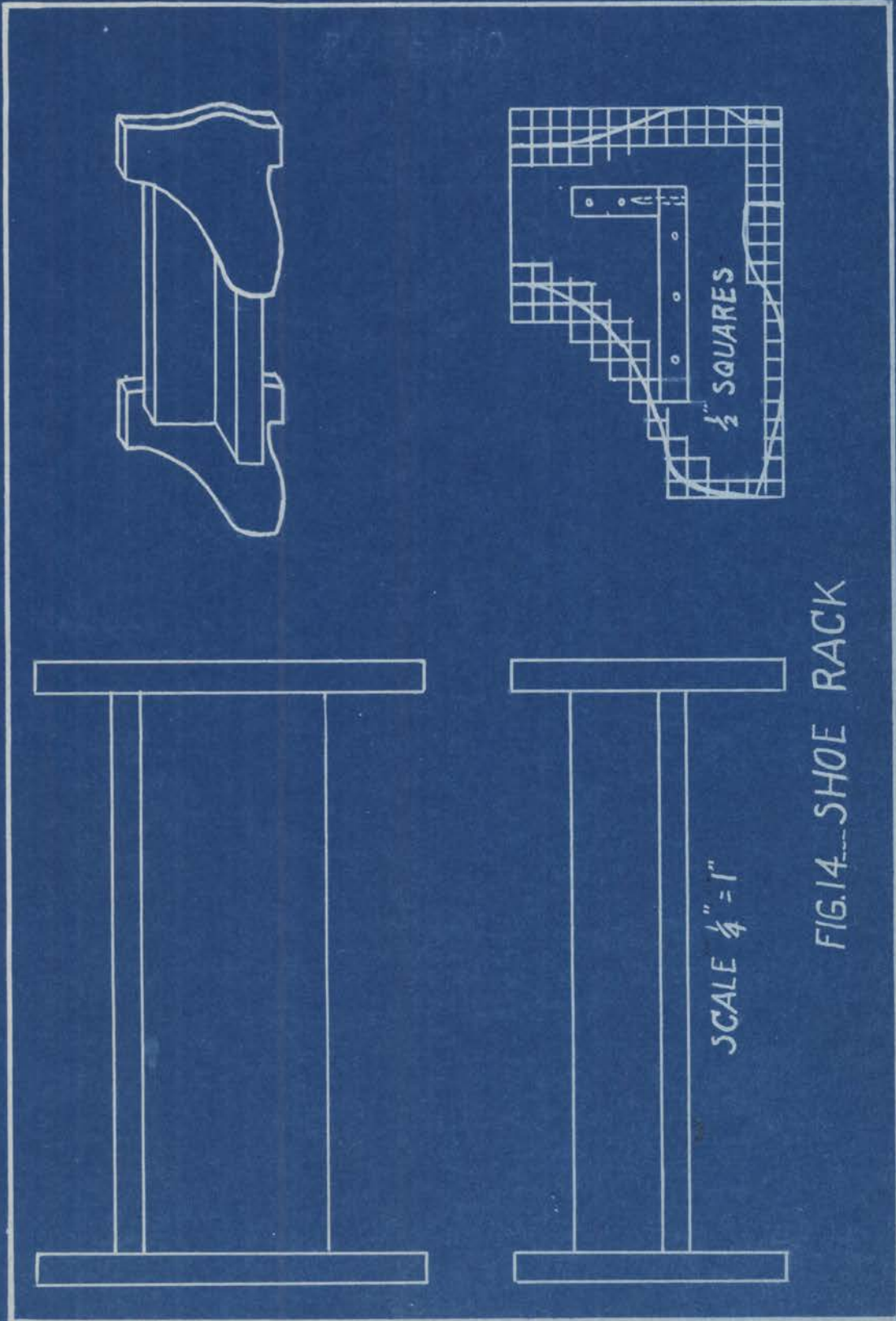
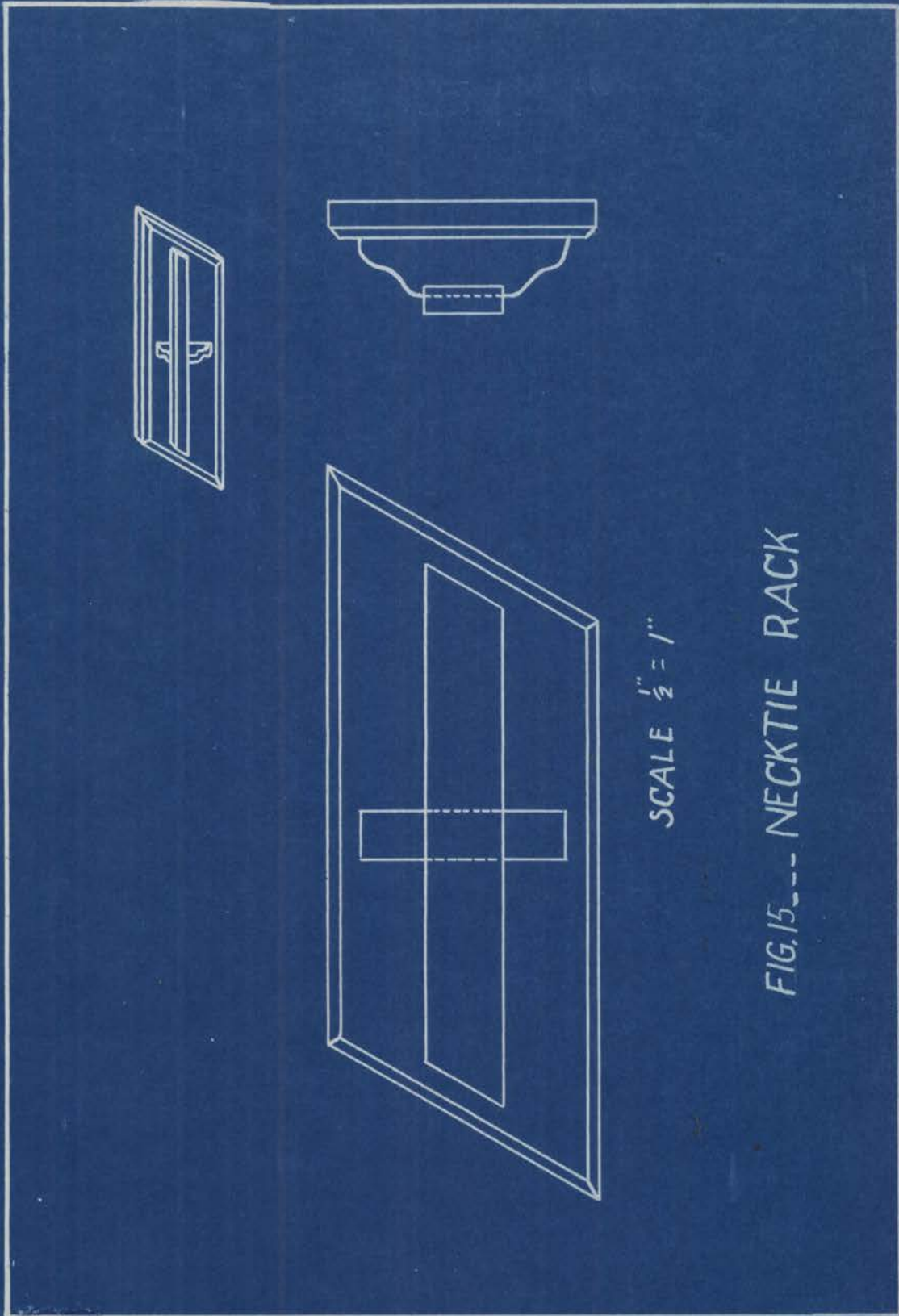


FIG. 14... SHOE RACK



SCALE $\frac{1}{2}'' = 1''$

FIG. 15. --- NECKTIE RACK

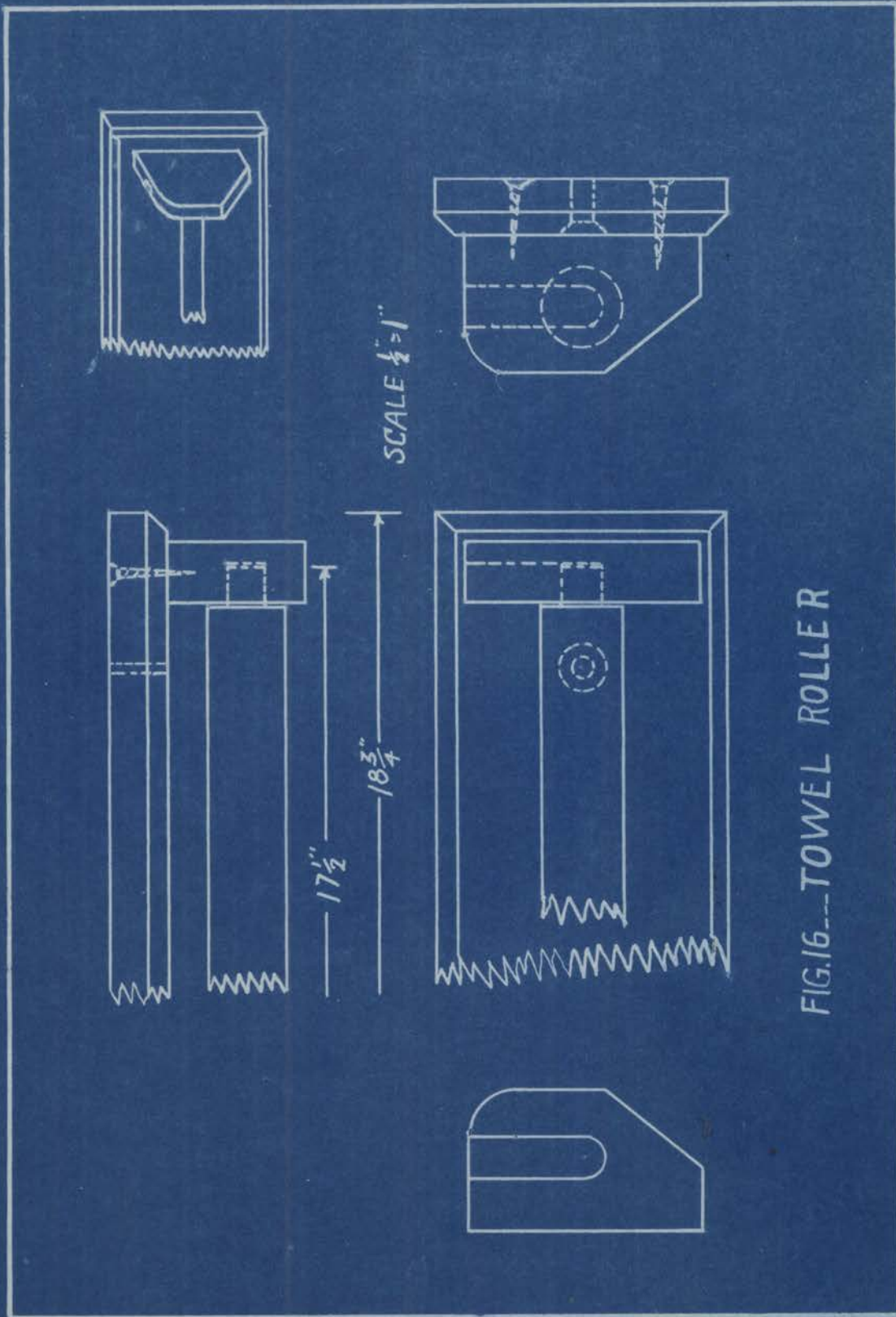
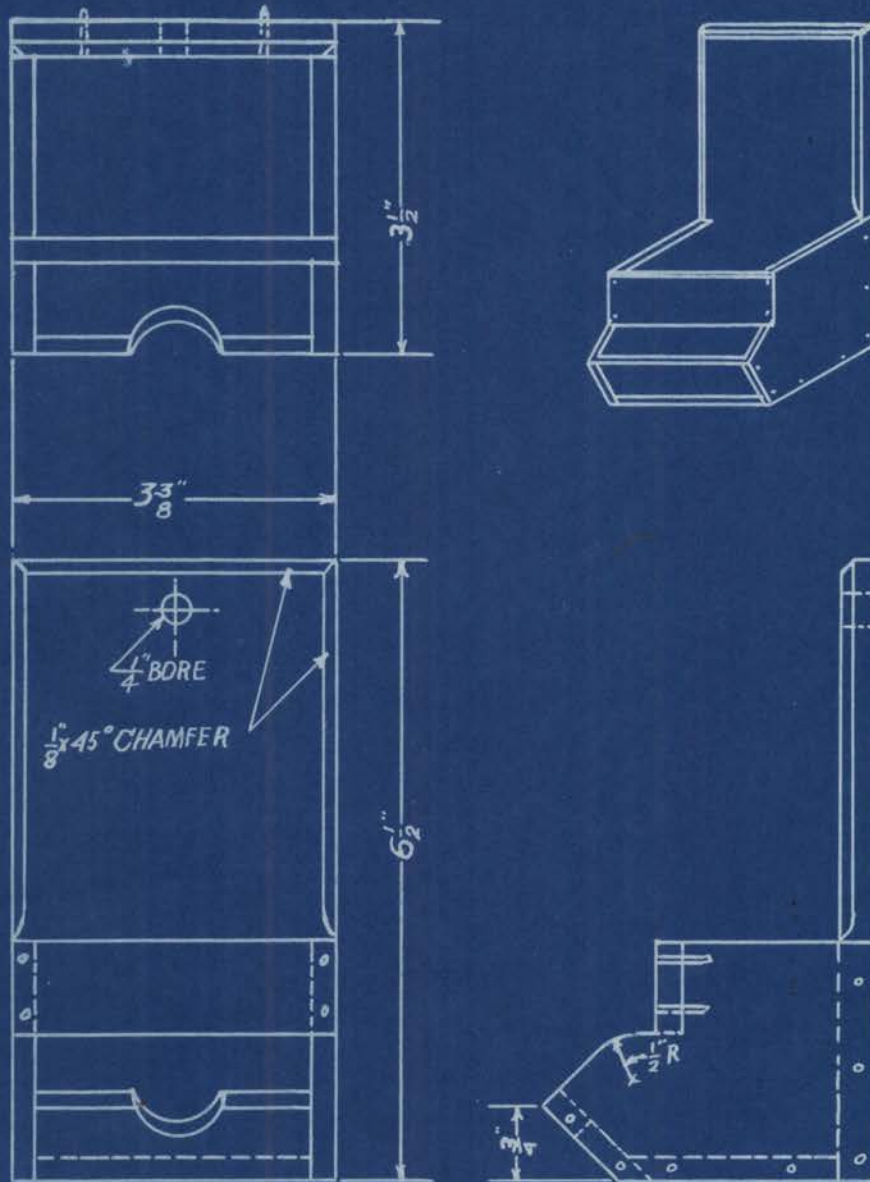


FIG.16--TOWEL ROLLER



SCALE $\frac{1}{2}$ " = 1"

FIG. 17. -- MATCH BOX HOLDER

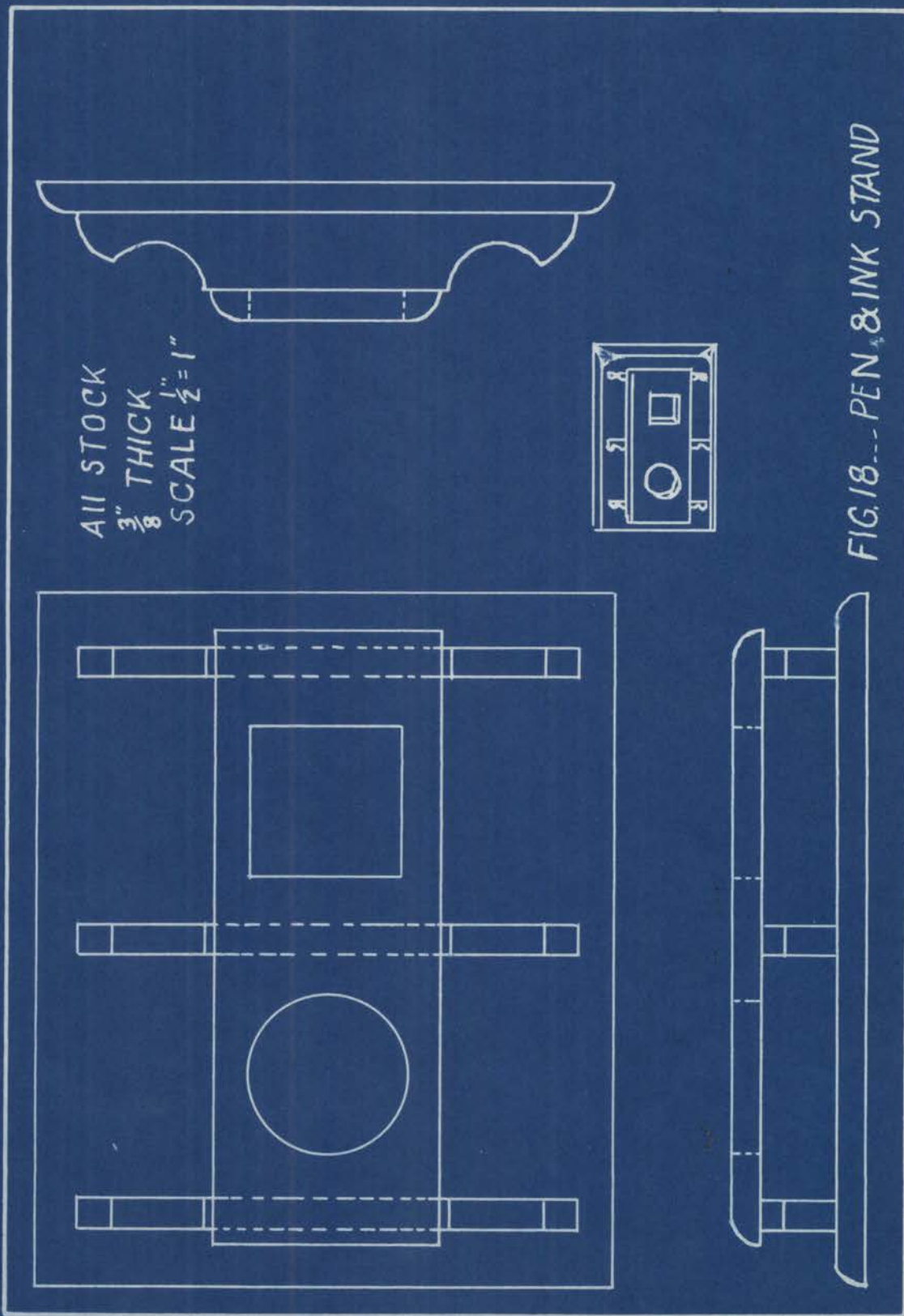


FIG. 18.---PEN & INK STAND

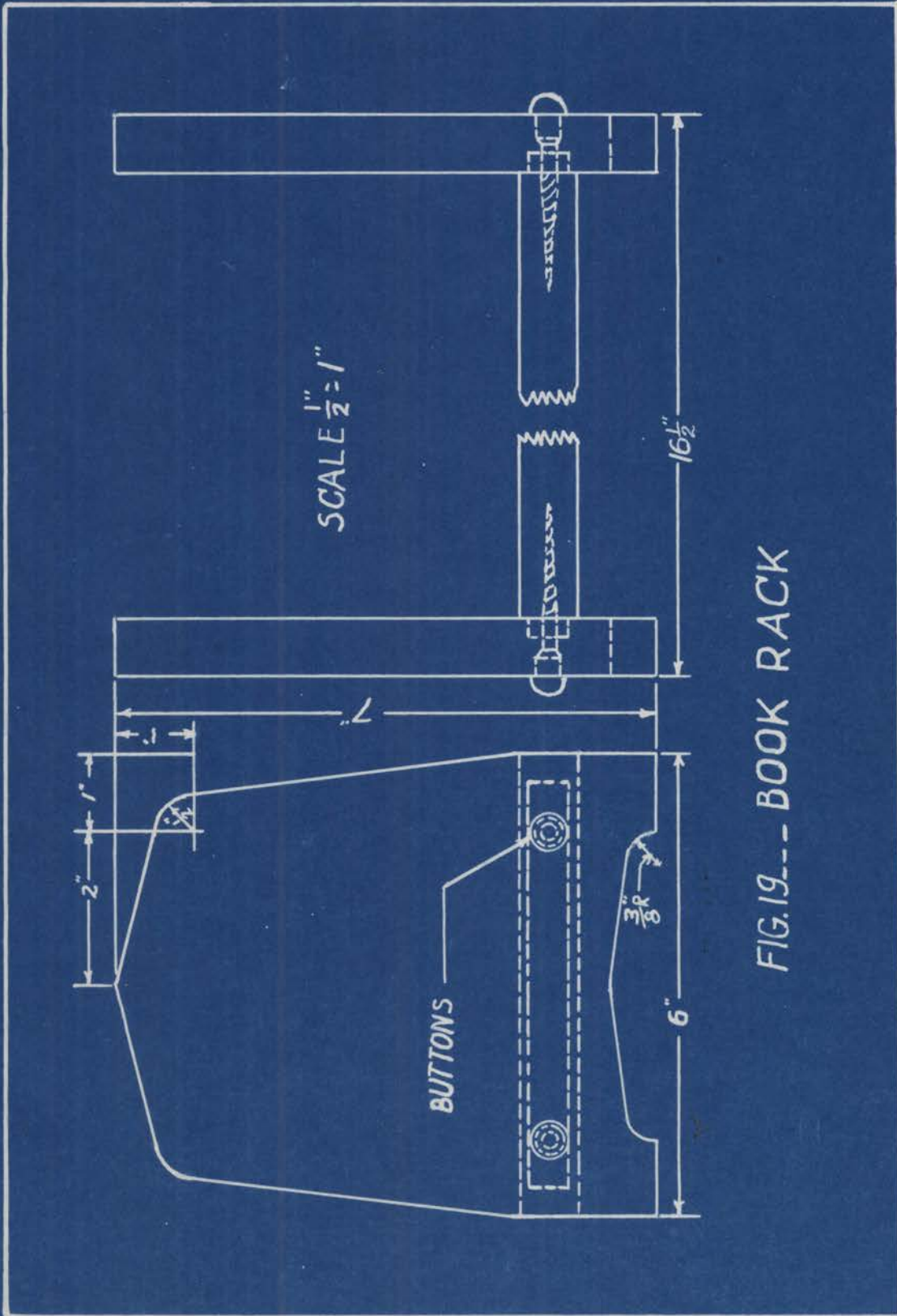


FIG. 19.--- BOOK RACK

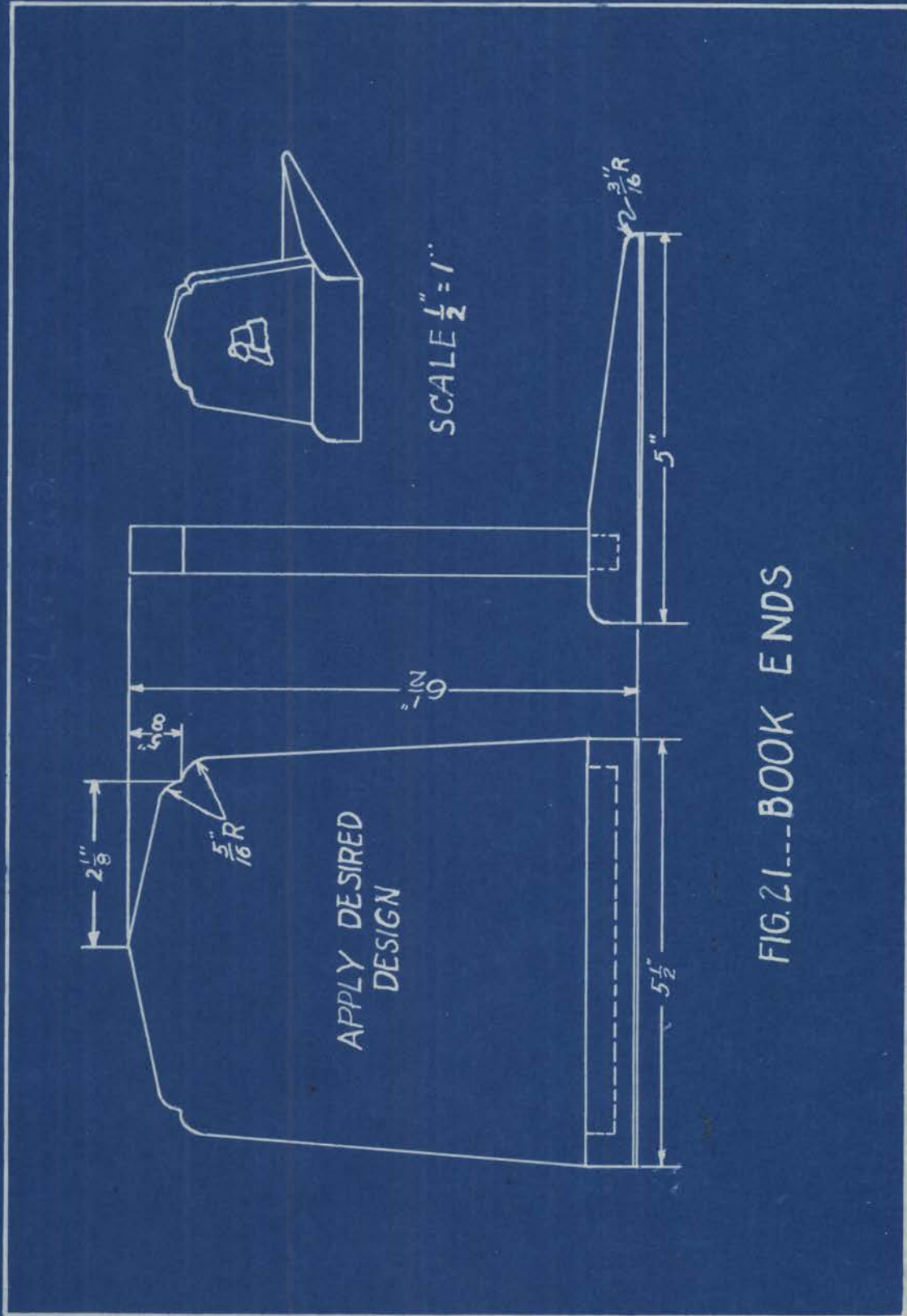


FIG. 21.---BOOK ENDS

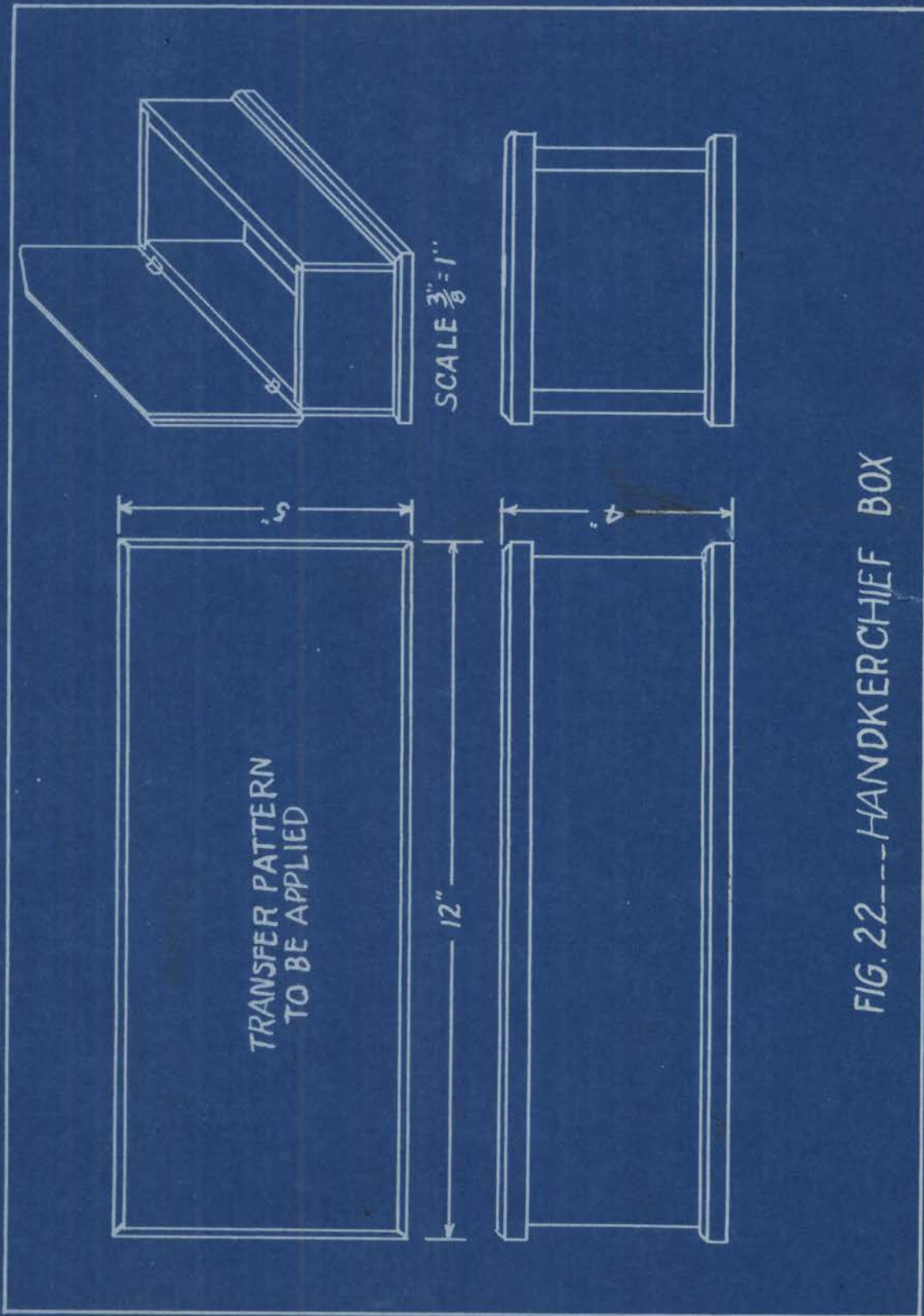


FIG. 22---HANDKERCHIEF BOX

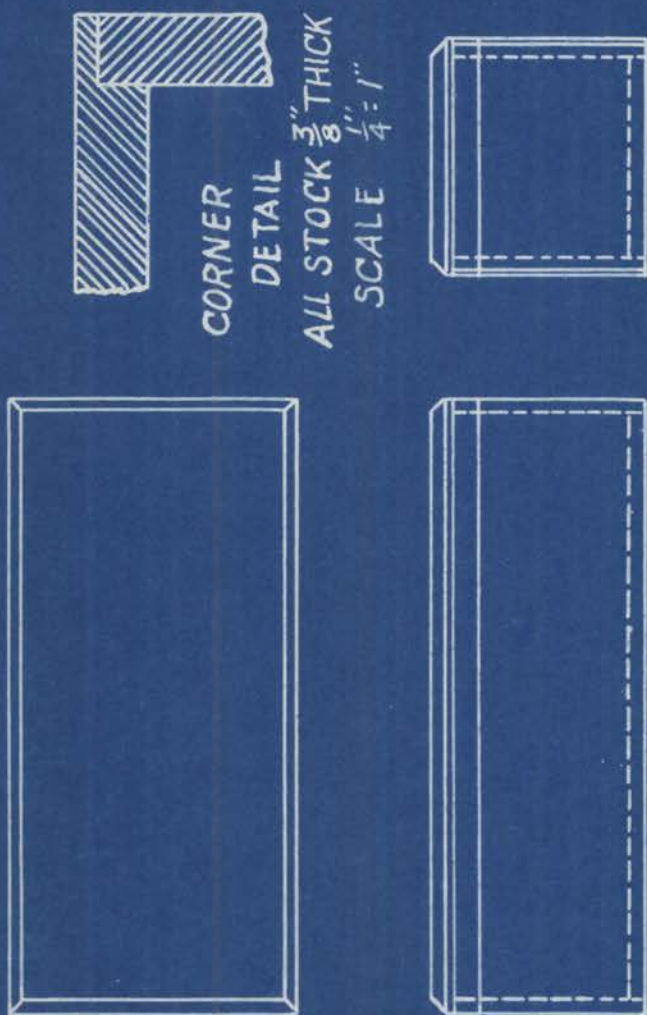
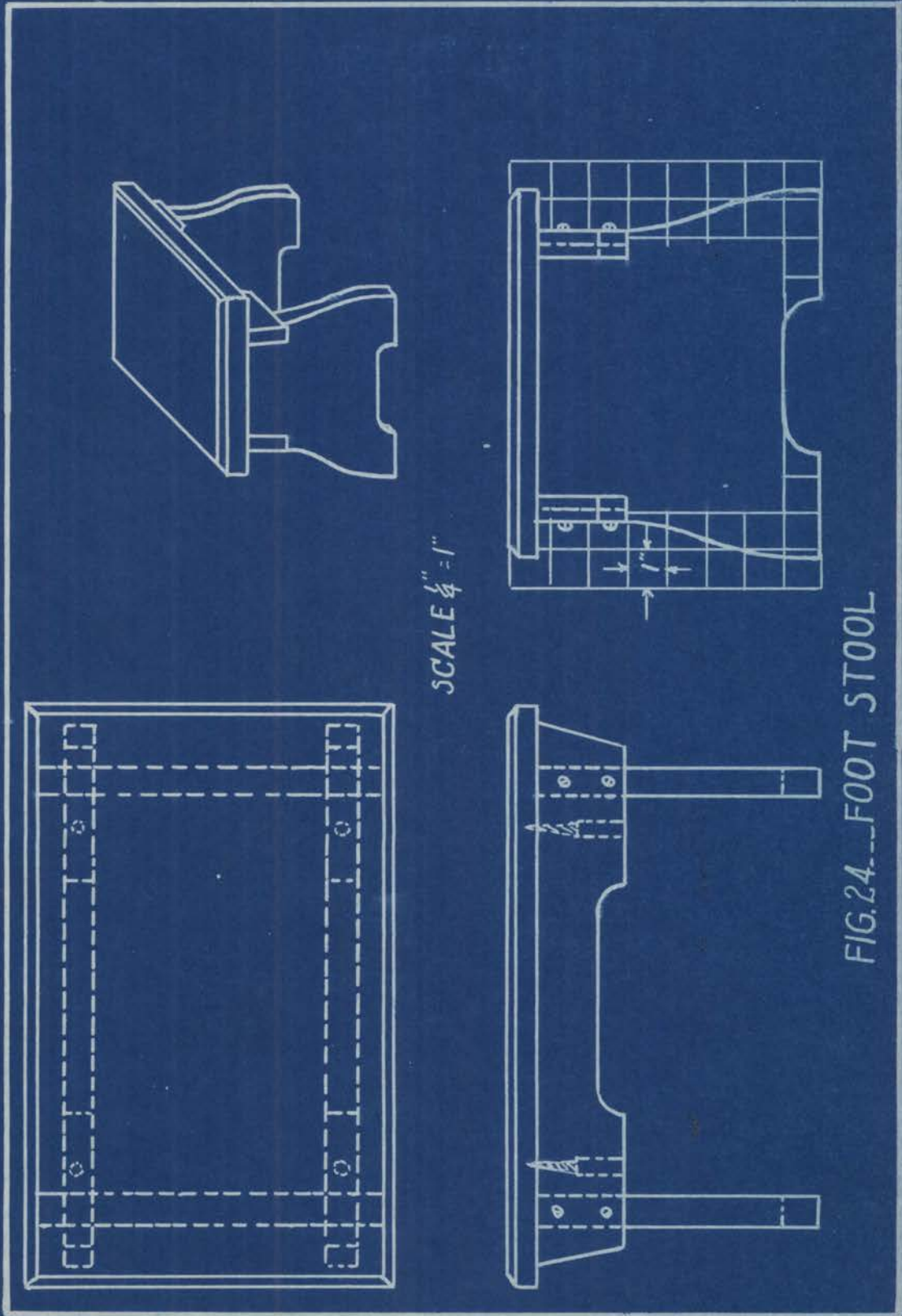
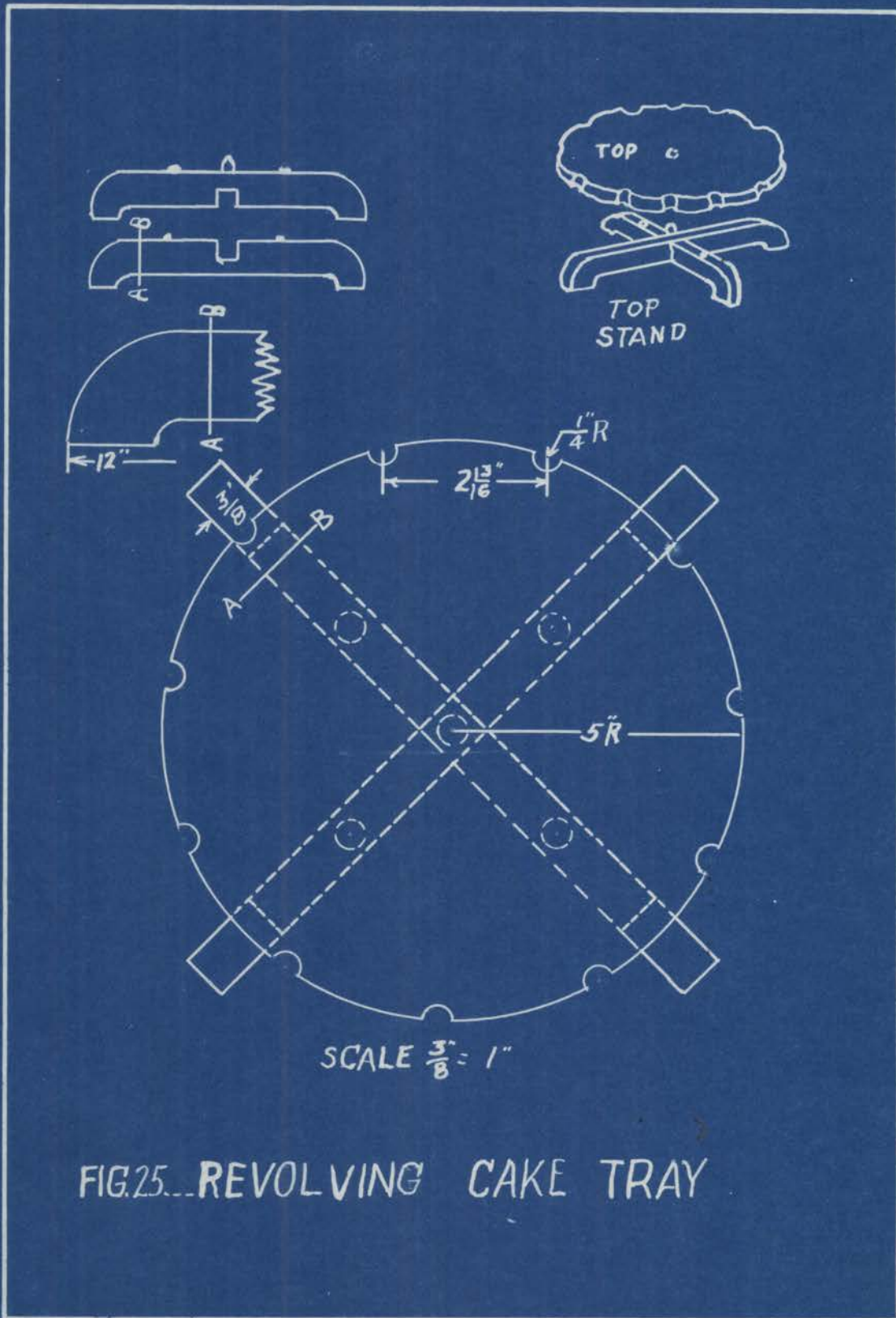


FIG.23---GLOVE BOX





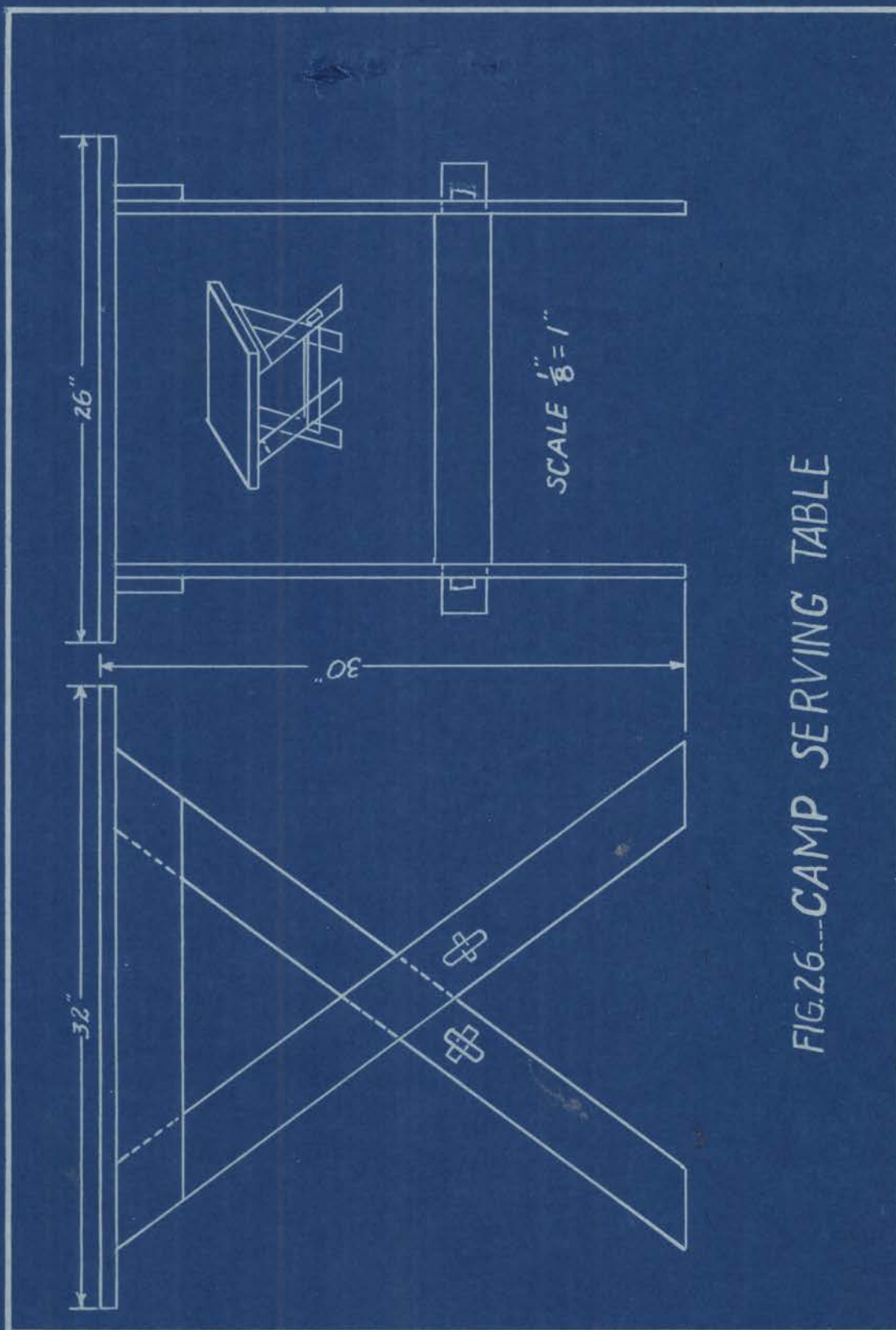


FIG.26---CAMP SERVING TABLE



ACTUAL SIZE



ACTUAL SIZE

FIG.27 PIN TRAYS



ACTUAL SIZE



ACTUAL SIZE

FIG. 28.---ASH TRAYS



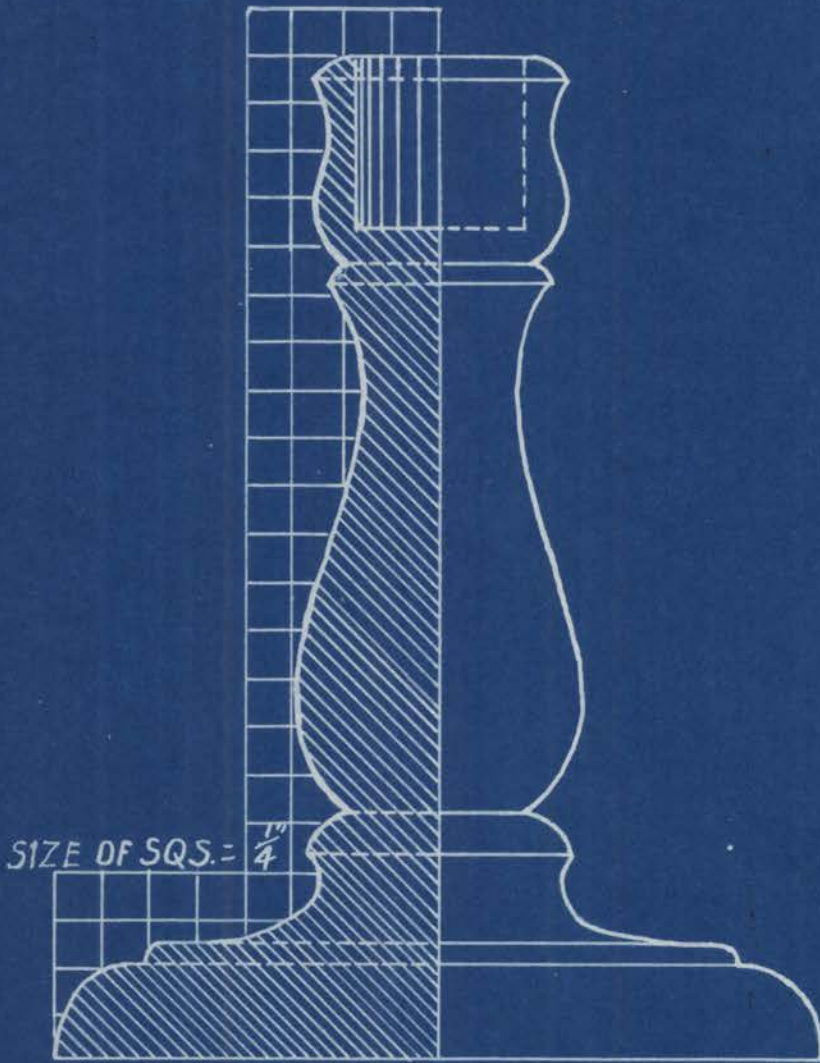
POTATO MASHER



TORTILLA ROLLER

SCALE $\frac{1}{2}''=1''$

FIG.29....SPINDLE TURNINGPROJECTS



ACTUAL SIZE

FIG.30...CANDLE STICK HOLDERS

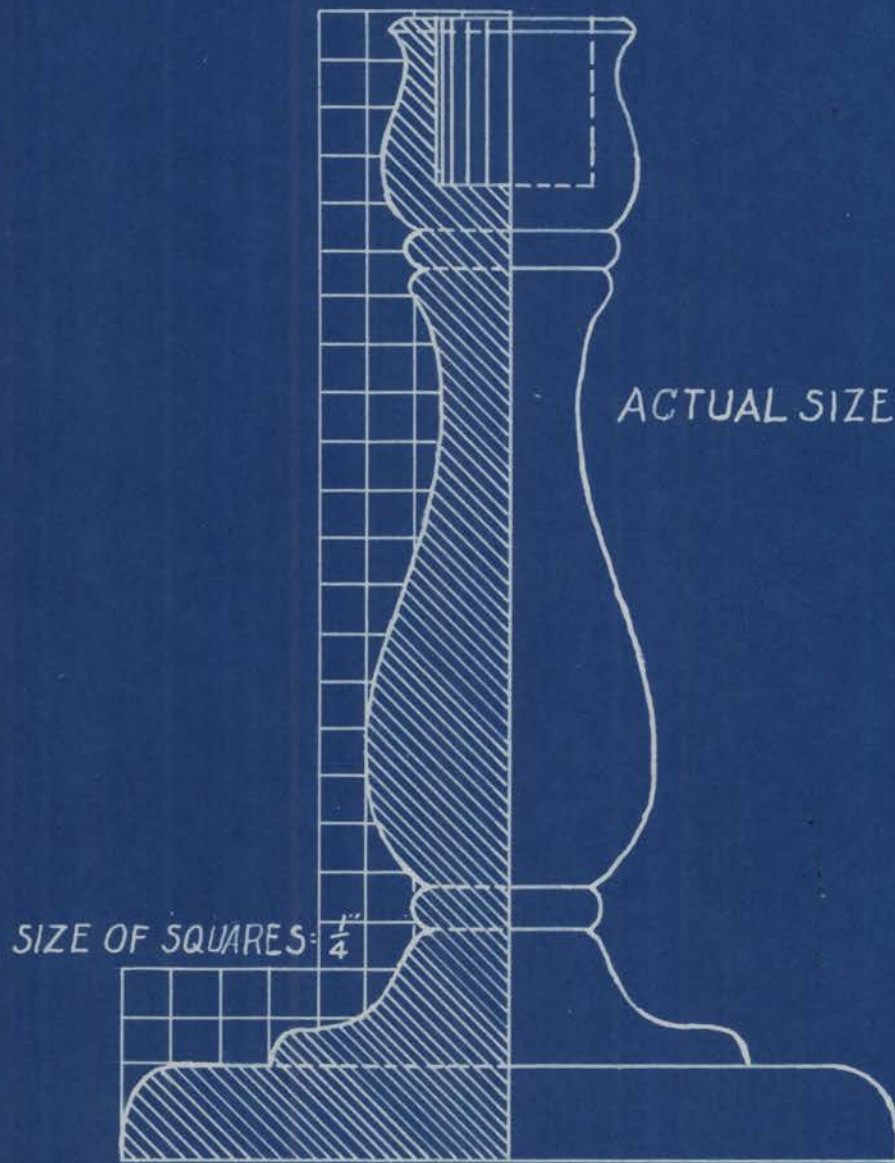
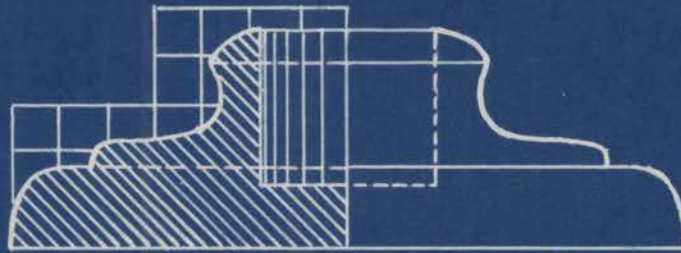
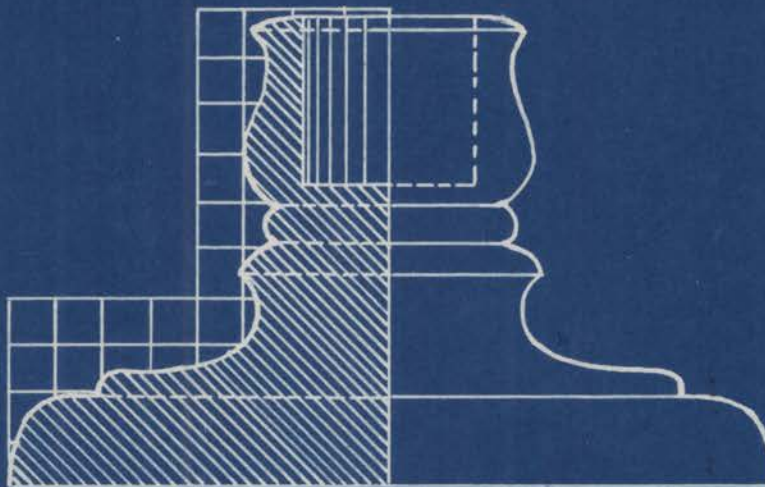


FIG. 31. CANDLE STICK HOLDER



ACTUAL SIZE
SQUARES $\frac{1}{4}$



ACTUAL SIZE

FIG.32...CANDLE HOLDERS

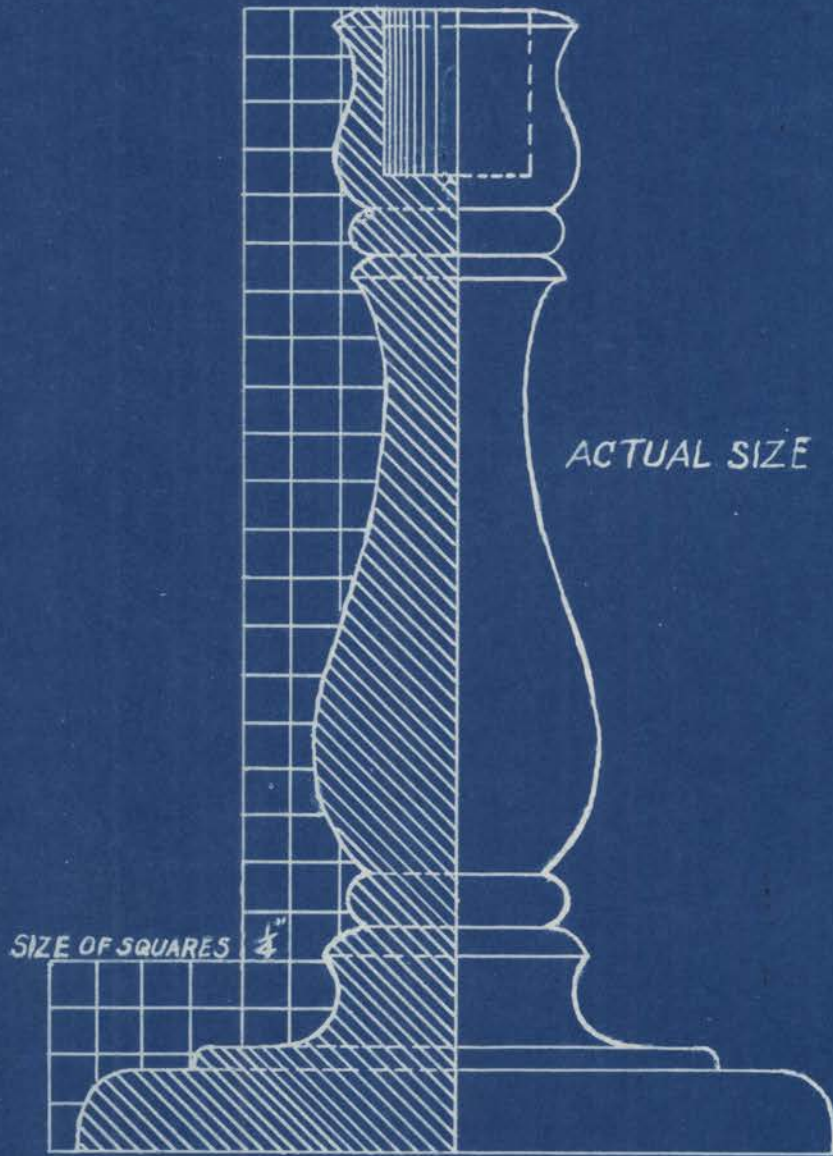
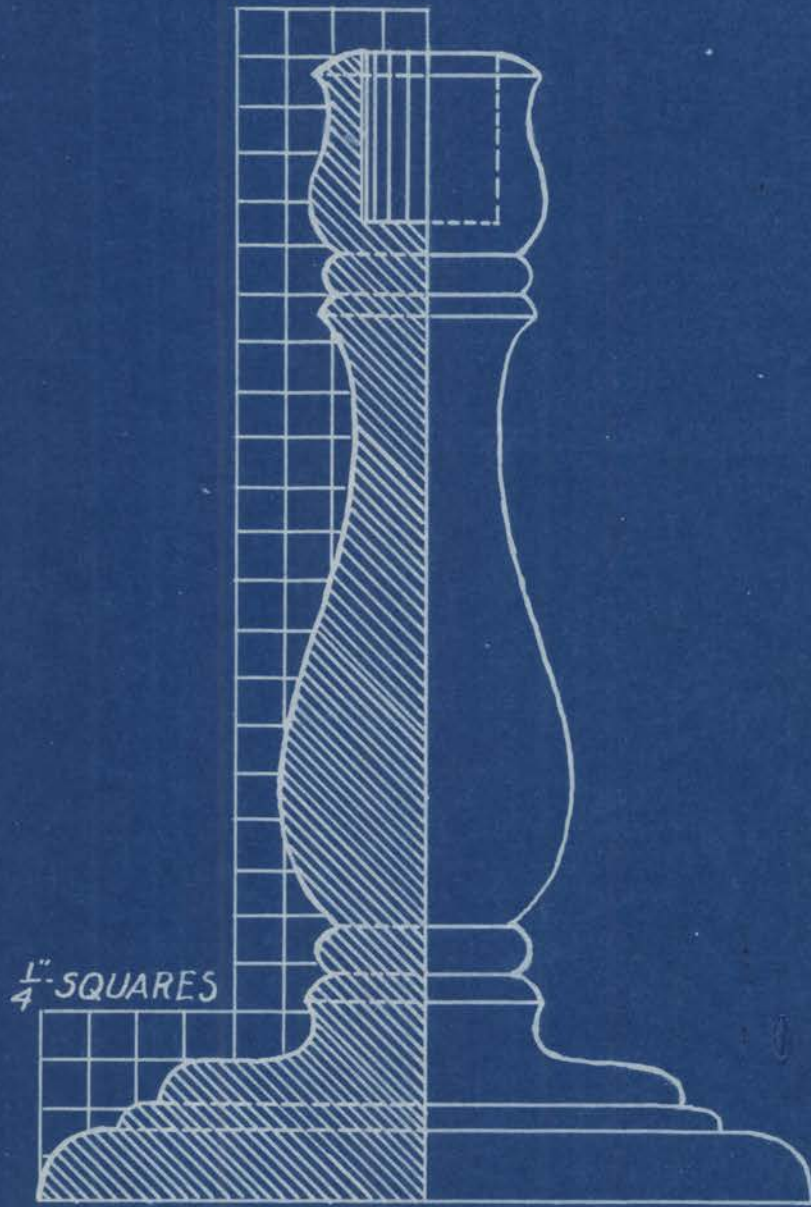
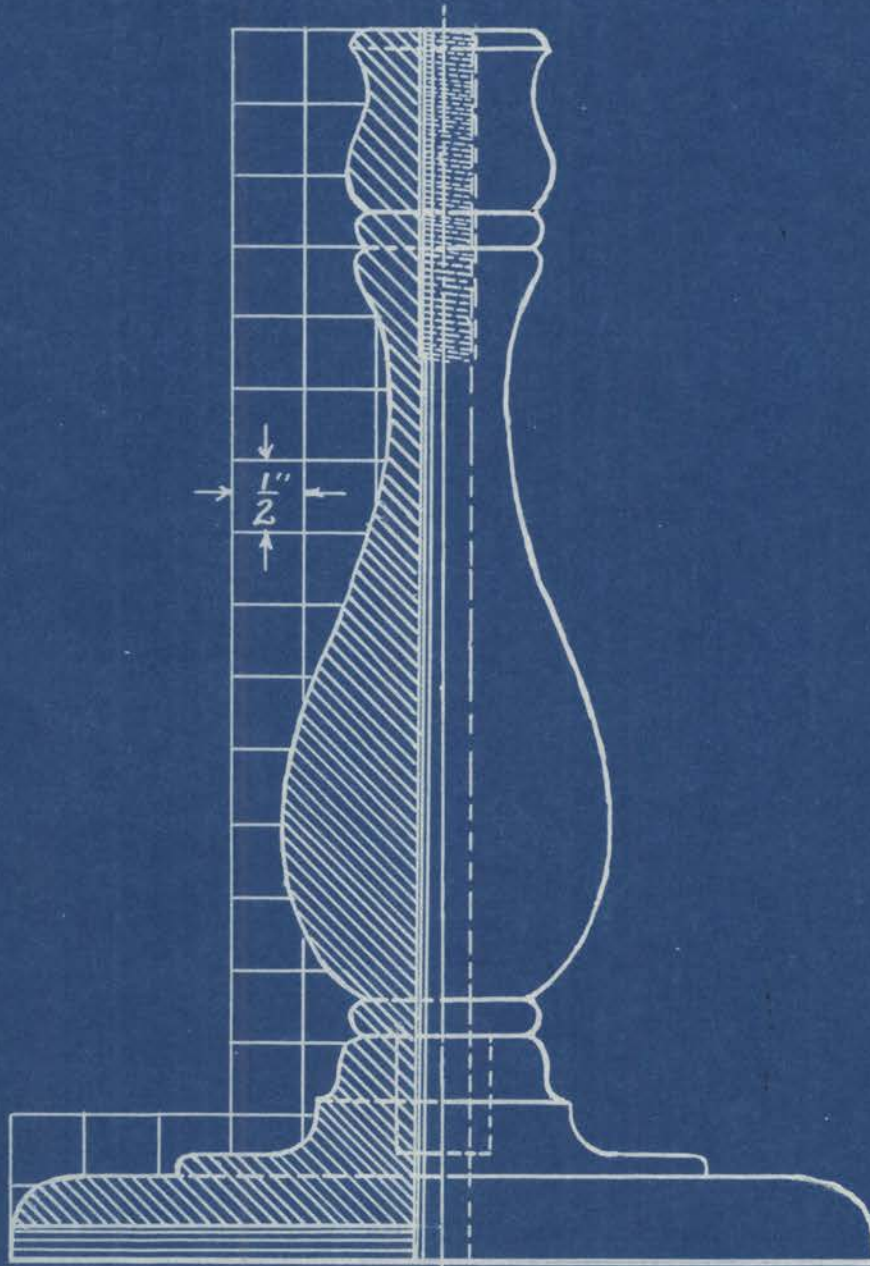


FIG. 33. CANDLE STICK HOLDER



ACTUAL SIZE

FIG.34..CANDLE STICK HOLDER



SCALE $\frac{3}{4}'' = 1''$

FIG. 35. TABLE LAMP

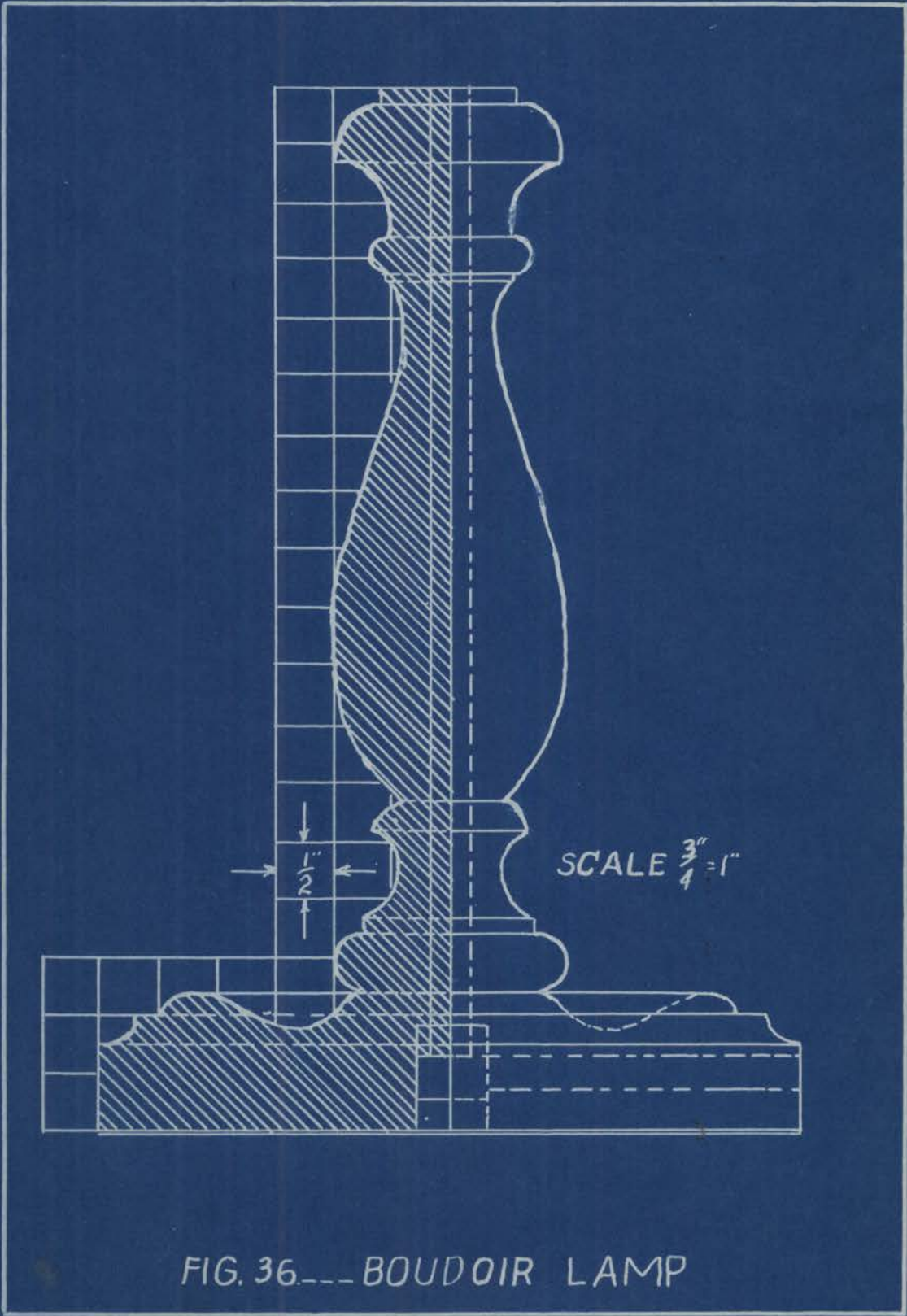


FIG. 36.---BOUDOIR LAMP

CHAPTER IV

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

This study may be summarized under the two main headings of needs and the course offered. The needs were of four types; namely, recreational, vocational, home, and community. The following recreational needs were recognized:

A. The mental health of some individuals may be contributed to by industrial or occupational types of work.

B. The school program should meet those needs of youth not otherwise met.

C. The industrial arts shop could use athletic and recreational equipment as a source for some projects.

D. Many youths in America do not make valuable use of their leisure time or free time.

E. Education must be constantly expanding to meet the needs of society.

F. A well-rounded program of activities and the proper food, water, rest, and shelter are essential to good health.

G. All available recreational facilities should be made use of by the officials in charge as often as possible.

The following list represents the more prominent vocational needs identified in this study:

A. In many cases the course is not sufficiently broad to meet the vocational guidance needs.

B. In many cases students who finish high school have considerable advantage over those with less education, in meeting society.

C. There is some justification for the statement that shop courses, using laboratory and applied practices, cause some children to form favorable attitudes toward school and society in general.

D. In some cases the enrollment from freshman to senior years in high school shows a decrease.

E. The economic importance of vocational guidance affects both employee and employer.

F. The present world status has created a more urgent need for vocational training.

The following list represents the more prominent home needs identified in this study:

A. A community program should be all-inclusive, to meet the needs of its youth.

B. A course in industrial arts can be valuable in helping to make occupational adjustments.

C. A reasonable amount of self-confidence is imperative in meeting one's environmental problems.

D. The industrial arts shop can sometimes be used to valuable advantage by the parents of the community.

E. There is a specific need for guidance courses to be offered early in the secondary curriculum.

F. The needed occupational guidance for youth seems to vary in keeping with the income bracket in which the parents are located.

The following statements indicate the community needs that have been pointed out in this study:

A. Inexpensive construction, educationally speaking, is sometimes false economy.

B. The community recreational program should meet the social leisure-time needs.

C. Disintegration has caused many recreational problems, requiring skillful guidance and the cooperation of all to solve them.

D. Motion pictures and radios have greatly affected youth's leisure-time activities.

E. The nature of the father's occupation often affects the status of the entire family.

The course in woodwork offered by the Bowie High School, El Paso, Texas, is characterized by the following procedures:

A. Blue prints of the laboratory exercises, supplementary materials, and related work were used in presenting the course.

B. The students used as a basis for this study were of Spanish-speaking origin.

C. The course was planned in units of irregular number of weeks depending upon the type and kind of work involved.

D. There were two periods of interruption to the regular course of study; the first was a week spent in making toys, and the second was a period of twelve weeks spent in working on model airplanes.

E. The blue prints used in this course were carefully selected to meet the needs of the students of this locality.

Conclusions

The opinions of the writer are measured in terms of the findings; and the relation of industrial arts to other phases of life as offered in the Bowie High School, El Paso, Texas, is found to be an intimate one.

It is evident that the industrial arts shop is striving to meet the recreational needs of our American youth to some extent, in that the students are permitted to do such shop work as they wish after school hours, within the bounds of their abilities and in keeping with the immediate physical status of the shop. These activities often prove beneficial to students' mental, physical, and moral health. Also, the program of work is of such a nature as to aid in the home and community to some extent.

The industrial arts shop often makes or repairs some athletic or school equipment as a practical problem.

The work just mentioned is often worthwhile as vocational training. The shop has also aided many students in choosing both their vocations and avocations.

Recommendations

As the course is offered it seems there could be some valuable alterations made by introducing some craft work and some work with plastics, some electrical work, and some art-metal work. But since comprehensive courses in mechanical drawing and a vocational course in sheet-metal work are offered, the emphasis on these two courses should speak for itself.

A well-rounded course in vocational or occupational and avocational guidance in connection with the industrial

arts shop would seem to be valuable to many students, because the work of the coordinator does not adequately cover the field of guidance.

BIBLIOGRAPHY

- Abraham, H. G., "Methods for Determining the Need for Supervised Summer Recreation," Elementary School Journal, XXXVI (March, 1936), 513-516.
- American Association of School Administrators, Education for Family Life, Nineteenth Yearbook, Washington, National Education Association, 1941.
- American Educational Research Association, "Vocational Education," Review of Educational Research, III (June, 1933), 214-215.
- Baker, G. D., "Hobby Clubs in South Pasadena Junior High School," Clearing House, X (February, 1936), 334-337.
- Bell, Howard M., Matching Youth and Job, Washington, American Council of Education, 1940.
- Bell, Howard M., Youth Tell Their Story, Washington, American Council of Education, 1938.
- Betts, Gilbert L., and Van Duzee, Roy R., "Interest and Learning," Industrial Arts and Vocational Education, XXV (May, 1936), 135-136.
- Betts, Gilbert L., "Maladjustment and Learning in Relation to Interest," Industrial Arts and Vocational Education, XXVI (August, 1937), 237-238.
- Braden, G. W., "Avocational Training for the New Leisure," Proceedings of the National Education Association, 1935, 435-436.
- Eristow, W. H., and others, Family Living in Our Schools, New York, D. Appleton-Century Company, 1941.
- Brown, E. J., "Building of a Better Citizenry Through Recreational Activities," National Elementary Principal, XVI (October, 1936), 5-6.

- Chauncey, Marlin Ray, The Educational and Occupational Preferences of College Seniors, New York, Bureau of Publications, Teachers College, Columbia University, 1932.
- Coleman, Ralph, "Ornamental Iron for Senior High Schools," Unpublished Master's Thesis, Department of Education, North Texas State Teachers College, 1939.
- Cook, Lloyd Allen, Community Background of Education, New York, McGraw-Hill Book Company, Inc., 1938.
- Counts, George S., Social Foundation of Education, New York, Charles Scribner's Sons, 1935.
- Davis, R. L., and Edgecomb, C., "Community Recreation," Sierra Educational News, XXXVI (December, 1940), 46.
- De Garmo, Charles, Interest and Education, New York, Macmillan Company, 1902.
- Dewey, John, Interest and Effort in Education, Boston, Houghton Mifflin and Company, 1913.
- Engelhardt, N. L., "Leisure Education and Recreation -- an Educator's Responsibility," Journal of Health and Physical Education, VIII (June, 1937), 343-344.
- Hanna, Paul Robert, Youth Serves the Community, New York, D. Appleton-Century Company, Inc., 1936.
- Hopkins, L. Thomas, Integration: Its Meaning and Application, New York, D. Appleton-Century Company, 1937.
- Lamb, J. J., "Art Metal Work in Junior High School," Unpublished Master's Thesis, Department of Education, North Texas State Teachers College, 1936.
- Mangan, Thomas J., Education for American Life, New York, McGraw-Hill Book Company, 1938.
- Mayer, Albert, "Building Our Home Line," Survey Graphic, XXIX (February, 1940), 55-57.
- Maehlman, A. H., "Recreation and Youth for Junior and Senior High School," Clearing House, X (February, 1936), 338-341.
- Myers, George E., Principles and Techniques of Vocational Guidance, New York, McGraw-Hill Book Company, 1941.

- Neuberg, Maurice Joseph, Principles and Methods of Vocational Choice, New York, Prentice-Hall, Inc., 1934.
- Proctor, W. M., Education and Vocational Guidance, New York, Houghton Mifflin Company, 1913.
- Rainey, Homer P., How Fair American Youth, New York, D. Appleton-Century Company, Inc., 1937.
- Ricktenwald, L. N., "Sources of Occupational Influence," Industrial Arts and Vocational Education, XXVI (August, 1937), 239-240.
- Want, H. O., "Recreation Program for a Mexican Community," Sierra Educational News, XXXIII (April, 1937), 26-27.
- Wells, J. Haskin, "Practical Arts Course for Junior High School," Unpublished Master's Thesis, Department of Education, North Texas State Teachers College, 1936.