

**FARM BLACKSMITHING: A TEXTBOOK  
AND PROBLEM BOOK FOR STUDENTS  
IN AGRICULTURAL SCHOOLS AND  
COLLEGES, TECHNICAL SCHOOLS.  
AND FOR FARMERS**

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Farm Blacksmithing: A Textbook and Problem Book for Students in Agricultural Schools and Colleges, Technical Schools. And for Farmers by John F. Friese

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A TEXTBOOK AND  
PROBLEM BOOK FOR STUDENTS IN AGRICULTURAL  
SCHOOLS AND COLLEGES, TECHNICAL  
SCHOOLS. AND FOR FARMERS

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## PREFACE

THIS book is the direct outgrowth of the author's experiences in teaching farm blacksmithing to farm boys. The objects, of which the process of making is described in the book, all center about farm activities.

The purpose of the book is two-fold. It is intended as an aid to a teacher of farm blacksmithing, being a source of problems, and suggestive of how the work may be carried forward.

In addition to being a "What" and "How" book for instructors, the author constantly had in mind its direct use by farmers as a means of self-instruction in blacksmithing. This accounts for certain details and some repetitions. Because of its intended use as a book of self-instruction the author has taken little for granted.

Farm blacksmithing is a rougher type of work than that expected of a city smith on automobile or auto truck work. The important question is: "Does it fit and is it strong enough?" In welding the question is not, "How does it look?" but "Will it hold?"

The dimensions given on the drawings in this book are such that the work will be strong enough and of a size in general use. The sizes should, however, be modified when individual needs require. There is real value in making these new objects to dimensions, because only in that way will a person learn how to make duplicate parts for repairs.

Repair work in schools is only touched on briefly in this book. It should be stressed as much as possible, the students bringing broken parts of implements, etc., to school to repair. However, one who has forged most of the articles, as shown in this book, should be able to do almost any kind of blacksmith repair work on a farm.

JOHN F. FRIESE.

St. Cloud, Minn.  
May 1, 1920.

#### ACKNOWLEDGMENT

**T**O THE farmer boys, my students in farm blacksmithing, at the Technical High School, St. Cloud, Minn., grateful acknowledgment is made. Without their help and inspiration this book would not have been possible.

J. F. F.



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**PETER TUMBLEDOWN'S IMPLEMENT "GRAVEYARD." AVOID THIS BY HAVING A SHOP AND A KNOWLEDGE OF BLACKSMITHING.**

## TOOLS FOR THE FARM BLACKSMITH SHOP

**I**N EQUIPPING a farm blacksmith shop several things should be taken into consideration. The initial cost of the equipment is always an important item. The amount of work likely to be done in the shop, the character of the work, etc., should also be considered. Fig. 1 illustrates a group of tools which is considered a minimum equipment for starting a farm blacksmith shop. All simple forging of iron, and welding, can be done with these tools.

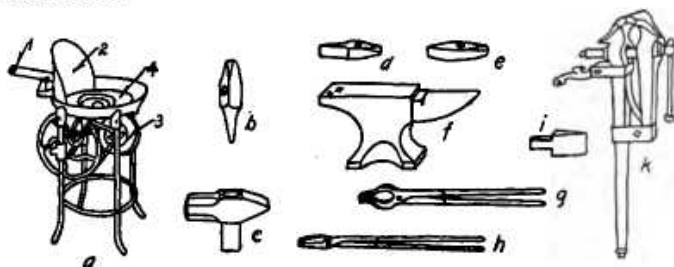


FIG. 1

The forge *a* has an 18 x 4-inch hearth. The fan is operated by a hand lever. Many larger and better hand forges are made, but this one will answer the purpose very well. Fans have now practically supplanted bellows for draft, giving as they do, a more steady draft. The punch *b* has a handle. A common size of punch is the one having a  $\frac{3}{8}$ -inch point. The hand punch illustrated in Fig. 3 serves well for punching, especially for smaller sizes of holes. The hand hammer or blacksmith hammer is shown at *c*, Fig. 1. One weighing 2 pounds is a good size for general work. The machinist's or ball pein hammer of similar weight is now frequently preferred to the one shown in the illustration. The  $1\frac{1}{8}$ -inch hot chisel, *d*, and  $1\frac{1}{8}$ -inch cold chisel, *e*, are used respectively for cutting hot and cold iron. These are many times called hot and cold cutters. The 40-pound