

# Easier and Time-Saving Work Methods for Receiving and Packing Burley Tobacco on Sales Baskets

By Wendell C. Binkley,  
George B. Byers and Dana G. Card



Receiving and packing burley tobacco is made easier by arranging stick rack and basket near the load so as to reduce walking to a minimum.

Circular 513

**Cooperative Extension Work in Agriculture and Home Economics**

**College of Agriculture and Home Economics, University of Kentucky  
and the U.S. Department of Agriculture, cooperating**

FRANK J. WELCH, Director

Issued in furtherance of the Acts of May 8 and June 30, 1914.

## CONTENTS

	Page
Pointers for Warehouse Operators .....	3
1. Teach Employees Easier Ways to Pack Tobacco .....	3
2. Use Two-Man Packing Crews .....	5
3. Select Team Mates Carefully .....	5
4. Complete Sorting Before Packing .....	5
5. Use Stick Racks .....	6
6. Have Twine Handy .....	6
Pointers for Stickmen .....	6
1. Place Empty Basket Near the Pile of Tobacco .....	6
2. Place Stick Rack Within Easy Reach .....	7
3. Stand so as to Pass Tobacco the Easiest Way .....	8
4. Divide the Tobacco Before Lifting the Whole Stick .....	8
5. Turn Stick End-for-End to Pass the Second Half of the Tobacco .....	8
6. Place Tobacco Convenient to Packer .....	9
7. Summary of Pointers for Stickmen .....	9
Pointers for the Packers .....	10
1. Pack Tobacco in Half-Stick Bunches .....	10
2. Make Packing Movements Automatic .....	10
3. Summary of Pointers for Packers .....	11
Pointers to Help Packer and Stickman Work Together .....	12
1. Getting Ready to Pack .....	12
2. Packing .....	12
3. Moving the Packed Basket and Preparing to Pack the Next ..	12
Pointers for Farmers Preparing Cured Burley for Market .....	13
1. Use Straight Smooth Sticks .....	14
2. Sort While Stripping .....	14
3. Press Tobacco .....	14
4. Load by Groups of Grades .....	14
Conclusion .....	15



# Easier and Time-Saving Work Methods for Receiving and Packing Burley Tobacco on Sales Baskets

By Wendell C. Binkley, George B. Byers, and Dana G. Card

The time and work used to unload tobacco from a truck and pack it on sales baskets vary greatly among warehouse workers. Costs in getting a given quantity of tobacco packed on baskets, ready for sale, vary accordingly.

A study of unloading and packing tobacco, made during the 1947 to 1950 marketing seasons, indicates that differences in ease and time are due largely to: (1) work methods, (2) convenience with which the work area is arranged, (3) crew organization, and (4) equipment used.

Packing crews which accomplished most, planned their work carefully in advance, and *used work methods which were least tiring*. There usually is a best way to do any job. The information and recommendations given here can help warehousemen, warehouse workers, and producers develop and use easier and more efficient work methods.

## Pointers for Warehouse Operators

### 1. Teach employees easier ways to pack tobacco

Ease and efficiency in working depends on how you go about doing the job. This applies to all work in a sales warehouse. Work methods are especially important in packing tobacco because nearly three-fourths of all warehouse labor is used for this job.

Industries that employ workers to do jobs which must be repeated over and over, have found that it pays to give special instruction to new employees. Under close supervision, they are taught to work in the way which experience and study have proven to be *easiest and most efficient*.

Some tobacco warehouse operators hold "packing schools" for their employees at the beginning of each sales season. This assures greater uniformity in the appearance of packed baskets. Experienced workers explain and show the best way to pack. Through this instruction, the workers learn and do the job the right way from the start, and so avoid unnecessary movements and waste of effort. Kentucky Extension Leaflet 134 is useful in this type of group instruction, and presents ideas for making packing easier for the individual worker.

A few warehouse operators have purchased circular packing frames which aid workers in learning to pack a uniformly round and straight-sided basket (Fig. 1). Some experienced packers also prefer to use a frame because of the greater ease with which packing can be done.

Some warehouses have the names of packer and stickman written on the back of the ticket before each basket is packed. This establishes responsibility for the pack and identifies the good

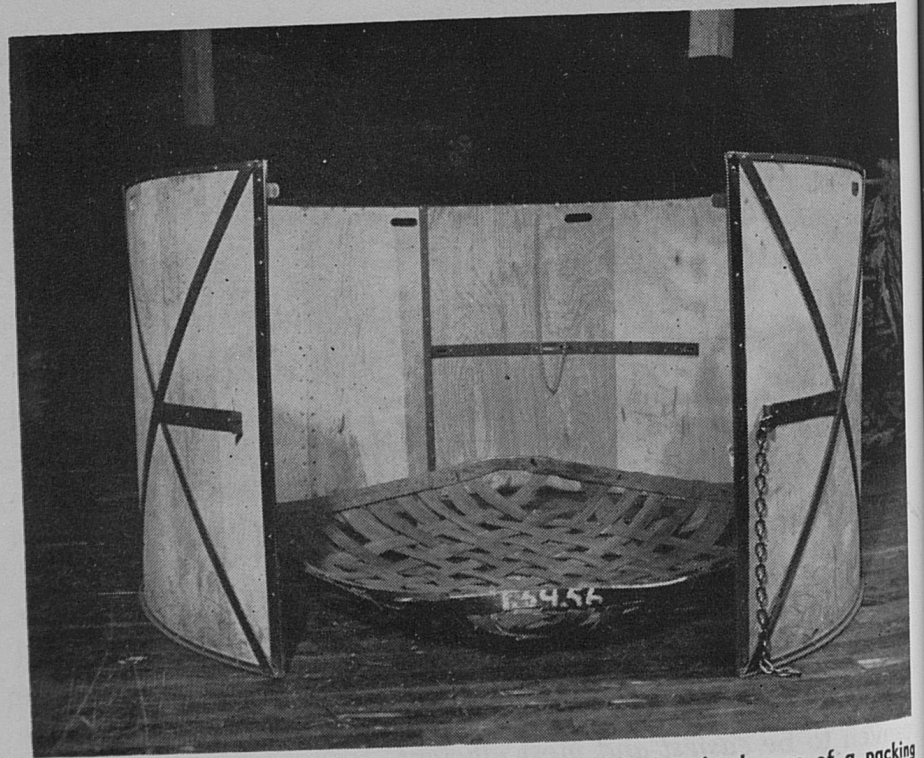


Fig. 1.—A round, straight-sided basket of tobacco is packed easier by use of a packing frame. This frame is adjustable to three sizes.



packer as well as the poor one. Warehouses which follow this practice seem to get packing of uniformly high quality.

## 2. Use 2-man packing crews

Use only two men in each crew, a stickman and a packer, when packing tobacco from piles on the warehouse floor. If two or more baskets from the same crop are to be packed at the same time, assign other 2-man crews to the job.

In packing directly from a truck, the 2-man crew operates in the same manner as when packing from a pile. The main difference is that the stickman receives the tobacco from someone on the truck, who usually is not a permanent part of the packing team.

There are times when two 2-man teams pack tobacco as it is unloaded from a truck. For example, there may be an extra packing crew available and some urgency for getting the truck unloaded. A second crew can be used to best advantage if an extra man is available to unload from the truck. Each truckman then works with one 2-man packing crew.

Small crews are especially important in an operation that is not well standardized, or where crews change jobs or locations frequently. On a sales warehouse floor, small crews can be supervised more easily than larger ones.

## 3. Select teammates carefully

Assign workers of equal skill to the same team and have these men work together from day to day. If one member of a 2-man team is slower than the other, even when each is using the best work methods, the slower member sets the pace for both.

## 4. Complete sorting before packing

When sorting is necessary, less time will be lost waiting for tobacco and fewer mistakes will be made if sorting is completed before starting to pack a crop of tobacco.

Occasionally a crew starts to pack two or more baskets of tobacco while sorting is being done, and then changes from one basket to another as the size of the sorted piles warrant. These changes cause extra work and movement, and make it more difficult for the packer and stickman to standardize their procedure and make uniformly packed baskets.

### 5. Use stick racks

A simple inexpensive stick rack of proper height enables a worker to handle empty sticks in an orderly manner with less time and energy than if they are thrown on the floor. Sticks in a loose, jumbled pile occupy space that can be better used. They also present a hazard to men as they go about their work.

A rack (Fig. 3) occupies little floor space, and sticks can be tied into bundles easily and quickly. (See last page for construction details.)

### 6. Have twine handy

Sticks are tied into bundles at the warehouse for ease and convenience in handling. Twine is the most satisfactory tying material. In some warehouses, balls of twine are placed in containers fastened about 7 feet high on posts at the unloading area. The twine extends through a hole in the bottom of the container, and is pulled and cut as needed. A section of mower blade fastened to the post makes a convenient cutting device. For safety and convenience, the mower blade should be fastened at a height to clear the head of the tallest worker.

In other warehouses, lengths of twine are cut and hung on posts at convenient points at the unloading area. A rapid method for preparing the lengths is to wind the twine around the handles of a duckbill, then cut through the loops of twine so created. A disadvantage is that the cut lengths may be too long or too short for a particular tying job.

## Pointers for Stickmen

### 1. Place empty basket near the pile of tobacco

A basket placed 3 to 4 feet from the pile of tobacco to be packed permits passing of tobacco without walking. The stickman who walks back and forth with each stick wastes energy and slows down the packing operation.

A basket located at the ends of the tobacco sticks, rather than at the heads or tails of the individual hands of tobacco, is more convenient for the stickman. The distance from basket to pile changes a little with individual stickmen. Each worker must learn the most convenient distance within which he can pass tobacco without taking unnecessary steps (Fig. 2).



While packing 30 baskets of tobacco in a day, a 2-man crew may walk 3 or 4 extra miles unless the work is planned. These miles are an accumulation of 5 or 6 unnecessary steps taken each time a stick of tobacco is packed.

Part of the unnecessary walking is caused by not placing the basket at the ends of the sticks of piled tobacco. Thus the stickman uses extra steps each time he moves along picking up sticks from the pile of tobacco. By locating the basket at the ends of the sticks of tobacco, no walking is necessary in picking up the sticks.

By placing the basket no more than 4 feet from the pile of tobacco, it is possible for the stickman to pick up *and pass* sticks of tobacco without walking. In contrast, distances up to 8 or 10 feet frequently were observed. Stickmen also were seen walking around the basket while passing to the packer.

## 2. Place stick rack within easy reach

The stickman locates his stick rack so that no extra motions are used in dropping the stick in the rack. Thus the rack is placed between the basket and the pile of tobacco, about 12 inches or so from the basket and about 3 feet in front of the stickman. The stick rack in this position gives the stickman sufficient room to handle the tobacco, yet it is within easy reach.

The stickman drops each empty stick in the rack with one hand as the other hand returns to the pile for the next full stick

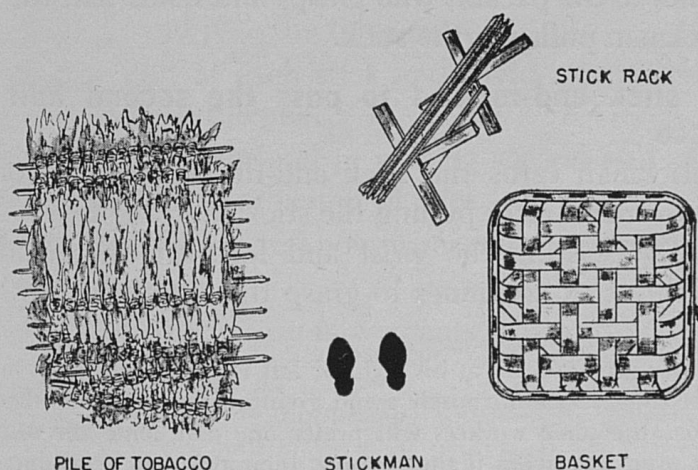


Fig. 3.—Location of pile, stickman, stick rack, and basket for ease in packing burley tobacco.

of tobacco. With this arrangement of basket, stick rack, and pile of tobacco, no walking is necessary in passing tobacco from the pile to the packer (Fig. 3).

### 3. Stand so as to pass tobacco the easiest way

The stickman stands midway between the pile of tobacco and the basket to be packed. He faces the stick rack. His feet are spread comfortably apart.<sup>1</sup> Standing in this position, he can pick up and pass the tobacco, without walking, and drop the empty stick in the rack (Fig. 2). Passing in this way, the stickman can place the tobacco as conveniently for the packer to receive as if he walked around the basket.

A distance of about 3 feet between the stickman and the rack makes it convenient for him to place empty sticks in the rack without moving more than one short step. Some stickmen pass tobacco and drop the stick by only shifting their weight from one foot to the other.

### 4. Divide the tobacco before lifting the whole stick

Less effort is required to divide the tobacco while one end of the stick rests on the pile, than if the whole stick is lifted first. One hand reaches, grasps, and raises the near end of the stick while the other hand moves to the center and divides the tobacco into two equal bunches by pulling the near half about 6 inches toward the stickman. The "dividing" hand then grasps the center of the stick. The stickman then lifts and swings the tobacco in front of him to the packer, who grasps and holds half the tobacco in as the stickman pulls out the stick.

### 5. Turn stick end-for-end to pass the second half of the tobacco

The stickman turns the stick end-for-end as part of a continuous movement after pulling the stick from the first half of the tobacco. By twisting the wrist and forearm, the hand at the center of the stick continues to grasp the stick and turns it end-

<sup>1</sup> Whether the basket is at his right or left is a matter of personal preference. These suggestions purposely avoid giving directions for either right or left hand because some workers will prefer one and some the other. Some may find it even less tiring if they reverse their position from one basket to the next.



for-end. The other hand releases one end of the stick and then grasps the other end after turning.<sup>1</sup> With smooth sticks, and tobacco that slides easily, grasping the other end of the stick is not necessary.

The stickman withdraws the stick as the packer grasps the tobacco and holds steady. He then drops the stick in the rack, as his other hand moves toward the pile to get the next full stick of tobacco.

### 6. Place tobacco convenient to packer

The stickman who watches the packer closely knows in advance where the next bunch of tobacco is to be packed. He thus places the tobacco where the packer wants it without unnecessary movements.

Knowing where to pass before swinging the tobacco saves energy, and enables the stickman and packer to work together as a team. This is especially important when the packer is packing on the side of the basket directly opposite the stickman, and when bunches are to be used for center tying. The packer can help the stickman by indicating "left," "right," or "center," in advance.

### Summary of pointers for stickmen

1. Place empty basket close to pile of tobacco at end of sticks.
2. Place stick rack within easy reach.
3. Stand between the basket and pile of tobacco. Without walking, pick up and pass the tobacco.
4. Lift one end of each stick and divide the tobacco while the other end rests on the pile.
5. Turn stick end-for-end in passing second half of tobacco, without releasing grasp at center of stick.
6. Watch the packer to know where to place the next bunch of tobacco.
7. Avoid all unnecessary movements while at work.

<sup>1</sup> This method disregards the "crimp" which often appears in pressed tobacco, but the authors, and many good packers, think it is of little importance.

## Pointers for Packers

### 1. Pack tobacco in half-stick bunches

Time and energy are saved by packing half-stick bunches of tobacco rather than dividing the stick into three or four bunches. Stickman and packer then handle each stick of tobacco in the same way.

Pack tobacco on the basket in a continuing upward spiral instead of completing a layer at each round. This helps avoid the use of small bunches to complete each separate layer. The finished basket of tobacco has a good appearance and holds together just as well for sampling during sale and for later handling.

Center tying of the basket usually can be done with half-stick bunches of tobacco. Use of smaller bunches slows down the packing operation and seldom is necessary. (The most satisfactory "tie" is made with the heads of the "tie" bunch pointing out from the center so that they overlap the tip ends of the tobacco being tied.)

### 2. Make packing movements automatic

Make the movements, such as: reach, grasp, hold, squeeze, place, etc., as automatic as possible. In this way, motions that are repeated several times a minute, hour after hour, are done easier because they do not require conscious thinking by the worker.

To pack burley tobacco easily and effectively:

*Packer* reaches only a minimum distance to receive tobacco. This is possible if the stickman passes so that the tobacco is just above the spot where it is to be packed. With tobacco so placed, the packer does little turning to receive it, even though the stickman passes from one position, rather than walking around the basket.

*Packer* grasps the tobacco with both hands a little nearer to the stick than to the tips.

*Packer* holds the tobacco steady as the stickman pulls out the stick. The hand near the center of the stick remains rigid, while the other hand moves slightly so as to increase the pressure just enough to hold the half-stick of tobacco together as the stick is pulled out. Too much pressure at this point



causes the stick to bind in the tobacco and thus be hard to pull.

*Packer* squeezes the tips of the tobacco as it is lowered into position, causing the hands of tobacco to fan out and make a round pile, which is easier to sample.

*Packer* places the tobacco on the basket with one decisive motion. Apparently the greatest handicap to getting the bunch of tobacco placed in one single motion is the habit among packers of doing some "dressing up" and "lining up" on each individual bunch packed. Care (and confidence) in the initial placing can practically eliminate the need for any change in position of the tobacco after it is placed on the basket, and can save much energy for the packer.

*Packer* shifts his body by supporting his weight on both hands and on the knee and foot near the center of the basket; then the other knee is moved forward onto the tobacco just packed. Skillful packers usually shift only after each stick of tobacco is packed. This permits a change of position while the stickman is getting another stick of tobacco.

*Packer* indicates to the stickman any changes in placing which are not readily evident. For example, the packer decides when he is going to place tobacco in the center of the pile to tie it together. He lets the stickman know this in advance by calling "center." He helps the stickman further by indicating "right" or "left" when he is packing on the part of the basket farthest from the stickman.

### **Summary of pointers for packers**

1. Pack no less than a half-stick of tobacco at a time.
2. Pack in a continuous spiral instead of layers or rings.
3. Make repeated movements automatic.
4. Have the stickman pass tobacco close to the spot where it is to be packed.
5. Hold tobacco steady while the stick is pulled out.
6. "Fan" tobacco and place it in the right spot in one decisive motion.

7. Shift position on the basket only after each full stick of tobacco is packed, while the stickman is getting the next stick.

8. Help the stickman know where you want each bunch of tobacco.

### **Pointers to Help Packer and Stickman Work Together**

#### **1. Getting ready to pack**

In preparing to pack a crop of tobacco, the stickman and packer decide on a convenient arrangement of the basket and the stick rack in relation to the first pile of tobacco to be packed. They locate the waiting area for the packed tobacco, usually between the packing area and the scales, in order to avoid extra distance in moving. They check to see that a duckbill and hook (if hook is used) are convenient; they decide who is to pack first and who is to act as stickman; and then proceed with the packing. A little time used in planning saves much time and work in actual packing. Also, they have a definite place for putting the ticket for each basket. For example, the ticket may be placed under one corner of the basket *or* under the edge of the packer's cap.

#### **2. Packing**

Packing tobacco is a 2-man job. Each worker helps his team mate and makes the work easier for both when they plan and work together.

If both stickman and packer go through the same motions in the same way each time they pack a stick of tobacco, they soon develop a rhythmic pattern of work which is less tiring and more productive than if the time and sequence of operations varies from stick to stick. A systematic, rhythmic procedure encourages both ease and output.

#### **3. Moving the packed basket and preparing to pack the next**

The packer and stickman each has certain jobs to do in moving the packed basket to the waiting area. In some jobs they work together.

##### **THE PACKER:**

1. Gets off the basket.
2. Places the duckbill in position to load.



3. Places the ticket on top of the packed tobacco. (Sometimes it will be more convenient for the stickman to place the ticket, but the packer should see that the ticket and basket are together at the waiting area.)

4. Handles the duckbill for loading.

5. Moves the loaded basket to the waiting area.

6. Slides basket clear of duckbill at waiting area.

7. Returns duckbill to packing area.

8. Checks position of stick rack and then is ready to become the stickman.

#### THE STICKMAN:

1. Caps the packed basket by placing two full sticks of tobacco across the top of the basket, with heads of hands facing out and tails overlapping in the center.

2. Withdraws and places each stick in rack.

3. Holds basket in a tilted position for loading, as the packer rolls duckbill beneath it.

4. Gets and places an empty basket and is ready to become the packer.

#### STICKMAN AND PACKER TOGETHER:

1. Tilt the basket onto the duckbill.

2. Tie the sticks and remove them from the rack, if the farmer has not done so.

The packer and stickman rest each other by changing jobs after each basket is packed.

### **Pointers for Farmers in Preparing Cured Burley for Market<sup>1</sup>**

Receiving and packing burley tobacco are made easier by stripping and handling the tobacco in groups of uniform quality and color, by pressing all tobacco, and by using only straight smooth sticks free of splinters.

<sup>1</sup> Other Kentucky publications have presented easier and more efficient ways of handling the several phases of tobacco production and preparation for market. See Kentucky Extension Circulars 482 and 483, and Leaflets 75, 77, 79, 84, 85, 90, 92, 103, 111, 112, and 134.

### 1. Use straight smooth sticks

Smooth sticks have advantages in both the stripping room and the warehouse. They enable packer and stickman to pack a more attractive basket of tobacco than if attention is being distracted because of broken, rough, crooked, or splintery tobacco sticks.

### 2. Sort while stripping

In stripping tobacco, each worker handles only one group of grades at a time. For example, one worker strips the lugs, another the flyings, etc. Each worker separates his group into grades, as needed, during stripping. He holds the main grade in his hand until it is tied, and lays down other grades having only one or two leaves per stalk.

With large crops, sufficient tobacco is available to permit daily bulking of each group of grades in a separate coop. With small crops, marks may be placed on the sticks to identify each group, after which they can all be bulked in a single coop. The marks make it easy to recognize the various groups for separation in loading.

### 3. Press tobacco

Pressed tobacco is more attractive and should mean more money to the producer. Well-pressed tobacco handles easier, and with less waste for the farmer in bulking, loading, and unloading. Also pressed tobacco handles and packs more easily than unpressed tobacco at the warehouse.

### 4. Load by groups of grades

Unloading and packing burley tobacco at the sales warehouse are done more easily and quickly when the flyings, lugs, leaf, and tips are handled at the farm and loaded separately. Loading in this order, at the farm, places the more valuable tobacco in a protected position on the truck. By loading each group separately, a farmer knows the number of sticks of each kind of tobacco and plans with the warehouseman for the number of baskets needed. It also may help the farmer get space on the warehouse floor. Knowing the number of sticks of each kind of tobacco helps the stickman and packer plan the size of baskets.



The farmer who loads his tobacco according to the way it will be packed, makes it possible to unload and pack directly from the truck. This saves time and space at the warehouse. It enables the farmer to get his tobacco unloaded and ready for sale more quickly, and avoids the shattering of tobacco caused by additional handling when sorted at the warehouse.

### Conclusion

Relatively few mechanical or labor-saving devices have come into use in growing and marketing burley tobacco. Much of the work in sales warehouses, therefore, is strictly hand labor. Ways of making such labor easier and more effective are important if greater economy in handling tobacco is to be brought about.

No one person, or group of persons, can devise any one *best* way of receiving and packing tobacco under all circumstances. Each worker and supervisor must observe, think about, and experiment with different methods, movements, and ways in doing each particular task, and decide what is best in the circumstances under which he works. Some operations may be eliminated entirely.

The suggestions given here offer improvements over methods now used by most warehouse workers. It is hoped that these suggestions will stimulate all workers to improve still further the way in which they are doing their important tasks.

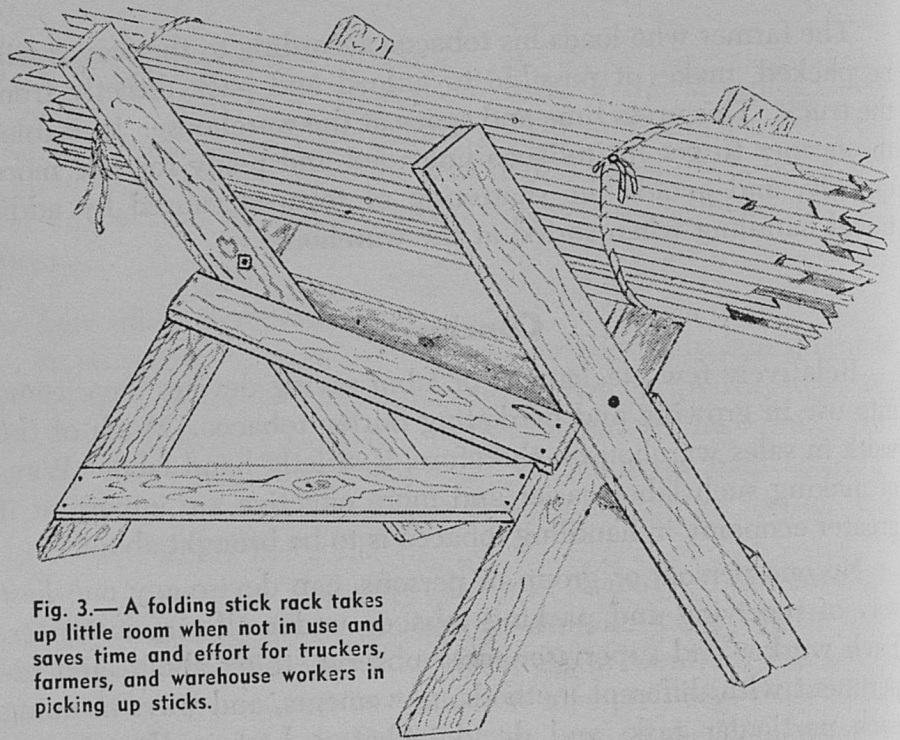


Fig. 3.— A folding stick rack takes up little room when not in use and saves time and effort for truckers, farmers, and warehouse workers in picking up sticks.

#### List of Materials

#### Folding Stick Rack, With Capacity for About 100 Sticks

4 pieces 1" x 4" 3'-0"—crossed ends	2 carriage bolts $\frac{3}{8}$ " x 2 $\frac{1}{2}$ "
2 pieces 1" x 4" x 2'-6"—horizontal braces	$\frac{1}{4}$ pound 8d. nails
2 pieces 1" x 4" x 2'-8"—diagonal braces	2 washers $\frac{3}{8}$ "

#### DIRECTIONS FOR MAKING RACK

1. Cut the four end pieces 36" long. (They may be left square for simplest construction or cut later, at a 45 degree angle, to fit the floor).
2. Drill a  $\frac{3}{8}$ " hole at the center of each piece, 16" from one end.
3. Insert a carriage bolt through the holes in each pair of end pieces. Put a washer on each bolt and tighten the nuts slightly.
4. Cross each bolted pair of end pieces at right angles. Aline with a square and mark on the outside edges of the long ends, where the two pieces cross. This is to show where the horizontal brace is to be placed.
5. Cut the two horizontal braces 30" long. Fold each pair of end pieces together and lay them on edge about 30 inches apart, with the nuts on the inside. With the long ends (bottom) toward you, nail the left end of one brace to the "outside" end cross-piece and the right end of the brace to the "inside" end cross-piece. Turn the work over, keeping the long ends toward you. Nail the second horizontal brace in the same manner.
6. Lay on the diagonal braces, mark and cut them so they will slant in opposite directions. Nail the diagonal braces to the same end pieces as the corresponding horizontal brace is nailed.

The rack now may be opened and is ready for use. In most cases, however, it will be well to tighten the nuts slightly and center punch the threads close to the nut so as to prevent it from working loose.