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1914

THE
Fruit Growers Association
of Adams County
Pennsylvania

ORGANIZED DECEMBER 18, 1903

PROCEEDINGS

OF THE

TENTH ANNUAL CONVENTION

HELD IN

Fruit Growers Hall, Bendersville, Penna.

Wednesday, Thursday and Friday

December 16, 17, 18, 1914

BIGLERVILLE'S UP-TO-DATE Cold Storage Plant

ONE of the most complete Cold Storage Plants in the State. Full concrete and steel construction; properly insulated and fully equipped with refrigerating machinery, electric lights and electric elevators. It has proven itself to be a benefit and an advantage to the Fruit Growers of the County. It affords them an opportunity to get their fruit into storage quickly after it is barreled, and prevents car shortage and glutted markets, during packing season.

The Company fully appreciates the cooperation and patronage it has received, and respectfully solicits continuance of same.

All persons interested in fruit growing are cordially invited to visit the plant while at Biglerville.

Respectfully,
Biglerville Cold Storage Co.

OFFICERS

President, C. A. GRIEST, Guernsey
1st Vice President, W. E. GROVE, York Springs
2d Vice President, H. M. KELLER, Gettysburg—5
3d Vice President, FREDERIC E. GRIEST, Flora Dale
4th Vice President, E. P. GARRETTSON, Biglerville
5th Vice President, JOHN A. KNOUSE, Arendtsville
Recording Secretary, CHAS. A. WOLFE, Aspers
Corresponding Secretary, EDWIN C. TYSON, Flora Dale
Treasurer, WM. S. ADAMS, Aspers

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C. A. GRIEST, Guernsey
W. E. GROVE, York Springs
H. M. KELLER, Gettysburg—5
FREDERIC E. GRIEST, Flora Dale
E. P. GARRETTSON, Biglerville
JNO. A. KNOUSE, Arendtsville
CHAS. A. WOLFE, Aspers
EDWIN C. TYSON, Flora Dale
WM. S. ADAMS, Aspers

Musselman Canning Co.



Wishes All Apple Growers a
HAPPY NEW YEAR and
 a Large Crop of Apples for

1915

C. H. MUSSELMAN, Prop.

Membership Roll

Adams, Wm. S.,	Aspers, Pa.
Adams, Mrs. W. S.,	Aspers, Pa.
Asper, D. C.,	Aspers, Pa.
Anstadt, Rev. Henry,	Washington, D. C.
Anderson, H. W.,	Stewartstown, Pa.
Anderson, Joseph W.,	Stewartstown, Pa.
Anderson, H. M.,	New Park, Pa.
Allen, H. G.,	New Park, Pa.
Auchey, D. S.,	Hanover, Pa.
Bream, Samuel,	Biglerville, Pa.
Bream, Dill,	Bendersville, Pa.
Bream, C. D.,	Aspers, Pa.
Bream, M. F.,	York Springs, Pa.
Boyer, W. W.,	Arendtsville, Pa.
Black, Wm. H.,	Flora Dale, Pa.
Baugher, H. G.,	Aspers, Pa.
Baugher, Ira,	Aspers, Pa.
Baugher, Martin,	Aspers, Pa.
Bucher, John,	Bendersville, Pa.
Belt, J. E.,	Wellsville, Pa.
Butt, J. L.,	Gettysburg, Pa.
Brough, Edward,	Biglerville, Pa.
Bingham, W. O.,	St. Thomas, Pa.
Boyer, George E.,	Arendtsville, Pa.
Bushman, S. F.,	Gettysburg, Pa.
Brame, Edw.,	Aspers, Pa.
Blessing, David H.,	Harrisburg, Pa.
Black, Moses,	Aspers, Pa.
Blair, C. I.,	Aspers, Pa.
Bream, W. A.,	Gettysburg, Pa.
Brinton, H. C.,	Hanover, Pa.
Brinser, E. C.,	Middletown, Pa.
Burke, J. W.,	Batavia, N. Y.
Cocklin, B. F.,	Mechanicsburg, Pa.
Cook, Arthur E.,	Aspers, Pa.
Carey, J. Calvin,	Gettysburg, Pa.
Carson, E. E.,	Bendersville, Pa.
Crouse, E. A.,	Gettysburg, Pa.
Cation, W. R.,	Orrtanna, Pa.
Deardorff, Anthony,	Mummasburg, Pa.
Dock, Miss Margaret,	Fayetteville, Pa.
Dock, Miss Mira L.,	Fayetteville, Pa.
Deardorff, W. B.,	Gettysburg, R. F. D. No. 5, Pa.
Dill, Dr. M. T.,	Biglerville, Pa.
Dull, Thomas,	Aspers, Pa.

Get *FIRST* Prize For Your Fruit

Spray with Bowker's "Pyrox"

and secure fruit that is free from insect damage and fungus disfigurement. "PYROX" fills the Barrel with the kind they used to put on top. Fifteen more perfect apples on the tree pay the bill.

Bowker's Lime Sulphur

for all scale insects is made heavy and rich, and for that reason is more effective than lighter mixtures; and as a rule it costs no more. When you clean up your trees with Lime Sulphur, be sure to use Bowker's for *it is the kind you can rely on* to do effective work.

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BOWKER INSECTICIDE CO.
1011 Fidelity Bldg., Baltimore, Md.

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Dunlap, James M.,Walnut Bottom, Pa.
Dougherty, Dorsey,Gettysburg, Pa.
Deatrick, H. G.,Hunterstown, Pa.
Diller, O.,York Springs, Pa.

Eldon, Robert M.,Aspers, Pa.
Eldon, Mrs. R. M.,Aspers, Pa.
Everhart, G. W.,York, Pa.
Eby, Amos,Mt. Joy, Pa.
Eiholtz, S. Mc.,Biglerville, Pa.
Eppleman, H. C.,Aspers, Pa.
Estabrook, F. L.,Athens, Pa.
Eby, J. S.,Newport, Pa.

Fraim, Merritt L.,Aspers, Pa.
Fohl, George E.,Biglerville, Pa.
Fiddler, W. B.,Aspers, Pa.
Felty, G. B. O.,Millersville, Pa.
Fohl, Jas. O.,Aspers, Pa.

Griest, C. Arthur,Guernsey, Pa.
Griest, Mrs. C. A.,Guernsey, Pa.
Griest, C. S.,Guernsey, Pa.
Griest, A. W.,Flora Dale, Pa.
Griest, Frederic E.,Flora Dale, Pa.
Griest, G. G.,Toronto, Can.
Griest, Maurice,105 W. 163d St., N. Y. City.
Griest, C. J.,York Springs, Pa.
Garretson, Frank,Aspers, Pa.
Garretson, Eli P.,Biglerville, Pa.
Garretson, Harriet,Biglerville, Pa.
Garretson, J. B.,Aspers, Pa.
Garretson, Robert,Flora Dale, Pa.
Garretson, John,Aspers, Pa.
Garretson, Eli,Gettysburg, R. F. D. No. 6, Pa.
Grove, W. E.,York Springs, Pa.
Gillan, R. J.,St. Thomas, Pa.
Groupe, Foster C.,Idaville, Pa.
Gardner, L. M., Jr.,York Springs, Pa.
Gove, Mary E.,Bendersville, Pa.
Howard, Jno. M.,Aspers, Pa.
Harris, Meriam,Bendersville, Pa.
Hoffman, Jas. O.,Arendtsville, Pa.
Hoffman, E. N.,Biglerville, Pa.
Hoffman, Daniel,Aspers, Pa.
Hoffman, George,Arendtsville, Pa.
Hoffman, Willis H.,Biglerville, Pa.
Harshman, U. W.,Waynesboro, Pa.
Huber, Charles H.,Gettysburg, Pa.
Hartman, Geo R.,Biglerville, Pa.

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**C. H. & C. W.
KIMBALL**

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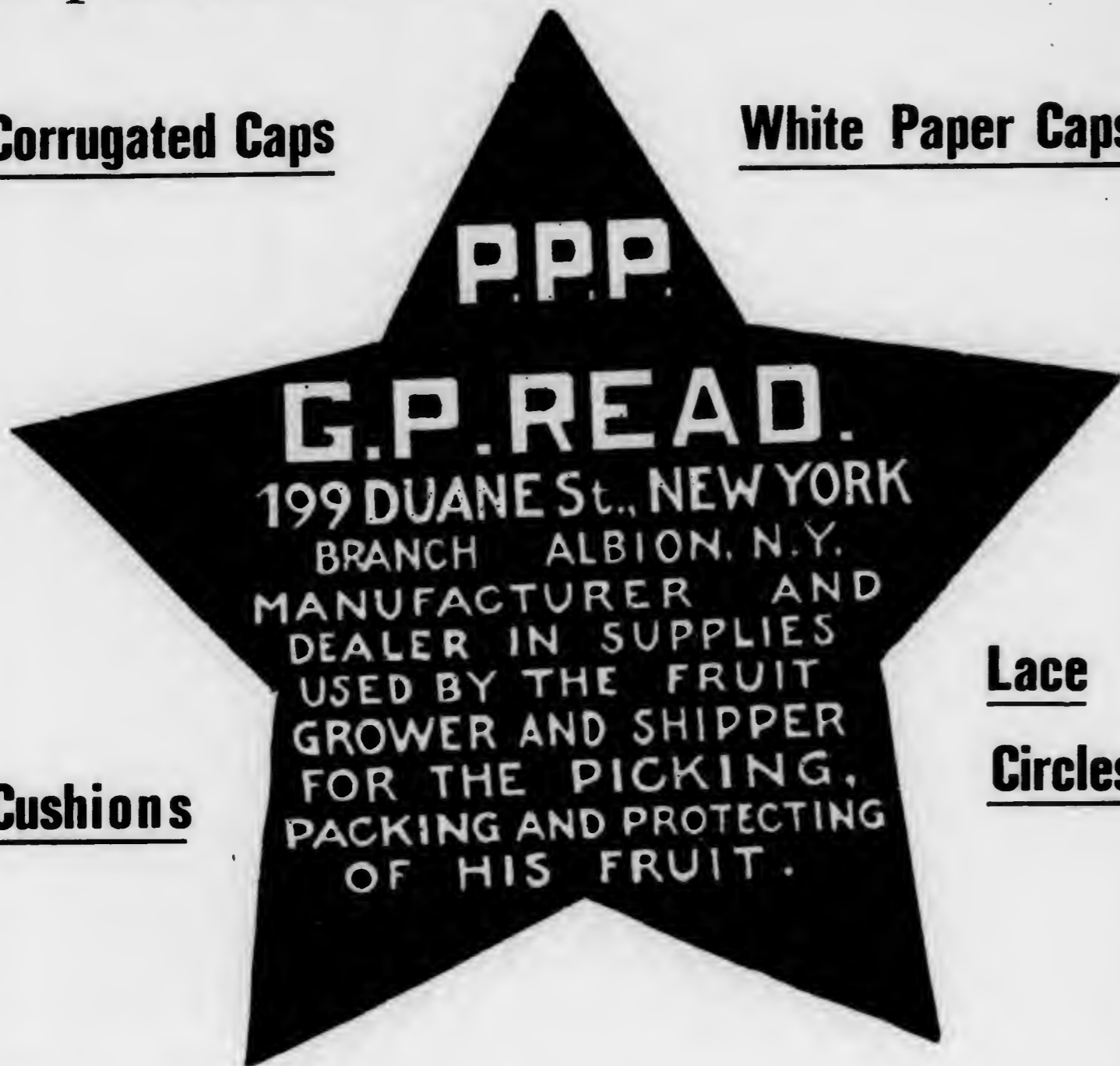
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NEW YORK**

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- Hummel, P. T., Harrisburg, Pa.
- Hershey, C. A., McKnightstown, Pa.
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- Hartzel, B. L., Flora Dale, Pa.
- Jacobs, Daniel C., Gettysburg, No. 5, Pa.
- Jackson, M. R., Media, Pa.
- Keller, H. M., Gettysburg, No. 5, Pa.
- Klinefelter, U. S., Biglerville, Pa.
- Kane, J. A., Biglerville, Pa.
- Kane, J. Lewis, Gettysburg, No. 6, Pa.
- Knouse, J. A., Arendtsville, Pa.
- Knouse, David, Arendtsville, Pa.
- Koser, Rev. D. T., Arendtsville, Pa.
- Koser, G. W., Biglerville, Pa.
- Kunkle, John R., Gettysburg, Pa.
- Knab, Mrs. Geo. N., New Oxford, Pa.
- Longsdorf, C. L., Biglerville, Pa.
- Lawver, Rufus W., Biglerville, Pa.
- Lawver, J. Edw., Biglerville, Pa.
- Longsdorf, Dr. H. H., Dickinson, Pa.
- Lady, Hiram C., Arendtsville, Pa.
- Lupp, Reuben, Biglerville, Pa.
- Large, Mrs. E. S., Orrtanna, Pa.
- Large, Miss Katharine, Orrtanna, Pa.
- Lower, Dr. S. E., Pittsburgh, Pa.
- Lippy, J. D., Gettysburg, Pa.
- Lewis, Harvey, Orrtanna, Pa.
- Michener, C. Raymond, Bendersville, Pa.
- Myers, George P., Biglerville, Pa.
- Merz, Geo., Webster, N. Y.
- McKay, Geo. H., Philadelphia, Pa.
- Mayer, Dr. I. H., Willow Street, Pa.
- Morrison, Mrs. W. S., Aspers, Pa.
- Minick, D. N., Chambersburg, Pa.
- Minter, Thomas L., Biglerville, Pa.
- Musselman, C. H., Biglerville, Pa.
- Musselman, J. Elmer, Gettysburg, Pa.
- Minter, Mrs. D. G., Gettysburg, Pa.
- Myers, Levi M., Siddonsburg, Pa.
- Miller, Robt. C., Gettysburg, Pa.
- Miller, E. M., Hanover, Pa.
- Moyer, Dr. H. B., Mansfield, Pa.
- Mickley, J. W., Fairfield, Pa.
- Musser, Will M., Lampeter, Pa.
- Maloney, W. J., Dansville, N. Y.

It is not only the growing of the fruit that demands your attention, but the manner in which it is packed as well.

Corrugated Caps

White Paper Caps



Cushions

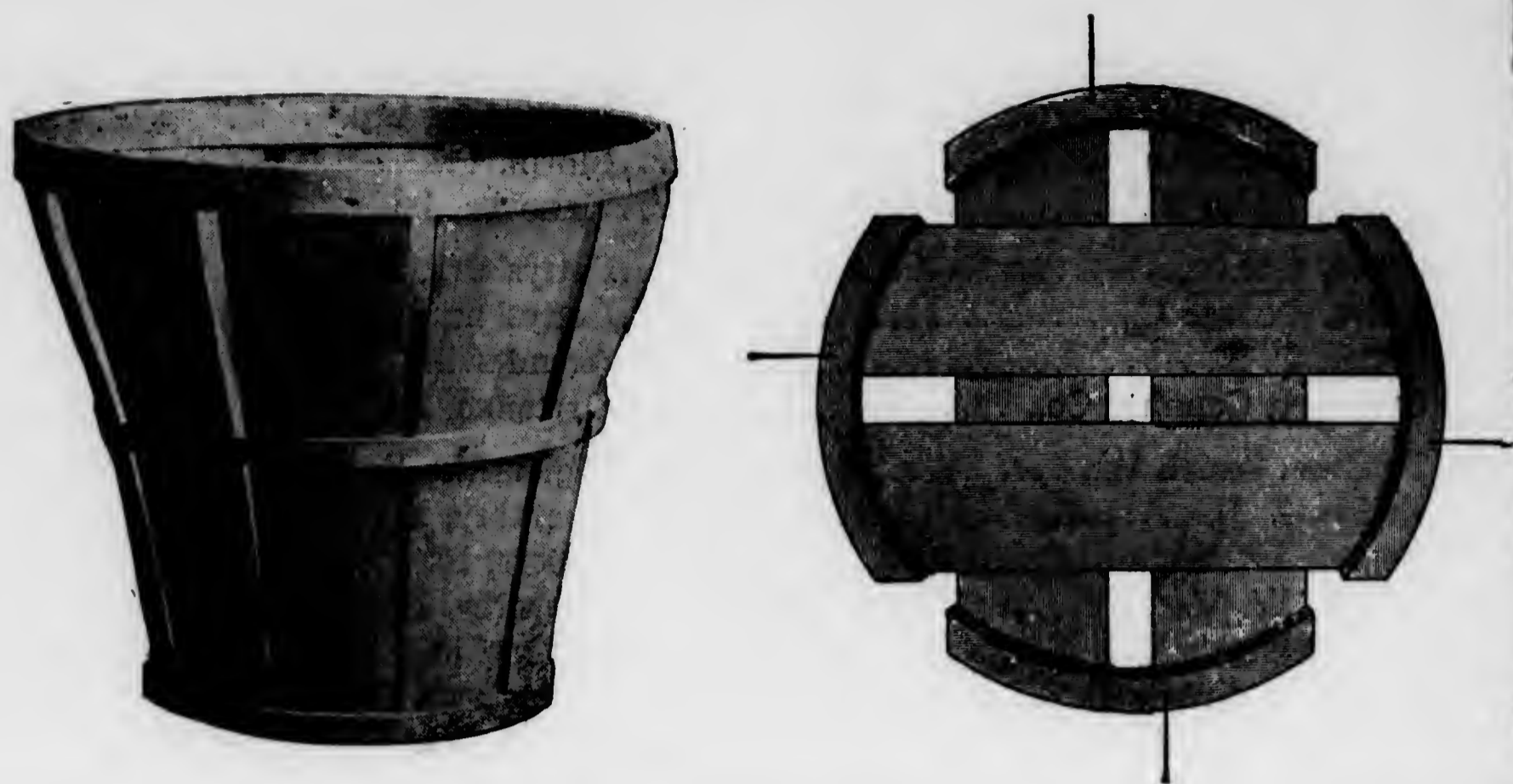
Lace

Circles

The use of my goods at the time of packing increases the value of your fruit 10%.

Send for booklet on Fruit Packing Supplies.
IT IS FREE.

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- Nissly, Alvin R., Hanover, Pa.
- Oyler, Geo., Gettysburg, Pa.
- Oyler, George C., Gettysburg, Pa.
- Orner, P. S., Arendtsville, Pa.
- Orrtanna Canning Co., Orrtanna, Pa.
- Prickett, Josiah W., Biglerville, Pa.
- Peters, Z. J., Guernsey, Pa.
- Peters, H. W., Aspers, Pa.
- Peters, W. V., Guernsey, Pa.
- Peters, Curtis W., Biglerville, Pa.
- Peckman, Frank R., Gettysburg, Pa.
- Pitzer, Harry C., Aspers, Pa.
- Peters, Geo. M., Aspers, Pa.
- Pratt, B. G., New York City.
- Pitzer, Willis, Arendtsville, Pa.
- Peters, Jno. N., Bendersville, Pa.
- Peters, Mrs. Earl, York Springs, Pa.
- Raffensperger, Chas. E., Arendtsville, Pa.
- Raffensperger, Roy, Arendtsville, Pa.
- Rice, E. E., Aspers, Pa.
- Rice, Waybright, Biglerville, Pa.
- Rice, C. S., Arendtsville, Pa.
- Rice, Oscar C., Arendtsville, Pa.
- Routzahn, George R., Bendersville, Pa.
- Rinehart, E. S., Mercersburg, Pa.
- Rinehart, J. J., Smithburg, Md.
- Roberts, Arthur, Gettysburg, Pa.
- Reist, Henry G., Schnectady, N. Y.
- Repp, Albert T., Glassboro, N. J.
- Riddlemoser, H. E., McKnightstown, Pa.
- Rex, Raymond, Idaville, Pa.
- Rice, A. E., Biglerville, Pa.
- Stover, Dr. J. G., Bendersville, Pa.
- Strong, Geo. C., Orrtanna, Pa.
- Slaybaugh, Elmer, Aspers, Pa.
- Smith, G. Frank, Aspers, Pa.
- Stephens, Henry M., Carlisle, Pa.
- Stouffer, F. W., Gettysburg, Pa.
- Sheely, Emory, Arendtsville, Pa.
- Shull, Jno. A., McKnightstown, Pa.
- Shull, Robt. H., McKnightstown, Pa.
- Stewart, William, Landisburg, Pa.
- Spangler, George E., Gettysburg, Pa.



The above cuts represent our standard sixteen quart peach basket and cover.

It has been approved by the Superintendent of Weights and Measures of the State of New York as a standard measure

This is a popular package for the shipment of peaches. It has been used extensively in Pennsylvania, Western Maryland and West Virginia for the past few years.

It is a strong, well made package.

After the cover is put on and fastened to the basket with four wires the contents will carry to market in perfect safety.

No Shelving Required in the Cars

When shipping peaches in this package load every other tier of baskets with top down thereby using all the available space and at the same time admitting free circulation of air between each tier of fruit

Manufactured by

MARVIL PACKAGE CO.

LAUREL, DELAWARE

✉ Write for catalogue giving various styles of packages manufactured.

Snyder, E. B.,	Jack's Mountain, Pa.
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Snyder, W. L.,	Bendersville, Pa.
Sachs, Edw. S.,	Biglersville, Pa.
Schmidt, Jno. C.,	York, Pa.
Stough, C. M.,	New Oxford, Pa.
Stock, E. C.,	3610 Clifton Ave., Balto., Md.
Strasbaugh, E. F.,	Orrtanna, Pa.
Sheely, A. D.,	Arendtsville, Pa.
Stover, Mrs. Dr. J. G.,	Bendersville, Pa.
Tyson, Edwin C.,	Flora Dale, Pa.
Tyson, Mrs. M. W.,	Flora Dale, Pa.
Tyson, Chester J.,	Flora Dale, Pa.
Tyson, Mrs. B. H.,	Aspers, Pa.
Tyson, Wm. C.,	Guernsey, Pa.
Tyson, Mrs. M. E.,	Guernsey, Pa.
Taylor, Jacob F.,	Arendtsville, Pa.
Tyson, A. R.,	Norristown, Pa.
Taylor, Dan'l R.,	Biglerville, Pa.
Taylor, Henry,	Biglerville, Pa.
Trostle, Francis,	York Springs, R. F. D., Pa.
Thomas, Mrs. Annie M.,	Gettysburg, Pa.
Taughinbaugh, W. A.,	Gettysburg, Pa.
Thompson, G. R.,	Gettysburg, Pa.
Ullrich, L. L.,	Biglerville, Pa.
Weidner, A. I.,	Arendtsville, Pa.
Wolfe, C. A.,	Aspers, Pa.
Wolfe, Harry E.,	Aspers, Pa.
Wolff, Dr. W. E.,	Arendtsville, Pa.
Wolf, Charles M.,	York Springs, Pa.
Weaver, David I.,	Biglerville, Pa.
Wilson, B. F.,	Biglerville, Pa.
Weaner, Chas. C.,	Bendersville, Pa.
Weaner, W. C.,	Aspers, Pa.
Wertz, D. M.,	Quincy, Pa.
Wible, R. E.,	Gettysburg, Pa.
Wickersham, Ruth A.,	Bendersville, Pa.
Wickersham, Robt. A.,	Mechanicsburg, Pa.
Wright, Ryland,	Aspers, Pa.
Wright, T. F.,	Aspers, Pa.
Williams, J. L.,	Gettysburg, Pa.
Walter, J. C.,	Biglerville, Pa.
Williams, M. I.,	Gettysburg, Pa.
Wright, F. Walter,	Bendersville, Pa.
Wernig, Chas. M.,	York, R. F. D. No. 11, Pa.
Wells, F. W.,	Dansville, N. Y.

DEMPWOLF'S FERTILIZERS

Are well known, and our factory at York, Pa., is convenient and favorably located to consumers in this territory. We carry in stock at all times a full line of complete fertilizers and fertilizer materials.

When you buy

DEMPWOLF'S FERTILIZERS

you will get

FULL ANALYSES	PERFECT DRILLING CONDITION
GOOD BAGS	PROMPT SHIPMENTS

and in the end

FIELD RESULTS

It is a matter of pride with us to maintain these qualities in our product

If you cannot obtain

DEMPWOLF'S FERTILIZERS

in your neighborhood, write to us for information and prices

YORK CHEMICAL WORKS
YORK, PENNA.

PLANT SCHELL'S

Highest Quality

GARDEN SEEDS

They Grow Better They Yield Better

Absolutely the Best

You Fruit Growers

Can double your profits by growing a big crop of BEANS, PEAS, BEETS, LETTUCE, MELONS, and other good, quick selling vegetables. Wholesale or retail the whole crop and have it sold and your money made before your fruit comes in. Many of My Customers Are Doing This, Why Don't You?

Special Prices for Quantities

I CAN FURNISH YOU

The Highest Quality Seeds

Such as will give you the very best crops

FANCY RED CLOVER, ALSIKE, CRIMSON, ALFALFA, VETCHES, COW PEAS, SEED POTATOES, SEED CORN

Write me for what you want—Send for my Seed Catalogue

WALTER S. SCHELL

QUALITY SEEDS

1307-1309 Market Street

HARRISBURG, PA.

Don't You Think It About Time to Give
"SCALECIDE"
a trial?

Fruit Growers all over the Country are calling for something better than Lime-Sulfur, and finding it in

"SCALECIDE"

Old customers are coming back by the hundred, acknowledging their mistake in giving up

"SCALECIDE"

A grower from New York writes:—"Having tried Lime-Sulfur for two years, I am coming back to 'SCALECIDE.'"

A Grower from Michigan writes:—"I sprayed three years with Lime-Sulfur, but my trees get worse every year."

A dealer in Ohio writes:—"We have always handled Lime-Sulfur, but are ready for a change."

A dealer in North Carolina writes:—"Please ship a barrel of 'SCALECIDE.' We sold Lime-Sulfur last year, but we are through with it."

A grower in New York writes:—"We have been using the best Lime-Sulfur obtainable for the past three years, but we are returning to 'SCALECIDE,' feeling convinced that it is *more economical and far more effective.*"

A grower in Ohio writes:—"I used 'SCALECIDE' about four years ago and liked it very much, but the agricultural papers and experiment stations were recommending Lime-Sulfur, so I used it, but must confess I am disappointed and am coming back to 'SCALECIDE.'"

A grower from Pennsylvania writes:—"The people are wavering about Lime-Sulfur."

E. C. TYSON

Pennsylvania State Agent

FLORA DALE **PENNSYLVANIA**

Pratt's Nicotine 40%

In the form of Nicotine-Sulphate has no superior

Prices delivered, express paid

10 lbs. \$10.75 2 lbs. \$2.50 ½ lb. 75c.

B. G. PRATT CO.

M'F'G CHEMISTS

50 Church Street

NEW YORK

CONSTITUTION

PREAMBLE.

Being interested in fruit growing and believing that, by organization, we may materially advance our common interests, we hereby adopt the following Constitution and By-Laws.

Article I.—Name.

This Association shall be known as The Fruit Growers' Association of Adams County.

Article II.—Object.

The object of this Association shall be to encourage the co-operation of the fruit growers of Adams County for the protection and advancement of their common interests.

1st. By securing and disseminating such scientific and practical information as shall promote the general advancement of the fruit growing interests in this county, and shall tend to the improvement of the quality and quantity of our products.

2d. By securing such legislation as may be advantageous, and preventing that which may be detrimental.

3d. By securing such improved facilities in transportation as shall tend to give us more expeditious and economical distribution.

4th. By endeavoring to secure a better and more uniform system of packing and package.

5th. By devising some system of marketing our products which will open up and develop the markets and give to the grower a fair and remunerative return.

6th. And by endeavoring to obtain such improved systems of crop reporting as shall furnish, through co-operation with other similar Associations, accurate information concerning production; thereby enabling the fruit grower to know the exact situation.

Article III.—Membership.

1st. Candidates for membership may be elected by a majority vote of the members present, and upon the payment of \$1.00 into the treasury shall be entitled to membership until the next Annual Meeting.

2d. Any member may renew his membership by the payment of annual dues, but upon failure to pay dues within three months after Annual Meeting, shall require re-election.

3d. No member shall receive the benefit of commissions or of co-operative buying by the Association, to an amount greater than \$1.00 for the term of one year after election to membership.

Article IV.—Dues.

The annual dues of this Association shall be One Dollar, (\$1.00) payable to the treasurer at the meeting immediately preceding the annual meeting, for which the Treasurer shall issue a receipt, this receipt to constitute a certificate of membership for the succeeding year.

Article V.—Officers.

Its officers shall consist of a President, a First, Second, Third, Fourth and Fifth Vice President, a Recording Secretary, a Corresponding Secretary, and a Treasurer, all of whom shall be elected by ballot at each Annual Meeting, to serve for the term of one year or until their successors shall be chosen. These nine (9) elective officers shall constitute an Executive Committee.

Hill Top Orchards

Warehouse Company

Manufacturers of

LUMBER, LATH, SHINGLES

STAVES AND HEADING

APPLE BARRELS

Dealers in

Orchard Tools and Supplies

Spray Materials

SUSQUEHANNA FERTILIZERS

FLOUR, FEED AND GENERAL MERCHANDISE

W. S. ADAMS, Propr.

ASPERS, PA.

Article VI.—Quorum.

Five (5) members shall constitute a quorum for the transaction of business.

Article VII.—Amendments.

The Constitution and By-Laws of this Association may be amended at any regular meeting by a two-thirds vote of the members present, a notice of the proposed amendment having been presented in writing at a previous regular meeting.

Article VIII.—Fruit Districts.

For the purpose of distributing the work of the Association and extending its scope, the County of Adams shall be divided into the following seven (7) districts: District One, or North District, to consist of Menallen Township; District Two, or West District, to consist of Franklin Township; District Three, or Southwestern District, to consist of Highland, Liberty and Hamilton Townships; District Four, or South District, to consist of Cumberland, Freedom and Mt. Joy Townships, and that portion of Straban Township lying south of the Western Maryland Railroad; District Five, or Eastern District, to consist of Germany, Union, Conowaga, Mt. Pleasant, Oxford, Reading, Berwick and Hamilton Townships; District Six, or Northeastern District, to consist of Latimore, Huntingdon and Tyrone Townships; District Seven, or Central District, to consist of Butler Township and that portion of Straban Township lying north of the Western Maryland Railroad.

Article IX.—Committees.

The following five (5) committees shall be appointed annually by the newly-elected Executive Committee and announced at the January meeting, as follows: A committee on programs, a committee on membership, a committee on statistics, a committee on exhibits and a committee on crop reports; each committee shall be composed of one or two members from each of the seven (7) districts of Adams County, as designated in Art. 8, and one or two from each of the Counties of York, Cumberland and Franklin.

BY LAWS

Article I.—Duties of President.

The President shall preside at all meetings of the Association and have a general supervision of its affairs.

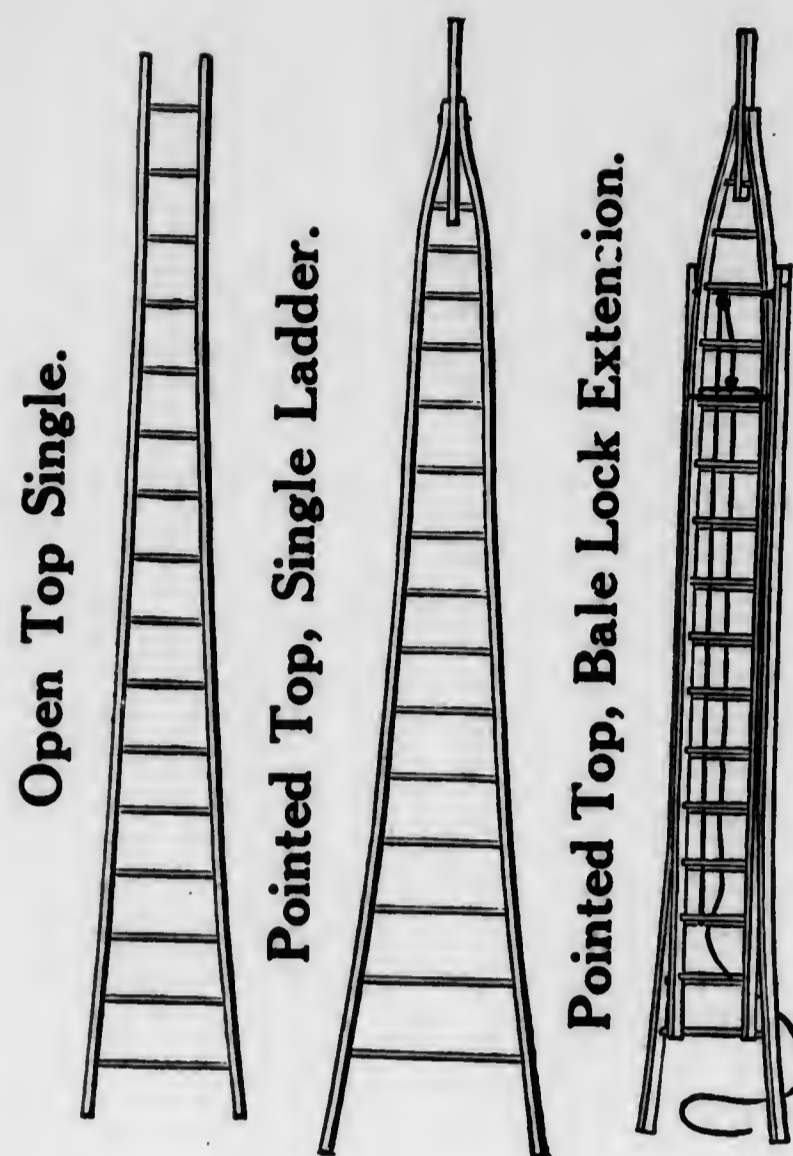
Article II.—Duties of Vice Presidents.

The highest designated Vice President present at any meeting shall preside in the absence of the President; all of the five vice presidents shall serve on the Executive Committee in conjunction with the other elective officers; and, in addition, each vice president shall have special duties as follows:

The First Vice President shall be chairman of the program committee, and be responsible for the preparation of a program for each regular meeting, same to be announced at the preceding meeting.

The Second Vice President shall be chairman of the membership committee, and shall use every effort, personally and through members of his committee, to extend the membership and secure renewals.

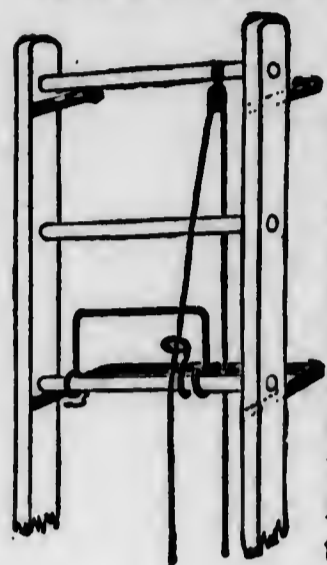
The Third Vice President shall be chairman of the committee on statistics, and shall be responsible for the preparation of statistics showing number of orchards in Adams County, and, as far as possible, in York, Cumberland and Franklin Counties, with quantity, age, kind and variety of trees planted therein, for the use of the Association, adding thereto as new orchards are planted or old ones extended.



This is the most convenient orchard ladder ever produced for trimming trees and picking fruit. Entirely new, works perfect.

Bale Lock Extension

Quick and Positive



Always keep rope hand close to ladder when operating top section. Pull rope to raise the traveling section. To lower traveling section carry the hand slightly to the right while Bale is in vertical position. To lock it, carry hand to the left, always keeping rope hand close to the ladder and the Bale will drop in position and lock it secure.

Tripod
Omega
5, 6, 7, 8,
10, 12, 13,
steps



Tilley's Omega Tripod Step Ladder

"First-class in every respect. Stiff, rigid, light and durable. All flat steps to stand on. The two lower steps are supported by, and rest on rounds which tie, support and thoroughly brace the main ladder. Fully covered by patents dated December 26, 1910."

"Beware of false statements from unscrupulous competitors who are trying to force the sale of their inferior goods by intimidation. **The Patentee and Manufacturer is responsible, reliable, able and willing to protect his patrons and himself against bluffers.**"

John S. Tilley Ladders Co., Inc.

Manufacturer of Ladders and Step Ladders of every description

Factory, WATERVLIET, N. Y.

REPRESENTED IN PENNSYLVANIA BY

EDWIN C. TYSON, Flora Dale, Pa.

The Fourth Vice President shall be chairman of the committee on exhibits, and have entire charge of securing fruit for exhibits and displaying same as directed by the Association.

The Fifth Vice President shall be chairman of the committee on crop reports, and have entire charge of collecting and compiling same for use of the Association.

Article III.—Duties of Recording Secretary.

The Recording Secretary shall write the minutes of the meetings of the Association and have charge of its Records and Reports.

Article IV.—Duties of Corresponding Secretary.

The Corresponding Secretary shall conduct the correspondence of the Association and shall receive for so doing his necessary expenses for stationery, postage, etc. He shall also act as Recording Secretary in the absence of that officer.

Article V.—Duties of Treasurer.

The Treasurer shall receive and keep an accurate account of all moneys belonging to the Association, paying out same on an order of the Association, signed by the President. He shall make a report of all receipts and disbursements at the annual meeting or at any time at the request of the Association. He shall mail a notice of dues to all members one week prior to the November meeting, at which time all dues are payable, and shall issue certificates of membership in exchange for all dues received. He shall also keep a roll of members who have complied with Article IV of the Constitution and embody same in his annual report.

Article VI.—Duties of the Executive Committee.

The Executive Committee shall have general supervision of the affairs of the Association, auditing all bills and accounts and carrying out the purposes of the Association.

Article VII.—Meetings.

There shall be a regular meeting of the Association on the second Saturday of each month at 7:30 P. M., unless otherwise ordered. The meeting held in December to be regarded as the Annual Meeting. Special meetings may be convened by the Executive Committee at such time as they may appoint.

Article VIII.—Initiation of Officers.

All new officers shall assume the duties of office at the opening of the meeting immediately following the one at which they were elected, except that the newly-elected Executive Committee shall prepare and announce, at the January meeting, the membership roll of the five (5) committees specified in Art. 9, and the chairman of program committee shall prepare a program for the February meeting and announce same at the January meeting.

Article IX.—Order of Business.

- 1st. Reading of minutes of previous meeting.
- 2d. Nominations and elections.
- 3d. Reports of committees.
- 4th. Deferred business.
- 5th. Communications.
- 6th. New business.
- 7th. Discussion of questions.

ATOMIZE YOUR SPRAY

WITH THE FAMOUS ATSCO SPRAYERS

The 1915 ATSCO The ATSCO Sprayer enters its fourth year of unbroken success. The demand last year was so much greater than we had expected or prepared for that we could not fill our orders.

The superiority of the ATSCO Sprayer and its merits are now so firmly established that we have installed sufficient new machinery to triple our capacity. In addition to this we have gone through the Sprayer from top to bottom, improving every little detail wherever possible.

ATSCO Simplicity The ATSCO is by far the simplest power Sprayer manufactured. The engine and air compressor are built in a single unit which pumps a large volume of air only, at about 75 pounds pressure into the tank. The air and liquid are each carried separately to the nozzles where the rush of compressed air atomizes the liquid into the finest spray you ever saw, while there are actually less parts or pieces in the entire ATSCO power plant than you will find in the pump alone on the average power Sprayer.

ATSCO Durability As no liquid is pumped there is nothing to cut out and corrode the machinery. The tank is not made of steel but of a rust-resisting alloy rolled especially for us. The engine is remarkably easy to start and handle, while a better built engine than the 1915 ATSCO has never been made. There are practically only three bearings in the whole power plant, and all of the best features now known in gas engine construction have been adopted.

ATSCO Results The actual results in the field are what you are really after and right here is where the

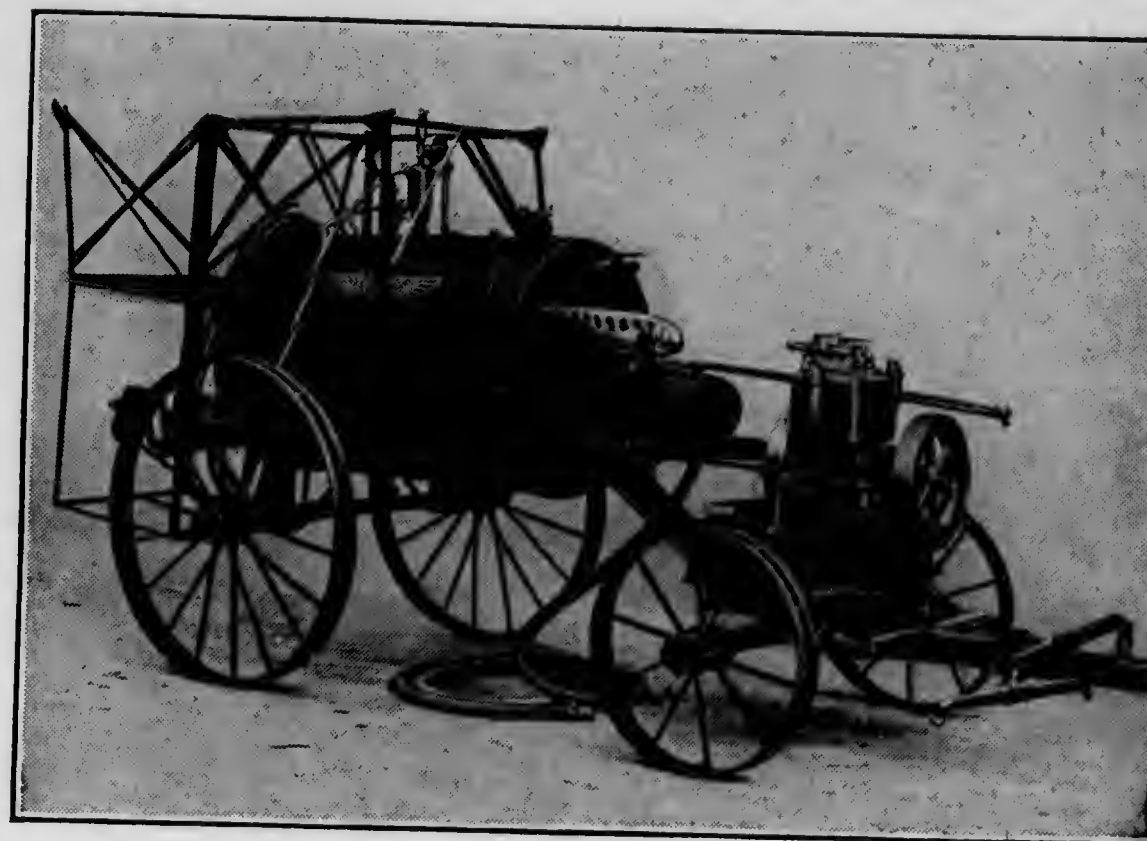


ATSCO Model F

ATSCO Sprayer has made its reputation. It is light and easily hauled around, and the agitation is perfect. The spray is magnificent—better than it is possible to obtain with the old style Sprayer at any pressure. The covering power of the spray is so much greater that there is a substantial saving in the cost of material, reports

of different fruit growers varying from 20 to 50 per cent. This saving will pay for all oil and gasoline and a large part of the operator's expense thus making the ATSCO the cheapest sprayer on the market as well as the best.

Hundreds of successful growers will tell you that they have never had a Sprayer they liked so well as the ATSCO and they are backing it up with orders for additional machines as they need them, which is really the best kind of proof of the Sprayer's worth.



ATSCO Model H

ATSCO Line The ATSCO is made in three general styles Model "F," Model "H," and Model "C." Model "F" with 100, 150 or 200 gallon tank is mounted on steel skids, and is intended to be used either on your own wagon or on a handy wagon which we can furnish. A folding steel tower and tank filler can be added if desired. This has proven to be the most popular model for the average orchard.

Model "H" with 200 gallon tank is complete in every particular with tank filler, tower, brake, seat, etc., mounted on a special all steel truck with header and fifth wheel which allows for square turns. On account of its light draft and easy turning, this model has been especially popular where the trees are large or the ground steep or difficult.

Model "C" with 100 or 150 gallon tank is mounted on two wheels, and is intended for potato, grape or truck spraying, but can be equipped either with booms for truck spraying or hose and rod for spraying trees.

ATSCO Offer All ATSCO Sprayers are sold with the privilege of using for thirty days after date of delivery at your station, which will enable you to thoroughly try one out on your own work in your own way, and see for yourself that it does all we claim for it. If it does, send your check; if it does not, haul it back to your station. We could not make this offer if we were not certain of your verdict.

If you need a Sprayer write for full descriptive catalogue and prices, and let us know what you have to spray.

You cannot buy a better sprayer anywhere at any price.

AIR-TIGHT STEEL TANK CO.


PITTSBURGH, PA.



You've Got to Spray If You Want Good Fruit

You can do thorough spraying *only* with the most efficient pump and outfit. No other kind of spraying is worth while—no other spray pump is worth bothering with. That's why you should buy a

Goulds Reliable Sprayer



Goulds Sprayers are, first, designed to meet spraying conditions most efficiently; then, built of the proper materials to give long service and resist the action of spray chemicals. Made in all types, for hand and power.

Don't buy a spray pump because the first cost is low. A Goulds Sprayer will prove the most economical you can buy.

Send for our booklet—

**“How to Spray—
When to Spray—
Which Sprayer to Use”**

The numerous and authentic spray formulas it contains make it of the greatest value to every crop grower.

Pennsylvania Representative

EDWIN C. TYSON

FLORA DALE, PA.

Largest
Manufacturers
of Pumps for
Every Service

PROCEEDINGS

OF THE

TENTH ANNUAL CONVENTION

OF THE

FRUIT GROWERS ASSOCIATION

OF

ADAMS COUNTY, PA.

The Tenth Annual Convention was called to order by the President, Robert M. Eldon, at 2:00 p. m., Wednesday, December 16, 1914, in Fruit Growers' Hall, Bendersville, Pa., and was opened with prayer by the Rev. D. T. Koser.

President's Address.

ROBT. M. ELTON.

I do not intend to ask your attention further than to make a few observations and perhaps a suggestion or two. We have a full program and limited time. Our committee has tried so to plan that the time which we will spend here this week shall be pleasantly spent, yet be solidly useful. We cannot furnish new subjects for each convention as the moving picture theater manager may do. The field of choice is too limited.

We spray, we prune, we cultivate, we harvest the crop, and market it, and with the coming of another season we repeat. We perfect our knowledge by the repetition. We do things better in our orchards this year because of having done them last year and other years.

In offering the present program we do not feel that we are offering the last word in Horticultural practice, but what is offered is the result of painstaking effort by up-to-date workers in the several lines. We believe that no part of the work in the fruit-growing profession is so mastered that it can be laid aside, but for lack of time and other reasons, have passed some of it by, and will try to match the instruction offered to our needs.

Let us assume that we pretty nearly know what we *should* plant, that we *do* plant as we should, and cultivate with skill; all this

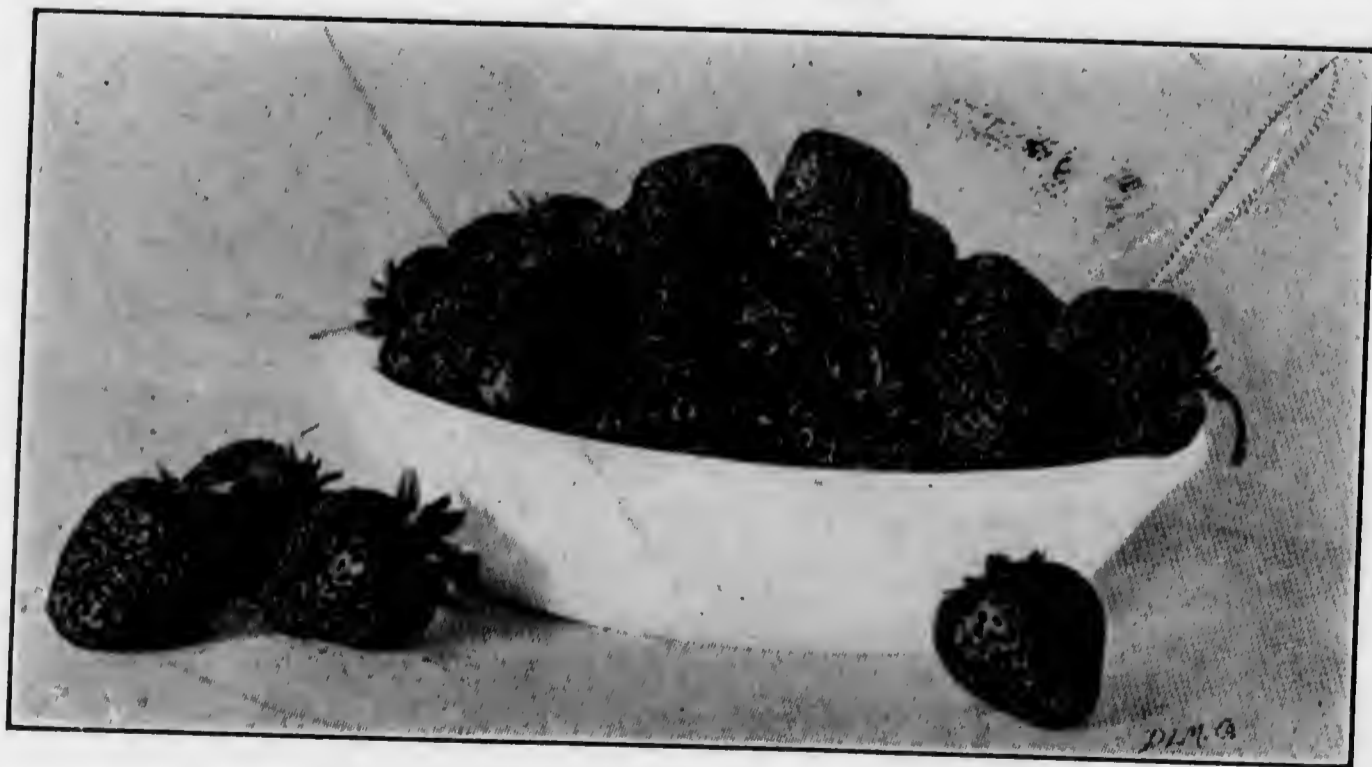
would be but labor lost without the most careful spraying, the most necessary of all operations for the production of the perfect fruit. Prof. Scott, the originator of "Self-Boiled" Lime-Sulphur, needs no introduction. His contribution to spray wisdom has saved the Southern peach crops and may often greatly aid in perfecting the Northern crops. He will give us the latest findings in the whole field of spraying.

A beneficent insect has brought us some relief from San Jose scale but let us take nothing for granted but pursue our spraying operations with ever-increasing thoroughness.

In the face of increasing crops the "Profitable Disposal of Low Grade Fruit" is becoming more and more important to growers. Along with this are offered these allied subjects "Better Grading and Packing," and "Co-operative Marketing." These will be treated by Professors Kains and Knapp. We, in the East, need greatly to improve our pack. We are near to market and our apples have quality not surpassed, but with the lowering freight rates consequent to the opening of the canal, and with their better finish and perfect pack, our Western competitors are going to continue in that role. We must have fine appearance as well as best quality.

In addition to subjects purely Horticultural, others of timely interest have been put in our program. Our cattle are in quarantine. The State Veterinarian will explain why. Our roads are not up to the needs of a fruit-growing community. Dr. McCaskey a good roads exponent will tell us how we may have better ones. Prof. McDowell, Director in Agricultural Extension will discuss "The County Agent," and Miss McDonald, Extension Instructor in Domestic Science, will lecture on "Health," and "Home Economics."

The endeavor will be to promote your wealth, health and happiness. Your duty is plain. Secure a new member. Attend the sessions and help to make this the best convention. Patronize our advertisers. They will treat you fairly.



The Hoof and Mouth Disease.

DR. C. J. MARSHALL, *State Veterinarian.*

The recent outbreak of Aphthous Fever or foot and mouth disease was discovered on two farms in Lancaster County and in the Union Stock Yards at Pittsburgh on October 24, 1914. It has since been learned that the infection existed at that time in something over five hundred herds in twenty-seven counties in Pennsylvania. It had been carried from the stock yards in Chicago to these various places in the period of less than two weeks. Five days previous to October 24th we were warned that the disease had been diagnosed in two counties in Southern Michigan and two others in Northern Indiana. In the meantime our cattle shippers, commission men and over eight hundred veterinarians had been warned that the disease had been found and that all should be on the lookout for symptoms of the disease. In many cases infected herds were located and quarantined before suspicious symptoms had been observed. The disease was so widely distributed over the state that it was necessary to establish seven administration districts with the head office at Harrisburg. Each district was in charge of an experienced agent of the federal and state government. The federal inspectors were appointed agents of the State Livestock Sanitary Board and cards of identification were issued to each so he could work under the state law. About one hundred trained veterinarians were employed by the federal and state governments. The work, expense and responsibility were shared about equally by each. The work of locating and exterminating the disease was made easy from the first by the mutual co-operation of commission men, dealers, railroads, herd owners and local veterinarians with the experienced officials in charge. The first class helped greatly by furnishing free access to records of shipments and sales. In many cases the disease was recognized and reported by the owner.

This outbreak has been the worst calamity to our stock raising industry that has ever occurred in Pennsylvania. It was forced upon us with practically no warning and came in the nature of a flood, earthquake or monstrous conflagration. We were fortunately prepared to meet the emergency and hope to exterminate it in a short time. While the experience is fresh in our minds we should decide on measures that could be safely adopted to handle a similar emergency more efficiently if possible in the future. It is not safe to be unprepared for calamities of this kind. Safe and sane measures are hard to promulgate and enforce during the existence of such a plague. In times of peace we should prepare for war. The plan of extermination successfully used in the outbreak of 1908 was adopted in dealing with this one. As soon as the disease

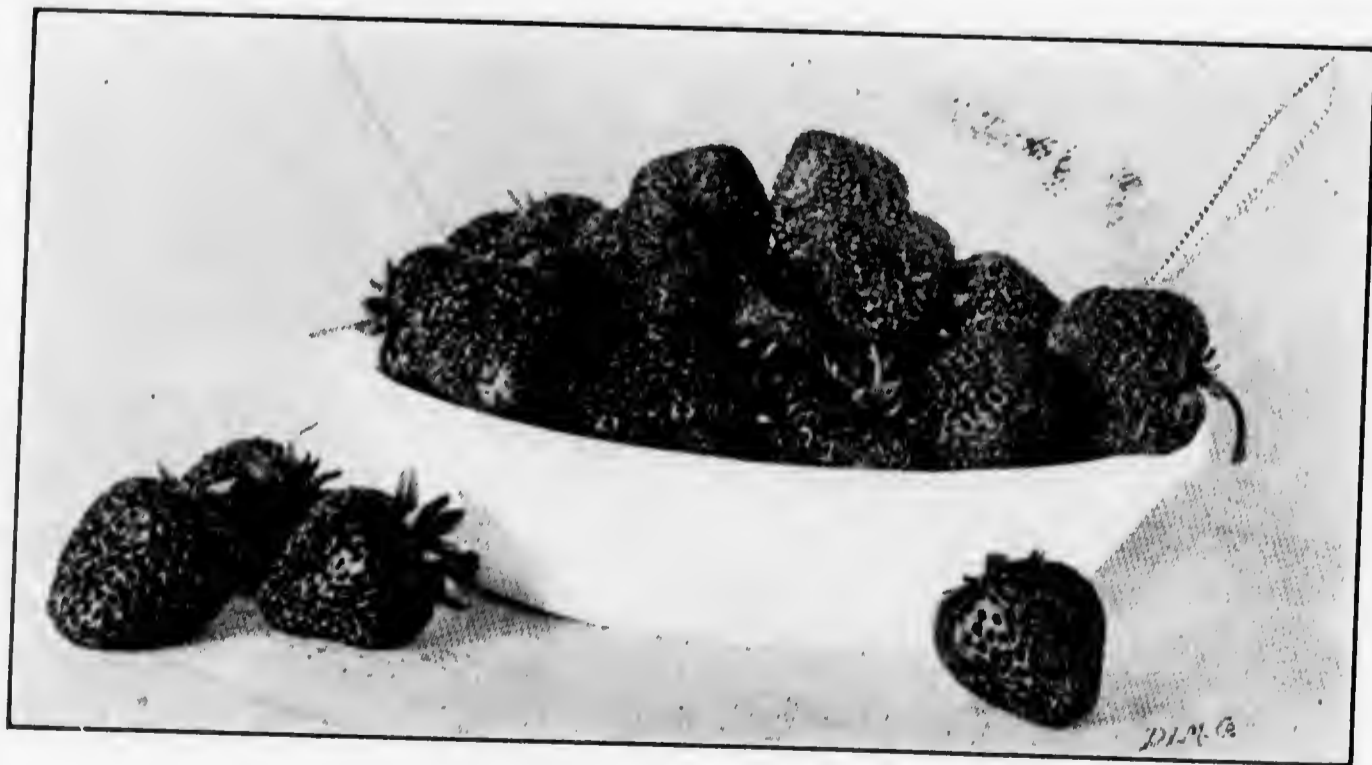
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was reported to the board each member favored continuing the work of extermination along the same lines that had been used six years ago. The same general plan was used in the twenty-three states in which infection was found.

It was first necessary to locate the diseased herds. Agents were sent out at once to trace up suspicious shipments. When a diseased animal was found all the cattle, hogs and sheep on the premises were placed in quarantine. In all cases the diagnosis was confirmed by the state and federal agents. Both representatives were satisfied that the diagnosis was correct. The diseased and exposed cloven footed animals on the premises were then all appraised at their actual value. Arrangements were made for digging the burial trenches. In some cases the work was done by the owner of the herd while in others contractors did it. In either case the expense is borne equally by the federal and state government. The animals were then killed, covered with one hundred pounds of lime to each one thousand pounds of estimated animal weight and buried in a grave seven feet deep, seven feet wide and two feet in length for each mature bovine animal. Next the stable is carefully cleaned and disinfected. The owner will not be permitted to restock with cloven footed animals for sixty days from the time the premises are disinfected. In the meantime a farm to farm inspection will be made within a radius of three miles from the infected herd and each susceptible animal will be examined for any evidence of the disease. During this time the township is held in quarantine and it is necessary to obtain a permit to move hay, straw, cattle, sheep, swine or hides.

In the beginning of the outbreak a quarantine was placed upon the whole state. This precaution appeared necessary for the reason that the disease was so widespread. The counties into which no interstate shipments had been made between October first and twenty-fourth were released from quarantine as soon as the records of sales and shipments were examined. A few counties had received such shipments and upon examination the animals were found free from infection. These counties were promptly released from quarantine. It was soon considered safe to release certain townships in counties that had considerable infection. The disease was found in twenty-seven counties. Some counties had but one or two diseased herds. The counties that received the most infection were Lancaster, Berks, Montgomery, York, Bucks and Chester. The farmers in these six counties keep a great many cattle. It is their custom to purchase feeders in the fall and finish them for beef during the winter. Their purchases are usually made at the season of the year when this infection occurred. At no other time could the infection have been spread so extensively and rapidly.

It will cost over \$600,000 to settle for the damage done in Pennsylvania by this disease. Aside from the expense something over six hundred herd owners have been tied up and prevented from

carrying on the winter's work. Traffic in cattle, sheep, hogs and crops has been practically at a standstill in many parts of the state. In most cases people have met the losses and embarrassment boldly and with but one purpose and that was to get rid of the disease as soon as possible. In practically every case the main objection or criticism heard was that it was too long from the time a diseased herd was found till it was destroyed and the premises disinfected. In most cases people were reasonably patient in this respect. Some have wondered if a less destructive method might not be used safely for exterminating the disease. This is not to be wondered at when one considers that the death rate from the disease is so low. It is known that practically 95 per cent. of the cases will recover with no treatment except reasonable good care. In a number of cases in the recent outbreak the affected animals had recovered before they could be destroyed. The reason for taking such extreme measures in dealing with this disease is not due to the high death rate but to the fact that it is so easily transmitted from animal to animal and from place to place, and it does cause a depreciation in the value of the affected animals.

Careful records were kept by Dr. Rudovsky of the average losses from this disease in Austria. In 13,858 head of cattle on 91 farms belonging to sugar factories, and 2,054 head on 802 small farms, the losses from milk decrease, oxen incapacitated for work, loss of condition in all animals, natural death and compulsory slaughter amounted to about \$20 per head. He estimates an annual loss of over a million dollars in Austria. This is a safe estimate for the losses each year in the countries of Continental Europe. Infection comes from Russia and other eastern countries where animal hygiene measures are practically nothing and it passes rapidly westward to sections of Europe where veterinary police regulations are most perfect. It has been practically impossible to exterminate Aphthous Fever from the herds in France, Belgium, Switzerland, Italy, Germany, Austria, Holland and Denmark for the reason that fresh infections are constantly being brought in from Russia, Roumania, Turkey, Siberia, etc.

The policy followed by all these countries is to adopt rigid quarantine measures. No animals are killed on account of this disease unless they become worthless. For them perhaps this is the cheapest and best policy but for people in North America where we are surrounded by water and ice and the infection is brought in only occasionally it seems best to continue the plan so successfully used in all past outbreaks. The disease cannot be considered as a source of danger to man. Its principle importance is an economic question. If property must be destroyed and animals slaughtered for the public good the owners should be compensated for their entire loss provided it can be shown that the disease was brought about by no fault of the owner.

Under the present law our Board is limited in amount of indemnity that can be paid for animals that it is deemed necessary to destroy to \$70 for a registered bovine and \$10 for a sheep or hog. The United States government will duplicate these amounts in the present outbreak but it is a well known fact that some animals that have been destroyed are worth from twenty to forty times the amount allowed by law. Should not the law be fixed so it would be possible to pay full value for such animals when it becomes necessary to destroy them for the benefit of the state or country? The diseases for which such extreme measures are necessary are but few. Aphthous Fever is the only one with which we have had to deal so far. Rinderpest is equally as important and there is no positive assurance that our herds may not become infected with it. The dangers from these diseases have increased wonderfully in the past few years by the progress made in transportation.

Rapid progress has been made in destroying the infection from the present outbreak of Aphthous Fever. The payment for property and stock destroyed has necessarily been held back. Under normal conditions the Board had money sufficient to meet its obligations up to June first, 1915, when the present appropriation was to terminate. It will now be necessary for the Board to petition the legislature for about \$350,000 to reimburse the owners for losses sustained. Let us trust that the legislature can and will make the necessary appropriation so the bills can be paid without delay.

The Bureau of Animal Industry has petitioned Congress for \$2,500,000 to pay its half of the expenses in this and other states. The bill has passed the House and is up to the Senate.

In the previous outbreak in 1908 the United States Government paid two-thirds and the state one-third of the necessary expense. All just bills at that time were promptly paid. For this reason it has been much easier to convince the people that they would be paid for their losses this time.

It is hoped that you will feel that the work of exterminating the disease has been justly and promptly done and that money will soon be available for paying all just claims.

Infection during the present outbreak was carried from the original to other farms in a few cases. In nearly every place it was carried in refuse and utensils from creameries to which milk from infected herds had been sent. If the creamery refuse had been pasteurized as required by law thousands of dollars would have been saved and much annoyance prevented.

Aphthous Fever is not the only disease that is spread by unpasteurized milk and infected utensils from creameries and skimming stations. Among other diseases that are known to be spread in this way might be mentioned tuberculosis, contagious abortion, contagious dysentery, naval ill, joint-evil and paratyphoid infection of young animals. All interested in raising young animals free from such diseases should use their influence to compel pasteurization of

all creamery refuse that is to be used as food for young animals. It is equally as important that milk cans should be sterilized and properly cleaned before they are returned to herd owners.

Discussion.

R. M. Eldon.—We would be glad to have you explain the symptoms, Doctor.

Dr. Marshall.—The first symptom is loss of appetite, then depression. The temperature at first is elevated, usually 103 to 106 during the first day. The next day the animal begins to slobber. It stands with head down and makes a smacking sound with the lips. The animal may be lame in one foot or more. If you examined the foot closely there may be a moisture that looks like a case of foul claw, and there is about as much lameness as is seen in foul claw. In dairy cows there are usually blisters on the teats. In the beginning they look like water blisters. During the next 24 or 36 hours they become brown and the scab is thin. The secretion from those blisters is infectious. We seldom see all those symptoms in the same animal. On examining the mouth carefully small vesicles or blisters may be found. They are most frequently seen on the dental pad between the lip and lower incisor teeth and on the tongue. The vesicle or blister soon ruptures and leaves a raw, ragged surface.

Member.—Is it possible for human beings to become infected?

Dr. Marshall.—It is very unusual. I do not know of any cases in this country.

Member.—What is the expense of one of your agents to examine these cattle?

Dr. Marshall.—There is no expense at all.

Member.—Is there a charge for permits?

Dr. Marshall.—No. If you call in a local veterinarian to make the examination you will have to settle with him the same as for an ordinary visit.

Member.—Is there a veterinarian in this county who issues permits?

Dr. Marshall.—Not in this county—Dr. G. M. Graybill at York Springs issues them for this county.

Member.—Is a man allowed to have a hog killed at home and taken to the butcher shop and finished?

Dr. Marshall.—Yes.

Member.—Can a man have a butcher come to his place and kill a hog and finish butchering for him?

Dr. Marshall.—Yes.

Member.—Do I understand that if you want a permit first you have to get a veterinarian to get the permit?

Dr. Marshall.—You must have a certificate showing that your premises are free from infection.

Member.—Can you haul an animal without head or feet?

Dr. Marshall.—Yes.

Member.—Can you ship veal calves out of the state?

Dr. Marshall.—No, not for live calves as long as there is a quarantine on the state.

Member.—If there has been infection in a herd that you have not noticed; if they have had the disease but recovered, what is the danger of future infection in that some barn?

Dr. Marshall.—The infection will last for about six months in the herd. Animals can carry infection for about three months and those animals would be a source of danger for six months.



DELAWARE AND JERSEY BASKETS, WITH WOODEN COVERS.

The Burden of Poor Township Roads and How to Get Better Ones.

DR. DONALD McCASKEY, of Lancaster County, Pa., Ex-President
Supervisor Board, East Lampeter Township.

Owing to an unfortunate automobile accident, Dr. McCaskey arrived too late to show his collection of road repairing slides, or to deliver his address, but he has very kindly sent us the following stirring appeal to *keep pegging away*, and promises to come back at some future date and thrash the matter out to a finish. In the meantime, how many of his questions can you answer? If some of us are not better posted before he comes back, the head of the class will be hard to find after he begins his catechism.—*Editor.*

Like the poor who are always with us, we people of Pennsylvania are going to carry around on our backs so long as we live and our children who come after us, this burden of our township road problems. We might as well look the truth squarely in the face rather than to try and dodge and to sidestep it, for, like old Sinbad the Sailor, we have been saddled with this road proposition and it is up to us, each one of us, to figure out what is what and to try right where we live and where we must drive over our own home township roads, to bring about better road community conditions.

Just waving the flag and yelling "hurrah" won't do everything, but I want to tell you that it will do a mighty big part in helping to stiffen up the failing strength of a real live earnest road supervisor who needs your sturdy friendship and your personal backing.

Sometimes we all fool ourselves by thinking that we know a great deal more about our home township road affairs than we really do know. It is perfectly natural for each one of us once in a while to make a mistake, for we all become a bit more conceited at one time or another. But let me ask you a question. Let me see how much you actually do know about the road affairs of your own home township, and about road affairs where the officials of a township have learned how to make a dollar produce its fullest return upon the investment in all the year round road improvement.

First, let me ask you, do you know what the tax duplicate of your own home township is for your roads? How many miles of township roads do you have? What is your township assessed for? What is your road tax rate? How many miles of purely earth roads do you have? How many miles of township stone roads? What has it been costing you per year per mile to *maintain* your earth roads? How much to *maintain* your stone roads per mile per year? How many miles of new township stone roads have your local supervisors been building regularly each year for the past five years? How many miles do they plan to build during the next five

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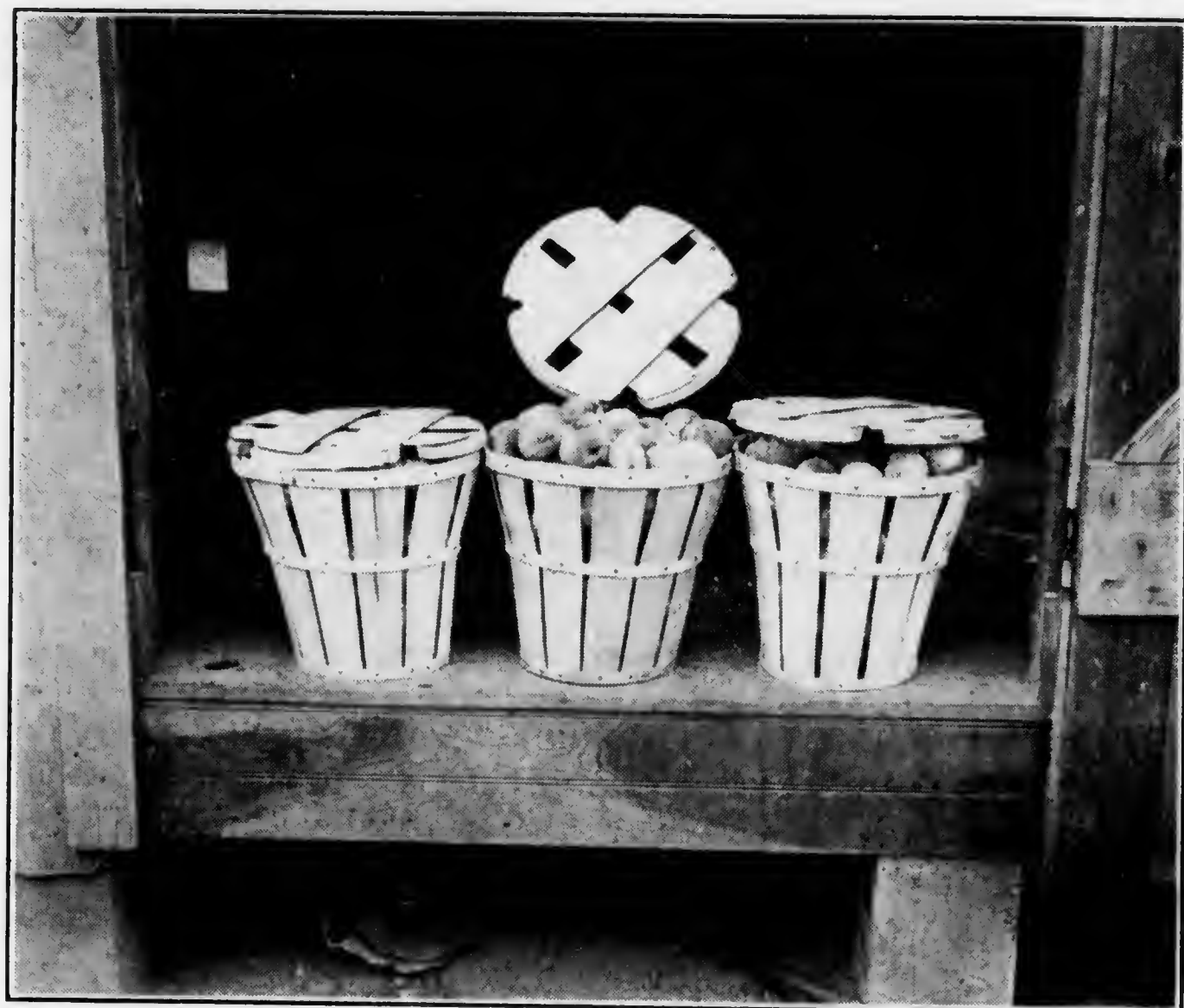
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Just waving the flag and yelling "hurrah" won't do everything, but I want to tell you that it will do a mighty big part in helping to stiffen up the failing strength of a real live earnest road supervisor who needs your sturdy friendship and your personal backing.

Sometimes we all fool ourselves by thinking that we know a great deal more about our home township road affairs than we really do know. It is perfectly natural for each one of us once in a while to make a mistake, for we all become a bit more conceited at one time or another. But let me ask you a question. Let me see how much you actually do know about the road affairs of your own home township, and about road affairs where the officials of a township have learned how to make a dollar produce its fullest return upon the investment in all the year round road improvement.

First, let me ask you, do you know what the tax duplicate of your own home township is for your roads? How many miles of township roads do you have? What is your township assessed for? What is your road tax rate? How many miles of purely earth roads do you have? How many miles of township stone roads? What has it been costing you per year per mile to *maintain* your earth roads? How much to *maintain* your stone roads per mile per year? How many miles of new township stone roads have your local supervisors been building regularly each year for the past five years? How many miles do they plan to build during the next five

years? Does your township have any system or plans for the next five years, or are your local road affairs just drifting and getting along from hand to mouth?

A good standard of cost for building one foot of township stone road is from 80 cents to \$1.00 per lineal foot complete and open and ready for traffic. What has been the cost per foot in your township? Does your township possess a stone crusher that isn't out of repair, and if so how many perches of crushed stone can it deliver per day? How many perches does it actually deliver when you count up all the unforeseen delays from teams and drivers and roads and accidents? What is your average cost per perch for your township to crush and haul its stone out upon your own communities roadways? What does it cost your township per average mile per year to clean out the side gutters with a road grader? Do your supervisors merely use the road grader to clean side ditches in spring or do they get out on the job in the fall as well so as to let all the melting snow and heavy winter rains run easily off of the roadbed into the side gutters where all the water belongs? How many hillsides have been regraded during the last five years and how many days labor was consumed and at what cost per average day? How many new concrete culverts and underground drainage pipes have been installed in your township, how many days were required to install them; how much material was used, and how much money was spent per average culvert?

Does your township use the road drag patrol system for every foot of its earth roadways? After three years of this patrol system in East Lampeter township, Lancaster County, during my term as road supervisor, this road drag patrol system had given us firm, well crowned, ideally drained earth roads for \$5 per mile per year, where before, when no business system existed each mile of neglected earth roads had been costing \$50 per year and with nothing to show for this money but sink holes, ruts, undrained danger spots and neglect everywhere.

Does your home township keep any record or inventory of the number and particular kind of road tools used on your home roads, or does everybody just guess about the number of picks and shovels and other instruments, and as soon as tools are borrowed and never returned by private citizens, new tools are purchased at the expense of the township? Has your township been saving up any money placed at interest for the purchase at some future time of a much-needed road roller or a new stone crusher, graders, dump wagons, etc., or are the supervisors spending every last cent and even going into debt and paying out your own road tax money as interest to some bank?

Do you know what your township supervisors are giving you for every \$100 of your tax money which they spend? Did you ever realize that you are a stockholder in the road supervisor corpora-

tion of your home township and that your supervisors are your president, secretary, and treasurer of this corporation and that these officials are supposed to earn big dividends for their corporation?

Has your supervisor board got any courage or are your home officials afraid to do anything because the State Highway Department and laws and public discussion have sort of acted as a scare crow? Has your supervisor board got a real studious, helpful attorney at law, or just a politician who possesses a lawyer's sign and an office? Good service is worth all it costs, but it must be *service* that helps get better road conditions back in your own home township on the roadways which you and your family drive and over which your children walk to school. Let me ask each one of you folks right here if you know the answers to these questions as they apply to your own township road burdens? We have in Pennsylvania 1,600 separate townships, and the final test as to how much the folks living in any one of these townships actually know—*know*—about their own home road problems is clearly revealed by the present condition of these local roads. This applies equally to you and everybody else in your own home township. Your township roads must be *maintained*. For it is just as important to *maintain* a township roadway as to build it in the first place. Let me repeat that word *maintain*. It is the *big worry* of all this township road burden, and we must study it and meet its demands upon purely a sensible, simple business basis.

For example—a fruit grower or a farmer; an automobilist or a railroad official might just as well expect to earn prosperity for himself and his company without *maintaining the standard* of the property as to the safety and efficiency of its service as could a township taxpayer expect to draw dividends from his own supervisor board in the form of road improvement if those township executives do not properly maintain the road property placed under their direct care and responsibility. If you don't maintain a property once you have constructed it, the property will go to smash. This has occurred right in your own home township on some road or other if you will stop to think about it for a moment. Most of us do not have to stop and think, for so many of our local roads have gone to smash which we must travel over that we *know*. Remember this proposition of *maintenance* therefore if you will save you own home roads from going to smash.

The chief trouble with our township roads in the past has been that our township supervisors have deliberately stood by and let the roads under their care go to smash. Why is this? I will tell you. It is because you and your fellow township taxpayers don't deliberately make your home supervisors maintain them. Let me repeat this word *maintain*. You must reckon with this just as surely as you must reckon on a 90-day note when it comes due at your bank. There is no difference in the working of this inevitable

law, and just so long as we sidestep this proposition of a business system of maintenance of our township roads, just so long will we have the same kind of troublesome burdens to carry as you would if you neglected to make good and fulfill any money obligation you might have with your banker.

There is nothing marvellous or mysterious or impossible or expensive in handling this township road burden. All it needs is *work*—just studious, intelligent, plugging ahead, *Work*.

But it needs this work all the year round. Sometimes this work is needed right around the council table of the supervisor board more than anywhere else, for too often, much of the manual hand labor with pick and shovel is not work at all, but is merely good natured, ignorant 15 cents an hour motion picture stunts.

Our supervisor board members must clearly understand each in his own mind exactly what is the best thing to do. Then it is up to him to hook onto the prevailing political customs and habits of his community and to transform the neglected roadways of his township into a system of respectable roads all the year round. Oftentimes the supervisor will have to fight for what he believes is the best thing to do and by sheer foot ball tactics he will have to buck his way to progress right through the line of the opposition often moss grown with tradition. The point is that a peace-at-any-price road supervisor never can deliver the road improvement goods. Furthermore, we must all learn to recast some of our ideas, and the sooner each of us goes back home and takes an account of stock in our own local road affairs the better will we be sharing our part of this township road burden. We will need to find out just where we are ignorant and weak. We need to know where we are strong, also, for more of our road supervisors fail through ignorance of their own strength rather than through knowledge of their own weaknesses. Don't be afraid of the truth, therefore. Get busy right where you live and keep searching out the facts about your township road affairs and then use them every day to help get better conditions.

Every township supervisor of our 1,600 townships in Pennsylvania possesses some angle of road improvement knowledge that you or even he himself did not know about. You must help this official to find this knowledge so that he can use it back home in your community. Whenever we run across a supervisor who is up and doing and who is right on the job, but who is not a popular official and who is oftentimes double-crossed by some political antagonist—we need to step right out in the open, plant our colors and *back that supervisor up*, for our township roads need this sort of personal friendship work just as much as that done with pick and shovel, a road grader or a split log drag. Get upon one side of the fence or get over on the other. The quickest way to lessen the burden in this road proposition is *don't sit on the fence*, and don't let anybody else sit there either. You have got to believe in

yourself and in the fellow who is doing real intelligent work for your township roads, and that very belief and confidence will do a wonderful lot to help encourage the supervisor who is actually trying to do the best that he knows how. Every supervisor gets weak from punishment. I know, for I've had four years experience and have been pummeled and thrown down and rolled on, for sometimes the fire from the ranks of the opposition is most wicked. It is then that the constructive tax payer must step out and get upon one side of the fence or the other and must pull or push everybody else off of the fence who tries to sit there and play possum, for then is the time that intelligent work and study counts most for it is because of ignorance that most of our road burdens have increased rather than grown smaller, and a good "scrap" often clears the air and dispels ignorance. It brings out that truth I was talking about previously, and it is this important *truth* in our township road affairs which serves to bring a more rapid improvement. Many a supervisor would like to go ahead and fix and maintain better road standards of his community, but he realizes that he is not strong enough to do the job unless the majority of his tax payers understand the real facts of the situation. Because of lack of township road knowledge among the taxpayers, a good supervisor is often scared away when the enemy in the form of political opposition or personal "sore heads" opens up with its cannonading, and many an efficient supervisor for the sake of peace in his community will lay down his arms and keep off of the township roadways. This is wrong. You must get in back of an official who has proved he can earn good dividends for the township roads. You must help boost up his nerve, for I have never yet met a Pennsylvania road supervisor who will not feel the benefit of your personal encouragement. He will do better work and instead of often retreating because of hostilities, you can help him swing your own home community's road efforts to victory. All it requires is just a bit of the General Phil Sheridan spirit when at the Battle of Winchester which started in with a rout for our Union regiments. When Sheridan got into the game with his famous "We're going back, boys" yell—it didn't take long before his troops went back and turned a defeat into victory.

You can help your supervisors, and it is up to him to hustle and learn how to help himself to the very best of his ability, for that is one of the things required of any corporation executive, and if he doesn't learn how to earn dividends he is very soon "fired" from his job. There is no reason why the township supervisor who is responsible for thousands of dollars annually of his taxpayers' money should not be regarded in the same light.

The big ambition in your home township which your supervisors should strive for is to produce a one years respectable road improvement in the way of dividends to you for every \$100 of your tax money which you must pay by law to your township tax col-

lector. This producing of road-improvement dividends is the job of your supervisor. It is what he swore to accomplish when he took the solemn oath of his office, and the best and quickest way you can help him to lighten the burden of your own poor township roadways and to help him get better ones is for you to get thoroughly acquainted with the various business items of your home township road burdens and then show your local supervisor that he can count upon your backing and support when the demagogic kicker starts in to talk and to "knock."



"UTILIZATION OF CULL APPLES IS AN IMPORTANT MATTER."

Utilization and Disposal of Second Class and Cull Fruit.

PROF. M. G. KAINS, *Horticulturist, State College, Pa.*

The topic that I have this morning is the "Utilization and Disposal of Second Class and Cull Fruit." Naturally you in this section are thinking of apples and peaches, because these are your leading fruit crops, especially the apple, as it is your most important crop.

The Canada Fruit Marks Act, as you probably know, is an act which lays down specifications for the picking of apples and other fruits. People who pack according to the brands specified by the Act, must live up to the brands. Unless the apples are as represented when the inspectors open sample barrels in Montreal, or in Quebec, or some other forwarding port in Canada, the whole shipment can be confiscated and the grower bear the loss. The result of that Act has been a very great improvement in the forwarding methods, so far as Canada is concerned; so great in fact, that American apples often go across the line and go forward from Montreal and Quebec because shippers desire to take advantage of the branding that can be given in Canada.

So far as Canada itself is concerned, this Act has been worse than a dead letter in one respect; it has kept the poor apples at home, so people who formerly had no trouble in getting good fruit now have to take the lower grades which cannot be shipped to Europe. It is characteristic in towns and cities to find poor fruit, whereas years ago we had no trouble in getting the best, the poorer grades being kept at home for cider and vinegar purposes.

Those of you who have followed the trade papers know what wonderful development this Fruit Marks Act has had in building up Canadian agricultural industries. So far as export is concerned, the development has been decidedly marked here just as in Canada; growers are confronted with the problem of getting rid of the lower grade fruit. It is perhaps a flippant solution to say "don't have any," and yet there is more in that "don't have any" than at first appears on the surface, for the best way to reduce the quantity is to practice modern methods of production.

You all know where you are practicing the selection of good business varieties you have little trouble in selling those varieties; I mean varieties that have a definite place in a definite market. You know that the South is perhaps the best market for York Imperial. You do not send York Imperial to Boston—not to the same extent. The same remark will apply to other varieties. Business varieties is perhaps the first point to make in not having low grade fruit. Then, of course, come pruning and spraying and fertilizing and cultivating. You know from other talks what these

mean. You also know from experience how these have worked out in the production of better quality fruit.

Next in order comes thinning. Perhaps this is the least understood of the four or five headings I have just mentioned, but in this county it is better understood and better practiced than in many other parts of the state and in many other parts of the United States, if we except those Western states that have come into the market and into competition with our eastern fruit.

You know thinning has at least three specific advantages: First, it saves the drain in the production of seed. Seed production is a greater drain than the production of pulp, so that if we reduce the number of specimens on the tree we give the tree just that much more chance to ripen up the specimens that remain. Thinning reduces the culls. It is much easier to pick off the inferior specimens by breaking it off from the stem and letting it fall on the ground than to pick that same specimen, put it in a basket, carry it to the packing-house, paw it over several times perhaps and finally discard it. Again, thinning tends to make regular, annual bearing the characteristic habit of varieties.

The most striking instance that I know of this last kind is in the orchard of John Q. Wells, of Shortsville, N. Y. Three years ago Mr. Wells told me his orchard was about twenty-five years old, that it came into bearing when about eight years old, and that he had had fifteen crops in seventeen years. The reason he did not have seventeen crops was because a frost each of those two years had killed the blossoms. The fact that he has paid for his farm, which was very heavily mortgaged when he took it, and has a well-equipped set of buildings, ought to speak pretty favorably for the thinning practice.

But even with the best of thinning, the best of cultivation, pruning and general practice, there will be low grade fruit to a greater extent than any fruit grower would like. We can't always prevent accidents happening in the packing-house, and can't always have our apples free from scab or other defects, so we have to find ways of taking care of the low grade fruit that we would not care to go to market and give us or our section a bad name. It is never desirable to put low grade fruit in the same package with our best fruit. Everybody knows that. Nobody should put up a barrel of apples or a box of apples, of a quality that he would not, himself, care to buy. We all have low grade stuff to take care of at home. How shall we do it?

Before discussing that let me say a few words about our brands. In this section you are especially favored in having a general outlet for your fruit. You can therefore be more or less co-operative and get a name for the whole section in the markets you aim to supply. Individually, it will be to your advantage to live up to your brand. As a section, it will be to your advantage also to live up to the general tone of the community, so that the community

as well as the individual, will get a good name. It is desirable not to allow the itinerant buyer to get hold of your fruit, because he might pack good, bad, and indifferent fruit in your barrel and say they came from Adams County, which would give your section a bad name. A good name is above price, whether for the individual or for the section.

Now as to the quantity left over. There are several ways of getting rid of stock below fancy and below first class. L. L. Morrell, of Kinderhook, N. Y., makes three grades according to size. He does not grade so much in the ordinary conception of the term as according to size. He makes more money out of his second and his third size apples than he does out of his first size. He has found that in Brooklyn, where he markets most of his apples, there is a great demand for a medium and a small apple, and he is deliberately catering to that demand. The first grade sells at a little in advance of the second size, but it takes a little more effort to pick that size out. There are more apples of second and third sizes than of first size. The work is simplified by using the size rather than the color, and as he has standard varieties—Baldwin, Rome Beauty and other varieties of that class—he has no difficulty in selling. He has very little of the grades below third size, because he practices good cultivation and thinning methods, and is a thoroughly up-to-date grower.

In some sections of western New York the fruit growers find they can dispose of second and third grades in the mining towns of Pennsylvania, where there is a distinct demand for a medium quality fruit. It is to their advantage to send nothing but first-class fruit to the larger cities or to Europe.

Apples specked with scab, or in some other way injured in appearance, are still good fruit. What shall be done with them? There is a possibility of developing a trade in them, just as developing a trade by size. If the fruit is not seriously specked it may be put in a package by itself and sold for what it is. Nobody objects to paying a reasonable price for such fruit if it is as represented.

But we still have quantities of stuff that will not be classed with any of those grades as have been spoken of. As you know, the old home way of drying apples is practically extinct now, but we are using the evaporator process. The dryers take care of a considerable quantity of fruit in this way. Wayne County, New York, is unquestionably the most important section where evaporating is carried on. From a rise of ground almost anywhere in the county, a view in all directions will show ten to forty drying outfits or kilns, on the individual farms, and carload shipments from that section are very common. People there think in terms of carloads. Immense quantities of this fruit go to Europe, especially Germany; probably not this year, on account of the war, but otherwise annually.

Just how much money there is in that is a problem. It is dependent upon other conditions in the market. If there is in California a large prune crop and these are dried, the evaporated apples come in competition with that dried fruit. The kiln dryers always take that into consideration. Sometimes they will not buy the lower grade fruits to dry because of the fruit that will be dried in other parts of the world. They keep their eyes on the whole fruit situation.

A new process, the dehydrator process, has been introduced within the last few years. This is claimed to be more economical than the old-fashioned drying process. As promulgated in the company's literature, the strength of this system rests in "squeezing" the water out of the air before it passes over the hot plates. The dried heated air then goes through the fruit cut up in the usual manner, the idea being to have a very dry air so as to reduce the time necessary to take the water out of the fruit. By so doing it is not necessary to have so high a heat in order to remove the same amount of water in a given time. The result is that much less of the fruit oils which give flavor be lost in the process, and the quality of the product, after it is prepared for the table, is better.

The apple canning business which you have established in this section is taking care of a large quantity of low grade material. You have two or three of these canneries in this section, also two or three evaporators. I have heard the products of these canneries here spoken of very highly, and spoken of in a way that would indicate that hotel keepers and restaurant keepers prefer this material to the fresh fruit, because no trouble is experienced in getting it in shape for the table. But your canneries here are unquestionably too small to take care of the probable quantity of material that it will be necessary to get rid of in the next few years when your newer orchards come into bearing, so that it will be necessary to have other means of taking care of this product; first, by enlarging the old buildings and by developing some other lines of taking care of cull fruit.

There is not much money in cider. Only the poorest apples are usually made into cider; those apples that are not good enough for the evaporator or cannery, or low grade fruit, at the best. There is not much money either in vinegar. Probably the reason for that is the fact that grain vinegars are coming into market more and more every year, and because of the campaign being made to show up these vinegars as purer and cleaner than that made from apples. Probably you know that in the making of grain vinegar the grain is thoroughly cleaned and every precaution is taken to have it produced under the most sanitary conditions.

Several other processes are now extensively used in the production of apple by-products. Before I come to them, however, I must speak of the Apple Advertisers of America, an organization formed

last winter—a representative apple organization for the whole apple industry. Its officers are chosen from many states and its vice-presidents come from practically every important apple growing section. The object of this association is to advertise the apple, to bring forward its best points and educate consumers to use more apples in their various lines of diet. Mr. U. Grant Border, of Baltimore, is the secretary. He published a pamphlet called "197 Ways to Cook Apples," a booklet which can be had for a few cents. Among the 197 recipes given there are many that could be utilized for making commercial apple products. I have picked out a number of ways that might be used: Jelly, preserves, apple conserve of many kinds (there are no less than forty recipes known in Pennsylvania alone for taking care of apple butter!) spiced apples, mixtures of apples with other fruits, apple mince meat, clarified apples, coddled apples, apple syrup, candied apples, and so on. Of course, none of those, except apple butter, are on the market at present, but there is no reason why some of our apples could not be made up in such ways. However, it will be experimental because we will have to reach the palate of the market.

It is my hope that at State College we may have, in the near future, a plant for the making of some of these products for experiment; not on a big, commercial scale, but on a scale which any householder could apply. A large number of companies now make equipments for home canning. Some of these cost as low as \$5; better ones, \$10, and so on. The plant that I hope to have at the college is the kind that any farmer can have on his place. Canning, or working up these products, is easy, and to a person who is interested in that kind of work, it is a pleasure, and should develop into an excellent trade. No one can tell how important an industry can be built up.

I have two instances in mind where a woman (in each case) developed a good industry. One, a Philadelphia lady, puts up seventy tons of grapes each year in jelly. I know that many other people better situated than that woman is can make good incomes from home preserves, because there is a distinct demand for that kind of thing in the larger cities where most people believe they can't put up jams and jellies at a profit and have them keep. Fruits can be put up so they will keep. I know because I have done it. About two years ago I put up over two hundred jars of various products and not one jar spoiled, even after being kept in the kitchen, which is the hottest place in the house.

Member.—Were peaches included in that?

Prof. Kains.—Peaches and strawberries, too; plums, apple sauce, grape jelly and jam—a lot of different things.

Another lady who took a delight in canning, started in the home kitchen, but soon grew out of that and had all the work done in a little shed outside. Her business grew until, three years ago when I was at her home, she had over \$100,000 worth of the products

then to sell. She has made a grand success of it. Home canned products when sold in competition with the factory put up stuff, always find a ready market, and almost always at higher prices.

One other point in connection with the disposal of fruit products—specializing in teaching the public what individual varieties are fitted for. For many years I have poked fun at the Ben Davis apples. I don't know of anything I could add to the fun along that line, but the Ben Davis apple is no joke to the man who has it, because it is a distinct mortgage lifter. Still I think that the Ben Davis has been overdone. I have also classed York Imperial very close to Ben Davis, but yesterday I experienced a change of heart. I had some of the most delicious apple sauce for lunch that I have ever eaten. When I asked my hostess how she managed to keep the fruit in shape—distinct quarters—she merely said "York Imperial."

Now in marketing your fruit, you can, and should, make more of the special function or special adaptability of individual varieties. MacIntosh and Fameuse apples are decidedly dessert fruits, and yet they make splendid jelly. Astrachan is a very tart apple but it makes excellent jelly. Ewalt and Rhode Island Greening are both good for sauce and pie. Sweet Russet is noted for its ability to make good apple butter, and York Imperial I would put high in the list, since yesterday, for apple sauce and pie.

Member.—You spoke of thinning, how late would you thin?

Prof. Kains.—Perhaps we can take Mr. Wells as a typical instance. Mr. Wells does not thin until after the June drop, then he gets rid of the inferior fruit, as that would be cull stuff anyway. He thins to six or seven inches the first of July. He thins again the latter part of July, and the time I was there was in the middle of August, and he said "the fruit is too thick on those trees. I am going to put the girls in there to-morrow and thin it out to eight inches."

H. M. Anderson.—How about the apple butter industry?

Prof. Kains.—There is a very good apple butter industry near Reading, Pa. The people started in a small way and now have a commercial brand. You will find an article concerning their methods in the *American Agriculturist* some time in October or the last of September. It gives a lot of detail concerning methods.

E. C. Brinser.—For what reason would you suggest that a man go over his apples two or three times. Why not thin enough at once while you are at it, if you know how?

Prof. Kains.—That is a very pertinent question. It is not always possible to thin them as you would like them finally in one going over. It depends on your local conditions. In a dry season one thinning might be sufficient, whereas in a wet season it might be necessary to thin a second time in order to prevent trees from breaking.

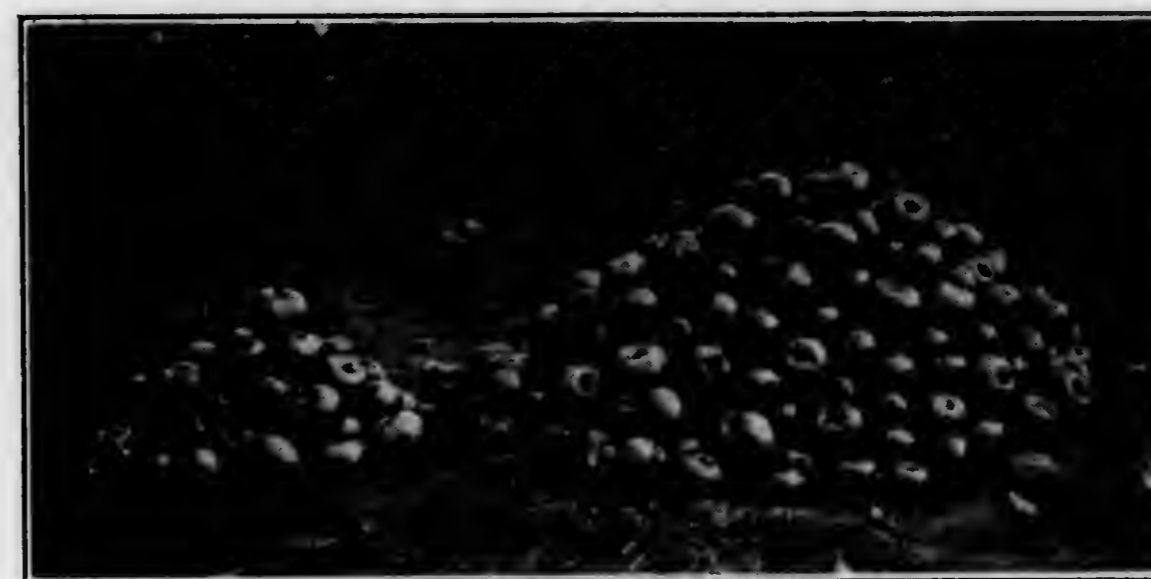
Member.—Would it be feasible to have a cannery operated through an Association of this kind? We have had some experience

in handling canned goods, and because of not being known on the market, we have not been very successful in marketing. If it could be sent out under an association brand it would be easier, would it not, to work up a reputation in that way, than for an individual to work up a reputation?

Prof. Kains.—Yes, I think that is a very good point if the association could vouch for its products. In order to do that it would be necessary for the association to have a central plant with a regular process, so as to carry it out and have a uniform product. That is a detail that would have to be worked out so far as the general market is concerned, but for the establishing of a personal trade, anybody could work it up.



ADVANTAGES OF SPRAYING.
(Large Pile Perfect.)



APPLES FROM UNSPRAYED TREES. LARGE PILE, CULLS.
SMALL PILE ON THE LEFT SALEABLE FRUIT.
(Photo by Peairs.)

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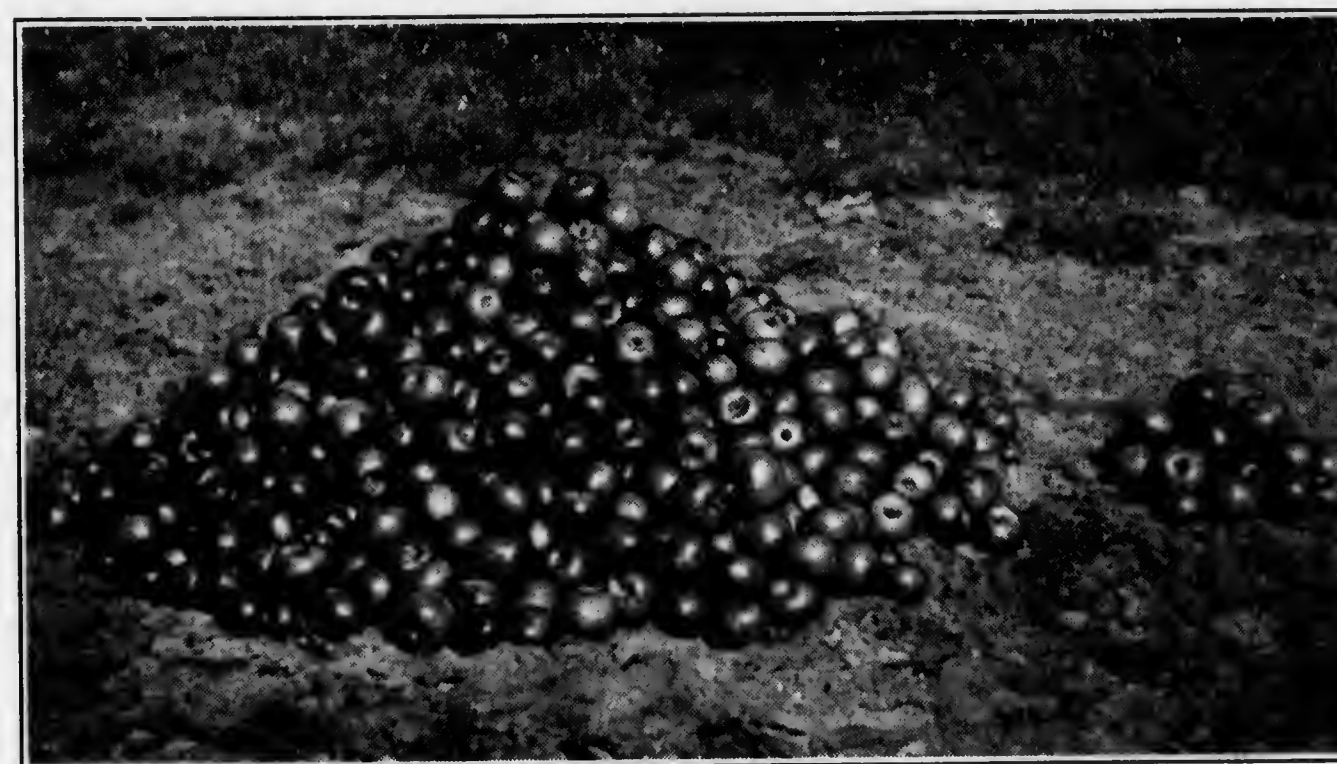
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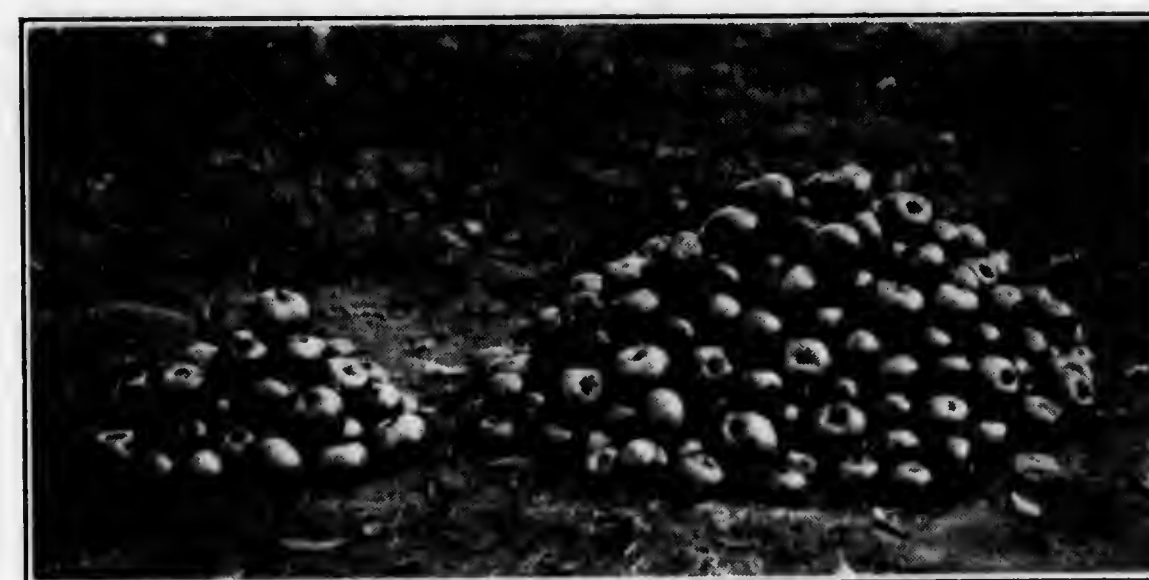
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in handling canned goods, and because of not being known on the market, we have not been very successful in marketing. If it could be sent out under an association brand it would be easier, would it not, to work up a reputation in that way, than for an individual to work up a reputation?

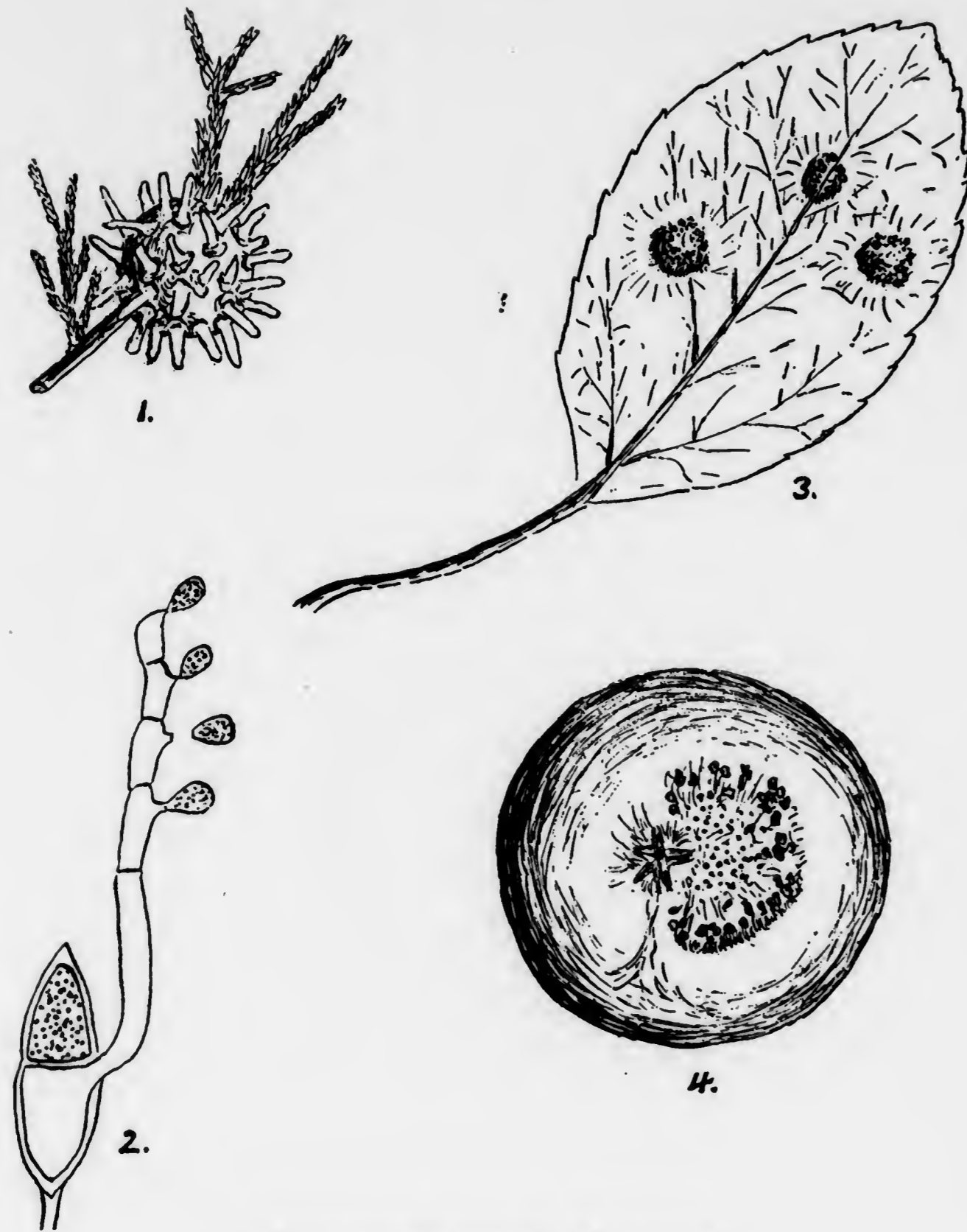
Prof. Kains.—Yes, I think that is a very good point if the association could vouch for its products. In order to do that it would be necessary for the association to have a central plant with a regular process, so as to carry it out and have a uniform product. That is a detail that would have to be worked out so far as the general market is concerned, but for the establishing of a personal trade, anybody could work it up.



ADVANTAGES OF SPRAYING.
(Large Pile Perfect.)



APPLES FROM UNSPRAYED TREES. LARGE PILE, CULLS.
SMALL PILE ON THE LEFT SALEABLE FRUIT.
(Photo by Pcairs.)



GYMNOSPORANGIUM MACROPUS.

1. Cedar-apple with gelatinous horns. 2. A spore from a gelatinous horn germinating and producing four infection spores, one of which is detached. (Very highly magnified.) 3. and 4. Apple leaf and fruit with the cluster-cup stage of the fungus.

The Control of Orchard Insects and Diseases.

W. M. SCOTT, *Baltimore, Md.*

During the past ten years the planting of fruit trees, more especially apple trees, has been so extensive that we are now beginning to face the problem of profitably marketing our crops. This subject is being discussed more extensively and considered more seriously than at any previous time. About half the program of this convention is taken up by this and closely related subjects. It is a serious problem and we had just as well confront it squarely.

The first requisite is the production of good fruit, i. e., fruit of good size and color and free from insect and fungous injuries. The appeal to the buyer is made through the eye; the appearance of the fruit largely determines the price. It therefore behooves us to employ every practical means available for combatting the various insects and diseases that seek to injure our trees and render our fruit unfit for market.

Although spraying is the most important means of controlling orchard pests, it should be supplemented by other methods which may be designated as sanitary measures and eradication.

Sanitary Measures.

Much can be accomplished in the control of insects and diseases by adopting certain sanitary measures, such as burning the twigs and branches pruned from the trees, cutting off and burning all dead wood, scraping off the flakes of bark on old trees and cleaning up the fence-rows around the orchard.

The fruit bark beetle, which cannot be controlled by spraying, breeds in dead and dying branches either on the trees or in the brush pile. This insect can be controlled only by destroying these breeding places and keeping the trees in a vigorous condition. This dead wood also furnishes a medium for the growth and reproduction of the black rot fungus (*Sphaeropsis malorum*) which produces the leaf-spot, black rot and canker of the apple, pear, and quince. It is, therefore, doubly important to keep the orchard clean of such breeding material.

The curculio, which attacks both stone fruits and pome fruits, hibernates through the winter under leaves and other debris in the orchard, in old fence-rows and in adjacent wood lots. Where this insect occurs in large numbers spraying with arsenate of lead is only partially effective and should be supplemented by destroying the beetles in their hibernating quarters so far as possible. This may be accomplished in part by burning the leaves, dried grass and other trash that collect on terraces, in hedges and in adjacent wood lots.

The codling moth larvæ pass the winter under flakes of bark on the tree, in the cracks and corners of the packing house and of the picking baskets and boxes. In the spring they emerge as moths which lay eggs for the new generation of worms. Scraping off the rough bark and cleaning up the packing house would contribute much toward the control of this insect.

Eradication.

Eradication is the act of rooting out or completely destroying the cause of the trouble. A concrete example is found in the treatment of the foot and mouth disease of animals, the remedy for which is eradication. As carried out by the government not only are the diseased animals killed but the entire herd exposed to the disease is destroyed and the premises thoroughly disinfected. In plant pathology, peach yellows, cedar rust and pear blight furnish examples of this method of treatment.

Peach Yellows.—The treatment of yellows consists in the removal of the diseased trees, as soon as the first symptoms develop. No other method has been found effective. The symptoms are the premature ripening of the fruit, the production of willowy twigs with small leaves and the yellowing of the foliage. By inspecting the orchard shortly before the fruit ripens and again in late summer or fall the affected trees may be identified and removed and the disease thus prevented from spreading over the entire orchard.

Cedar Rust.—It is a well established fact that the cedar tree is necessary for the existence of the cedar rust fungus. In the spring the spores of this fungus are carried by the wind from cedar balls to the apple orchard, infecting the fruit and foliage; in the late summer the spores are in turn carried back to the cedar trees where they produce another crop of cedar balls. The spores produced on the apple trees cannot reinfect the fruit and foliage of the apple and before another outbreak of the disease can occur spores must be brought from cedar trees. It naturally follows then that a complete eradication of the cedar trees in any locality would mean the eradication of the disease from the orchards of that locality. This is the best and only really effective remedy for the cedar rust disease.

Pear Blight and Cankers.—Eradication is the only means of controlling pear blight, of pears, apples and quinces. As generally practiced, complete eradication is not effected, but eradication from individual orchards is often accomplished. Cutting out the affected parts of a tree to prevent further damage to that particular tree and to prevent the spread of the disease to other trees is effective if properly done. The cuts should be made in healthy tissue beyond the diseased area, so as to remove all the germs, and the tools should be frequently disinfected.

Collar blight is perhaps the most serious form of pear blight in apple orchards. The Grimes Golden is especially subject to this

disease and should never be planted except as a top budded or grafted tree on a less susceptible variety. By frequent inspections of the trees the occurrence of collar blight can be detected in its early stages. The tree may then be saved by cutting out the diseased area, washing the wound with corrosive sublimate and painting it over with white lead.

Perhaps the most common origin of cankers on apple trees is pear blight, the germs of which reach the limbs through fruit spurs and water sprouts. After killing an area of bark, the size of which depends upon the sappiness of the limb, the germs usually die and the work of the pear blight disease is ended. Then another organism drops in and takes up its abode in the diseased area, the pear blight germs having prepared the way by killing and cracking the bark. This secondary organism is at first confined to the dead spot and then it reaches out into the living tissues beyond, gradually enlarging the diseased area until finally the limb is girdled and dies. The pear blight germs may, under favorable conditions, persist long enough to girdle the limb, but as a rule the completion of the work is left for one of the several canker fungi, like the blister canker fungus which is so common in the Middle West.

The remedy is to prevent the blight, if possible, from gaining entrance to the bark of the larger limbs by removing all water sprouts and fruit spurs; or failing in this to cut out the blighted area before the canker fungus becomes established. On the limbs in orchards that were affected during the summer with twig blight or blossom blight one can usually find dead spots two or three inches in diameter. If the blight germs have died the bark over the affected area will usually crack loose from the surrounding live bark. These spots should be carefully cut out down to the wood and into healthy bark beyond the outer edge of the diseased area. After making a clean smooth wound it should be washed with corrosive sublimate and painted over with a good wound paint. To neglect this work is to invite various canker fungi which may ultimately kill the affected limb. These cankers also harbor the bitter rot fungus, black rot fungus and perhaps others.

Dormant Spraying.

Spraying for the San Jose scale has become an old story and most of those who have adopted it as a regular annual operation no longer consider this insect a particularly serious pest. On the other hand, there are those whose efforts have not been rewarded with the desired success in holding the scale under control.

Failures are due mainly to lack of thoroughness in applying the remedy. A few cases may be due to poor spray materials, but lime-sulphur solution is generally used and it will kill the scale no matter where nor how made, provided it is used strong enough and applied with sufficient thoroughness. If the loose bark has

been scraped off it is an easy matter to coat the trunks and larger limbs, but it requires an experienced operator to properly cover the thousands of twigs and fruit spurs of old apple trees. During the summer the young that issue from the surviving scales on the smaller branches crawl out on the fruit and cause considerable damage even though the spraying may have practically freed the more vital portions of the tree from infestation. The nozzles should be set at an angle of about 45 degrees and the spray directed inward and downward on the ends of these twigs and behind the buds, leaving no portion of the tree above ground uncoated.

Lime-sulphur solution diluted at the rate of one gallon to eight gallons of water is the material most commonly used and it may be applied at any time during the dormant period, though preferably in the spring shortly before the buds open. Peach trees should, as a rule, be sprayed from three to six weeks before blooming in order to control the leaf curl disease as well as the San Jose scale.

Orchards that are badly infested with scale, especially old apple trees, usually require two applications, one in the fall soon after the leaves drop and the other in the spring before the buds open. By pruning the trees, scraping off the loose flakes of bark and making these two applications the worst cases of scale may be cleaned up so that thereafter only one annual application would be required to hold the pest under control. It should be remembered that thoroughness is the keynote to success.

Lime-sulphur solution will not kill the peach lecanium or terrapin scale and where this insect occurs miscible or soluble oil diluted at the rate of one gallon to eighteen gallons of water is recommended. Although oil sprays sometimes injure peach buds, there seems to be no other satisfactory remedy for this insect.

Summer Spraying.

It would be too long a story to take up separately each insect and fungus which summer spraying is intended to control, and instead, their treatment as outlined in the accompanying charts will be briefly discussed.

Apple Spraying Schedule.

The principal insects and fungous diseases affecting the fruit and foliage of the apple in this section may be controlled by spraying the trees with two pounds of arsenate of lead and one and one-half gallons of lime-sulphur solution to each fifty gallons of water. The applications should be made as follows:

First.—After the blossom buds separate, showing pink. This is chiefly for the curculio and scab and where these troubles are not serious, as is often the case in York Imperial orchards, this application may be omitted.

Second.—When most of the petals have dropped. This is for the codling moth, curculio, scab, leaf-spot and cedar rust, and it is the most important application of the schedule. The nozzle should be set on the rod at an angle of 45° and special care should be taken to drive the spray into the calyx cavities. If the aphid has appeared add one-half pint of black leaf 40 to each 50 gallons of the spray.

Third.—About three weeks after the petals have fallen. This is to give the fruit and foliage further protection against the troubles named under "Second" and especially to protect the new foliage that rapidly unfolds during this period.

Fourth.—About the first week in July. This is for the second brood of the codling moth and for the leaf-spot and sooty fungus.

Peach Spraying Schedule.

The fruit of the peach is affected with only three serious troubles—the curculio, scab and brown rot—and these may be readily controlled by spraying the trees in accordance with the following schedule:

First.—When the calyces are being pushed off (about 10 days after the petals fall) use one and one-half pounds of tri-plumbic arsenate of lead and three or four pounds of lime to each fifty gallons of water. This is for the curculio which at this time feeds on the foliage and young fruit. The spray should be applied in the form of a fine mist and, owing to danger of injury to the foliage, the trees should not be drenched.

Second.—About 20 days later, or one month after the petals fall, spray the trees with atomic sulphur, 5 pounds to 50 gallons of water, or self-boiled lime-sulphur (8-8-50). To this should be added one and one-half pounds of tri-plumbic arsenate of lead, and where atomic sulphur is used three pounds of lime to each fifty gallons of the spray. This is the second treatment for the curculio and the first treatment for scab and brown rot.

Third.—About one month before the fruit is expected to ripen, spray the trees with atomic sulphur, 5 pounds to each 50 gallons of water, or with the self-boiled lime-sulphur. No poison should be used at this time, and since the application is intended to prevent the development of brown rot during the month preceding the ripening of the fruit and during the picking season, the trees should be sprayed rather heavily so as to coat the fruit on all sides.

Late maturing varieties, such as Salway, Heath and Bilyeu, usually require an additional application of the fungicide about three weeks after the second in order to properly protect the fruit from scab. The interval between the second and third applications of the schedule above is rather too long for these late varieties.

It should be remembered that peach foliage is susceptible to injury from applications of arsenate of lead and for that reason care

should be taken not to over spray the trees. The addition of three or four pounds of lime to each fifty gallons of the diluted spray lessens the danger of injury and this practice is advised.

Discussion.

W. E. Grove.—How do you think peach yellows spreads?

Prof. Scott.—The cause of the disease and its means of spreading are unknown. Some of the best pathologists of the country have worked on this subject, but have failed to discover the cause. It seems likely it may be spread by bees visiting the blossoms, but there is no definite proof of this.

Member.—Is the top of the tree or the roots infected?

Prof. Scott.—The entire tree becomes sick. The first symptom, as a rule, is the premature ripening of the fruit, and the second symptom is the abnormal development of willowy twigs with small, narrow leaves. Rather extensive experiments have been made in replanting where diseased trees had been removed, and there is no evidence that such replants are likely to contract the disease from the soil or from the old roots in the soil.

Member.—Were they planted immediately after the others were taken out?

Prof. Scott.—Yes, they were taken out during the summer and new trees planted the following spring.

Member.—Isn't that disease on the decline now?

Prof. Scott.—Perhaps so; we do not hear so much of it as we did five years ago.

Member.—Is the disease not periodical?

Prof. Scott.—It seems to be somewhat periodical, developing with great virulence over a period of about five years and then subsiding for a like period. In Michigan it was very bad during a period of about six years, being about as bad one year as another. During that period, Professor Waite, of Washington, and the state authorities undertook an experiment on a large scale for the eradication of peach yellows covering seven square miles. A systematic inspection was made of all orchards in this area for three years in succession, two inspections each year, so as to determine definitely whether the disease could be controlled by the rooting out method, and the last year of the test I was one of the inspectors and saw the result. The orchards in the seven square mile area were practically the only ones that survived the outbreak of yellows.

Member.—How do you dispose of the diseased trees?

Prof. Scott.—They should be chopped and burned right there. But still we have no proof to show that dragging the tree out of the orchard and burning it somewhere else would spread the disease. That has been looked into quite carefully in Michigan and no definite data could be obtained along that line; but the safest plan is to burn the tree right where it is taken out.

F. E. Griest.—How far do you think the spores might be carried from cedar trees to an orchard?

Prof. Scott.—As a rule, it is considered that an orchard a mile or more away from a cedar tree is fairly safe, although the disease can be carried more than a mile, but the spores carried farther would probably be so scattered that the infection in the orchard would be light. In the West, out on the plains, when the grass is on fire, it has often been said that little pieces of charred grass have dropped down fifty miles away from the fire; these spores are just as light as ashes, so that they could be carried fifty miles, but not in sufficient numbers to cause trouble.

Member.—Must the ground be dug up to inspect for collar blight?

Prof. Scott.—No, not necessarily, but removing the dirt gives one a better opportunity to find the blight. If the ground is not too hard, a little trowel would be all that is necessary to open up sufficient space to detect diseased spots.

C. J. Tyson.—Is it not pretty hard to tell when you are beyond the diseased part?

Prof. Scott.—It is in the summer; in the winter, however, after the sap has subsided, the affected portion has turned more or less brown, or dark, so that one can see the outline of the diseased area. In cutting it out during the summer one is never sure of getting all the germs, unless the bark is removed far beyond the discolored area.

Robt. Garretson.—What is the first indication of pear blight?

Prof. Scott.—The pear blight organism produces blossom blight, twig blight, canker on limbs, and collar blight at the ground. Where it occurs on the blossom the cluster is killed and dried out. When it occurs on the twig it runs downward, killing the twig and leaves, which turn black or brown. On the limbs and trunk where it produces cankers, the diseased area turns dark and usually cracks.

Member.—Is there any variety of apple more subject to collar blight?

Prof. Scott.—The Grimes Golden is more subject to it than any other variety that I know. In Virginia and West Virginia Grimes Golden orchards that were planted about twenty-five years ago are about all dead. If one wants to plant Grimes Golden one should top-work or graft on a less susceptible variety, like Northern Spy or Northwestern Greening.

C. J. Tyson.—Is it not true that while the Grimes Golden trunk is very susceptible, the twigs do not blight as readily as some other kinds?

Prof. Scott.—Yes, that is true.

C. J. Tyson.—Can we do anything for aphid just before the trees bloom?

Prof. Scott.—Yes, you can do something for green aphid at that time, but the pink, or rosy aphid, which is the most troublesome

one, does not appear until later. It begins to appear about the time the trees are blooming, so that as soon as the blossoms are off they are there and practically all hatched. Spraying at that time with "black-leaf 40" is desirable, at least in an attempt to control it. Sometimes we control it and sometimes we do not.

C. A. Griest.—Can't you use "black-leaf 40" in connection with lime-sulphur in the first spraying (for scale)?

Prof. Scott.—Yes, that can be done just as the buds are beginning to show green, which is practiced in New York state for the green aphid. On account of the bud moth in certain districts there, arsenate of lead is also added to the dormant strength of lime-sulphur for spraying at that time, and "black leaf 40" is sometimes used in the first scab spraying, just before the trees bloom.

Robt. Garretson.—Do you consider that lime-sulphur used at summer strength has any effect on the scale?

Prof. Scott.—It kills the young crawling scale and has some effect in keeping the scale reduced. It kills the young that you hit the day you are spraying, but it cannot take the place of dormant spraying.

F. E. Griest.—Do you consider that there is any difference in the effectiveness of dormant spray, whether spring or fall?

Prof. Scott.—Yes, there is some difference. It is generally conceded that spring spraying is a little more effective than fall spraying for the reason that the coat of spray applied in the spring is carried into the summer and gives the tree protection for a longer time; but in large orchards it is not always practical to do all of the spraying and all of the pruning and other things that are necessary in the spring of the year, so that the work should be divided up. It has been our practice to spray about one-half of the orchard in the fall and the other half in the spring.

E. C. Brinser.—Where an orchard is not very large and the dormant spraying can be done, when do you think is the very best time you might select?

Prof. Scott.—In the spring just before the buds open. In peach orchards the leaf curl fungus begins to develop as the buds begin to swell, and on that account the spraying of peach trees should be done a little earlier; that is, from three to six weeks before blooming; but for spraying apples, immediately before the buds open is preferable.

Member.—What do you think of "scalecide" for that dormant spraying?

Prof. Scott.—"Scalecide" is regarded as one of the best materials for killing scale insects, but the trouble about oils of this kind is the danger of injury to the tree, and for that reason they have not been generally recommended. The miscible oils are especially useful for the control of the peach lecanium and where this insect occurs it is necessary to use one of these oil sprays, even at the risk of killing a few of the fruit buds.

E. C. Brinser.—As a user of lime-sulphur, do you prefer the commercial lime-sulphur or the home-boiled lime-sulphur?

Prof. Scott.—There is no preference, so far as the efficiency of the two materials is concerned, provided they are made right. If you make your material at home and use the right strength, you get just as good results as with the other. As a matter of convenience, I prefer to use the prepared lime-sulphur.

Member.—Does an individual know just when he has it right?

Prof. Scott.—No, as a rule he does not.

Member.—In what form would you use the lime? Would hydrated lime do?

Prof. Scott.—Hydrated lime will do. The fresh lime is a little better because it goes into the solution just a little better. If hydrated lime is used a larger proportion is necessary.

E. C. Brinser.—What is hydrated lime?

Prof. Scott.—It is water slaked, or steamed slaked lime.

C. J. Tyson.—What is the need for us to go through all this trouble of spraying when we are told we can plug a hole in the tree and fill it up with dope and settle the trouble.

Prof. Scott.—That is what I have been wondering. I had some advertising matter about a week ago from a firm in Ohio, claiming that they have the matter settled. There is also a Pennsylvania firm which has treated some trees near Hagerstown, Md., and some of the government officials visited those orchards to see the results. They have published no reports but they told me that the results were rather unfavorable. There is a bare possibility that something could be injected into the tree so as to render it immune to insects and fungi, but the possibility is very remote. I do not believe there is anything in it.

Robt. Garretson.—In spraying peach trees do you ever have any burning with this spray material you are using? Do weather conditions have anything to do with it?

Prof. Scott.—Yes, weather conditions have quite a good deal to do with it. We have had considerable experience in spraying peach. First we had trouble with arsenate of lead, because at that time it was perhaps not so well made as at present, and then we used it too strong. Peach foliage is very susceptible to arsenical injury and until about seven years ago the peach growers had no spray that could be used without injury. The spraying schedule outlined in the table has been generally adopted. The spray should be applied in the form of a very fine mist and care should be taken not to drench the trees.

Member.—What is the time to spray for leaf curl?

Prof. Scott.—That is a dormant spray. The leaf curl disease is controlled by an application of lime-sulphur solution (1 to 8) made three or four weeks before the trees bloom.

Member.—Do you, in your own orchards, make three sprayings each year?

Prof. Scott.—The first spraying with arsenate of lead alone we sometimes omit in a young orchard just coming into bearing, because the curculio has not developed to any extent in that particular orchard, unless there are old orchards all around it.

Member.—Do you prefer using the atomic sulphur instead of self-boiled lime-sulphur because of its economy?

Prof. Scott.—The honest answer to that question is this: It has been determined, not only by the number of orchards in which it has been used, but by actual government and experiment station tests, that so far as efficiency is concerned there is no difference between the two materials; one is just as good as the other. There is no question when it comes to the matter of convenience, because the atomic sulphur is much more convenient. Making self-boiled lime-sulphur at home is troublesome. The Georgia peach growers largely use the atomic sulphur in preference to making the self-boiled.

Member.—How much cheaper do you consider that the atomic sulphur is than the self-boiled?

Prof. Scott.—I do not think it is any cheaper. I do not know just what the comparison is, but I do not think that the atomic sulphur has any advantage in cost over the self-boiled.

Co-Operative Marketing Plan of the Fruit Growers Association of Genesee Co., New York.

MR. J. W. BURKE, *Manager, Batavia, New York.*

The Genesee County Fruit Growers' Association was organized five years ago. The idea of the organization at first was for the purpose of growing better fruit and establishing a closer relationship between the members and the business world.

At its inception the members were bound together simply by a "gentlemen's agreement" and did not contemplate marketing any fruit. In August, 1911, a meeting was held and the members of the Association agreed to incorporate under the laws of the state of New York, adopt a constitution, and issue stock. The following three paragraphs are excerpts from the Constitution:

Who are Eligible to Membership.

"Membership in the Association shall be confined to actual owners of orchards in the county of Genesee and two townships in the county of Wyoming and every member shall be the owner of at least one share of stock at a par value of \$5.00.

Board of Directors.

"The Board of Directors shall consist of seven stockholders, four of whom shall constitute a quorum, and four of whom shall hold office for more than one year. They shall qualify as directors within ten days and elect from their number a President, Vice-President, Secretary and Treasurer."

Marketing.

"The members of this Association shall be permitted to market their fruit either through the Association or otherwise. Provided a member wishes the Association to market his fruit he shall sign a contract with the Association by August 1st of each year. The Association through its Board of Directors shall then have the exclusive and unqualified power to market all fruit as contracted."

You will note that a member can market his fruit through the Association or not—it is not obligatory. So before describing our manner of marketing and what we have accomplished along those lines I want to tell you what we are doing to grow better fruit, which is essential to good marketing.

To this end we made a contract with Cornell College of Agriculture for the services of two experts, one a plant pathologist and the other an entomologist, the contract to be known as an Industrial Fellowship Agreement. For the support of this fellowship we pay the college \$750 per year for each expert, except after two years experience in the field we pay \$1,000. We furnish a laboratory building and the equipment of the field laboratory is provided by the college. These experts are on the ground from April 1st to October 1st. Prof. Whetzel of Cornell College of Agriculture helped a lot to get this work started, and spent about 2 months in the county, spring of 1912.

Duties of Experts.

They shall investigate and demonstrate the nature and control of all injurious insects and fungus diseases attacking the principal fruits grown by members with special reference to apples and pears. Advise when to spray and the formula to use. See that spray rig is in order and material on hand. Instruct in tree surgery and pruning and give instructions regarding cultivation and mulching. The Association provides a Ford runabout for the experts to visit the farms of the different members from time to time and advise with them.

They keep a card index with separate card for each member on which date of each visit, conditions of orchard and other data are noted.

Sample Card of Member.

Gardner F.

May 14.—Inspected orchard, observed very thorough spraying. Few Leaf-Rollers.

June 10—Inspected Orchard. Trees, looking good.

June 17.—Visited again. Trees looking good.

Aug. 1.—Not going to put on 2d brood Spray. Certain tree dying of peculiar disease.

How Paid.

Each member is assessed \$10.00 annual dues and the balance *pro rata* according to acreage. The cost varies from \$1.50 to \$3.00 per acre. Our present membership is sixty and the number of acres of orchard is 600. Not all the members of the Association market their fruit through the Association, but at least fifty per cent. must do so or the directors are relieved from conducting the Sales Department.

In the raising of funds to pay the experts it was at first proposed to charge a per acre tax in proportion to the amount required to be raised. The large owners, however, objected to this as they said

they would be paying more than their share, so a compromise was reached by each member paying \$10 and then the balance by a per acre assessment. This equalized the cost between the owner of the small orchard and the owner of the large orchard. The work of the experts has been highly satisfactory and we are growing better fruit than ever before in Genesee County, New York. While the best fruit is grown by members of the Association, those outside the Association have been indirectly benefited.

Marketing.

We are now marketing in a co-operative way our third crop of apples and pears. This branch of our Association is conducted separate and distinct from the expert work of caring for our orchards.

As I mentioned previously in quoting from our constitution, only those members who sign the following contract with the directors have their fruit marketed.

THE GENESEE COUNTY FRUIT GROWERS' ASSOCIATION

FRUIT CONTRACT

This Agreement, Made and entered into this day of, 191..

WITNESSETH: That, the Grower, has hereby sold and transferred to The Genesee County Fruit Growers' Association his entire crop of merchantable winter apples for the year 191..

The Grower agrees to pick, grade and pack his fruit under the supervision of The Genesee County Fruit Growers' Association, the Association reserving the right to furnish packers at the expense of the Grower. The Grower to deliver said fruit at shipping point or warehouse promptly at such time as may be designated by The Genesee County Fruit Growers' Association.

The Association agrees to use all due diligence in the handling of said Grower's fruit, and in the marketing of same; and further agrees to pay to the Grower such advances, from time to time, as sales warrant, and within thirty days after the receipt of the money for each variety of fruit, the balance of the market price obtained by it for the fruit; it being understood that the proceeds of each grade and variety are to be pro-rated with the other shipments of the same grade and variety made by the Association during each month; and that the Association is to retain as a handling charge such a sum as its board of directors shall name.

The Grower may instruct on the fifteenth day of any month that his fruit shall be sold during the following month.

The Grower is permitted to sell his own fruit for cash and in such case agrees to notify the Association at once and to pay the Association the usual charge on all such sales, as if the Association had sold the fruit.

Signed in duplicate this ... day of, 191..

WITNESS, , Grower
.....

For the Genesee County Fruit
Growers' Association.

The expense of marketing is paid from the proceeds of sales of those participating in the pool. This expense in the final analysis is actually what it costs—no more.

Packing.

We have an expert packer, rather a high priced man, the best we could get, to superintend the packing.

Duties of Packer.

First, visit the orchard of every grower and get a general outline of quantity, quality, varieties and grade of fruit. Advise when to begin picking, furnish the grower with printed instructions how to pack, and give the grower his number which, together with variety, has to be stenciled on every barrel—once for No. 1 apples, and twice for No. 2 apples.

Instructions for Packing Apples in Barrels.

With great care pick out your facers, not the largest, but average size of grade you are packing. See that every apple is a perfect one with the very best color you have to choose from. You should not have any difference in size of your facers, but if you should have, place your smaller apples to the outside row and the larger ones to the center. A good many of unexperienced packers do the opposite. Always place stems down, with the exception of long shapely varieties, as Gilliflower and Bellflower, which lay red cheeks down. The sorting must be done carefully, and reject all worms, fungus spots, bruises and unshapely apples both for Grade A and Grade B. Now place your barrel on a plank and after each basket of apples is emptied, give the barrel several quick short shakes. This will have to be governed according to the size of the apples you are packing how full to fill the barrel before using the leveller. At all times level so it will take one row, blossom end up, on top, and leave your apples about one-half inch above staves. Care must be exercised in racking down very carefully. Nail your barrel and same is ready for shipment.

Size for Snows, Golden Russett and kindred sized varieties, $2\frac{1}{4}$ inches and over, of good color for Grade A.

Size for Baldwins, Spys, Greenings, Kings, and kindred sized varieties, $2\frac{1}{2}$ inches and over, of good color for Grade A and $2\frac{1}{4}$ inches and over, showing some color for Grade B.

Don't pack any No. 2's in Talman Sweets, Russetts or early fall apples, such as Jenning, Colverts, St. Lawrence, Maiden Blush, etc. Pack very few No. 2's in odd winter varieties. Let No. 2's chiefly consist of Kings, Snows, Greenings, Spies and Baldwins, and reject all worms, fungus and bruises.

Don't allow your barrels to get wet either before or after packing, and don't pack any apples that are wet. When apples are packed either load on cars or place in a sheltered cool place with plenty of ventilation.

Before packing any fruit the expert packer visits the grower again and revisits him at regular intervals to inspect his work and see that it is being done right. The growers of the Association, with the aid and instruction of the expert packer, have been able to get a better pack and nearly a uniform pack.

In 1912 we filled an export order of 4,000 barrels from eight orchards, direct from the orchard, and the buyer expected the apples all to come from one orchard. He did not know the difference, however, as the pack was uniform and we received no criticisms and had no rejections. This order was to Hamburg, Germany. We are not getting any orders from there this year.

We use corrugated paper caps on face and press end of barrels. Apples that are not shipped from the orchard to market but are put in cold storage we do not pack, but grade to 1's or 2's and repack when shipped from cold storage under the supervision of our expert packer. To have fruit well packed is an essential feature to better marketing.

Marketing.

To transact our business we have an office for which we pay a rental of \$10 per month when occupied, and our office equipment, including a safe, did not cost \$100. Our office force consists of a sales manager and a bookkeeper. We do not expend anything for advertising. We have found that there are plenty of reputable and honest commission houses and buyers and that they want to deal with a grower or dealer or Association that is reputable and honest.

JENNY SEE BRAND

The brand that we put on our best grade of apples is "JENNY-SEE" and it is a guarantee of the pack and quality and we receive letters and telegrams from firms handling this brand "Ship more JENNY-SEE. Trade is asking for them."

Charge for Selling.

We retain from the net proceeds of all sales ten per cent., and at the end of the season whatever is left in this fund is divided according to the number of barrels handled. The actual cost of selling for the years 1912 and 1913 has been about seven per cent.

Pro-Rating.

Occasionally a car that is sold is rejected upon arrival and has to be resold at a less price. In a case of this kind, in order that the grower who happened to have apples in the rejected car might not suffer unduly, we pro rate, that is, pay the grower the original price, and take the difference from the ten per cent. fund, thus exemplifying the co-operative idea.

Some of the Advantages of Co-Operative Marketing.

First Uniform grade and pack.

Second: Owing to the quality and quantity of each variety that can be offered, it is easier to attract buyers.

Third: The individual grower does not have to spend any time dickering with buyers for he knows that the Association will obtain the highest market price for his fruit.

Fourth: The grower is saved the difference between the retail and wholesale price of supplies, such as corrugated caps, levellers, presses, etc., by the Association buying in large quantities.

Fifth: Growers are furnished with help to pick and pack.

Conclusion.

We have had no discord or friction between officers and members in regard to what has been done and we are all enthusiastic over the success of our venture thus far and the spirit of co-operation is rampant in the Genesee County Fruit Growers' Association.

Our gross sales for the season 1912-1913 amounted to \$80,933.16. For the season of 1913-1914 the sales amounted to \$38,270.73. This year the amount will be less than 1912 but more than last season.

Sample Account Sales with one Member.

"JOHN DOE," Doeville, N. Y.

Batavia, N. Y., Dec. 23, 1913.

Dr.

Cr.

Car 109767.		Car 109767.	
To Ass'n. Charge, 10%,	.78	2 Baldwins, @ 3.90,	\$7.80
To Storage, 2 bbls., @ .35,	.70		
To Labor, etc., 2 bbls., @ .08,	.16		
Car 100871.		Car 100871	
To Ass'n. Charge, 10%,	1.14	1 Baldwin, @ 3.90,	3.90
To Storage, 3 bbls., @ .35,	1.05	2 Russett, @ 3.75,	7.50
To Labor, etc., 3 bbls., @ .086,	.26		
Car 102023.		Car 102023.	
To Ass'n. Charge, 10%,	.30	1 Hubb, @ 3.00,	3.00
To Storage, 1 bbl., @ .35,	.35		
To Labor, etc., 1 bbl. @ .067,	.06		
Car 7863.		Car 7863.	
To Commission, 7%,	1.63	5 Greenings, @ 4.00,	20.00
To Freight, 6 bbls., @ .24,	1.44	1 Greening, No. 2, @ 3.25,	3.25
To Ass'n. Charge, 10%,	2.02		
To Storage, 6 bbls. @ .35,	2.10		
To Labor, etc., 6 bbls., @ .138,	.82		
Car 150113.		Car 150113.	
To Commission, 5%,	4.80	12 Greenings, @ 4.00,	48.00
To Freight, 28 bbls., @ .24	6.72	16 Greenings, No. 2, @ 3.00,	48.00
To Ass'n. Charge, 10%,	8.45		
To Storage, 28 bbls., @ .35,	9.80		
To Storage Shrink, 1 bbl. @ .35,	.35		
To Labor, etc., 29 bbls., @ .082,	2.37		
Car 10249.		Car 10249.	
To Ass'n. Charge, 10%,	4.06	14 Kings, No. 2, @ 2.90,	40.60
To Storage, 14 bbls., @ .35,	4.90		
To Storage Shrink, 2 bbls., @ .35,	.70		
To Labor, etc., 16 bbls., @ .065,	1.04		
Car 145212.		Car 145212.	
To Commission, 7%,	8.30	15 Greenings, @ 4.00,	60.00
To Freight, 33 bbls., @ .24,	7.92	18 Greenings, No. 2, @ 3.25,	58 50
To Ass'n. Charge, 10%,	10.23		
To Storage, 33 bbls., @ .35,	11.55		
To Labor, etc., 33 bbls., @ 1.36,	4.49		
To Check to Balance,	202.06		
	<u>\$300.55</u>		<u>\$300.55</u>

Sample Invoice.

(Made in duplicate, original for consignee and copy for bookkeeper.)

J. W. BURKE, Sales Manager.

GENESEE COUNTY FRUIT GROWERS' ASSOCIATION

Batavia, N. Y.

Invoice Shipment of Apples

Station Date.....191
Car No Initial..... To.....
From Destination,

Table with 6 columns: Variety, Barrels, Grade, Price, Dollars, Cts. Includes a Total row at the bottom.

Sample Agreement Made with Pickers.

(Made in duplicate.)

Agreement between, of the first part and, of the second part as follows:

I. The first party does sell two ladders and two baskets to the second party for \$..... which the first party is to buy back for \$..... if returned in good condition at the close of the picking season.

II. The first party does charge the second party \$..... per week for board.

III. The first party agrees to pay to the second party for picking a three peck basket of apples, four of which are intended to make one barrel, if emptied on the sorting table in good condition.

IV. If the second party stays throughout the entire picking season, the first party will present him with for every barrel he has picked.

V. The second party must be temperate and must be ready to work when the first party wants him.

Sample Pickers Tally Card.

Account of Fruit Picked by table with columns for picker numbers (1-78) and rows for account entries (91-95).

Discussion.

C. A. Griest.—Do you admit members to the Association at any time?

Mr. Burke.—Yes, at any time, only after they join they can't withdraw except Jan. 1st. Any time prior to Jan 1st, after this year's assessment is levied, he surrenders his stock and we pay him the par value of his stock and he gets out. We lose a few and get in a few each year.

Member.—May one person hold more than one share?

Mr. Burke.—Yes, but not more than one hundred shares. Only one holds more than seven shares. We must have \$500 stock to incorporate under the law of the state of New York.

Member.—How widely scattered is your membership?

Mr. Burke.—All over the county.

Member.—Do you have different shipping points?

Mr. Burke.—Yes, we store most of the winter fruit in cold storage. Eighty per cent. of the fruit we have in storage has to be shipped there. Those who live within six miles haul right to the storage.

Member.—Do you make any attempt to equalize prices received as between the different growers for the same variety.

Mr. Burke.—Yes, still there has not been very much difference. Last year we began marketing Baldwins at \$4 a barrel. That was the lowest, and the fruit that sold at \$4 per barrel went out before Christmas.

C. J. Tyson.—Have you had experience with buyers making efforts to get your people away from you by paying higher prices than you have been able to get.

Mr. Burke.—One dealer was very much opposed to the organization and he bought extensively from growers outside of the Association and paid them more than they paid anywhere else. He told me he lost \$7,000. He was trying to break up the Association. He was very meek after that.

R. A. Wickersham.—In operating an Association who handles the lower grades?

Mr. Burke.—Last year we put everything in cold storage but the ciders, and they sold out pretty well, but this year we did not put in anything that would not pack out either standard A or B, and the rest were sold to a cider mill.

C. A. Griest.—Does the Association handle cider apples?

Mr. Burke.—We just ship them. We did not agree to handle them, but load them up and charge five per cent. for doing the work. Eighteen cents was the most we got and down to fifteen cents. The evaporators did not run much up there. Half of the apples that were shipped as cider apples would have gone to the evaporator other years, but owing to the war the evaporators were not running.

Member.—How do you arrange the packing-house?

Mr. Burke.—The members are too scattered to pack in a packing-house. If they were centrally located I would advocate packing in that way.

Member.—Do you store them in bulk?

Mr. Burke.—No, we store them in barrels; put in firsts and seconds.

Member.—Do you re-run them in the storage house?

Mr. Burke.—Yes.

R. A. Wickersham.—Do any individuals have their own storage?

Mr. Burke.—No, not any of them. Cold storage fruit sells better than common storage. Cold storage Baldwins will command 50 cents a barrel more than common storage. There have not been very many shipped yet. The Greenings put in common storage would be no good at all by the first of February. There is one local

dealer at Batavia who stored Greenings in common storage. He started taking some out the 15th of November, and had to repack them all. They had started to decay.

W. E. Grove.—In your arrangement of ten per cent., how do you do on a consignment?

Mr. Burke.—We pay 10 per cent. of the net proceeds after all charges are paid; 10 per cent. net of the money received.

W. E. Grove.—I think there might be some misunderstanding in the cost. On account of the small acreage, the cost is rather high. Ten dollars for membership and \$3 an acre, then 10 per cent. for selling, also sounds high to us here, but if we stop a minute and realize that instead of having 600 acres as you have, there are perhaps five or eight thousand acres represented by this Society, and that would bring the cost down to perhaps \$1 an acre, and the cost of selling probably would not be 10 per cent. That point I think ought to be explained.

Mr. Burke.—As stated, the cost for the years 1912-13 was just about 7 per cent., and it might be a very small fraction over in 1913, but we retained that 10 per cent. and paid that back in the rebate to those who had apples in the deal and this charge that we had to make this year did not have anything to do with the selling of the apples. But that \$10 and the \$3 went for the maintenance of the orchard, growing of better fruit, looking after trees, spraying, and all that. That is the most we have ever had to pay. Expenses were greater on account of buying a car.

Member.—In having your apples picked by the barrel, in what condition do your pickers leave the tree?

Mr. Burke.—Every large grower has a man who superintends the picking. If he sees a man breaking limbs or picking off the ground, that man is shipped right off.

Member.—What is the average price per day in New York?

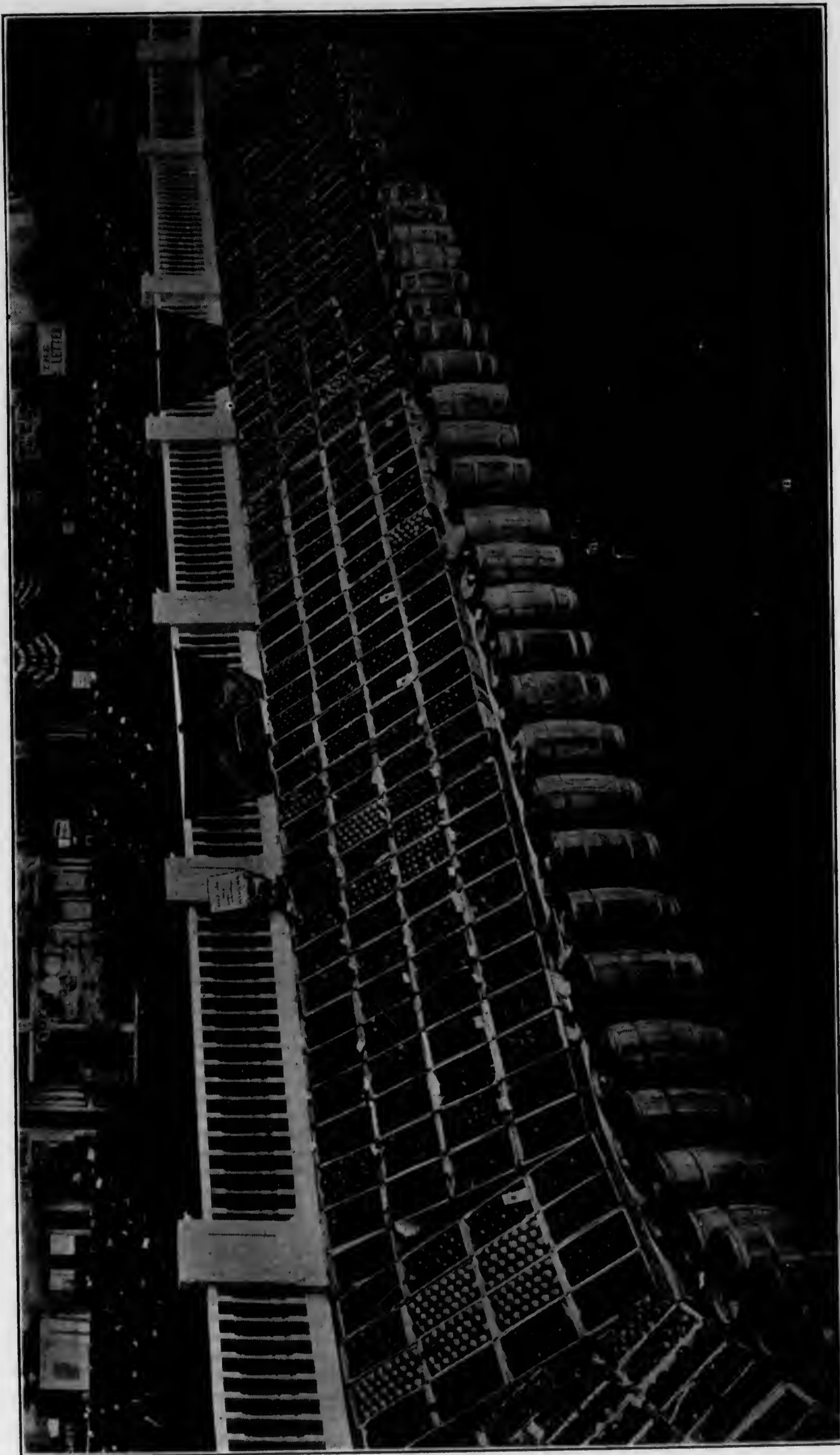
Mr. Burke.—Last year we could get pickers for about \$2 a day and boarded. Two years ago we could not get them for quite that. We had to pay \$2.50. Most of the men like to pick by the barrel, but they did not all pick that way.

Member.—Do you require them to pick in baskets or do you use bags?

Mr. Burke.—We use a basket lined with burlap.

W. E. Grove.—In shipping fruit, for instance to Philadelphia, on consignment, can you secure commission service at five per cent., sold in a jobbing way, where they would be taken to Dock Street and sold out through the stores at five per cent. basis.

Mr. Burke.—I never consigned any except to one commission man that was in Indianapolis, Ind. He claimed he sold them in that way. He charged 10 per cent. but I thought he obtained enough more to warrant the 10 per cent.



ADAMS COUNTY FRUIT AT THE PITTSBURGH SHOW.
Won 20 firsts, 17 seconds, sweepstake and all silver cups.

The General Fruit Outlook.

PROF. M. G. KAINS, *Horticulturist, State College, Pa.*

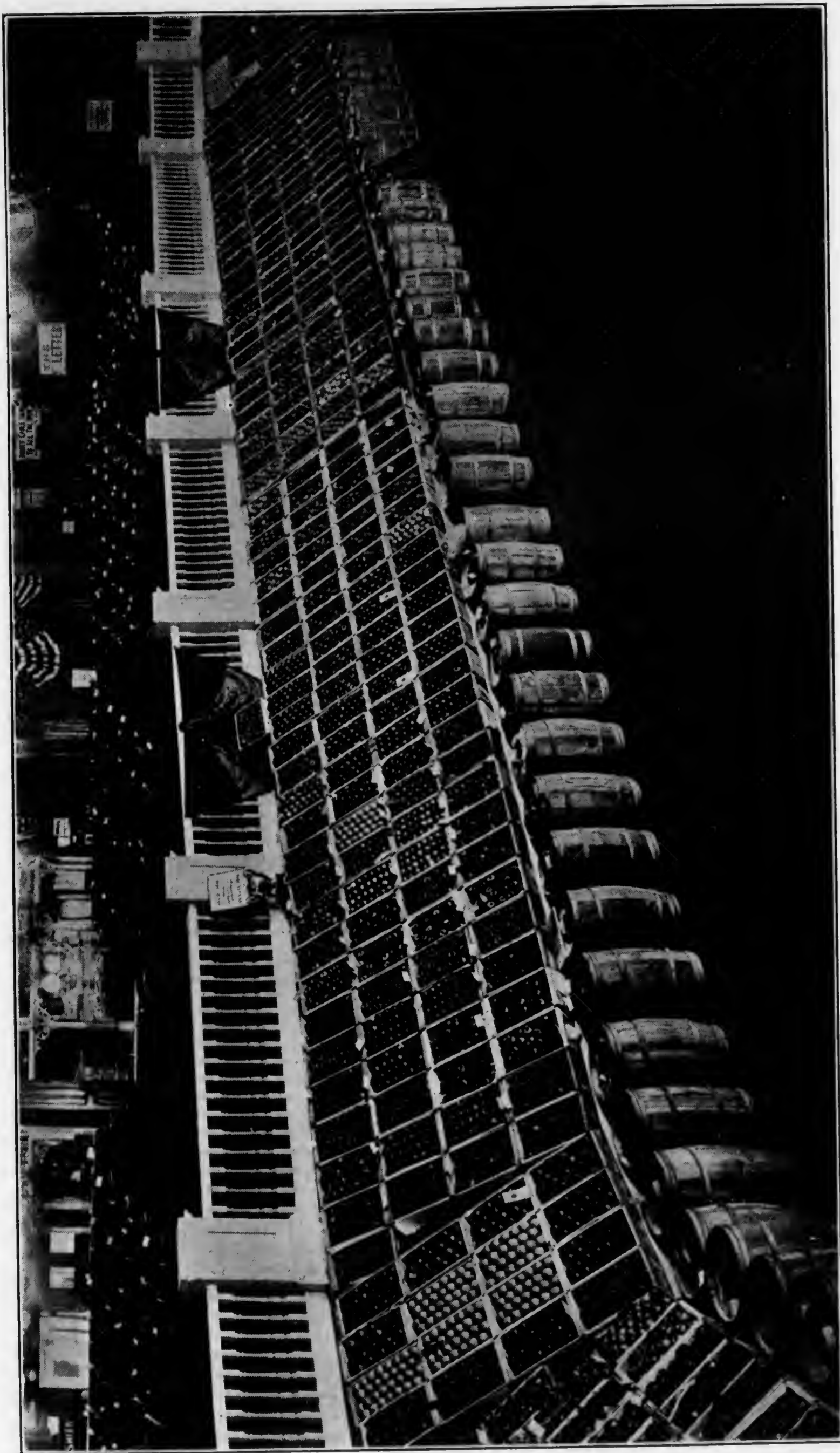
It is reported in the trade papers that this year is the greatest apple year in the country. Unfortunately I do not have the figures with me and cannot give them, but I think you have all seen the figures prepared by the Government, so it will not be a great loss if I do not quote them. I have, however, a few figures concerning the apple export business this year, and will read a quotation from the *New York Produce News*. (It does not give the total figures from Canada.)

APPLE HOLDINGS HEAVY.

About 8,000,000 bbls. in the United States, Dec. 1. This is 3,000,000 bbls. in Excess of Last Year's Figures—
Heavy Increase in the Holdings of Boxed Apples.

New York, Dec. 11th.—From the best sources obtainable the holdings of apples in the United States, Dec. 1st were in excess of 8,000,000 bbls. This included boxed stock. It is well known that at that time last year the holdings of barrels and boxes were around 5,000,000 barrels, showing an increase over last year of fully 3,000,000 barrels. Canada has about 200,000 barrels more than last year. The heavy increase is largely in boxed apples. Roughly speaking, there are 3,000,000 boxes more apples in cold and common storage than at the same time last year. The bulk of this increase is in California, which is reported to have over 1,000,000 boxes compared with 600,000 Dec. 1, 1913. Although there have been reports that the Colorado crop was pretty well cleaned up, it is learned from authentic sources that that state has nearly 600,000 boxes, while Washington has 1,500,000 boxes, nearly 1,000,000 boxes more than last year at the same time.

From estimates gathered by the *News* correspondents in New York state the holdings of barrels and boxes, reduced to barrels, are in the neighborhood of 2,600,000 barrels. This is nearly 900,000 barrels more than last year. New England States, Maine, New Hampshire, Vermont and Massachusetts, have about the same quantity as last season, while Pennsylvania, Ohio, Michigan and Wisconsin are far ahead. The same is true of West Virginia and Virginia. It is figured that the former state has at present 260,000 barrels in cold and common storage, compared with 65,000 last year. Virginia has 275,000 barrels, against 165,000 on Dec. 1st, last year. Indiana is credited with 160,000 barrels, practically the same



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as last year. Illinois is far ahead of last year, her holdings being 750,000 barrels compared to 575,000, Dec. 1st, last year.

There is no way of obtaining any accurate estimate of the quantity of fruit held in farmers' barns and cellars. It is believed that this latter quantity is large and that it will cut a considerable figure in the deal. These figures should give apple operators something to think about. With the natural holiday demand and the normal movement during December, there will probably be a greater decrease in the holdings by Jan. 1st. There are many operators sanguine enough to believe that with favorable weather the balance of the season the great quantity in storage the first of the year can be moved out at a reasonable figure.

Now we have other fruits which constitute a very serious competition with apples at certain times of the year. The day before yesterday I made a survey of the fruits for sale in the Reading terminal market that to a greater or less extent compete with apples, either ripe, dried or canned, and I will hurriedly read over this list with the states and countries from which they come. There are thirty-three kinds of fruits and nuts for sale in that market this week.

Strawberries, Fla.	Hot house grapes, N. J.
Grape fruit, Fla. and Cal.	American grapes, N. Y.
Oranges, Fla. and Cal.	European Chestnuts, Italy.
Kumquats, Fla.	Pecans, South States.
Kaki, Ga. and Ala.	Cassabas, Utah.
Tangerines, Fla.	Cranberries, N. J.
Pineapples, Fla. and West Indies.	Almonds, Persia and Cal.
Lemons, Cal. and Fla.	Am. Walnuts, Pa. and N. J.
Limes, Fla.	Filberts, Cal. and Spain.
Avocado, Fla. and W. I.	Hickory Nuts, N. J. and Pa.
Bananas, West Indies.	Crab-apples, N. J. and Pa.
Brazil Nuts, Tropics.	Quinces, Pa.
Dates, Persia.	Pears, N. Y., Pa. and N. J.
Figs, Arabia, Egypt and Syria.	Apples, Wash., Ore., Col., N.
Prunes, Cal.	Y., N. J., Md., Pa., Ohio,
Raisins, Cal.	W. Va., and Va.
Persian Walnuts, Cal. and Ara.	Peanuts, Va.
Malaga grapes, Spain.	

You can see from that list that with some of them the competition must be keen. We have to take that into consideration.

Another point is the apple export. Naturally we suppose that the war has played havoc with the export trade. A few weeks ago the papers were more or less full of remarks concerning this point, and yet in last week's *New York Produce News*, I found these figures:

Apple export greater than in 1913.

Total to week before last, 1,345,500 barrels.

Last year at same time, 1,174,800.

Difference, 171,000 barrels in favor of this year.

Heaviest exporting points—Portland, almost 37,000 barrels; Boston, 31,000 barrels; New York, 28,000 barrels; Halifax, nearly 20,000 barrels.

Now we come down to our own situation. Nothing but branded fruit should go forward to market, because the grower, or association, forwarding agent or shipper, should be looking for repeat orders and ready sales. Where they are expected the grower or the association should live up to the brand. I have one other short clipping from the *Produce News* of last week:

Apples.

New York, Dec. 14th.—What the apple dealer wants is colder weather. All this week foggy, muggy weather has been against the sale of apples and while receipts are not heavy, trading has been unusually light. If weather conditions were normal trade would be good. *The medium and poor grades have had a hard time and have sold almost at any price a buyer would pay. Receivers say most western New York apples are disappointing. They do not have the finish and style which causes ready sale. Thus far there has been but little storage on the market and what has been sold brought fancy prices. The large crop everywhere has caused heavy movement of common storage and bulk stock. Even with this heavy movement there is still a large quantity of this grade yet unmarketed.*

You all know, probably not so much as far as Adams County is concerned, that perhaps 100,000 tons of fruit have gone to waste in Pennsylvania orchards this year. In spite of the glutted markets there are plenty of growers who have been making money out of their stock and have had no difficulty in selling their fruit. I have several instances here. These I like to use because they nail the point. They convey a better thought to the audience than to say "you should do" so and so. I think examples carry conviction better.

A lady in Virginia who puts up the "Overlee" brand of apples, had been fairly well satisfied with the prices she had been getting in Philadelphia, where practically all of her fruit had been sold, but her sales agent suggested that she pack according to the Sulzer Law specifications, and that she try a car shipment according to those specifications. When the car arrived the agent had practically no difficulty in selling it. A few days after, this sales agent telephoned around to these customers and asked how they were pleased, and without any exception the answer came back, "Well pleased; glad to get some more." Soon after the agent telephoned to customers that a second car was coming, and asked if they wanted any of it.

Result: the car was sold before it reached Philadelphia. So far as I know, every car of the Overlee brand was sold on practically the same basis.

A Peekskill man bought several old orchards practically on the dump-heap, but he renovated the trees, and as there were only small quantities of any one variety of fruit, he advertised in a New York Sunday paper and got a few customers. From them he was able to build up a home trade. The apples were sold at \$2.50 a box, delivered. It was not long before the first grade apples were all gone; then he sold the second grade at \$2.25 a box. He had no difficulty in getting rid of them, and on the basis of satisfaction he has developed a very nice trade, not only in apples, but poultry, butter, eggs, etc.

Another New York man did practically the same thing but in a different way. He is a musician and has a large number of musical friends, mostly in New York. To these he sent postcards telling that he had certain varieties of fruits, not many of any one variety, but would sell them in the order in which orders were received, at \$2.50 a box, delivered. He sold them without any difficulty. In each package he put an advertisement about his honey. He is a honey grower and has a good product to put up. Thus he sold his entire output.

In California there is a man who was disappointed in the way his raisins were being sold, so took a car east to a city this side of the Rockies, and advertised in the local paper. It was not long before he sold all that town would take. Then he moved the balance of the shipment on to another town. Two or three towns took his whole shipment. Upon the samples he has now developed a nice trade. In the December number of the *Ladies Home Journal* you will find a full page advertisement of the California Associated Raisin Co., of Fresno, Cal., offering to send seven and one-half pounds of various kinds of raisins to anybody who would send \$1. I sent a trial order and received a box of the most delicious raisins I have ever eaten.

A carload shipper in Western New York was not satisfied with the way his apples were sold in the larger city markets, so he thought he would send to some of the smaller cities; cities the size of Scranton, or smaller. He consigned them to a retail grocer and advertised in the local paper. He was on the spot for one shipment but had the grocer sell later shipments that he found were not necessary for him to sell himself. He had no trouble in selling at a good figure. An Ohio grower was not satisfied in the way his apples were handled, so he sent some south, following the car himself and looking after the sales. He has been well pleased with his trade.

Now we come to the honest commission man. Mr. J. Q. Wells, of whom I spoke this morning, told me that he had no complaint

whatever to make with the way his commission man has handled his fruit. Mr. Wells says to this man: Sell the fruit to the best advantage. That is the only agreement between them. He has been selling Mr. Wells' fruit for years, and Mr. Wells has no desire to change.

There is another way to sell fruit; the farmers' exchange method. Usually farmers' exchanges are formed where the growers are not getting what they feel they ought to, and are compelled to come together. The growers can't get what they feel is right and are forced to come together. The most remarkable instance probably is the Eastern Shore Produce Exchange, with headquarters at Onley, Va. Years ago these people were getting nothing for their work. They came together and formed an exchange. The first year there was a big pile of independent growers' produce as usual, and but a little pile belonging to the exchange. It was exceedingly hard sledding for the first few years, but the exchange has done such good work that the big pile is on the side of the exchange and the little pile on that of the independent growers.

Another well known exchange, the Monmouth County Farmer's Exchange of New Jersey, handles fifteen or eighteen fruit and vegetable products, but principally potatoes. It is now about time for the annual meeting and probably you will find an account of the 1914 sales in the farm and the trade papers.

These farmers' exchanges, at least some of them, find it to their advantage, to have a general selling agency. One of these, the North American Fruit Exchange, formed within the last five years, is catering to this kind of trade, taking the farmers' exchange brands and selling the produce wherever there is a market. Its output consisted of 2,906 cars in 1911. Seven thousand, three hundred and ninety-five cars in 1912, nearly three times as much. In 1913, 11,640 cars, more than half as much again. This year it is estimated the number will be 15,500 cars. That way has been preferred by several exchange managers I know, and has proved very satisfactory.

The Hudson River growers have found the fruit auction a very satisfactory way to sell fruit. Mr. Thurston, of C. E. Thurston & Co., New York City, discussed this plan at the Poughkeepsie meeting three years ago. You will find a complete report in the New York State Fruit Growers' report of 1912. All of these various ways are for each man or each Association to decide on individually. No one is best for all conditions.

One line of work that does not seem to be overdone yet is the personal trade. I know of a few men who are developing this line of work and are finding it very satisfactory. One of the difficulties about shipping to a large city is that the city dweller has not the same facilities for storing fruit as the country grower. The box, therefore, is the ideal package for such people. About two

years ago I received a box from one of these men. It was packed with three varieties, and if I had opened it at the top I would have had a little better luck. I did not know which was top and which was bottom. However, only four apples were unfit for use in that box, and yet the apartment was just like any other New York flat—very hot. The last score or so of apples were made into apple sauce. If we had reversed the box we would have used the early variety first and the late last. They were packed in the order in which they would ripen. That is an idea I think has not been worked out, so far as the city dweller is concerned. Where the family is small, a box of mixed varieties might be the ideal package. It may not appeal to many of you people here, but may appeal to some.

Last year the Washington state growers, who, as you know, ship large quantities of apples to Europe and to our markets, taught us a good lesson. They sent a shipment of 15,000 boxes to Argentina. In order to make sure the apples would arrive all right, they did not take any chances by sending, via New York direct to Buenos Aires, but sent them to Liverpool. The 15,000 boxes arrived in good order and were sold at a fair price. Whether they made any money out of that I do not know, but their scheme was a longheaded one. They knew that as soon as the Panama Canal opened they might, and probably would, have a clear shipment with probably only one transshipment. There might be a through line direct from Seattle, so they were figuring on these 15,000 boxes as a sample shipment only, to open their market and later on save 5,000 miles in distance and the expense of freight and refrigerator charges, the difference in distance between going direct and going by the all-water route.

This same plan has been tried on a small scale by an Indiana man who advertised that he would send a sample barrel of his pack to any responsible man who would send his name and address, so as to consider this as a sample, in the hope of developing trade. I understand he has been doing very well in his method. It should lead to good business later on.

The buyers' market is still another plan of selling fruit. The most notable instance of this kind that I know is at Bridgeville, Del. There the fruit is the strawberry principally. Often twenty to fifty wagons of strawberries are in the station-yard at one time. As soon as a wagon comes in it is immediately surrounded by buyers and the bidding is very brisk as a rule, bids running up by one-eighth a box. It is not unusual to sell two train loads of strawberries a day.

You all know from experience here, and from the talks that have been given before, the value of grading. I have just a few instances where grading has made a great deal of money for shippers. J. J. Ross & Son, of Seaford, Del., one of the largest cantaloupe growers in the state, have about forty acres every year, and in the neighborhood of Seaford there are usually about 1,000 acres of cantaloupes. (Seaford, by the way, is the largest cantaloupe shipping station in the world. It sends out more cars than the famous Rockyford, Col.) Mr. Ross puts his name on all his packages. He ships melons mostly to Pittsburgh. In order to keep tab on his shipments, he picks out sample melons from the packing tables, and puts them in a refrigerator, and about the time he thinks the shipment has reached destination, he has those melons served on his table, so he can guess pretty nearly the condition of the fruit his customer is getting. The method has been a very good one for him and he has developed a splendid trade in cantaloupes.

One day I visited Milford, Del. J. J. Rossa was picking strawberries for market. His pickers (the best of them are with him from year to year) make three grades—first, second and culls. At the time of my visit strawberries were selling in Philadelphia at seven cents a box, but his best berries were bringing eighteen cents a box. The medium grade was selling higher than the general price in Philadelphia.

Looking over the whole general field, we may think because of large crops, and also the large number of trees set in the last few years, that the outlook might be viewed pessimistically; that we might not have an opening for our fruit later on; but it seems to me that a large number of people will not take care of the orchards now planted and millions of trees will fall by the wayside. It seems to me that we ought not to look at the thing from a pessimistic standpoint, even though we are confronted with the difficulties of a large crop on the one hand, and the low grade fruit that we can't manage by our present methods, on the other.

The matter forms itself in my mind something like this. First of all we must have business principles in disposing of our apples. We must grow only the best business varieties. I do not mean by that that we should cut down the orchards we already have unless they have varieties that have no use whatever. We want apples that will pay. I don't mean either that we should all go to raising dessert fruit. We must take up business varieties; varieties that will produce well, and that will meet the various needs of market and of the consumers. Then when we have these business varieties we must grow them in the very best way we know, always have the best methods and the best class of produce in order to present these products at a reasonable price to our consumers, not cheap by any means, but the price that the individual barrel or box of fruit is worth.

We must then utilize the low grade fruit at home, either by canning, drying or by some of the processes suggested this morning. At all times we must keep posted, individually and as an association, on the state of the market and of the discoveries brought forward

by the experiment station; first, in our own state, second, in neighboring states, and third in other states where apples, or whatever fruit we are interested in, are grown. Then we must take advantage of all the government literature we can get; anything that bears on the subject. We can always pick up some points of use to us from these publications.

Another point is the teaching of the agricultural college. Naturally we turn to our own college in this state, but there are men who feel they want a little different view, so they go to other states; that is their privilege. Many students go from one college to another during the short course period of the winter, or during Farmers' Week. So far as the State College in this state is concerned, we have a four year course which is a valuable one for a general education for the young man who has the time to spare. Then we have the two year course, planned to meet the needs of those who cannot afford to spend so much time. Then comes the twelve weeks course, designated especially for those fellows who work during the growing season and can spend only that short time at college. It is a splendid course and is confined to the most practical things that can be given in so short a time.

There is another line of work that is not overdone anywhere that I know of, and that is the farm paper. It carries a great deal of valuable news, as you know, and I believe it is taken and read more in this section than in any other part of the country. Next to the farm papers, I would take the trade papers. But the most important things, so far as the individual fruit grower is concerned, are the horticultural society reports. First of all is the society in the home place. So far as Adams County is concerned, it would be this society. Outside of the local societies I have the names of five or six on my list; societies which are doing perhaps the best work east of the Mississippi River. Of course, naturally, we think of our own state society with its proceedings. We ought to be members of that, but then suppose we step outside of our state, what societies shall we look to? The four doing the best work are the Western New York Horticultural Society and the New York State Fruit Growers Association, the Virginia State Fruit Growers Association, and the Ohio State Horticultural Association. All but one of these have a membership fee of \$1.00. The New York State Association has a \$2 membership fee, because it has a buying department which makes the expenses somewhat higher. The Virginia Association is partly supported by state money.

I have tried to bring together these various ideas just to give a sort of picture of the fruit situation, what means we can take for the amelioration of our condition, and to relate one to the other. We might almost say that I have merely touched the surface, for there is a wealth of ideas that have not been touched at all. It is certain that the development of the fruit industry is not going

forward at anything like the same rate or pace that the population is increasing, so to sum the matter up, the outlook seems to be good for disposing of even the tremendous amount of fruit we are annually producing and are likely to produce in still greater quantities in the next five years. If I may sum the matter up in one sentence I would say, salvation lies in the practicing of business methods.



STATE COLLEGE STUDENTS AT WORK GATHERING TOMATOES.

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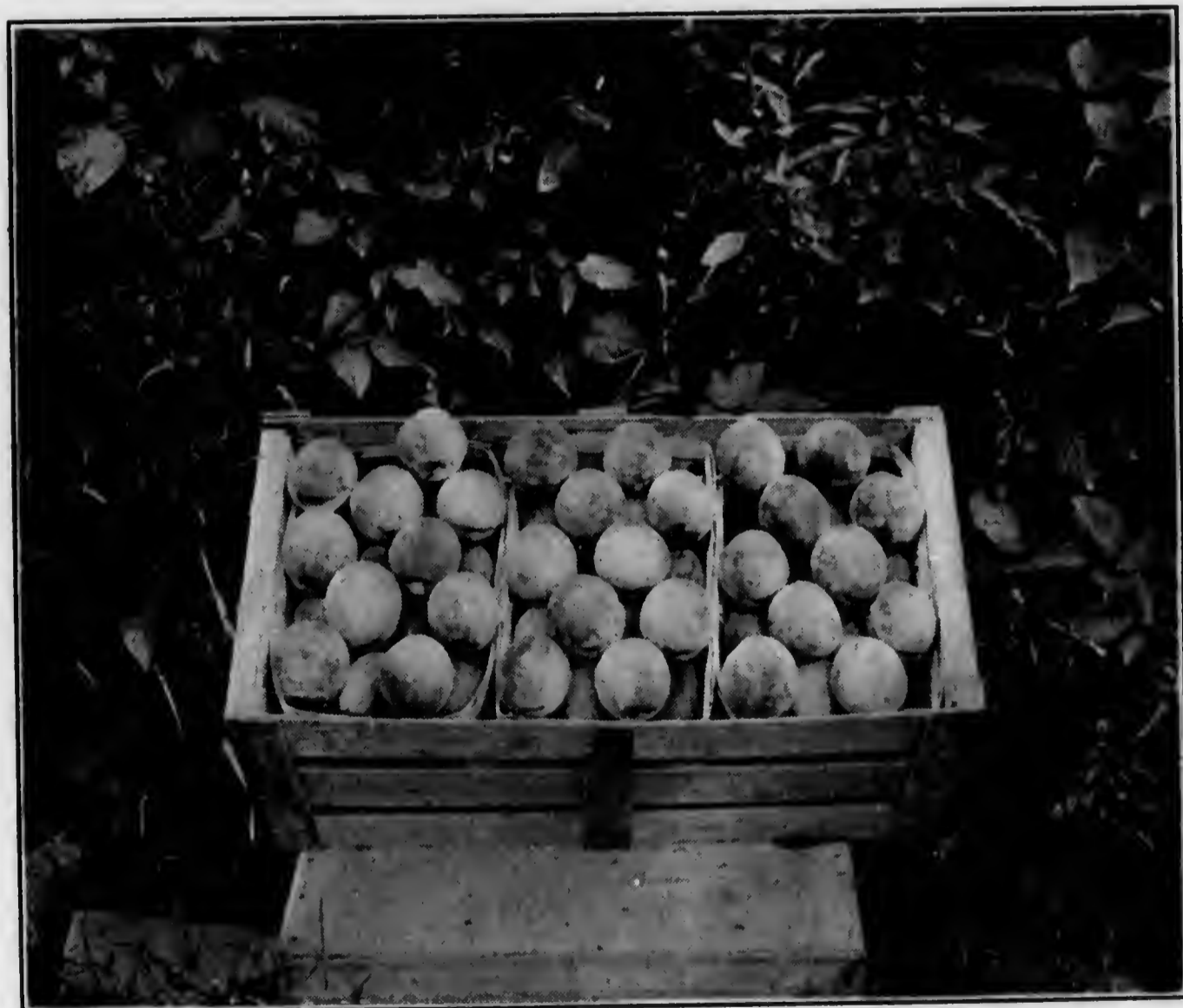
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STATE COLLEGE STUDENTS AT WORK GATHERING TOMATOES.



"NEAT FACING NOT DISHONEST PACKING."
Both alike to the bottom.



GEORGIA PEACH CARRIER.

The Importance of Better Grading and Packing of Eastern Apples.

PROF. H. B. KNAPP, *Department of Pomology, New York State College of Agriculture, Ithaca, N. Y.*

It seems a little strange at first thought that a New Yorker should presume to speak to the fruit-growers of Pennsylvania in regard to the importance of better grading and packing of Eastern apples. The day would appear to have passed when one must have his own dooryard clean before he chides his neighbor concerning the appearance of his dooryard. However, if fundamental to a treatment of this subject is a knowledge of how poorly fruit may be packed and still find a market, I can imagine no one better qualified to discuss such matters than a man from New York state.

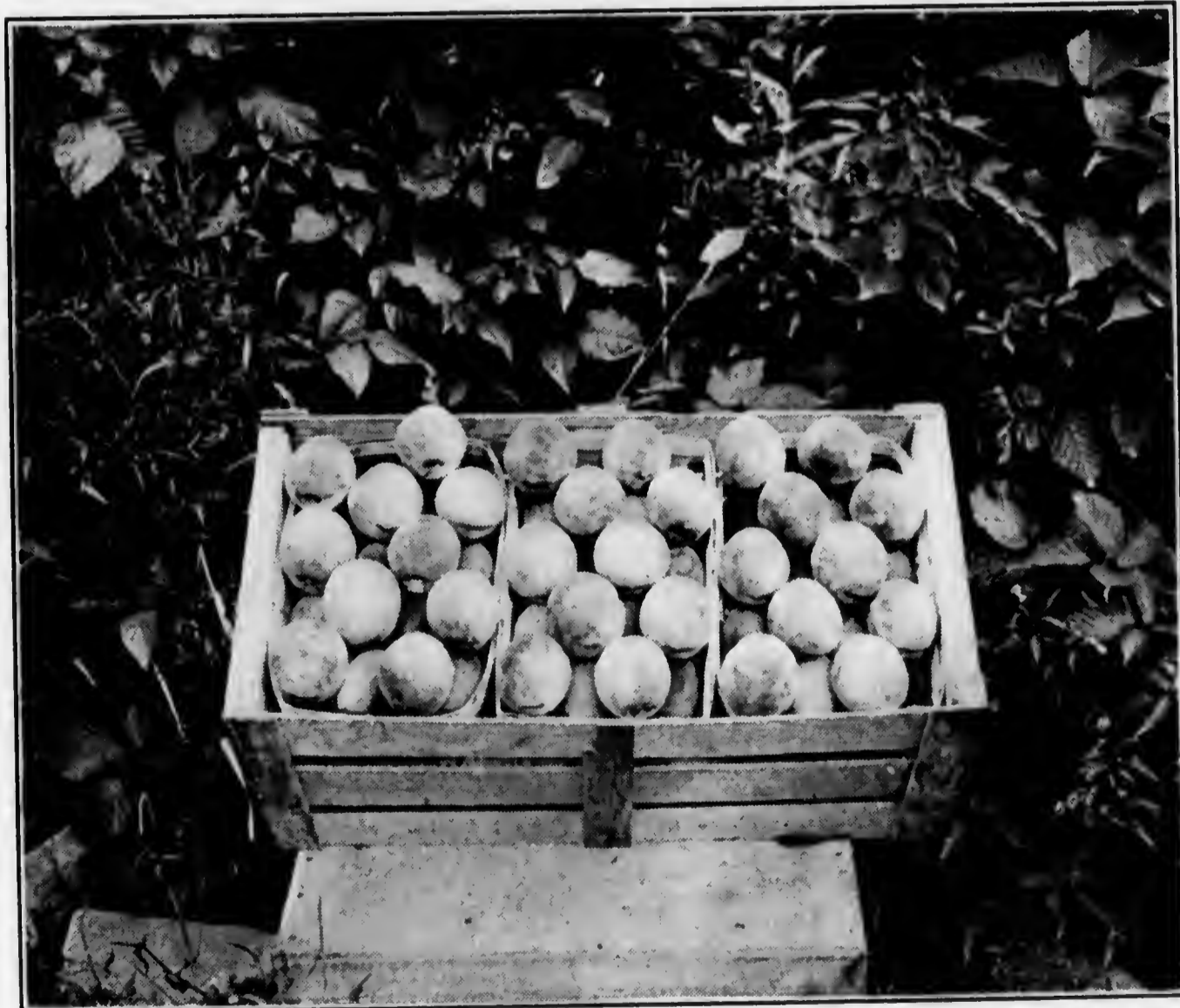
The growing of apples and other fruits has within the last two decades undergone a transformation that amounts almost to a revolution. Fruit-growers' organizations, agricultural colleges, experiment stations, and every agency whose motto is progress in country affairs has urged and aided the production of more and better fruit. We are now reaping the results of this educational propaganda, in Pennsylvania, in New York and everywhere, and the problem of the present and the future, which the fruit-grower must surely face, is the marketing of his product. Upon the solution of this problem depends the whole future outlook of the apple and the material destiny of its grower.

Evidence is not lacking that with present methods of marketing we have neared the crest of high prices for apples. The production of all farm crops moves in cycles of varying periods of time. These cycles seem to be fairly uniform for the individual crops, and production is directly correlated with prices. This is true of hay, of cattle, of hogs and of potatoes. It seems to be just as true of apples except that the period between high and low production and low and high prices is longer. It is probable that with increasing production the crest of high prices for apples will soon be reached and the pendulum will swing back toward and beyond the normal.

If we consult the prices of apples on the New York market we find that they have increased in price less than ten per cent. in the ten year period from 1903-1912 over the price for the previous ten-year period. It is doubtful if this offsets the added cost of production. During the same period cotton has increased 64 per cent., hay, 33 per cent., oats, 38 per cent., corn, 42 per cent., potatoes, 28 per cent., and wheat 37 per cent.



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We are all familiar with the enormous plantings in recent years, plantings that have by no means reached the maximum of production, but the results of which we are now beginning to feel. A consideration of these things may well make us pause and ponder as to what the future holds for us.

A calm survey of conditions indicates that disaster must inevitably overtake us unless we can find markets not now open to us and widen those we already have. The alternative is the experiences of the growers of '96.

We may well inquire, then, into the possibilities of further extending our markets. What are the prospects in our own door-yards. In my home state of New York, it is practically impossible to buy an Eastern grown apple on fruit stands or from high class grocers in New York, Albany, Troy, Schenectady, Utica, Syracuse, Buffalo, and even in Rochester, in the heart of one of the world's greatest apple belts. You ask for an apple and you get a Western apple. Is the case any different in Philadelphia, Pittsburgh, or in your capital city?

Last winter the College of Agriculture at Cornell held a school in domestic science at Lockport in Niagara County, one of the banner fruit counties of the Ontario District. The ladies desired to make an apple pie. They went to the grocers to secure the fruit and were compelled to accept Western apples.

In the markets of the world the story is the same. Box apples are gradually eliminating our barrel apples from continental Europe; Canadian apples packed under the Fruit Marks Act sell for a premium of fully fifty cents a barrel over the same varieties grown on this side of the St. Lawrence. Why should this state of affairs exist?

The answer is so plain that even in our blindness to existing conditions we cannot fail to see it. With a protective tariff of several hundred dollars per car over fruit from the Northwest, we have stood idly by and allowed the Western grower to invade our markets and usurp our trade. The Western grower packs and ships fruit that corresponds to our finest No. 1 grade, not primarily because he is more honest than the Eastern grower, but because none other shows a profit. The fruit is packed subject to inspection by the association through which it is sold and diseased fruit is under the ban. In the East every man is a law unto himself in the matter of packing and no two men pack alike. It is not higher moral sense, but plain business sense that actuates the Western grower—he can do nothing else and live. It would be better for us in some ways if our markets were not so accessible.

Canadian fruit is packed under the Fruit Marks Act, which through its provisions of grade and markings guarantees to the consumer an article worth his money. The European buyer has a choice between an article of certain and an article of uncertain

value. It is a credit to his business sense that he prefers the Canadian pack. Our consuls have repeatedly stated that we cannot hope to widen our foreign markets so long as our pack is unchanged. It is a sad commentary upon our judgment as growers that we have not yet recognized and complied with the fundamental law of trade.

Let me approach the subject in another way. The Association for the Improvement of the Condition of the Poor secured the wholesale and retail prices of the principal varieties of apples on the New York market during the month of November, 1912. The apples were sold out by the grocers by the peck and retail prices have been computed by allowing twelve pecks to the barrel. The figures follow:

	No. 1 Grade		No. 2 Grade.	
	Wholesale	Retail ¹	Wholesale	Retail ¹
Northern Spy,	\$5 50	\$10 20	\$4 50	\$9 00
Baldwin,	5 00	9 00	4 00	6 00
Tompkins King,	5 50	11 40	4 75	7 20
R. I. Greening,	6 00	10 20	5 00	9 00
Ben Davis,	3 75	6 00	3 00	4 80
Average,	\$5 15	\$9 36	\$4 25	\$7 20

Per cent of retail price to retailer, 45 per cent.

41 per cent.

¹Sold by peck.

On this basis let us see how the money that the consumer pays for the average barrel of apples is distributed among the different agencies that handle the barrel. The average barrel brings two dollars and eighty-six cents wholesale in November in New York City. We may assume that it is shipped by the grower from Monroe County in Western New York, nearly four hundred miles, and that it is sold through the commission man to the grocer. The distribution of the money paid by the consumer follows:

Distribution of Money Paid by Consumer for Barrel of Apples Sold Through Commission Man for \$2.86, November 1st.

	Amount Paid	Per cent. of Retail Price
Grower,	\$2 27	45.0
Freight,	23	4.5
Carting and Miscellaneous,	07	1.4
Commission,	29	5.8
Retailer,	2 16	43.0
Price paid by consumer,	\$5.02	

When we remember that the grocer does business on the basis of twenty per cent. of his gross sales, this forty-three per cent. in the case of apples appears to be an exorbitant charge. Let us place ourselves in the grocer's position. We buy apples every day in

the week to supply our trade. Five days in the week we get a good lot of fruit with no waste, but the sixth day we pay good money and get junk—cider apples and culls. In such a case we would do just as the grocer does. We would put the price on all our fruit high enough to protect ourselves in any emergency, a price which is prohibitive to the great middle class of people. This has been and still is the history of the marketing of Eastern apples.

We must face the situation as it exists before we can remedy conditions. We must recognize that the motive power of the wonderful commercial development of our age is confidence between man and man—that is the center of a trade movement that knows no limits of countries, continents or hemispheres; that is only set at naught when man gives his brother the lie. Without such confidence an industry can flourish only so long as the product can be secured in sufficient quantities from no other source. When an industry has reached the stage that the apple industry has reached, the article that we offer for sale will be judged not according to its bulk, but according to its merits, to its points of superiority over the article offered by our competitors. We must stand or fall by this standard.

The government reports published November 23d give the following estimates for the state of Pennsylvania:

Baldwin, 2,351,000 bushels.

Northern Spy, 1,501,000 bushels.

York Imperial, 991,000 bushels.

Ben Davis, 793,000 bushels.

R. I. Greening, 727,000 bushels.

Stayman Winesap, something less than 500,000 bushels.

How many thousand barrels are going out to the consuming public to dim the already dull reputation of Eastern apples, to congest a market already strained to the breaking point and to blast further the future of an industry whose welfare is our welfare and whose ruin is our ruin? It avails us little to devote our lives to the upbuilding of an industry that we have very much at heart if our neighbor through lack of foresight, reason or honesty is as assiduously bent on its destruction. The moral conscience of man is slow to work and the span of life is short. Should we not accelerate the workings of that conscience in some way in order to render the coming of the golden age of honest packing more speedy and sure? Does not history indicate that a spur to the conscience of our erring brother must in the interest of humanity in the aggregate often be applied, and is the careless and dishonest packer any exception to this principle? If the evil he does were confined to himself and were interred with him, we might let him go his way, but this we cannot do when he is sapping public confidence and gnawing out the heart of an industry whose success is our success and whose doom is our doom.

The only effective deterrent is legislation, specific in nature and thorough in application. We have the Sulzer Law passed by the United States Congress, it is true, and the law represents the first real attempt to standardize a food product in this country. But the Sulzer Law provides for only one grade of fruit, is permissive in nature and provides no system of inspection.

Not five per cent of the growers in New York State ever packed their fruit in accordance with its provisions. We have in Maine, in Michigan, and in New York measures dealing with this subject. The New York Law is the most drastic packing law that was ever passed in America. I shall take up with you its nature and influence on the New York pack at another hour.

Discussion.

Member.—Do you have the figures on the difference between the wholesale and retail price of boxed apples?

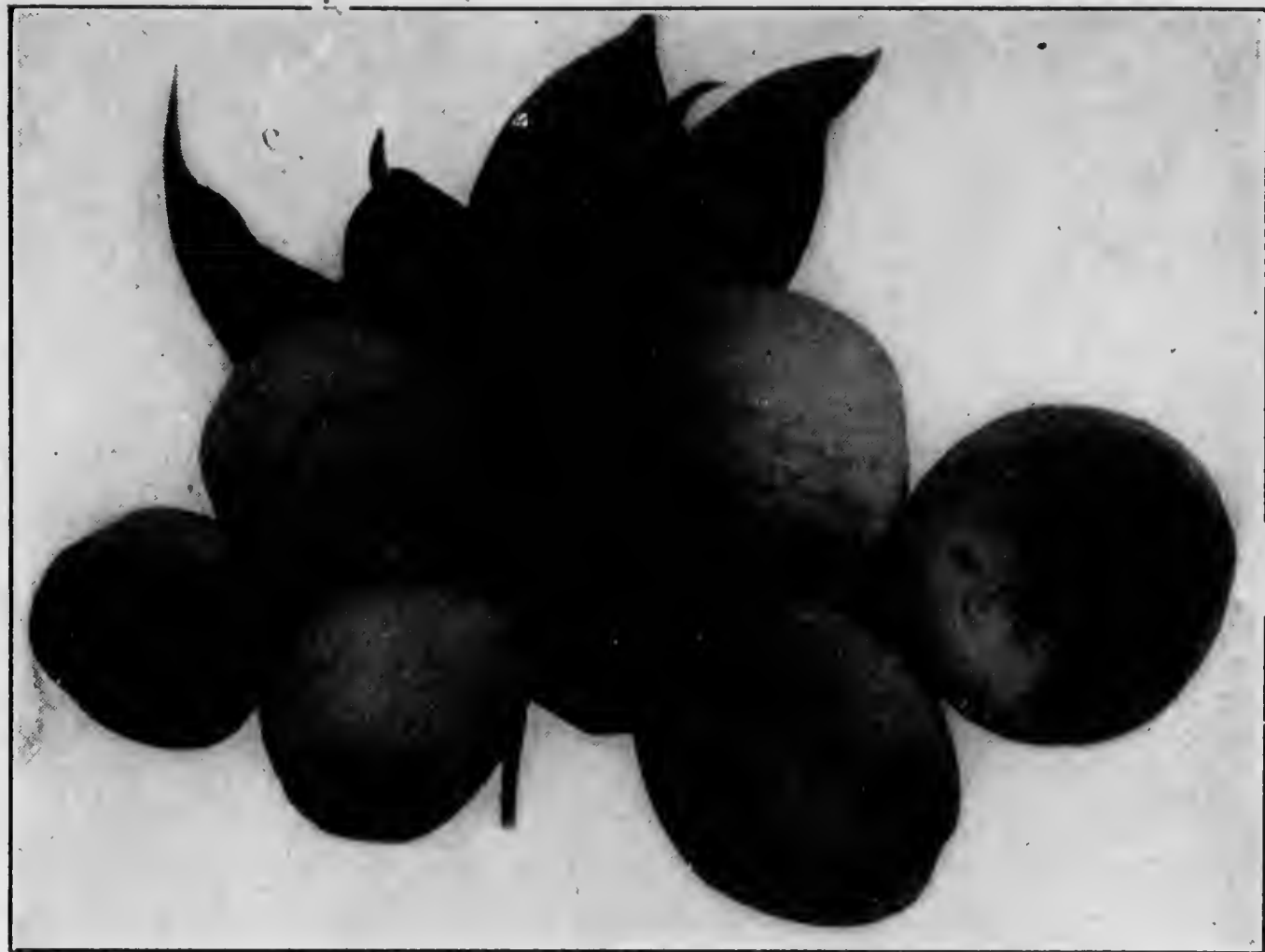
Prof. Knapp.—No, I do not have those figures, but presume they could be gotten without a great deal of trouble. I was particularly interested in barreled apples. I expect the difference is pretty nearly as large.

W. E. Grove.—Do we understand you to say the crop estimated is 500,000 barrels of Stayman in Pennsylvania.

Prof. Knapp.—I said it was less. The figures I gave you for the other varieties were taken from the actual report. I do not know just how many. You probably have a better idea than I have.

C. J. Tyson.—In connection with that point of retail selling price of apples, I heard an interesting estimate made in the last week, based on some figures that were gotten together by the Secretary of the Association known as the Apple Advertisers of America. He was working a campaign against the large percentage of profit that the retail grocers were asking, and he found, on going to individual grocers and fruit-stand men that each had a reason for the profit that he was getting, and they were various and different reasons, but quite largely based on the service the public was asking, and they gave him figures on the cost of delivery and their general overhead expenses. I think he visited something like twenty-five grocers and fruit-stand men, and when he was through he compiled the results and figured that if they received the apples as a gift, without any cost of freight or anything whatever, they would have to receive \$3.50 per barrel in the retail way they were selling the apples, to come out square.

Prof. Knapp.—I think there is some room to suspect that grocers handle certain of their articles with a loss and make it up on some other thing. Apples may be one of those things.



Average size specimens, from an unthinned peach tree (on the left) and from a tree thinned 4 inches apart (on the right).



A, 2-1, 3-TIER PACK IN GEORGIA CRATE.

The Aims and Scope of Home Economics.

MISS PEARL MACDONALD, *Extension Instructor in Domestic Science, State College, Pa.*

In discussing the possibilities of Home Economics, we must first have clearly in mind what Home Economics is and for what it stands.

The study of the home, from a scientific and professional point of view, is of rather recent date. Our growth, as a people, within the last half century or more, has been so rapid that we have scarcely been able to adjust ourselves to the new conditions. Our industries, our commerce, our education have enlarged at a marvelous rate and all work has become more specialized. Competition in every kind of business has become keener; improvements and inventions in every line have revolutionized our homes and our mode of life. The home industries of long ago have been removed to the factories. The removal of these industries from the home is one of the factors that has brought about the greatest change in the home. Then, to, more pressure from the outside has been brought to bear upon the home. More and more women have gone into business, and it has become less the custom for women to receive training for the profession of home-keeping.

But since our education has broadened we have worked out the science as well as the art of home-keeping. This knowledge has been classified and organized. We have come to believe that these things studied in the schools and applied in a practical way in the home, make better homes; and, for this reason, we believe, these things should be a part of every girl's school education.

The field of Home Economics is so broad and far reaching in its content that the subject matter has had to be grouped under certain broad general headings. These are shelter, home management, clothing, and food. Since these things cannot be considered apart from the individual, they involve the person's own individuality and growth and his relation to the family, to the community and to the state.

The sub-divisions include in brief the following: First, in the problem of shelter, there is the study of the house, the location most suitable in respect to sunlight, soil and drainage; the proper construction with a view to the right sanitary conditions; the best arrangement considering health and convenience; the most approved methods of heating, lighting, ventilation, plumbing; the most desirable furnishings from the point of view of health, utility and artistic beauty. In connection with the study of the house, there are the principles of household management, the right pro-



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portionment of income for rent, food, clothing, operating expenses, and the things pertaining to the higher life, such as music, books, art, travel, etc.; the best methods of keeping accounts; the correct solution of the problem of increasing the income and diminishing the expenditures.

As to clothing, there is the problem of personal hygiene; the effect of clothing upon health; the kind and amount suitable to the season of the year, to the age and occupation of the individual; ability to judge of materials; the question of dress as the expression of the personality and character of the wearer.

In the matter of food, there is the study of all the foods; the class to which each belongs; the chemical composition of the various foods; the purpose or purposes each serves in the body; the foods suitable for the young, the middle-aged and elderly people and for the sick and convalescent; the kind and amount necessary to attain the highest efficiency; the mastery of the principles of cookery and the processes involved and the art of economic buying.

Under the heading of the relation of the individual to the family and to the community, involves the subjects dealing with Ethics, Economics and Sociology, in which a study is made of the family, its origin and growth; the development of industries and the development of the community and community life.

These are, in brief outline, the things with which the subject of Home Economics has to deal. There are two groups of people to be considered. First, the girls of to-day who are the mothers and homekeepers of the future and the mothers and homekeepers of to-day. First, let us consider the girls of to-day who are to be educated and our idea of education for them. You will all agree with me, I am sure, that any education that is complete and satisfactory and enables the individual to render his highest and best service to his day and generation, must train the individual mentally, physically, morally, socially, and for the girl we would add training as a home-keeper. Arthur Dean, who is greatly interested in the problem of industrial education, says that the expression of ideas through muscular activity is the natural way with the majority of children and people, that the child who can make his grades year by year without stumbling, who can be successfully covered by a course of study unrelated to his experience and apart from his environment, who can be trained by memorizing the other fellow's doings, is the unusual child. He further says that it is a race heritage to make things, to grow things, to live with living things.

In addition to the physical and the mental sides of man's nature—there are also the moral and social sides of his being. We have been, and still are dominated by the idea that the mental training is the only kind of education that learning things out of books and studying what the other person has done, fits us to do things in the world. But we are somewhat wiser than before. We are

coming to see that man is more than his intellect; that he has a physical body to be trained and disciplined and developed—muscles and hands to be educated, and that he has a moral and spiritual nature to be awakened and guided and perfected; that he is a social being, and that he cannot live to himself, but that his education should fit him to live and work with other individuals having their particular interests and needs—to meet with others in business relations, in social intercourse, in a governmental capacity, and in efforts for the moral and spiritual upbuilding of the community.

Now, in what way may the pursuit of Home Economics fulfil these requirements of education for girls. The subject-matter depends upon the sciences and allied subjects—bacteriology, chemistry, physics, physiology, ethics, economics, sociology. The mastery of the subject-matter as organized and presented, should furnish fine mental training—such training as will sharpen the intellect and will enable the girl to think clearly, accurately, intensely, consecutively. It should develop the power of reasoning, of sustained mental effort and of judgment. The manual work involved in the cooking, sewing and practical housekeeping furnishes valuable physical training. It trains and gives control of the muscles and teaches the girl how to use and conserve her strength. It enables her to attain skill in the use of tools and utensils, and makes her resourceful so that she is able to take care of her home in all of its activities. As to the moral, spiritual and social phases of this education, these are so closely allied that they must be considered together.

The work, if rightly given with the higher and broader vision of the subject, should establish the spirit of doing everything thoroughly well. It should create a deep sense of duty and responsibility and of kindly consideration for other people and their needs, should train the girl to act in moderation and to hold things in their right proportion and instill the idea of service and foster the new economy and thrift that must become a habit of mind before there can be any lasting prosperity. It should create the right attitude toward home and home-keeping and give the larger and wider view of home and home-keeping in the preparation of food, in providing clothing and in doing housework.

Further, it should help the girl to realize that the home is the most important unit of society and civilization; that "within the home is not only born new life but also that, in the home, life is conserved and through the home it is made possible for the individual to grow and develop and live the full, free and efficient life. That within the home are found the influences and forces that are most powerful in shaping the life of the individual and in determining the state of society and the character of the national life. That through infancy, childhood and early youth, the care

and nurture of the individual is a most important part of the work of the home. The physical condition, the shaping of tendencies, the character of habits formed, the mental and moral development of the child, the promise and possibilities of later life, are determined almost exclusively by the influences of the home." That in preparation for this work woman needs the most careful and exact training, the broadest and most liberal education. While we believe that our educational system should be readjusted so that it will be possible for girls to receive such training in home-keeping, we feel that it is somewhat easier to inaugurate this work in the town schools. It is easier to secure trained teachers, sufficient room and equipment, but we believe effective work can be done in the rural districts. There, without doubt it will have to be started as club work, which involves group work. This has its advantage, because it emphasizes the home and social side of the work and the necessity for co-operation. Among the easiest ways, perhaps, to begin this work is by the organization of Girls' Clubs—garden and canning, bread-making, sewing and other clubs. However, for any of this work to be really worth while, we must have the sympathy and co-operation of the mothers and home keepers. We do not believe that the education of the girls of to-day is a matter that can be turned over to the schools, but that it is a common problem for the mothers and home keepers and teachers. All must understand the purposes and aims of that education and determine the means of attaining the desired end, and then work together for the attainment of that end.

This will be possible only when the women of to-day study and become thoroughly familiar with the subject-matter and get the spirit of Home Economics. This is the first reason why women should know Home Economics. With this knowledge also, it will be possible for women to organize and conduct their own homes in a more efficient way and understand the social and economic position of the home and the economic function of the women of to-day. This brings me to the second great reason why women should know Home Economics. In a large measure the prosperity of the country rests with the women. As one Home Economics expert has explained: "There are three ways known by which prosperity may be increased. We may choose more wisely what things shall be produced; we may produce and distribute more efficiently, which means more or better things, or we may consume more economically. The better choice and the wiser use fall into the division of economics called consumption, and come into woman's province, while the more efficient production and distribution rests, for the most part, with the men. In a large number of cases, the producer, owing to the conditions in his particular profession, has reached the maximum in salary, so it rests with the women to develop the possibilities in the better choice and the wiser use." This means that women must be informed on all phases of the

home problems, that she must study the problems in a systematic and business-like way and master them. Efficiency and character which are the great aims of life and of education, are determined by the homes in which we live, by the food we eat, by the regulation of work, rest and recreation, by the moral and spiritual influences which surround us, and become the motive forces in our lives, and by our social relations with one another. The wise choice in all these things means a knowledge of values. Now, it is not possible for women occupied with home duties, to go to school to learn these things. Much of this knowledge must come through home study, through study and discussion of these things in the clubs, through circulars and bulletins published for free distribution by the state extension department, through short courses which include lectures and demonstrations, through exhibits of various kinds, and then as a result of this study and acquisition of knowledge, to work out the daily problems in the home with foresight, intelligence and careful adjustment to the best conditions.

To help in this work is just the purpose of the Home Economics Extension, and these are the possibilities. The fulfillment of these purposes calls for the open mind and the hearty and helpful co-operation of all women. This is the great thing for the women of our day.

Discussion.

Member.—Are the girls of to-day interested in this work, or do you have some difficulty in getting them interested?

Miss MacDonald.—There are certain phases of the work in which they are interested. In some sections a great deal has been done to arouse enthusiasm. So many times they get the idea that it is just cooking and sewing, but that is only a small part of this work. The larger view is the thing that we must strive for, and of course that has to be brought about a good deal by the teacher. The teachers are the ones who will have to make them see that there is more to it than just cooking and sewing. While these things are important, the field is much broader than that. The schools should be more closely connected with the home. There should be a vital interest between the two. One of the best ways to bring that about is the matter of work, where the interest of the family must be centered in the home. In the city we find that all the amusements are outside of the home. They come home to get their meals and to sleep, but there is not that centering of the interests of all the members of the family in the home. I think probably this is where some of the greatest good can be done, if we can get people to see the need, and if we can find some sort of work that is of real value to the home.

Member.—The responsibility largely comes back to the mother after all.

Miss MacDonald.—Yes, I do not see how we can get away from it. It is one of the biggest and most important things that we have. Nothing means so much as the right bringing up of the child. I recently heard a discussion as to the difference between the boys and girls from the country and from the city. The boys in the country do have certain things that they have to do. If they go to the city and go into business they are more responsible. They have had certain responsibilities at home and it has become a habit of mind and action, and that is the reason why they make good in any business they undertake. It is not the best thing for children to be brought up without anything to do and without responsibility. You can't expect to bring children up without having any responsibility and then suddenly make them responsible for a lot of business. They want to work from one position to another, with more and more responsibility. That has been my experience. When I first began to work I could not begin to do what I could five years later. I could not at first have done the hard work but every year there was a little more added and I got used to it. That is the way with certain kinds of muscular labor. I have had experience in that. When, at different times, I have taken up a new kind of work, my muscles have become very sore but after I had done that new kind of work for a week I had become accustomed to it and it was not nearly so hard as when I began it. The same is true with anything else.

Member.—Do you think it is possible to accomplish much from children who come out of the congested places?

Miss MacDonald.—That is a pretty hard problem. I do not know that I am able to answer that. I think that is one of the hardest problems we have to-day; the right thing to do for the children in the congested districts in the city. We find so much of this idea of not wanting to work. We can't do anything in this world unless we do work. People must change their ideas in regard to it. I sometimes hear girls say they are not going to learn how to do certain kinds of work then they do not have to do it. I know of an instance where a woman was not going to learn to scrub so she would never have to do it. We should know how to do these things and do them in an excellent way. Here is another point. If you have done a certain bit of muscular work yourself you know how much that meant to you in the expenditure of energy, etc., and you know what you can demand from other people who are doing the same work for you. Many times people who are unreasonable in their demands they make upon their employees have never done that particular work and do not know what it means.

The Influence of the New York Grading and Branding Law on the New York Pack.

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The New York Apple Grading and Branding Law went into effect July 1, 1914. Only the present season's crop has been packed under it. The law is distinctly a fruit-grower's measure. It had the endorsement and active support of the New York State Fruit-Growers' Association, the Western New York Horticultural Society and the International Apple Shippers' Association. It was conceived and drafted by committees from these organizations and passed through pressure brought to bear by them. It represents the best thought of able and mature men who derive their living from growing apples and the calm judgment of men who understand the marketing side of fruit-growing from A to Z.

The law asks no more of fruit-growers than farmers have asked for years of feed and fertilizer manufacturers and the makers of patent medicines, namely, that the label shall disclose the true contents of the package. It places no restrictions upon the kind or quality of fruit that may be sold—it simply requires that the fruit be sold for what it is, instead of what it is not. It aims, therefore, to give to a barrel of New York apples a constant and uniform rating in the business world and to guarantee to the buyer an article worth his money.

The law applies to all apples grown in the state that are packed in closed packages with the exception of those packed under the Sulzer Law.

It provides for three different grades of apples and for an unclassified pack. The grades are known as New York Standard Fancy, New York Standard "A" and New York Standard "B." In order to be labelled New York Standard Fancy, according to the provisions of the law, the barrel must contain "apples of one variety, which are well-grown specimens, hand-picked, properly packed, of good color for the variety, normal shape, free from dirt, diseases, insect and fungus injury, bruises and other defects except such as are necessarily caused in the operation of packing." In other words, this grade calls for a first class apple in all respects, the kind that we find in the western box labelled "extra fancy" or "fancy," the kind that we would expect to take a prize at the State Fair at Syracuse or at the Industrial Exposition at Rochester. It provides a pack that can compete with the best western box fruit or with the best pack under the Canadian law.

We will see a little later that one of the marks that must go on the outside of every closed package of apples is the minimum size of the fruit in the package. The only tolerance or variation allowed in the fancy grade is that five per cent. of the apples may be under the size branded on the outside of the barrel.

New York Standard "A" grade shall consist "of apples of one variety which are well-grown specimens, hand-picked, properly packed, of good color for the variety, normal shape, practically free from dirt, diseases, insect and fungus injury, bruises and other defects except such as are necessarily caused in the operation of packing; or apples of one variety which are not more than ten per centum below the foregoing specifications on a combination of all defects or five per centum on any single defect."

In other words, the "A" grade apple is the apple that in other years we have packed as a good No. 1, not the kind of a "No. 1" apple that has sometimes gone into the barrel in years of light crops and high prices. A tolerance of ten per cent. is allowed on a combination of all defects, size included, and not more than five per cent. on any single defect. This does not mean that the packer may fill the barrel up to within ten per cent. of being full and then run in anything he chooses, cider apples, wormy apples or culls. The limit of tolerance is provided simply to safeguard the man who has a great deal of packing to do and who must depend upon hired help to do most of it for him. Enough poor apples will get into a barrel under such circumstances if we do not intentionally put them there.

New York Standard "B" grade "shall consist of apples of one variety which are well matured, hand-picked, properly packed, practically normal shape, practically free from dirt, diseases, insect and fungus injury, and which may be of medium or less than medium color for the variety; or apples of one variety which are not more than ten per centum below the foregoing specifications on a combination of all defects or five per centum on any single defect."

The only real difference between the "A" grade and the "B" grade apple is in their color. A "B" grade apple is intended to be a good No. 2.

"Apples not conforming to the foregoing specifications of grade, or, if conforming, are not branded in accordance therewith, shall be classed as 'unclassified' and so branded."

The unclassified brand provides a pack in which apples may be put which in themselves are good enough for the grades before mentioned, but which have not been sorted out and graded up to meet the requirements for the grades. More than that, it provides a class in which any and all kinds of apples may be packed, but after the limit of tolerance of the "A" and "B" grades has been reached, the barrel marked "unclassified" must state in just what respect the apples are deficient as hereafter noted.

Now, as to the essential marks which must go on the outside of every closed package of apples. They are as follows: The name and address of the packer or the person by whose authority the apples are packed, the true name of the variety, the grade or class of apples contained therein and the minimum size of the fruit in the package.

This is the only reference to size that we find in this law. It does not state that an "A" grade apple must be two and one-half inches in diameter, a "B" grade two and one-fourth inches in diameter, etc. So long as the apple measures up to the specifications of the grade in other respects, the size does not bar it from any grade, it simply requires that the size of the small apples be branded on the barrel.

In addition to the foregoing requirements a barrel containing fruit which is not hand picked, which is wormy, scabby, diseased or defective in any way, must, if such fruit is present in greater amounts than provided under the limit of tolerance, be marked in such a manner as to indicate this fact. Of course, such a barrel must first be labelled "unclassified," but the packer must go further if more than ten per cent. of the fruit is defective and state in just what respect it is defective.

The law specifies that the package must be plainly marked with letters not smaller than one-half inch. The enforcement of the measure rests with the Commission of Agriculture, and penalties are attached for violation. Other points can be brought out in the discussion later if you desire.

Such a law if properly enforced could not fail to have a profound influence on methods of packing. It is one thing to pack a barrel of fruit dishonestly, it is quite another to advertise the fact to the whole world by putting your name on the barrel. In the main, the law has been obeyed and we feel much encouraged with the progress made in so short a time. Just how profound the effect has been may be judged by the following extracts from letters written by men with whom many of you are familiar:

Mr. R. G. Phillips, Secretary of the International Apple Shippers' Association, says: * * * "There is no doubt that the New York Grade Law has been a godsend this year. It has kept a lot of stuff out of barrels which ought to have been kept out. The result has been that bulk shipments out of this state have never before been as heavy. The law also gave confidence at a time when confidence was needed; and I am convinced that if it had not been for the law the apple situation would have been in a disastrous condition. * * * I have heard a great many splendid testimonials to the beneficial effects of the law. I have visited the New York market twice and personal observation convinced me that the fruit was much better packed than usual. That has also been my observation on the shipping end."

Mr. Edward N. Loomis, 119 Barclay St., New York City, says: "The New York Apple Grading and Branding Law has been of great influence in the advance of the apple industry, and will be of increasing benefit to growers, dealers, and consumers alike, the more thoroughly its provisions are understood and obeyed. * * * The law already has had a great effect, and has had a wider recognition than could have been expected in its first season. As the growers come to realize its value and its provisions for putting out an honest pack, they will more and more reap its advantages. The consuming public has not yet had an opportunity to fully realize the change. When the growers come to know the meaning of the various brands, and that each brand describes accurately an honest barrel of apples, the demand for apples will increase throughout the country largely, and particularly in barreled apples * * * I, myself, am a dealer as well as a grower, having 100 acres of orchard in Vermont. I believe that there is no greater danger to the fruit industry of the East than its present methods of packing and grading. I believe strongly in compulsory laws throughout the Eastern States, which will promote honest grading and better packing, and which will guarantee to the buyer of each individual barrel of apples a square deal."

Mr. C. B. Shafer, Gasport, N. Y., wrote as follows: "Your favor of the 24th received asking my opinion of the New York State Apple Grade Law. In reply I beg to state the law created a revolution right from the start; at the time of packing and shipping fall apples it was impossible to sell winter apples or even get any of the important Western dealers interested.

"After the Western dealers had received some of the fall apples packed under the New York State Standard "A" Grade they immediately woke up to the fact a great demand had been created by the New York Law.

"The result was all the Northwestern trade representing Illinois, Iowa, Minnesota, Wisconsin and Nebraska sent their representatives into Western New York practically cleaning up the orchards of all the good apples they could obtain under the Standard "A" Grade while at the same time the box apples in Idaho, Oregon and Washington were piled up in the packing houses, store houses, and orchards, unsold.

"A dealer from Iowa informed me he had shipped one hundred car loads of New York apples to his trade and not one barrel was turned down, had it not been for the law the apple crop would be in the growers' hands to-day with no demand.

"Our firm is getting inquiries every day asking for quotations on New York Standard "A" Baldwins for export.

"The law will lift the apple industry out of a deplorable rut and create a demand in all the markets of the world and will compel the negligent grower and packer to get in line with his neighbor who has been growing good quality.

"Our company has grown and packed 8,000 barrels of apples this season, and cannot command words to endorse the law too highly."

John W. Low, of the firm of Wayne & Low, Chicago, writes: * * * "Regarding the New York State 'grading and packing law' will say; that we think it has been of great benefit in marketing this fall's immense crop of apples. We have filled orders for a great many car-lots to go to such states as Iowa, Minnesota, Illinois, Wisconsin, and we have not had a single complaint regarding the packing. We have seen some things in the stock that came to our own premises in the way of packing that could be criticised, but we think on the whole the stock had been the most satisfactory of any that we have handled for years. * * * We thought when we first heard that New York state had adopted a system of inspection and packing slightly different from that adopted by the United States under the Sulzer law, that it was a mistake, but we believe it is going to work out greatly to the advantage of New York state, and that it will be of great assistance to the fruit-growers in finding a satisfactory market for their apples."

G. M. H. Wagner & Sons, also of Chicago, writes as follows:

"In replying to your inquiry relative to 'our opinion concerning the influence of the New York Apple Grading and Branding Law on the New York pack and price received' would say, in our opinion, this law is one of the best that was ever passed by your New York State Legislature and its enforcement should be not only the duty of your state officials, but the duty of every grower or friend of the apple industry.

"In our opinion, this law in the few months that it has been in operation, has done more to elevate the New York Apple business and placed it upon such a plane as will tend to instill confidence in the mind of the buying public and has done more by way of increasing the actual value of the fruit, etc., than all of the political conferences and endeavors of the organized trade, etc., covering a period of the past fifteen years.

"It has been the one thing, in our minds, that has made possible as good an outcome as has been achieved in reference to this year's crop. Without this regulative measure and operating under old conditions, we would have had chaos and disaster.

"In our judgment, a monument should be raised and paid for generally by the grower and dealer to whoever was responsible for this measure."

Mr. R. H. Pennington, Evansville, Indiana, president of the International Shippers' Association, states as follows: * * * "In my opinion the New York State Grading and Branding Law has been of great benefit to all apple operators this season. We have been able to buy fruit with the assurance that we would get a uniform standard grade on which we could depend.

"Of course prices have ruled low this year on account of the enormous crop that has necessarily been offered, but I feel safe in saying that had it not been for the grading and branding law that the fruit in Western New York would certainly have suffered this season.

"With reference to the influence that the law has had on the packing I am satisfied that the operators generally have tried to live up to the law and the receivers have been agreeably surprised at the improvement in the pack of the new York fruit. After the receivers realized that they could depend on the pack they have been willing to pay a premium for standard apples and I believe that in the long run the law will be of great benefit to the industry and will have a tendency to increase the market value of the fruit quite materially."

Fruit-growers and fruit-growing in New York State have come to a parting of the ways. A step in advance has been taken—a forerunner we hope of better things.

Editors Note.—We append here the full text of the New York Law with explanatory notes and text of the National "Sulzer" Bill, as issued by Mr. R. G. Phillips, Secretary of the International Apple Shippers Association, to whom we wish to extend thanks for courteous assistance in securing this data.

New York Apple Grading and Branding Law.

In Effect July 1, 1914. Explanatory Notes Attached.

The Law. An Act to Regulate the Grading, Packing, Marketing, Shipping and Sale of Apples.

The People of the State of New York, represented in Senate and Assembly do enact as follows:

§1. That the standard grades or classes for apples grown in this state when packed in closed packages shall be as follows:

First. New York standard fancy grade shall consist of apples of one variety, which are well-grown specimens, hand-picked, properly packed, of good color for the variety, normal shape, free from dirt, diseases, insect and fungus injury, bruises and other defects except such as are necessarily caused in the operation of packing.

Second. New York standard "A" grade shall consist of apples of one variety which are well-grown specimens, hand-picked, properly packed, of good color for the variety, normal shape, practically free from dirt, diseases, insect and fungus injury, bruises and other defects except such are necessarily caused in the operation of packing; or apples of one variety which are not more than ten per centum below the foregoing specifications on a combination of all defects or five per centum on any single defect.

Third. New York standard "B" grade shall consist of apples of one variety which are well matured, hand-picked, properly packed, practically normal shape, practically free from dirt, diseases, insect and fungus injury, and which may be of medium or less than medium color for the variety; or apples of one variety which are not more than ten per centum below the foregoing specifications on a combination of all defects or five per centum on any single defect.

Fourth. Unclassified. Apples not conforming to the foregoing specifications of grade, or, if conforming, are not branded in accordance therewith, shall be classed as unclassified and so branded. The minimum size of the fruit in the package shall also be branded upon it as hereinafter specified and in addition to the other marks hereinafter required.

The marks indicating grade as above prescribed may be accompanied by any other designation of grade or brand if that designation or brand is not inconsistent with or marked more conspicuously than the one of the said four marks which is used on the said package. Apples packed and branded in accordance with the United States law approved August third, nineteen hundred and thirteen, shall be exempt from the provisions of this act.

The minimum size of the fruit in all classes or grades, including the unclassified, shall be determined by taking the transverse diameter of the smallest fruit in the package at right angles to the stem and blossom end. Minimum sizes shall be stated in variations of one-quarter of an inch, like two inches, two and one-quarter inches, two and one-half inches, two and three-quarter inches, three inches, three and one-quarter inches, and so on, in accordance with the facts.

Minimum sizes may be designated by figures instead of words. The word "minimum" may be designated by using the abbreviation "min."

A tolerance or variation of five per centum on size shall be allowed in all classes, but such five per centum shall not be in addition to the variations or tolerances for defects provided in grades "A" and "B."

§2. Every closed package containing apples grown in the state of New York which is packed, sold, distributed, transported or offered or exposed for sale, distribution or transportation in the state by any person shall bear upon the outside of one end in plain letters and figures the name and address of the packer or the person by whose authority the apples were packed and the package marked, the true name of the variety, the grade or class of the apples therein contained, and the minimum size of the fruit in the package, as provided by section one. If the true name of the variety shall not be known to the packer or the person by whose authority the package is packed or branded, then such variety shall be designated as "unknown." Every package of apples which is repacked shall bear the name and address of the repacker or the name of the person by whose authority it is repacked in place of that of the original packer.

§3. It shall be unlawful for any person within this state, except under the percentages of tolerance and variation, as allowed by paragraphs second and third of section one relating to New York standard "A" and "B" grades, to pack, sell, distribute, transport, offer or expose for sale in closed packages apples which are not hand-picked or which are wormy or diseased, or which show fungus or scab injury, unless such fact or facts shall be plainly stated by the use of the words "not hand-picked," "wormy," "diseased," "fungused," or "scabby," as the case may be, said words to be branded upon the outside of the same end of the package on which the marks prescribed by section two shall appear.

§4. The marks or brands prescribed by sections one, two and three shall be in block letters and figures of size not less than thirty-six point Gothic.

§5. It shall be unlawful for any person within the state to pack, sell, distribute, transport, offer or expose for sale, distribution or transportation, apples which are adulterated or misbranded within the meaning of this act.

§6. For the purposes of this act apples packed in a closed package shall be deemed to be misbranded:

First. If the package shall fail to bear all statements required by sections one, two and three.

Second. If the package shall be falsely branded or shall bear any statement, design or device regarding such apples which is false or misleading, or if the package bears any statement, design, or device indicating that the

apples contained therein are New York "standard grade" and said apples when packed or repacked do not conform to the requirements prescribed by section one of this act.

§7. For the purposes of this act apples packed in closed packages shall be deemed to be adulterated if their quality or grade when packed or repacked does not conform to the marks upon the package.

§8. Any person who knowingly misbrands or adulterates apples within the meaning of this act, or who knowingly violates any of the provisions of this act, shall be deemed guilty of a misdemeanor and, upon conviction, shall be punished for the first offense by a fine not exceeding twenty-five dollars and not less than ten dollars; for the second offense by a fine not exceeding fifty dollars and not less than twenty-five dollars, and for the third and each subsequent offense by a fine not exceeding two hundred dollars and not less than fifty dollars, together, in all cases, with the costs of prosecution.

Whenever any such violation is with respect to a lot or shipment consisting of fifty or more closed packages, there may be imposed in addition to the above penalties twenty-five cents for the first offense, fifty cents for the second offense and one dollar for each subsequent offense for each package in excess of fifty with respect to which such violation is committed.

§9. The enforcement of this act shall be vested in the Commissioner of Agriculture under rules and regulations to be adopted by him.

§10. No person shall be prosecuted under the provisions of this act when he can establish a guaranty signed by the person from whom he received such articles to the effect that the same is not adulterated or misbranded within the meaning of this act. Said guaranty to be valid shall contain the true name and address of the person or persons making the sale, and in such case the guarantor shall be liable to the penalties of this act.

§11. Definitions. The word "person" as used herein shall be construed to include both the singular and plural, individuals, corporations, copartnerships, companies, societies and associations. The act, omission or failure of any officer, agent, servant, or employe acting within the scope of his employment or office shall be deemed the act, omission or failure of the principal. The words "closed package" shall mean a box, barrel or other package, the contents of which cannot be seen or inspected, when such package is closed. The words "not hand-picked" shall include windfalls, drops and apples shaken or knocked from the tree by any agency.

§12. No person shall on behalf of any other person pack any fruit for sale, transportation, or distribution contrary to the provisions of this act.

§13. This act shall not apply to unpacked apples actually transported in barrels to storage within this state until the same are removed from storage for the purpose of marketing, sale, transportation or distribution.

§14. This act shall take effect July first, nineteen hundred and fourteen.

§15. All acts or parts of acts inconsistent herewith are hereby repealed.

Explanatory Notes.—General.

This law compels a full and fair disclosure of the contents of all closed packages containing apples grown within the State of New York. IT IS COMPULSORY and applies to the Marks which ALL packages MUST BEAR.

The only exceptions to the required marks are:

(1) Apples packed and branded in accordance with the U. S. Law known as the Sulzer Bill. (Sec. 1, Sub. 4th.)

(2) Unpacked apples actually transported in barrels to storage within the state. The act, however, applies to such apples when they shall be removed from storage for the purpose of marketing, etc. (Sec. 13.)

First. A choice is given between packing and branding under this law and the United States Law. One or the other, however, MUST be chosen. In

some cases both might be used. For example the U. S. Law provides but a single quality grade arranged in three different sizes. If after packing under the U. S. Law the packer desires to go still further and pack the fruit which remains, he would have to do so under the State Law, using the unclassified mark.

Second. That no hardship might be worked during the rush of securing the crop, Sec. 13 allows the continuance of the extensive custom of placing the fruit in the barrels UNPACKED and transporting it to storage within the state to be packed out later for market. When so done, the barrels or packages need not be branded in accordance with the law until they are removed from storage for market, sale, transportation or distribution. If the fruit, however, is packed, or if unpacked fruit is shipped to market within or without the state or elsewhere than to STORAGE WITHIN THE STATE, then the law does apply and it must be branded accordingly. Bear in mind that it applies to all such unpacked fruit in storage the minute it is removed from storage.

In a word, fruit can be STORED under certain conditions (unpacked) without the law being applicable, but it cannot be placed on the market until either the State Law or the U. S. Law is complied with.

The Marks—Essential Marks on All Packages.

The marks given below are essential to all packages:

1. THE NAME AND ADDRESS OF THE PACKER OR THE PERSON BY WHOSE AUTHORITY THE APPLES WERE PACKED.

(Sec. 2.) This does not mean the name of the tramp workman, the hired man or foreman. It does mean the name of the employer or the principal who undertakes and is responsible for the packing, and such principal is liable for the acts of his employes. (Sec. 11.) If the employe, the hired man, the foreman, etc., do not obey orders or do their duty by the principal, they also can be reached under the law. (Sec. 12.) If the package is repacked, then it shall bear the name and address of the re-packer in place of that of the original packer. (Sec. 2.)

2. THE TRUE NAME OF THE VARIETY. If the name is not known, then it must be branded UNKNOWN. (Sec. 2.)

3. THE GRADE OR CLASS OF APPLES CONTAINED IN THE PACKAGE. Under this requirement a packer has the option of four different marks: (Sec. 1.)

1. "New York Standard Fancy Grade."
2. "New York Standard A Grade."
3. "New York Standard B Grade."
4. "Unclassified."

4. THE MINIMUM SIZE OF THE FRUIT. (Sec. 2.) The minimum size is determined in precisely the same manner as it always has been for a No. 1 or any other grade, i. e., the transverse diameter. (Sec. 1, Sub. Fourth.) If the size of the fruit packed runs from 2½ inches up, then the minimum size is 2½ inches; if from 2¼ inches up, the minimum size 2¼ inches, etc. (Sec. 1, Sub. Fourth.)

5. ALL WINDFALLS OR FRUIT WHICH IS NOT HAND-PICKED, OR WHICH IS WORMY, SCABBY, DISEASED OR FUNGUSED, MUST BE SO MARKED. (Sec. 3.)

Such additional marks or brands may be used by the packer as he desires, for example, his private trademark or trade name. If, however, any mark indicating grade is put on in addition to any one of the four marks required by the law, such additional mark must not be inconsistent with or marked more conspicuously than the grade mark required by law. (Sec. 1, Sub. Fourth.)

Size of Marking.

All essential marks must be in block letters of size not less than 36 point Gothic. These are one-half inch letters and figures, Gothic or heavy face. The required marking will not occupy over one-half of the head. The regular stencil brand or printed labels may be used.

Sample Brands or Marks.

That no one may get the idea that these marks are complicated, we give below a few samples:

BALDWIN.
NEW YORK STANDARD FANCY GRADE.
PACKED BY
JOHN SMITH, DESPATCH, N. Y.
MIN. SIZE 3 IN.

GREENING NEW YORK STANDARD "A" GRADE PACKED BY RICHARD ROE, ROCHESTER, N. Y. MIN. SIZE 2½ IN.	NEW YORK STANDARD "B" GRADE BEN DAVIS PACKED BY JOHN SMITH, DESPATCH, N. Y. MIN. SIZE 2¼ IN.
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KING UNCLASSIFIED. PACKED BY JOHN DOE, ROCHESTER, N. Y. MIN. SIZE 1 INCH DISEASED. NOT HANDPICKED.	BALDWIN UNCLASSIFIED PACKED BY JOHN DOE, ROCHESTER, N. Y. MIN. SIZE 2½ INCHES
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THE GRADES AND SIZES—FANCY "A" AND "B"

Four grades or classes are prescribed. The first three, i. e., Fancy, "A" and "B" are Standard Grades. The fourth or Unclassified is intended to take care of poor fruit not good enough to come up to the Standard. The Standard Grades have certain quality features (See Sec. 1) and when so marked the fruit in the package must correspond with the legal requirements. There is no restriction as to the size of the fruit that shall be packed under these marks except that it must be stated in variations of one-quarter of an inch, (Sec. 1, Sub. fourth, Par. 3), and that **WHAT-EVER SIZE IS PACKED MUST BE SHOWN BY THE BRAND** (Sec. 2). For example a "Fancy" or an "A" or "B" Grade may be packed at 2, 2¼, 2½ or 2¾, etc., as the individual desires and the fruit permits, providing, of course, that the quality specifications are adhered to. **QUALITY AND SIZE ARE TWO DISTINCT CHARACTERISTICS.** The quality features plus the Min. Size give the key to the value of any package of apples. Needless to say, a 2-inch apple of Fancy quality is usually not worth as much as a 3-inch apple of Fancy quality. This law, therefore, preserves the real quality features and at the same time allows the individual to exercise his judgment and desires as to size, subject, of course, to the requirement that the size must be branded on the package.

The Fancy Grade very properly allows no leeway or variation from the prescribed QUALITY (Sec. 1, Sub. first). In the matter of SIZE, however, a variation of 5 per cent. is allowed. (Sec. 1, Sub. fourth, last Par.)

The bulk of the fruit will undoubtedly be packed under the "A" and "B" brands. To allow for the inevitable errors in packing large quantities of fruit a total leeway or variation of 10 per cent. is provided in these

Grades to take care of mistakes. Ten per cent. is the MAXIMUM allowance of variation from the legal standards, including the size which you mark on the package. It means that if you are not more than 10 per cent. below the specifications on a combination of all defects, including diseases, worms, off color, under size, etc., your pack is deemed up to the legal standard. (Sec. 1, Subs. second and third.) For a single defect only, including size, a variation of but 5 per cent. is allowed.

Unclassified Grade or Class.

This is the fourth class established (Sec. 1, Sub. Fourth) and under it come all apples in closed packages not packed and branded in accordance with the Standard Grades, i. e., Fancy, "A" and "B." There are no specifications or limitations as to the quality, size or kind of fruit that may be packed under this class. The fruit may vary all the way from cider stock to the very best. It may be diseased, fungused or windfalls. In short, anything and everything may be packed under it as heretofore, BUT WITH THIS DIFFERENCE: EVERY PACKAGE PACKED UNDER THIS CLASS MUST, PRECISELY THE SAME AS THE OTHER GRADES, BEAR THE NAME AND ADDRESS OF THE PACKER, THE TRUE NAME OF THE VARIETY OR VARIETIES, THE MINIMUM SIZE OF THE FRUIT IN THE PACKAGE, AND IF IT IS DISEASED, SCABBY, FUNGUSED OR WINDFALLS, THAT FACT MUST ALSO BE STATED. There is positively no exception to this. It cannot be repeated too often that every package, no matter what its grade or lack of grade, must be marked as indicated.

If a packer desires to put up a cider apple pack or "junk," he is at liberty so to do, but this kind of a pack can no longer be shipped unmarked. The father of it must acknowledge his child and disclose all its characteristics. If he places one-inch apples in the centers of packages, then he will have to brand those packages: "Min. Size One Inch"; if he stuffs them with windfalls or diseased fruit, then he must brand that fact upon them. "Junk" can no longer be palmed off under the guise of first class fruit.

The Unclassified mark puts all persons on notice. It indicates positively that it is not a standard pack and a purchaser must be governed accordingly.

Branding Diseased, Wormy, Fungused, Scabby and Windfall Fruit.

Read Section 3 carefully. If a packer desires to ship this class of fruit, he has that privilege, BUT IT MUST BE SO BRANDED. Windfalls and "shooks" can no longer be worked off as handpicked. Diseased, scabby, wormy and fungused apples can no longer be hidden in the centers of packages. If this class of stuff is in the packages, the BRAND MUST SHOW IT. Merely using the word "Unclassified" IS NOT SUFFICIENT. This section does not apply to the few apples of this character that might get into the "A" and "B" Grades through error and under the five and ten per cent. allowances provided for those Grades. In all other cases it does apply. This class of fruit cannot go under the "Unclassified" brand without the additional marks required.

Miscellaneous.

1. This law applies to the condition of the fruit at the time it is packed—the exact reading is: "When Packed." (Secs. 6 and 7.)
2. Provision for a written guaranty as protection to an innocent party is made by Section 10.
3. Read the misbranding, adulteration and penalty sections. (Secs. 5, 6, 7, 8.)

Enforcement of the Law. Complaints.

1. The enforcement of the act is lodged with the Commissioner of Agriculture, Hon. Calvin J. Huson, Albany, N. Y. All complaints covering violations should be sent to him at the above address.
2. The Commissioner of Agriculture has branch offices, assistants, deputies and inspectors located in various parts of the state and it is possible that the rules to be adopted by him may allow the filing of complaints with these officers as well as at Albany.
3. The law will be enforced.

Conclusion.

The act is clear and well defined. Its requirements are practical and can be observed. No honest packer can be prejudiced thereby. The quality specifications are plain. Standard "A" Grade is nothing more than the original and established conception of a No. One apple; the "B" Grade is a good No. Two. The Fancy Grade is more rigid, as it should be.

That the law is needed admits of no doubt. New York fruit has been steadily going down hill in the markets of the world, both in price and demand. If the investment of the progressive fruit grower is to be protected, if the raising of better fruit is to be encouraged, if the interests of the honest dealer, operator and distributor are to be conserved and the demand of the consumer increased, then there must be a radical change in packing and grading. The new law is the most progressive of any law either in the United States or Canada, affords a splendid opportunity for real progress in the right direction and should place New York on a plane commensurate with its great production and the inherent excellence of its fruit.

The United States Law, Approved August 3, 1912.—The Sulzer Bill.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, that the standard barrel for apples shall be of the following dimensions when measured without distension of its parts: Length of stave, twenty-eight and one-half inches; diameter of head, seventeen and one-eighth inches; distance between heads, twenty-six inches; circumference of bulge, sixty-four inches outside measurement, representing as nearly as possible seven thousand and fifty-six cubic inches, provided that steel barrels containing the interior dimensions provided for in this Section shall be construed as a compliance therewith.

Sec. 2. That the standard grades for apples when packed in barrels which shall be shipped or delivered for shipment in interstate or foreign commerce, or which shall be sold or offered for sale within the District of Columbia or the Territories of the United States shall be as follows: Apples of one variety, which are well-grown specimens, hand picked, of good color for the variety, normal shape, practically free from insect and fungous injury, bruises and other defects, except such as are necessarily caused in the operation of packing, or apples of one variety which are not more than ten per centum below the foregoing specifications shall be "Standard Grade minimum size two and one-half inches," if the minimum size of the apples is two and one-half inches, in transverse diameter; "Standard Grade minimum size two and one-fourth inches," if the minimum size of the apples is two and one-fourth inches in transverse diameter; or "Standard Grade minimum size two inches," if the minimum size of the apples is two inches in transverse diameter.

Sec. 3. That the barrels in which apples are packed in accordance with the provisions of this Act may be branded in accordance with Section two of this Act.

Sec. 4. That all barrels packed with apples shall be deemed to be below standard if the barrel bears any statement, design or device indicating that the barrel is a standard barrel of apples, as herein defined, and the capacity of the barrel is less than the capacity prescribed by Section one of this Act, unless the barrel shall be plainly marked on end and side with words or figures showing the fractional relation which the actual capacity of the barrel bears to the capacity prescribed by Section one of this Act. The marking required by this paragraph shall be in block letters of size not less than seventy-two point one inch Gothic.

Sec. 5. That barrels packed with apples shall be deemed to be misbranded within the meaning of this Act:

First. If the barrel bears any statement, design, or device indicating that the apples contained therein are "Standard Grade" and the apples when packed do not conform to the requirements prescribed by Section two of this Act.

Second. If the barrel bears any statement, design or device indicating that the apples contained therein are "Standard Grade" and the barrel fails to bear also a statement of the name of the variety, the name of the locality where grown and the name of the packer or the person by whose authority the apples were packed and the barrel marked.

Sec. 6. That any person, firm or corporation, or association who shall knowingly pack or cause to be packed apples in barrels, or who shall knowingly sell or offer for sale such barrels in violation of the provisions of this Act, shall be liable to a penalty of One Dollar and costs for each such barrel so sold or offered for sale, to be recovered at the suit of the United States in any court of the United States having jurisdiction.

Sec. 7. That this Act shall be in force and effect from and after the first day of July, nineteen hundred and thirteen.

The Grade and Sizes.

These specifications are found in Section 3. There is but one grade. This grade is divided into three sizes governed by the minimum size of the apples in each grade. A limit of tolerance of ten per cent. is provided to allow for errors in packing. This means that if you are not more than 10 per cent. below the specifications, your pack is deemed up to the legal standard.

For example, if you pack your apples "Standard Grade Minimum Size 2½ Inches" then the apples in the barrel must be "apples of one variety, well grown specimens, hand picked, good color for the variety, normal shape, practically free from insect and fungous injury, etc.," (See Sec. 2) or not more than 10 per cent. below these specifications, and must not be less than 2½ inches in transverse diameter. They may be as much larger as you desire. Exactly the same principles apply to the 2½-inch and 2-inch size.

Branding.

All barrels marked "Standard Grade," etc., must also have branded upon them (1) the variety, (2) the name of the locality where grown, (3) the name of the packer or person by whose authority the apples were packed and the barrel marked. (Sec. 5, Sub. second.) It is also highly desirable to use the following additional words: PACKED IN ACCORDANCE WITH THE ACT OF CONGRESS APPROVED AUGUST 3RD, 1912.

Discussion.

F. E. Griest.—Can apples grown in other states be packed under the New York Law by being so branded?

Prof. Knapp.—I doubt if they could be branded in such a manner as to give the impression that they were grown in New York state. If you had your name and address on it would eliminate any difficulty. As a fruit grower in Pennsylvania it would not be legal for you to give the impression that you were growing apples in New York state.

E. C. Tyson.—Is it your view of the matter that if Pennsylvania wants to meet New York on even terms they must protect their fruit in the same way?

Prof. Knapp.—Exactly. That is the way it looks to me; not only against New York fruit, but to protect yourself against yourself and your neighbors, because that is all we really do in New York state; what we had to do.

E. C. Tyson.—If that is the case, why is New York not interested in the fruit that comes into the state from Pennsylvania. I should regard it as perfectly legitimate for her to protect her markets against poor fruit from Pennsylvania, or from any other state, in the same way she is trying to protect against her own citizens who may not pack properly.

Prof. Knapp.—Suppose a grocer buys a barrel from a commission man, he sells it very often by the peck or quart. If he has resold in the original package I think there ought to be some way of getting at him, but if he breaks it up I do not see how we could very well. I think that is the way most of the fruit is handled after it is sold to the grocer. It is very seldom sold by the barrel. Here is where the rub comes (reads from New York Law, Section 3). I believe that refers primarily to the man who lives in New York state.

Prof. Kains.—But there is not one grocer in five hundred in New York City who sells in any closed package. It is always by the quart and by the peck.

E. C. Tyson.—There is a very nice point involved in this law. Suppose we ship fruit to New York and store it there as our property. If we, later on, sell it for consumption in New York state either direct or through a commission merchant we are certainly amenable to the law just as much as the New York grower, but the wording of the law indicates that its framers did not have us in mind or they would have made more definite provision for marking the package.

Prof. Knapp.—What satisfaction did you get from the Department of Agriculture on that?

E. C. Tyson.—Not any more than you did.

Prof. Knapp.—If I was using a special brand of my own I would continue to use it and send fruit there as I had marked it before until notified by the department to do otherwise.

W. S. Adams.—Can they ship out of New York state any way they want?

Prof. Knapp.—No, we have them there. It has to be put up according to this law, if in closed packages.

W. E. Grove.—What is the expense and how many inspectors do you have on this particular job?

Prof. Knapp.—I think they had probably fifty inspectors out. That is just a guess. You must understand that they do not inspect every package. They just see that the marks are on the barrel. I think the most important thing about this whole measure is that little item that the man's name and address must go on the outside of every barrel of apples.

D. N. Minick.—Is it a fact that these inspectors are only called upon to inspect fruit when there is a complaint made about the pack?

Prof. Knapp.—I have in mind that they would be only called upon to make an inspection on account of someone purchasing a car or part of a car and making complaint that the pack was not up to the standard that was marked on the barrel. I think very likely a large amount of it in the future will be done that way, but in the present season they have gone out and inspected anyway they deemed wise.

D. N. Minick.—I had in mind a car of apples I saw in Williamsport last week that was branded "A" grade, which was supposed to be packed with good color for the variety, and was very poor color for that variety.

Prof. Knapp.—What variety?

D. N. Minick.—Baldwins.

Prof. Knapp.—(Reads second paragraph of section one). That is what the Department of Agriculture says about it. If you adopt that ruling then the "A" grade is always the same.

D. N. Minick.—I think there is a clause in there allowing a conditional variance in color. I like it very much for Pennsylvania, on account of York Imperial. When trees are heavily covered with foliage, without the assistance of frost in the early fall, it is almost impossible to get color on the fruit in time for harvesting the crop.

Prof. Knapp.—That is true. In New York State the apples in Hudson River Valley mature earlier and are more highly colored than in Western New York, and if we did not have that flexible rule regarding color affected by season and section, the Hudson River Baldwins which are cherry red, would control the grade in New York state. One-fifth of the fruit is raised in Hudson River Valley and four-fifths in Western New York. In order to keep peace, and in order to give the law as thorough a trial as possible and have everybody satisfied and happy, for the first year they did not attempt to make that provision any more stringent.

F. E. Griest.—Is color the only distinction between "A" and "B" grade?

Prof. Knapp.—Yes, "A" is good color for the variety. If the color for "A" would be rather poor, you might say "B" would not

have any. I don't believe anybody here would want to say what is a good color for a variety. I would not. Nobody knows. In a matter of that kind you have to take the prevailing opinion as to what constitutes a good color.

C. J. Tyson.—What are the bad features in the Law? Are there any?

Prof. Knapp.—No, I do not think so, except possibly that the use of the term "unclassified" is not satisfactory.

W. E. Grove.—Would it be worth while to pass a law that just requires the name and address of the grower and the variety, and eliminate all other matters—grading, size and marking?

Prof. Knapp.—I expect to a certain extent that would be worth while. The men who are packing their fruit in the way that they are glad to identify themselves, are already marking their barrels. The men who do not pack that way do not put their names on.

E. C. Tyson.—I think the strong point is that one requires a standard and the other does not. It is particularly desirable when shipping outside of the state.

Prof. Knapp.—Then you have a standard. Something that people can go by and abide by, and that is a very important thing.



DELAWARE AND JERSEY BASKETS FILLED WITH ELBERTA PEACHES.

County Agents' Work.

PROF. M. S. McDOWELL, *Director of Agricultural Extension Work, Pennsylvania State College.*

Pennsylvania has eleven county agents in the field and other counties are actively promoting the organizations to secure an agent.

The county agent movement is an effort to place in as many counties as possible men with a thorough, practical and fundamental knowledge of agriculture to co-operate with the farmers individually and through their organizations towards the solution of farm problems. Its purpose is to make the best agricultural information of the day common and applied knowledge. The county agent becomes the link which more closely connects the farmer with his experiment station. Their activities are wide.

The men who serve as county agents do not pose as knowing all about agriculture. They serve rather as students and helpers. They spend their time studying the farming interests of their respective counties both from the standpoint of production and of distribution. They study the plans, methods and practices, and aid in improving them when this can be done. They bring from farm to farm information as to the best methods practiced by farmers in the different localities and the results obtained by the Experiment Stations. They study the marketing and transportation conditions and aid in bettering them whenever they can. They also conduct county-wide movements, such as campaigns for special purposes. The upbuilding of the soil by the proper application of manure and fertilizers; the testing of seed corn; the renovation of old orchards; the proper use of spraying materials to prevent insects and plant diseases; the promotion of the livestock industry through the use of pure-bred sires; the increase of breeding herds and community breeding; the organization of exchange bureaus for feeding stock and pure seed; the planning of balanced ration for farm animals; the making of surveys of the cropping systems and business management of the farm, are some of his activities.

The organization of breeders' associations, cow testing associations, and other producing associations; the organization of boys' and girls' clubs and contest work in corn, tomatoes, pure-bred livestock, etc., are other lines of activity, some of which are undertaken by every agent. In addition, the agents may be active in other ways, such as promoting good roads, better rural schools, more social life, and better conditions in general. In all this work the agent co-operates with existing county agricultural organizations.

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Each man emphasizes some special line of work and makes that his leader. Its nature necessarily depends largely upon the needs of the county. The work also varies with the character and personnel of the bureau backing him. As no agent can be a specialist in all lines of agriculture, each one calls upon the specialist at the College, when help is needed. All agents are in close touch with the college at all times and do their work under its general direction and supervision.

The prime requisites for an agricultural agent are that he must have been brought up on a farm, or have spent the greater part of his life on the farm, that he have a broad, fundamental education, that he be a good organizer and that he have a strong, pleading personality.

Not less than \$2,500 is necessary the first year. This covers the salary of the agent, office and travelling expenses.

An agent usually spends one or two days a week in the office where he can be reached in person or by telephone. The balance of the time is spent in the field.

The funds are provided co-operatively by The Pennsylvania State College, the Department of Agriculture and the local organization. The county commissioners are authorized to appropriate not to exceed \$1,500 a year for this work and the local funds may be provided in this way or by local subscription.

The reports from all the counties where agents are at work are to the effect that excellent service is being rendered.

The Farm Bureau.

The agent's work is effective in proportion as the interest and co-operation of the best farmers of the county are enlisted. That this may be secured a local organization usually known as a farm bureau is formed to assist the county agent and promote agriculture through co-operative study of farm conditions. It is also responsible for the raising of the necessary local funds. The membership should include a good proportion, if not a majority, of the farmers of a county and all sections of the county should be represented in this membership. The whole membership of the organization may meet together but once a year at its annual meeting.

For practical purposes the county organization may be divided along geographical lines into ten or twelve centres. The following constitution which is being adopted by other counties will give some idea of the nature of the organization.

The formation of a successful organization requires that at the general meeting held for this purpose there be a large attendance of farmers from all sections. It is primarily a farmers' movement and will be effective only in proportion as the farmers themselves show interest.

The Problem of Health.

MISS PEARL McDONALD, *Extension Instructor in Domestic Science, State College, Pa.*

In discussing the problem of health, there are two general phases to be considered—the general or public health and the health of the individual.

There are just a few things we want to speak of in regard to the public health. The people in the rural districts have the advantage in many respects over those who live in the crowded cities. They have more space, more freedom, more fresh air and sunlight, and, in many cases, more healthful employment. But the death rate is higher in the country than in the city. Frequently the death rate in cities is lowered while that in the country remains the same. One notable instance of what may be accomplished is that in the case of Detroit, Michigan. From 1900 to 1910, Detroit trebled its population and decreased the death rate from tuberculosis 28 per cent. The death rate for the State of Michigan was not decreased. Why was this so? Because in the cities on account of the large population and the crowded conditions, they are compelled to study the problems of health and so solve them more effectively. They are forced to look after the food supply, the water and milk supply and the disposal of sewage and garbage. It is easier for the people to get together and make a community or city matter of these problems. In the country, on the other hand, the people are farther apart and it is more of an individual family problem and not so much care is taken in the matters and in the case of contagious diseases. We all know that there is need for improvement. That is so in the case of the country school houses. They need better heating, better lighting, better ventilation, better seating in many instances, cleaner buildings.

It is for the people in the country to realize the necessity for improvement and make the most of their advantages. And I believe the only way to accomplish anything is by making these things a community matter and by uniting our efforts for improvement.

Much can be done for the betterment of the public health through a better understanding of the requirements for the health of the individual.

As we grow and enlarge commercially, industrially, and socially,

so must we change, enlarge and improve our kind of education and the preparation to enter upon the life of to-day and meet its many requirements.

To meet the demands that are made upon us by the long hours of continuous application in many kinds of work, by the crowded conditions under which we work and by the haste and intensity with which we work, and to the keen competition in business, we find that we must not only be trained mentally but that we must also have strong, healthy bodies. The large number of people who go to pieces physically and nervously in the prime of life or before the prime of life is reached and the fact with which we are all familiar that there are very few people who are thoroughly well after middle life are things that are gradually convincing us that we must look well to the physical development and health of our children and young people. You will all agree with me that in childhood is the time when the foundation for good health is laid and that it is the time to establish in children the habits of health. While the pursuit of health should not be the great purpose in life, but rather the purpose should be to live a full, rich, *efficient* life, yet the pursuit of health should be a means of accomplishing the great purpose.

Now, there are certain conditions upon which health depends. One must have some knowledge of the structure of the body and of the care of the body, as a whole, and of certain special parts of the body.

First as to the structure. The cell is the unit of life. In the lower forms of life, the single cell carries on all the work. The cell takes in food, digests it, builds it up into forms for the use of the cell and throws off the waste products. In the human body, which belongs to the higher forms of life, we have specialized cells grouped together to serve a particular purpose. The bone cells grouped together to form the supporting tissues of the body; the muscle cells to fill out the bony structure and make motion possible, the nerve cells to form the nervous tissue and to receive messages and to direct the activities of the body, etc., with all the various tissues of the body.

There we have the tissues built up into certain systems which have a particular function. The respiratory system which is concerned with the process of breathing, the circulatory with the work of carrying food materials to the cells of the body and of carrying waste products from the body, etc. All of these cells, tissues, and systems are built up into a complete organism which works according to certain laws. The same thing is true of the human organism as of every piece of machinery. The injury of any one part of the organism affects the working of the whole organism.

As to the parts of the body and their care, we may speak first of the skin. The skin forms a protective covering for the body; it

is supplied with nerve endings or touch bulbs which make it a sensory organ; it is supplied with glands through which certain waste products are thrown off and so it becomes an excretory organ; it aids in the regulation of body temperature through the evaporation of moisture that comes to the surface. To fulfill these functions the skin must be kept properly clean and must be properly protected by clothing.

In winter the body loses heat by radiation of heat from the body and the evaporation of moisture from the surface of the body. The more heat that is lost from the body, the more heat must be supplied through the consumption of food in the form of food materials. Such clothing should be chosen as will conserve the heat and not permit of too rapid evaporation of moisture. Wool by the very nature of the fibre serves this purpose best. The fibre of wool is rough and when woven into garments has considerable air space. Air is a poor conductor of heat. Wool will also take up considerable moisture without seeming to be damp and moist. Woolen dries slowly. For these reasons woolen garments are the very best for winter wear. If one does not wish all wool garments, there are the wool and silk, or the wool and cotton to be had. These are very satisfactory. There is also a method of treating cotton which gives it some of the characteristics of woolen. Cotton and linen are very different from the wool. The fibre of the cotton and linen is smooth and makes a smoother fabric with fewer air spaces. These fabrics allow of more rapid radiation of heat and evaporation of moisture. They are, therefore, the ideal fabrics to use in warm weather.

The connection with the discussion of the heat supply to the body, we must consider the problem of food. The consumption of the food in the body supplies the heat which we interpret in terms of energy, which is the power to do work. All foods, proteins, starches, sugars and fats, will furnish energy, but only the proteins will build and repair tissue because they alone contain nitrogen which is found in every living cell. Foods also regulate the body processes such as digestion, absorption, and similar processes. That the cells may properly use the food brought to them by means of the blood oxygen is necessary. The oxygen is taken up by the blood as it passes through the lungs and so carried to the cells. Plenty of oxygen means an abundant supply of fresh air. All the work of the body, not only the external work such as walking, running, and other forms of muscular activity, but also the internal work such as digestion, respiration and circulation, use up the tissues. The body needs rest to repair from this work and exercise. In sleep the mind and body are relaxed, and the repair can then take place. The amount of sleep required varies with individuals, but the amount considered necessary for the adult is eight hours. For children,

more sleep is required, because their bodies are growing. Children should not have games and exercises that are too exciting as such games often cause nervousness. They should have games that bring in to play the large muscles of the body. They should have games that they heartily enjoy. Even their work they should learn to do in the spirit of enthusiasm. Work becomes drudgery when one does not enjoy it.

Of the special parts of the body, I want to speak first of the nose. The nostrils are a part of the respiratory tract. The nostrils are so constructed that the air inhaled is sifted of dust and warmed before passing into the lungs. Any growth at the base of the nostrils as adenoids or enlarged tonsils will obstruct the passage of air to the lungs. The person then finds it easier to breath through the mouth. The air is neither sifted of dust nor warmed and the throat often becomes irritated. Children having adenoids and enlarged tonsils are more subject to throat affections and cold in the head. Because of lack of sufficient oxygen nutrition and circulation are affected. Children are frequently dull. Adenoids, too, are often the cause of deafness. Frequently if the breathing is corrected the hearing will right itself.

The eyes should have special mention. The eye is one of the most delicate organs of the body and it has the power of accommodating itself within a wide range. The percentage of people having really perfect eyes is very small. Few persons realize how many cases of headache, insomnia, nervous diseases of all kinds, stomach disorders are due to defective eyes. In children, many cases of dullness are due to the inability to see the printed page or the blackboard.

Children should have their eyes tested at intervals. They should also be taught how to use their eyes. They should be trained to hold the book at the proper distance not to have the light too bright or too dim, to have the light fall upon the book or work from the left shoulder, to rest the eyes at frequent intervals when doing close work.

The nervous system needs special mention. The nervous system is made up of the brain and spinal cord and the nerve fibres which connect with every muscle, every gland and every part of the body. The function of the nervous system is to receive messages from the outside world and to direct all of the activities of the body. The things that affect the nerves are over-work, over-play, over-eating, under-eating, the use of the eyes in excess, or over-strain in any form. Worry, fear, anxiety, through the nerves affect digestion, absorption, circulation. Children should be trained to moderation and self-control in all the activities of life. They should be trained in the right habits of conduct.

The brain or mind determines upon a certain act, the message goes out along the nerve fibre and there is the response in the muscle. Every time the mind wills that act, the more readily the message goes out over the nerve fibres, and the more quickly comes the response. Soon a habit is formed. So children should be trained in habits of health—trained to take the proper baths, to have an abundant supply of fresh air, to cleanse the mouth and teeth, to eat the right food at regular intervals, to wear the correct clothing, to regulate the amount of work, rest, exercise, to keep their minds and thoughts clean and wholesome. Thus and thus only is it possible to have and keep a strong vigorous body and be able to meet the demands made upon us in our day.



A WELL TILLED ORCHARD.

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A WELL TILED ORCHARD.

FRUIT EXHIBITS.

While we did not go through the formality of having the fruit judged by an expert, it was very closely examined by a number of first-class growers from other sections, and by others who have had an opportunity to see what other sections are doing, by attending their fruit shows, and it was pronounced first-class and worthy of being shown anywhere. Prof. Kains, Pennsylvania's horticulturist, who has perhaps attended more fruit shows than any other man in the state, made the statement that in all his experience he has seen nothing to compare with the Jonathan in this exhibit. Dozens of our members, however, who grow just as good fruit as was shown this year, were not represented on the tables, thus very much limiting the scope of the display. Make a resolution right now that next season will find your fruit side by side with that of your fellow members. This report finds its way into a good many states and onto the editorial tables of all the principal fruit papers, and you can judge for yourself whether it is not an advantage to have your name and the varieties you grow listed here. We certainly believe it is. The exhibit included 140 plates and 18 boxes of apples in addition to a large decorative design, three boxes of evaporated fruit, and several exhibits of excellent seed corn.

Details of Fruit Exhibit.

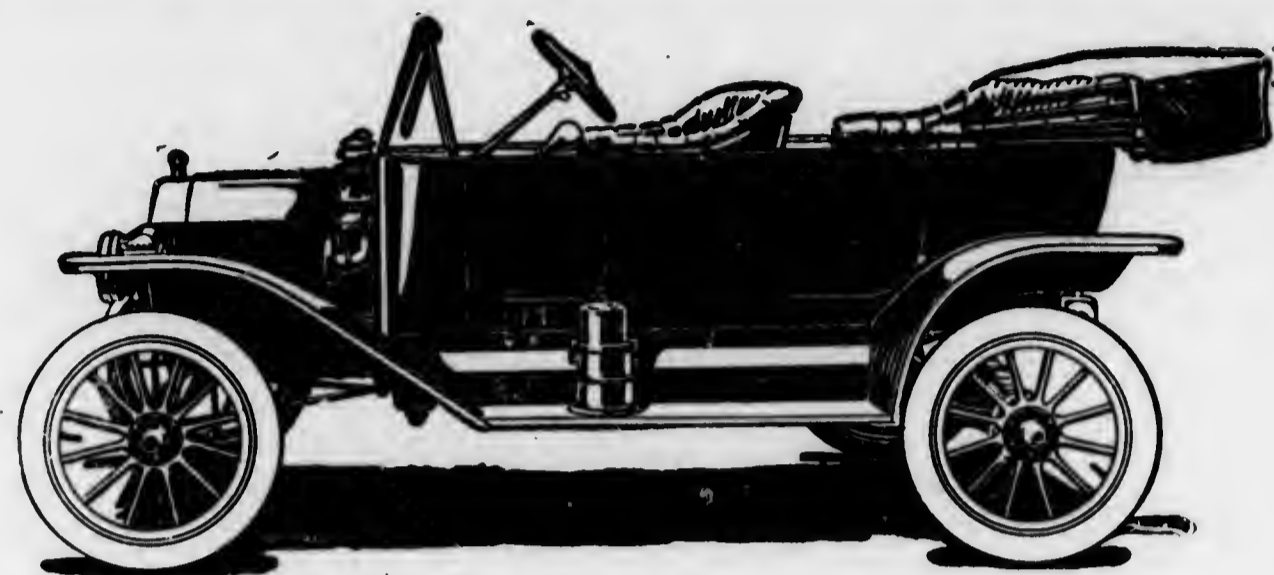
	BOYER BROS.—52 PLATES.	
Baldwin	Ben Davis	Stayman
York Imperial	Paradise	Grimes Golden
Newtown Pippin		
	B. F. WILSON—21 PLATES.	
Paradise	Baldwin	Jonathan
Ben Davis		
	ROBERT GARRETSON—6 PLATES.	
York Imperial	Langford	Belleflower
R. I. Greening		
	E. C. BRINSER—4 PLATES.	
Paragon	Mann	Winesap
Baldwin		
	H. M. KELLER—16 PLATES.	
Rome Beauty	Lady Blush	York Imperial
Kieffer Pear		
	W. S. ADAMS—16 PLATES.	
Winesap	Baldwin	York Stripe
Albemarle Pippin	Jonathan	Red Doctor
	C. A. WOLFE—3 PLATES, 2 BOXES.	
York Imperial		
	GEO. P. MYERS—9 PLATES.	
Hubbardston	York Imperial	Smokehouse
Gano	York Stripe	Ben Davis
Smith Cider	Summer Rambo	Lawver

	E. C. KIEFFER—7 PLATES.	
Paragon (Very fine)		
	J. W. PRICKETT.	
Stayman	York County Cheese.	
	W. E. GROVE—DESIGN.	
Grimes Golden	Ben Davis	
	This fruit taken from regular commercial barrel pack. Size and color particularly uniform.	
	H. G. BAUGHER—BOX AND PLATE.	
Adams County grown Delicious		
	H. E. WOLFE—5 PLATES.	
Stayman	York Imperial	
	TYSON BROS.—11 BOXES.	
Grimes Golden	Stayman	Paragon
	C. E. RAFFENSPERGER—BOX.	
Stayman.		
	MERZ BROS.—3 BOXES EVAPORATED FRUIT.	
White Stock	Chops	Waste



ADAMS COUNTY GROWS FINE FRUIT.

FORD *The Universal Car*



Ford Touring Car, \$490

Ford Roadster, \$440

F. O. B. Freight, \$20.35

LISTEN!! with a possible rebate of \$40 to \$60, providing the 300,000 mark is reached. This means that every Ford purchaser will share in the earnings of the Ford Factory, for the year of 1914-15, to the extent of \$40 to \$60, on each and every car. This enormous output will enable them to do this.

There are over 600,000 Fords now in use all over the world—over one-half of all the cars in use in the whole world. What does this prove?? You be the judge.

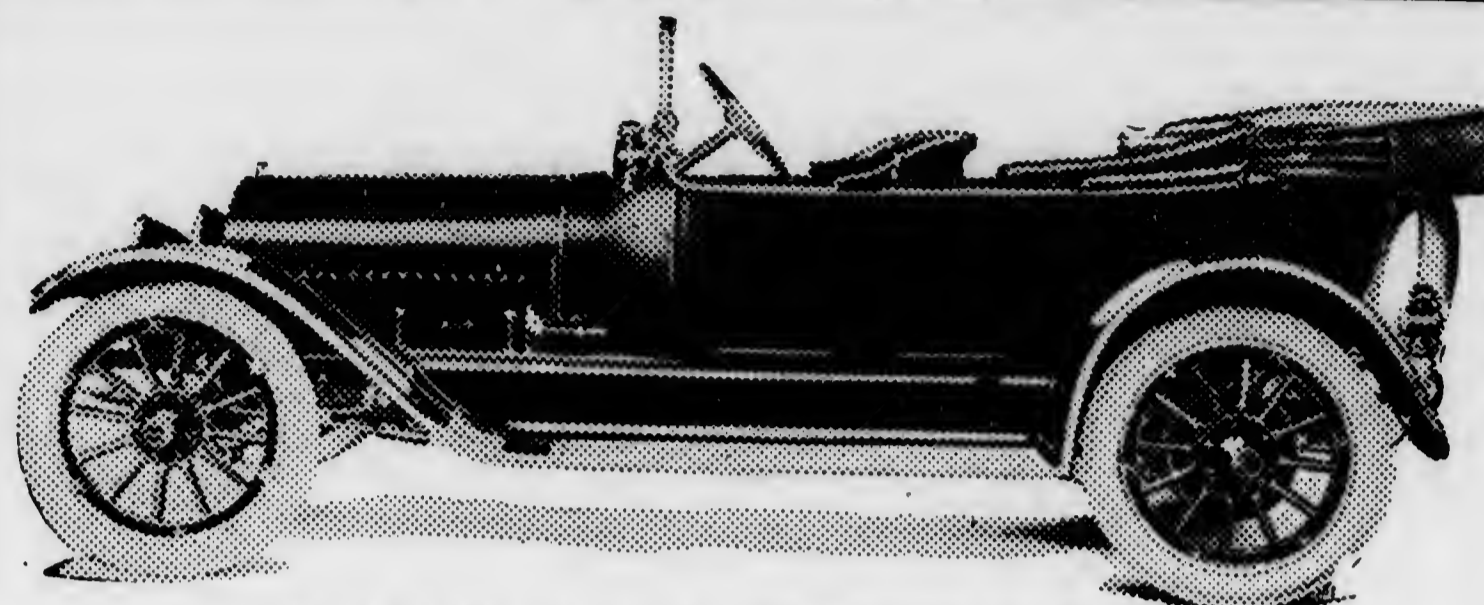
No other make of car is so well adapted as a business proposition. No other car can be run as economic on tires, fuel and general upkeep. Investigate yourself. Every Ford is made of all Vanadium steel, the lightest, strongest metal known in the world to-day.

For Sale by

J. W. RICHLEY AUTO CO.

York's Oldest and Largest Auto Dealers

237 East Philadelphia Street, YORK, PA.



Buick M-37. 40 H. P. Price \$1235.00, F. O. B.

BUICK!!! That very name stands for,—Power, Endurance, Reliability and everlasting wearing qualities, combined with the famous overhead valve system—makes it the most economic and powerful motor on earth. *All the records that stand in the world to-day were made and are held by Overhead valve motors.*

In the world's championship races at Indianapolis May 30th, this year, out of \$50,000 prize money offered the Overhead valve motors won \$46,000, leaving only \$4,000 to the field of all other side pocket motors.

A BUICK car climbed Pike's Peak in record time.

Two BUICKS were the only team to receive perfect scores in the Tour de France, in 1914. This was a reliability run of over 3000 miles with 34 entrants.

BUICK is the only car that has crossed the Andes Mountains.

A BUICK won the 1914 Wisconsin Reliability and Economy Contest with an average of 24.8 miles to the gallon for over 500 miles.

In York, on July 4, 1914, in a field of 17 entrants, an old BUICK, which had gone 25,000 miles, won 4 first out of 5, and that one was given them.

BUICK cars have won 94 per cent. of all contests in which they were entered.

The 1915 Line of BUICKS is the finest and most beautiful line in the world, with every modern convenience, fully equipped.

28-30 H. P. Roadster, \$900 40 H. P. Roadster, \$1185

28-30 H. P. Touring Car, \$950 40 H. P. Touring Car, \$1235

60 H. P. 6 cylinder, 7 passenger Touring Car, \$1650

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SEED POTATOES

We can offer

Maine Grown Seed

(Under Federal Government Inspection)

Irish Cobbler and Green Mountain

For delivery in April at \$2.25 per sack of 165 lbs.
f. o. b. Guernsey, Pa.

ALSO

APPLE TREES

Our Own Growing—Budded on Imported Seedlings

2,000 Stayman Winesap

1,000 York Imperial

GOOD HEALTHY 2-YEAR OLD TREES

Reasonable prices on application

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FLORA DALE

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HANDKERCHIEFS—The Great Christmas article. Never so many as now. Ladies', Gentlemen's and Children's. A beautiful line of them—1c. to \$1.00 each. Japanese hand-marked linens, all sizes. Other linens of all kinds and Xmas novelties.

GLOVES, FURS, BLANKETS, RUGS, HOSIERY

A beautiful line of Ladies' Neckwear for Christmas Gent's Neckwear. *Special prices given on Ladies' Coats for Holidays.*

See our line of Christmas Fancy Novelties before purchasing elsewhere

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ESTABLISHED 1850

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WE ARE WHOLESALE GROWERS OF

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IN LARGE QUANTITIES

The BEST is the CHEAPEST. Ours is the CHEAPEST because it is the BEST. Handling Dealers' orders a specialty. Catalogue free.

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BEST FOR ALL CROPS

WELL ADAPTED

For Orchard Use

Drill Well

Are Uniform in Quality
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Careful attention to orders in any quantity
from one sack to a thousand tons.

Send for Booklet and name of nearest Agent

General Sales Agent

EDWIN C. TYSON
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Agents Wanted in Unoccupied Territory

The most
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ever built.
Good
for 100,000
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The best
Car in
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the money

6 Cyl. Reo, \$1385.00

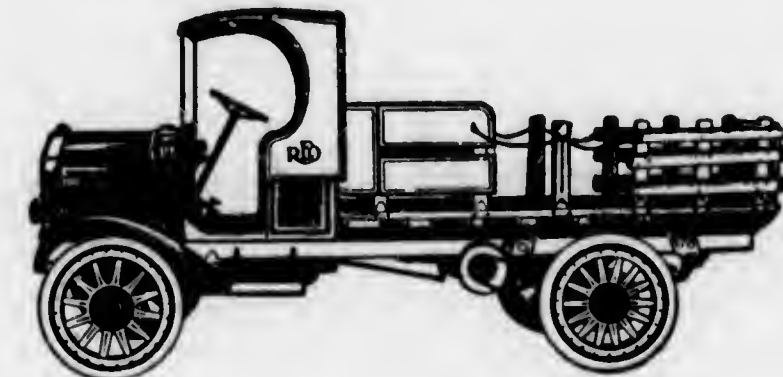
112 Inch Wheel Base

4 Cyl. Reo, \$1050.00

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FULLY EQUIPPED

Two
REAL
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Both
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3-4 to 1 ton (INCLUDING BODY) **\$875.00**

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The "Reiter" Bolster Spring



SEE THAT HANGER

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You can haul or carry any and everything equal
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The Best in the World
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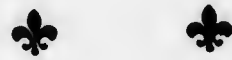
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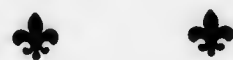


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FRUIT TREES

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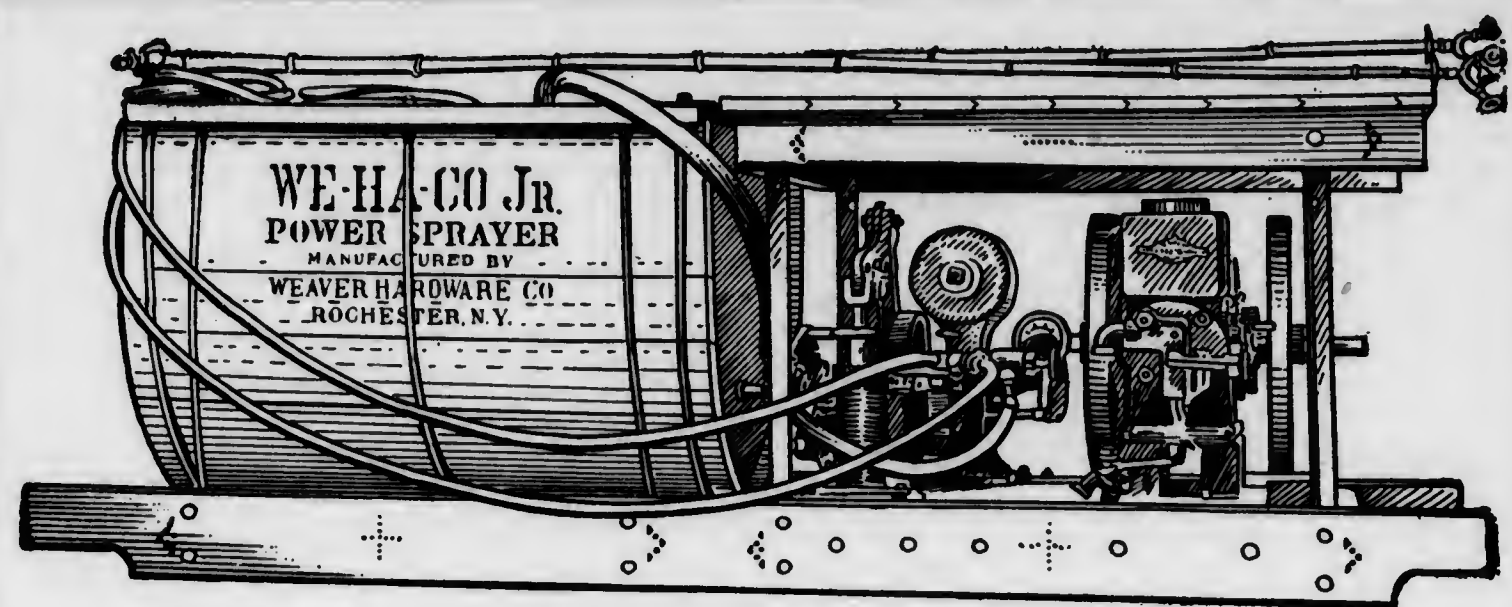
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Tell the Man who Packs Your Apples to Buy and Use

THE "ABBOTT" Automatic Barrel Press

which has all the advantages of the screw press but the former **wasted** time is all **saved**.



The releasing jaws in which the screw works can be operated instantly so that two or three turns of the handle for each barrel is all that is required and the screw can be raised or lowered "*quick as a wink*."

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or at least those that make a special study of the art ought to know from experience that they obtain the best, most luscious and highly flavored fruit from trees growing in virgin soils of the foot hills of our numerous mountain ranges, or from rocky soils otherwise not adapted for cultivation.

The seeing ones also must know from observation, that the more organic nitrogen or ammonia-composition-containing material is supplied to the fruit trees, the more they become subject to attacks from destroying insects and well known diseases, the more wormy, defective in form and color and the quicker rotting the fruit becomes. They also must know that the only benefit they obtain from the use of any kind of non-poisoning spraying-material is alone and entirely due to the sulphur-composition it contains. Knowing these facts why should they not exclusively use and apply as the only natural remedy for the existing ills "Stonemeal," wherein they will not only find the so badly needed sulphate-compositions, but all other mineral compositions as found in the most perfect VIRGIN soil.

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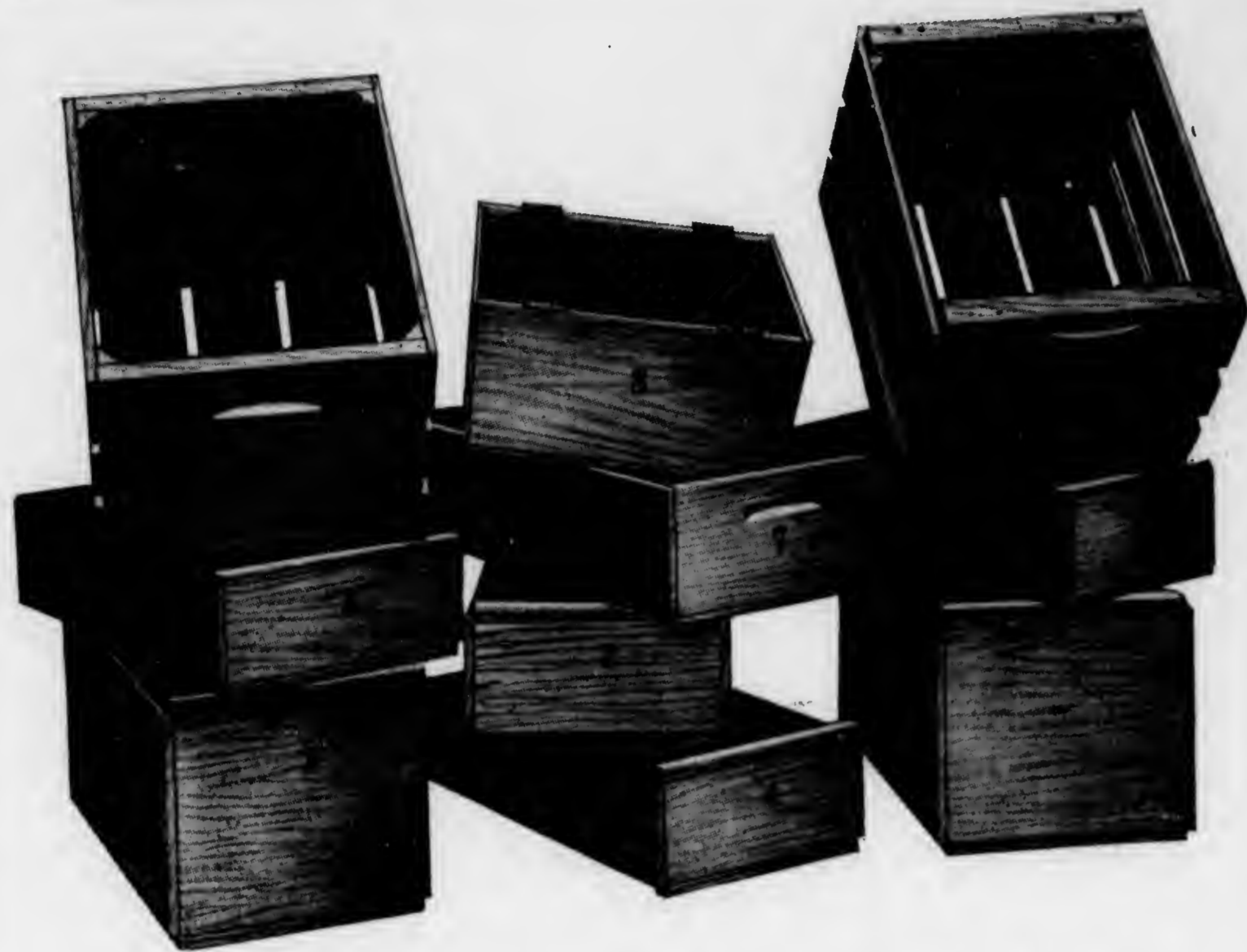
STONEMEAL FERTILIZER CO.,

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will bring to you descriptive, explanatory literature and desired information.

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Box No. 1. Represents a full size standard green Apple Box.

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No. 3. A full size special green apple box.

No. 4. A half size special green apple box.

No. 5. A 20-lb. pear box.

No. 6. A 20-lb. peach box.

No. 7. A picking tray for grapes.

No. 8. A crate for shipping grapes.

Nos. 9 and 10. A bushel crate for apples, etc.

We manufacture all kinds of shipping boxes or crates and will be glad to furnish samples and prices upon application.

Montgomery Bros. & Co.

Court and Wilkeson Sts.

Buffalo, N. Y.



No. 1, FOLDING CRATE, with or without cover *See catalog for other styles and sizes*
OVER 15,000,000 IN USE TO-DAY

CUMMER line of
RATES, for every service,
ANNOT be excelled.

RIGID, collapsible or folding
IGHT in all proportions
EASONABLE in price.

ALL materials used
RE carefully selected and construction
SSUREDLY honest throughout.

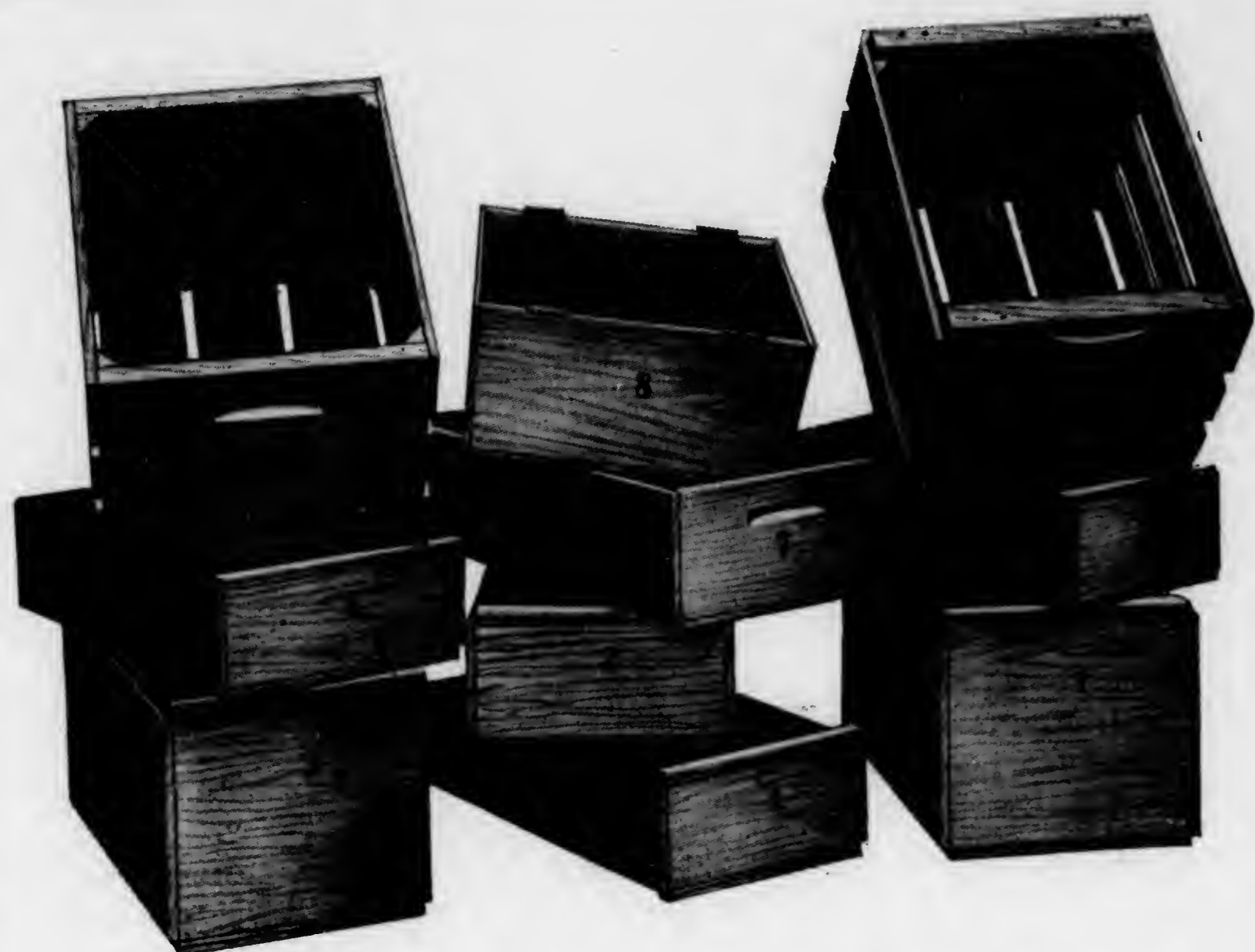
TAKE our word for it
HIS brief statement is worthy
O fill your "pipe of reflection."

EACH crate is as nearly
VERLASTING as is humanly possible and
NCOMIUM encourages examination.

STRONG language is never
ERVICEABLE unless backed up by the goods
END for catalog and price list.

CUMMER M'F'G CO.

Cadillac, Mich., or Flora Dale, Pa., Box 45-T



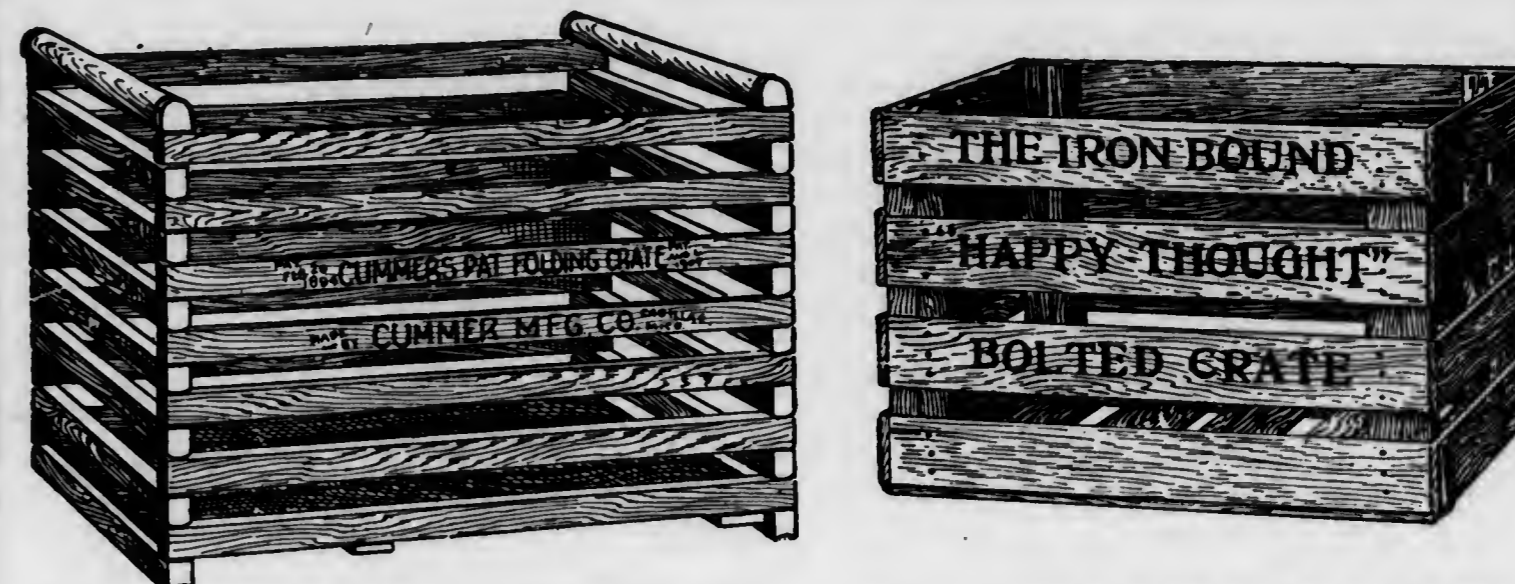
- Box No. 1.** Represents a full size standard green Apple Box.
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2½ H. P. Hopper Cooled Spray Outfit



Save Your Fruit With an I H C Spraying Outfit

THE better, more reliable, and more efficient outfit you get for spraying your fruit, the more money there will be for you in fruit raising. A comparison will speedily show you why International Harvester outfits are so superior to others.

The simplicity of the Titan gasoline engines in the outfits makes them very easy to operate and they require practically no attention after starting, except an occasional oiling. These engines are as light as it is practical to make them for the power they produce so there is no unnecessary weight to drag around. Only the highest grade spray pumps are used, and the purchaser of a Titan spraying outfit is protected in every way and assured of an outfit that will give efficient service for years.

They are adapted to both large and small orchards and are made in several different types---on skids, on portable truck, or complete with tank---to suit the purchaser and the varied conditions. They are particularly desirable for the farmer who wishes to use the engine for other purposes than spraying, as this engine can easily be disconnected from the spray pump and a belt pulley attached for general power work.



1 H. P. Hopper Cooled Mounted Outfit

Get in touch with the address below, and see the nearest dealer who sells I H C spraying outfits. Get one of the interesting catalogues.

International Harvester Company of America

(INCORPORATED)

Harrisburg

Pennsylvania

ADAMS COUNTY FRUIT RECORDS

Shipments Over Gettysburg & Harrisburg R. R.

Year	No. Bbls. shipped in bbls.	No. Bbls. shipped In bulk	Total No. Bbls.	No. cars Apples (150 bbls. to car)	No. Cars Potatoes (500 bus. to car)	No. Cars Peaches (640 bask. to car)	No. Cars Pears (600 bus. to car)	No. Cars Canned Apples (36000 lbs.)	No. Cars Evaporated Apples (30000 lbs.)	No. Cars Cider Syrup	Other Shipments
Gettysburg, .1905	318	333	651	4	1						
1906	28		28								
1907	127		127	1							
1909	12		12								
1910	50		50								
1911	41		41								
1912	123		123								
1913	23		23								
1914	25		25								
Biglerville, .1903	8813	987	9800	65							
1905	7932		7932	53	2						
1906	2785	165	2950	20							
1907	17164	4216	21380	142	12						
1908	4956		4956	33	6						
1909	10785	137	10922	73	1						
1910	20017	1500	21517	144	10			43	5	4	1 car cherries.
1911	37897	552	38449	256				100	8	3	
1912	26521	779	27300	182	19			42	2	4	
1913	32555	450	33005	220	4			95	2	6	
1914	42172	3352	45524	303		31		64		9	
Guornsey, ...1903	2870	2413	5283	35							
1905	1771	1166	2937	20	11						
1906	1414	1329	2743	18	2						
1907	4798	2760	7558	52	15						
1908	2173		2173	15	7						
1909	7320		7320	49	5						
1910	11659	1267	12926	86	12	7					
1911	13600	363	13963	93			½				240 bks. plums, 650 bks. cherries.
1912	4713	574	5287	35	3	½	¼				
1913	16213	194	16407	109	3	½	½				
1914	12512	3371	15883	106	2	5	½				5 cars cabbage.
Bendersville, 1903	4163		4163	28							
1905	4000	2351	6351	42	16						
1906	1109	1561	2670	18	20						
1907	2824	6268	9092	61	22						
1908	2264		2264	15	21		2				
1909	3531	1200	4731	32	15						
1910	5628	2132	7760	52	30	4	1				
1911	8894	366	9260	62	7	1½	3				
1912	4251	946	5197	35	30	4	1				
1913	12390	2175	14565	97	20		2				
1914	9095	2105	11200	75	12	9	2				
Gardners, ...1903	997	985	1982	13							
1905	912	5215	6127	41	4						
1906							2				
1907	6905	5440	12345	82	4		1				
1908	433		433	3	1		2				
1909	2275	4571	6846	46							
1910	1566	3722	5288	35	1	4	2				
1911	3900	4800	8700	58			5				
1912	1860		1860	12	6			28			
1913	4295	997	5292	35	1	12	2	62			
1914	6036	1200	7236	48		3	3	100			
Starners, ...1905	682	1016	1698	11	5						
1906	664	133	797	5	4						
1907	1572	219	1791	12	3						
1908	487		487	3	3						
1909	1825	8	1833	12	4						
1910	2500	2192	4692	31	3	2					
1911	2018	668	2686	18	2	½	½				
1912	2000	563	2563	17	18	½	½				
1913	2290	150	2440	16	6	8	1				
1914	3090		3090	21	5	32	½				

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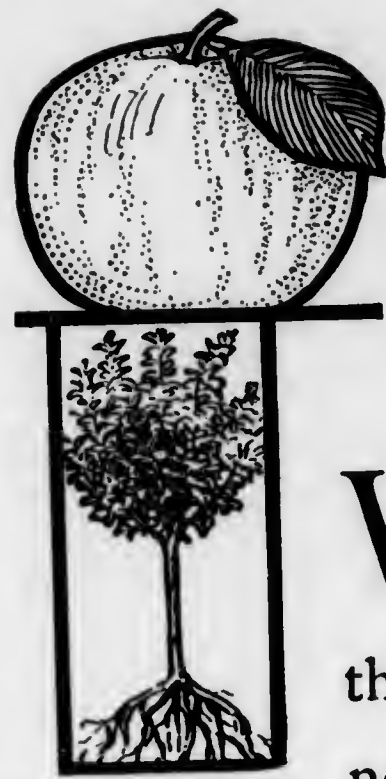
R. WM. BREAM, Secretary

Adams County Fruit Records Shipments Over Gettysburg & Harrisburg R. R.—(Continued)

Year	No. Bbls. shipped in bbls.	No. Bbls. shipped in bulk	Total No. Bbls.	No. cars Apples (150 bbls. to car)	No. Cars Potatoes (500 bus. to car)	No. Cars Peaches (640 bask. to car)	No. Cars Pears (600 bus. to car)	No. Cars Canned Apples (36000 lbs.)	No. Cars Evaporated Apples (30000 lbs.)	No. Cars Cider Syrup	Other Shipments
Hunters Run, including Goodyear,											
1903	625	.....	625	4	.....	.....	.....	.....	.....	.....	.....
1905	160	160	320	2	.....	.....	.....	.....	.....	.....	.....
1906	295	262	557	4	.....	.....	.....	.....	.....	.....	.....
1907	1417	514	1931	13	12	.....	.....	.....	.....	.....	.....
1908	1704	.....	1704	11	1	.....	.....	.....	.....	.....	.....
1909	1289	510	1799	12	1	.....	.....	.....	.....	.....	.....
1910	2103	2190	4293	29	1	1	.....	.....	.....	.....	.....
1911	3750	300	4050	27	.....	.....	.....	.....	.....	.....	.....
1912	2040	.....	2040	14	.....	.....	.....	.....	.....	.....	.....
1913	3045	.....	3045	20	½	.....	.....	.....	.....	.....	.....
1914	2350	1146	3496	23	.....	50	1	.....	.....	.....	.....
G. & H. R. R., total,											
1903	17468	4385	21853	146	.....	.....	.....	.....	.....	.....	.....
1905	15617	9908	25525	170	47	.....	.....	.....	.....	.....	.....
1906	6295	3450	9745	65	35	.....	.....	.....	.....	.....	.....
1907	34797	19217	54014	360	56	.....	.....	.....	.....	.....	.....
1908	12017	.....	12017	80	39	.....	.....	.....	.....	.....	.....
1909	27037	6426	33463	223	26	.....	.....	.....	.....	.....	.....
1910	43523	13003	56526	377	57	17	3	43	5	4	1 car cherries.
1911	70100	7049	77149	514	9	2	9	106	8	3	240 bks. plums, 650 bks. cherries.
1912	41508	2862	44370	296	76	5	4	70	5	4	.....
1913	70748	3966	74714	497	34	20	9	157	5	9	.....
1914	75280	11174	86454	576	19	130	7	164	3	14	5 cars cabbage.

Shipments Over Western Maryland R. R.

Year	No. Bbls. shipped in bbls.	No. Bbls. shipped in bulk	Total No. Bbls.	No. cars Apples (150 bbls. to car)	No. Cars Potatoes (500 bus. to car)	No. Cars Peaches	No. Cars Pears	No. Cars Canned Apples (36000 lbs.)	No. Cars Cider Syrup	Other Shipments
Virginia Mills,										
1907	320	8800	9120	61	.....	.....	.....	.....	.....	.....
1908	.....	1620	1620	11	1	.....	.....	.....	.....	.....
1909	326	1519	1845	12	.....	.....	.....	.....	.....	.....
1910	.....	30	30	.....	.....	.....	.....	.....	.....	.....
1911	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1912	300	.....	300	2	4	.....	.....	.....	.....	.....
1913	60	.....	60	.....	.....	.....	.....	.....	.....	.....
1914	.....	333	333	2	.....	.....	.....	.....	.....	.....
Jack's Mountain, ..										
1913	352	.....	352	2	1	.....	.....	.....	.....	.....
1914	893	1653	2546	17	.....	.....	.....	.....	.....	.....
Orrtanna,										
1903	3300	.....	3300	22	.....	.....	.....	.....	.....	.....
1905	1062	.....	1062	7	.....	.....	.....	.....	.....	.....
1906	3659	.....	3659	24	.....	.....	.....	.....	.....	.....
1907	3177	2342	5519	37	1	.....	.....	.....	.....	.....
1908	2686	1020	3706	25	.....	.....	.....	.....	.....	.....
1909	741	840	1581	10	.....	.....	.....	.....	.....	.....
1910	8216	4045	12261	82	½	.....	.....	.....	.....	.....
1911	7043	3846	10889	73	.....	.....	.....	.....	.....	.....
1912	8412	2798	11210	78	1	3	.....	.....	.....	.....
1913	12897	154	13051	87	¼	.....	.....	.....	.....	.....
1914	7784	4256	12040	80	.....	1	.....	.....	.....	.....



Apple Trees That Produce Big Crops

WE know of an apple orchard of 1½ acres that has produced in the past three years 1,945 bushels of fruit, giving a net profit of \$815. This is better than any farm crop you ever grew—five times what you can get from corn, or wheat, or potatoes.

Harrison Fruit Trees are Budded from Bearing Orchards

These trees have the bearing qualities of the parents—that's one reason why our trees "make good" under the hardest conditions. Then, too, we sell only the trees we grow—trees that are grown to produce big yields.

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Harrisons' Nurseries

J. G. HARRISON & SONS, Proprietors

BERLIN, MARYLAND



Adams County Fruit Records Total Fruit Marketed in County

Year	No. Bbls. shipped in bbls.	No. Bbls. shipped in bulk	Total No. Bbls.	No. cars Apples (150 bbls. to car)	No. Cars Potatoes (500 bus. to car)	No. Cars Peaches (640 bask. to car)	No. Cars Pears (600 bus. to car)	No. Cars Canned Apples (36000 lbs.)	No. Cars Evaporated Apples (30000 lbs.)	No. Cars Cider Syrup	Other Shipments
Total shipped, 1903	24206	4385	28591	191	52	...	...	...	...	...	...
1905	25997	1128	37225	248	38	...	2	...	...	...	...
1906	13742	4897	18639	124	63	...	1	...	...	...	...
1907	42517	33165	75682	504	40	...	4	...	...	...	...
1908	16553	2891	19444	129	27	...	3	...	...	...	...
1909	35910	11296	47206	314	61½	17	43	5	4	...	Car cherries.
1910	67219	20138	87557	583	10	3	100	8	3	...	...
1911	104659	13686	118345	789	413	8	4	70	5	4	...
1912	55599	6412	62011	413	35½	20	9½	189	5	11	...
1913	97567	4120	101687	677	19	132	7	197	3	16	5 cars cabbage.
1914	98267	19334	117601	783	...	...	...	...	...	...	...
Evaporated, 1903	Equal to	6547	6547	44	...	...	...	...	...	...	...
1905	"	10670	10670	71	...	...	...	...	...	...	...
1907	"	8333	8333	56	...	...	...	...	...	...	...
1908	"	...	...	...	...	...	...	...	...	...	...
1909	"	4666	4666	31	...	...	...	...	...	...	...
1910	"	8600	8600	57	...	...	...	...	...	...	...
1911	"	21750	21750	145	...	...	...	...	...	...	...
1912	"	5000	5000	33	...	...	...	...	...	...	...
1913	"	8933	8933	60	...	...	...	...	...	...	...
1914	"	9000	9000	60	...	...	...	...	...	...	...
Canned, 1905	"	2400	2400	16	...	...	...	...	...	...	...
1907	"	10000	10000	67	...	...	...	...	...	...	...
1908	"	1673	1673	11	...	...	...	...	...	...	...
1909	"	12398	12398	82	...	...	...	...	...	...	...
1910	"	16700	16700	111	...	...	...	...	...	...	...
1911	"	25000	25000	167	...	...	...	...	...	...	...
1912	"	27108	27108	181	...	...	...	...	...	...	...
1913	"	42855	42855	286	...	...	...	...	...	...	...
1914	"	64300	64300	429	...	...	...	...	...	...	...
Cider, 1907	"	9524	9524	63	...	...	...	...	...	...	...
1908	"	6670	6670	44	...	...	...	...	...	...	...
1909	"	5714	5714	38	...	...	...	...	...	...	...
1910	"	11120	11120	74	...	...	...	...	...	...	...
1911	"	12500	12500	83	...	...	...	...	...	...	...
1912	"	8000	8000	53	...	...	...	...	...	...	...
1913	"	9150	9150	61	...	...	...	...	...	...	...
1914	"	5958	5958	40	...	...	...	...	...	...	...
Total fruit, 1903	24206	10932	35138	234	...	...	...	...	...	...	...
1905	25997	2498	50295	335	52	...	...	...	...	...	...
1906	13742	4897	18639	124	38	...	...	...	...	...	...
1907	42517	61022	103539	690	63	...	...	...	...	...	...
1908	16553	11284	27837	185	40	...	...	...	...	...	...
1909	35910	34074	69984	465	27	...	...	...	...	...	...
1910	67219	56558	123777	825	61½	...	...	...	...	...	...
1911	104659	72936	177595	1184	10	...	...	...	...	...	...
1912	55599	46520	102119	680	84	...	...	...	...	...	...
1913	97567	65058	162625	1084	35½	20	9½	189	5	11	...
1914	98267	98592	196859	1309	19	132	7	197	3	16	5 cars cabbage.

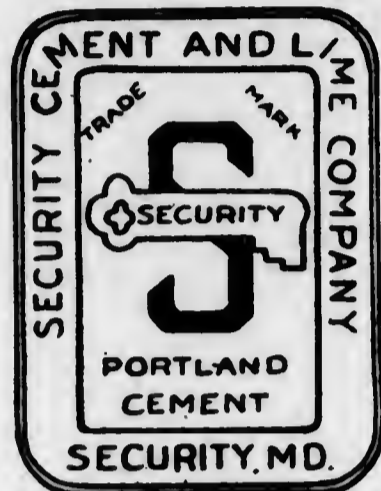
Comparison of Percentages

Year	Per cent. barreled	Per cent. sold bulk	Per cent. evaporated	Per cent. canned	Per cent. cider	Per cent. total fruit compared to 1903
1903	70	12	18	...	...	100
1905	52	22	26	...	...	143
1907	41	32	8	10	9	295
1909	51	16	7	18	8	200
1910	54	16	7	14	9	356
1911	59	8	12	14	7	500
1912	54	6	5	27	8	344
1913	60	2½	5½	26½	5½	466
1914	50	10	4½	32½	3	563

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100 lbs. sulphur ; 65 lbs. Berkeley Hydrated lime ; 50 lbs. water ;
Boil one hour—allow to settle five hours.

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BECAUSE the planter receives them fresh dug direct from Nursery Row.

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Before ordering, let me price your list of wants. All stock

Guaranteed True to Name

For twenty-five years I have been selling direct to the planter at wholesale prices. Before buying, let me quote you my special prices direct to the planter.

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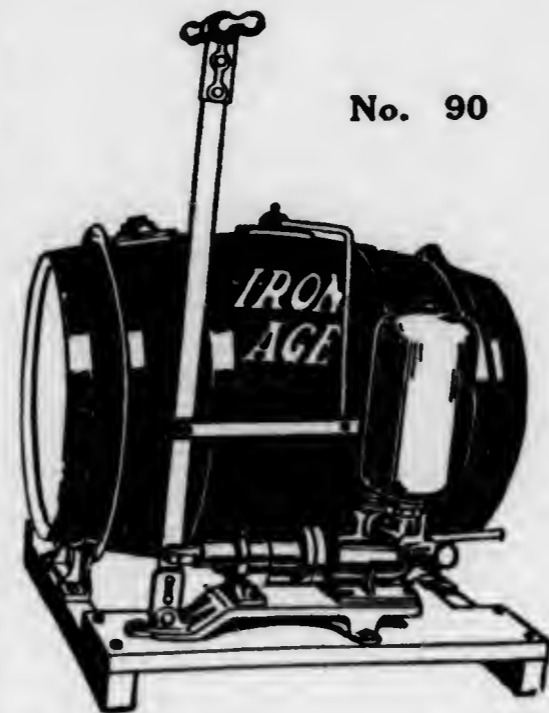
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100 gallon outfits are for orchardists who want a tank with greater capacity. Double acting pumps, chain driven. 2 H. P. engines. Furnished with cab and guard rail. Also with tower if wanted. Sold with or without the truck.



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150 Gallons

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*P. S. ORNER, Prop.
Arendtsville, Pa.*

☞ Manufacturing of Apple Barrels and Staves a Specialty. Millwork of all Description and Lumber of all kinds.

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MALONEY BROS. & WELLS CO.

18 Main Street

Dansville, N. Y.

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| Quart Berry Baskets | Bushel Baskets |
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**Eleventh Annual Convention Will Be Held
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Fig. 4. BUSHEL BASKET PACKAGE.



Fig. 5. CALIFORNIA FRUIT CRATE.



Fig. 4. BUSHEL BASKET PACKAGE.



Fig. 5. CALIFORNIA FRUIT CRATE.

END OF YEAR