

RUST COTTON PICKER

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1928-1962

In the fall of 1931 Rust brothers picked their first bale of cotton with a machine. Prior to this they had both devoted their full time and attention to the effort for more than three years, since the summer of 1928.

In the fall of 1933 their machine picked five bales in one day.

In 1936 they built nine new single-unit pull-model machines, which were placed and operated in the cotton areas surrounding Memphis. The machines did some fairly impressive work but after the season's operation it was concluded that single-unit style machines were not gathering a sufficient percentage of cotton from the row.

In 1937 a crudely built double-unit tandem model machine picked over ten bales in one day and over one hundred bales during the season.

In 1938 a more carefully engineered double-unit tandem model machine was designed and built. This machine picked fourteen bales in one day, and later served as the prototype for additional new machines built the following year.

In 1939 with the financial support of a small group of New York investors who later incorporated as the Rust Harvesting Company, six new double-unit tandem model machines were built. One of these was sold to Australia, and the other five were to be operated around Memphis on a custom picking basis.

The machines were not finished in time for the main harvest but one was finished and operated for a short time toward the end of the season — long enough at least to discover some "bugs" which needed attention.

In 1940 certain modifications were made in the five new double-unit tandem machines and an attempt was made to operate the machines on a custom picking basis, mostly in the Mississippi Delta area. The machines were operated under the ownership and management of the Rust Harvesting Company. Due to a number of causes but mainly to late maturity of the crop and excess of rains during the harvest season, not much cotton was picked and the operation turned out a financial failure.

As a result of this experience the Rust Harvesting Company management decided not to continue in custom picking operations.

In 1941 efforts were made to carry out demonstrations with one or two machines with the hope of selling the machines to cotton planters. This, too, proved a failure. The planters under the existing conditions would not buy the machines, although several showed interest and talked as if they might. One machine was, however, sold to Australia. This left the Rust Harvesting Company with four machines on their hands, for which there appeared to be no immediate prospect of selling.

In 1942 the adverse effects of World War II on the Rust Cotton Picker venture were felt with particular severity. The product was not recognized by the

USDA War Board as essential to the war effort and hence allotments of materials and priority certification simply were not obtainable. For this and perhaps other reasons as well, it became outright impossible to raise money for conducting further work of any kind on the cotton picker. It took me the first four months of that year to find this out conclusively.

During the period of January through April, I personally made every effort I could think of to secure the needed recognition, traveling up and down the Delta area and contacting everyone I knew or could hear of who might assist. But after extending my own personal credit to the breaking point for gasoline and other essential expense items, by the end of April I was finally obliged to take a job for a salary with which to pay up past due bills and current expenses. My wife had already taken work outside. And both John and his wife had already taken outside work sometime before.

At the time there were six double-unit tandem model machines located in the Memphis area. One of these was owned by a Mississippi planter, another by the Rust Cotton Picker Company, and four others by Rust Harvesting Company. During the summer various discussions took place between the interested parties regarding what to do with the machines and how. Shortly before the picking began in September a plan was worked out and agreed on by which John and I would be permitted to operate 3 of the machines each on a custom picking basis with an option to purchase if successful.

Some repairs and alterations on the machines were needed as well as certain spare parts not on hand. I tried to take care of the more pressing items but the start of this program came so late in the year that I missed the best part of the picking season around Memphis. John and I each operated one or two machines for a short time in the Memphis area but neither of us picked very much cotton or made any particularly impressive showing.

As the season progressed, I wrote letters to some other parts of the cotton belt and learned that a late crop was available for picking in Arizona. After discussing the matter with the manager of the Rust Harvesting Company (which owned the 3 machines in my custody) and making a trip to Arizona for a firsthand inspection of the conditions there, and with funds advanced individually by the Rust Harvesting Company manager, I proceeded to move the fleet of 3 machines to Arizona, where during the next 3 or 4 months I conducted an operation which panned out to be a turning point in the history of the RCP (Rust Cotton Picker) venture.

The picking operation in Arizona began during the last days of December, 1942 and ended on April 8, 1943. In spite of shortages of some needed parts and materials and handicaps of various kinds, I succeeded in keeping one machine running for a period of more than three months, harvesting nearly 250 bales from some 600 acres of ground. A second machine suffered a major breakdown (due to mistake of inexperienced operator) and was out of service for about a month. It was again started near the end of January and ran until April 8, harvesting about 150 bales from some 400 acres of ground.

The two machines which ran totaled harvesting some 400 bales from approximately 1,000 acres and grossed a little more than \$18,000 from the whole operation.

The third machine was not operated. It served as a source of repair parts needed by the other two machines.

This was the first time that a Rust cotton picker had ever picked much over 100 bales in one season. During this operation there were numerous troubles with the machines and the field behind the machines did not always look as good as might have been desired; but the quality of cotton picked consistently compared favorably with hand picked cotton, and the reaction to the machines in the community generally was predominantly favorable.

Prior to this Arizona demonstration and performance record the RCP situation was largely characterized by the following outstanding facts:

1. Top management of the major implement manufacturing companies did not rate the RCP as a serious solution to the cotton harvest problem and hence offered no aid.
2. Due to the War situation with scarcities of materials generally, but with what appeared to some people as an abundance of unskilled labor available for picking the cotton crop, the USDA War Board did not recognize the Rust cotton picker as an item important to the war effort and hence refused material allotments and priorities for production of new cotton picking machines.
3. Due to the facts related in the previous paragraph, it was impossible to proceed with manufacture of new machines, and due to that and other conditions it was not found possible to raise funds at the right time to support activities of any kind relating to the cotton picker.
4. The RCP Company was without funds and was facing imminent collapse for lack of money enough even to pay its corporation charter taxes.
5. John and I were both beginning to face up to the possibility that we might be forced to abandon the whole cotton picker project perhaps permanently. We had both had to take outside work during a considerable part of the year 1941. John's wife had been doing outside work since some time in 1941. My wife also began outside work early in 1942. After a desperate effort during the first four months of 1942 to further promote the cotton picker venture, I was finally obliged to yield and again took outside work around the first of May in which I continued until about the end of August.

During the course of the 1942-43 Arizona harvest operation, and obviously quite directly due to it, several important changes took place in connection with the RCP situation generally.

1. A broad section of Arizona cotton people soon became acquainted with and highly favorable to the RCP as a potential solution to their harvest problems, as evidenced by the numerous letters of recommendation and over thirty orders for machines copies of which were included in the file accompanying the application a little later made to the USDA War Board for certification, allotments, etc.

2. Upon my renewed application for material allotments and priority rating backed up with a report on the Arizona performance, plus other pertinent data showing the harvest labor shortage and the critical need for the cotton picker, the USDA War Board did promptly recognize the RCP as important to the war effort and granted material allotments and priority rating which I had tried so hard, but in vain, to obtain the year before.
3. The major implement manufacturing companies became aware of the obvious potential of the RCP as a solution of the cotton harvest problem, evidenced by the fact that Allis-Chalmers Company soon after sought a license to manufacture and market the RCP -- regarding which more later.
4. The faith and confidence of Rust Brothers themselves in the ultimate success of the cotton picker venture was revived and greatly strengthened by the impressive performance record and the favorable public reception among the people of Arizona.
5. I felt that I had a new and deeper understanding of the problems remaining with the picker and had already gathered some promising looking ideas for further improvements.

In the meantime the RCP Company's corporate charter had been permanently revoked by the state of Tennessee with no possibility for reinstatement.

At the conclusion of the picking operation in April 1943, Arizona cotton growers, ginners and others interested in cotton intensely felt the need of a picker and were obviously convinced that the Rust picker would meet that need. They were willing and anxious to support a plea for recognition of the RCP in Washington, with a view to obtaining new machines for the following harvest season.

The Arizona Farm Bureau Federation offered to assist with the task of preparing an application to the USDA War Board for recognition and the granting of material allotments and priority ratings. With this assistance, the application was prepared and forwarded to Washington. The file included numerous letters of approval and recommendation from individuals and organizations in the state of Arizona, as well as copies of some thirty or more bona fide orders for machines.

Upon my personal arrival in Washington about three weeks later to follow up on the matter, I learned that among others whose approval was necessary before final approval of the application were representatives from each of the major implement manufacturing firms, who were thus apprised of every such application passing through the Washington offices.

The application was promptly approved and the recognition achieved for which we had tried so long and hard without success before the Arizona operation.

In addition to the recognition of the Rust Picker and the grant of allotments and priorities for its production, another critically important step was also achieved. The Allis-Chalmers Company, who had previously been so highly skeptical of the potential merit of the Rust Picker, obviously didn't take a very long time to change their minds about the matter. Just a few months later, in the early part of 1944, they initiated talks with John Rust at

Memphis which resulted in the Allis-Chalmers Company taking a license to manufacture the Rust picker.

The license was set up with John acting as sole adviser on RCP details and with returns from the contract channeled into John's hands.

Machines built during the first two years of the contract according to John's specifications and approval proved to be quite unfit for mass production, as was evidenced by the A-C (Allis-Chalmers) Company spending another three or four years attempting to design and build a model that could be put on the market successfully.

By 1949 and '50 A-C's newly designed model of the Rust picker was put on the market. At about this same time the Ben Pearson Company was also licensed by John to build and market pickers under Rust patents. And the Pearson Company offered two different models including a double-unit tandem machine patterned after the double-unit tandem model designed by me in 1938 and '39. However, the picking units were substantially the same in most respects as those built by A-C under John's supervision during 1944 and '45, but had some modifications later worked out. This model was different in several respects from the original Rust Brothers picker as it was prior to the A-C deal.

During the period from 1949 to about 1953 the two companies sold more than 2,000 machines and paid royalties totaling well over a million dollars. By the end of this period, the purchasers of these machines had learned to their sad regret that the machines as built by both A-C and BP (Ben Pearson Co.) had so many mechanical bugs that they could not be kept running with any satisfactory degree of continuity. And the reputation of the name "Rust" on cotton pickers took a nose dive.

Meanwhile due to the way John handled the licenses with A-C and BP, I not only was unable to draw any benefits from those two deals, but was actually handicapped and hindered in various ways in my work due to the very existence of them.

During the period immediately following the first big operation in Arizona of 1942-43, I was trying on the one hand to keep the machines in good enough repair to keep running and earn money, while on the other to develop and incorporate further improvements which the big 1942-43 season's run had uncovered as essential to all-round satisfactory performance. This was no easy order. Delivery of needed materials was anywhere from 3 to 13 months, sometimes unobtainable. Skilled labor was practically non-existent in the areas where I had to work. And the net result generally was that the simplest jobs could be accomplished only with the greatest difficulty and hardly ever within a reasonable time.

In addition, the length of the picking season gradually diminished from year to year particularly after the arrival in Arizona of large numbers of prisoners-of-war, who were brought there to alleviate the harvest labor shortage.

All these factors plus others combined to reduce my earnings below the point necessary to meet the ever large expenses. In spite of all this I did manage to make some discernible progress on the improvements program each year.

In 1946 some special arrangements were made which involved selling machines to some California ranchers and moving to the San Joaquin Valley with headquarters in Coalinga, California. New problems were soon encountered in this area, where the cotton yields per acre were heavier than in most other parts of the cotton belt and have been tending to increase from year to year since.

By about 1950 I had made some outstanding progress on certain improvement features on the machine, including:

1. The elimination of certain mechanical "bugs" which had previously caused much down time in the field due to clog-ups and breakdowns.
2. A fluffing device which greatly improved the picking efficiency of the machine under certain field conditions, especially soon after rains.
3. A new type spindle which picks as effectively as a spindle with teeth on it and strips as easily as our old original "smooth" spindle.
4. A delivery system (stripper and doffer) which has proved to be one of the finest and most valuable improvements yet made on a Rust type picker by anyone.

By around that time I had conceived a whole group of ideas which I felt would, when developed, solve all the major remaining problems of the picker. Of these, the ones I had already developed and tested, including those mentioned above, had proved out quite good.

Since that time I have been working on the remainder as best I could under the circumstances. I have been thinking from year to year that at almost any time I might be fortunate enough to secure a suitable manufacturing license arrangement with some one of the major implement manufacturing companies. So far this has not happened. But the circumstances appear to be moving in that direction. With adequate financing and facilities which such a deal should provide, a new production model prototype machine could be set up incorporating most if not all of my further ideas for improvement of the machine. A full season's run with such a machine should provide a far better demonstration than has ever before been given to show the ultimate potentialities of this type machine.

Certain factors have worked strongly against me especially during the period since about 1951.

1. John never paid me my forty percent share of the earnings from the two existing licenses (signed by him). This, of course, robbed me of the income which would have made possible the prompt completion of my development program.
2. The complete fiasco which resulted from the first output of machines by both licensees made a bad name for the Rust type picker and reacted adversely on my efforts to procure a license or to promote money to carry on my work.

3. My unsuccessful effort to collect my share of the royalties (through the lawsuit and otherwise) absorbed most of my time and available resources for a period of approximately five years ending in 1957.

In spite of the above and other difficulties, however, I have somehow succeeded in completing some of the most critically needed further development. An outstanding item in this category is my new and improved spindle moistening and cleaning device. The work on this feature has dragged out for more than a decade under the circumstances, but its present performance is a delight to see and a tremendous satisfaction after all the long lot of time and effort I have put into it.

Another item of possibly even more critical importance is my new spindle drive feature a version of which was completed during this last year.

By the time I had the new spindle drive finished and the machine ready to operate the first picking was practically all finished and wet weather had begun. Later however I was able to get in enough hours of field operation to begin getting some idea of what the new spindle drive's performance is going to be like. So far I see nothing to indicate anything less than I have been expecting. Further proof of its all-round good performance and long life I expect to establish through a full season's run in the field this coming fall.

A number of other alterations and refinements of one kind or another can further improve over-all performance, efficiency, life and economy of the machine. Some of these can be incorporated on the present unit. Others will have to wait for the all-new prototype machine which I hope to finish designing and to build at the earliest possible date. (This, however, takes more money than I hope to have available outside of a deal with an adequately financed manufacturing setup.) Some such features would be prohibitively expensive if not outright impossible to change on the present machine, but would be no problem at all to include on a new machine starting from the ground up.

It should not be overlooked that I am still having to work with one of the early rigs built back in 1939, which is not only quite old, but is now both obsolete and inadequate in certain respects.

Among the implement manufacturers increased interest in my developments has been displayed within the last eighteen months or so and especially since last picking season when I tested and demonstrated my latest improvement features. Since early April I have been in contact with certain local representatives of one of the major implement manufacturers, who apparently are convinced that my developments are worthwhile and that their company should make arrangements with me to produce and market my latest version of the Rust picker. Interest among top management of this firm has been unofficially indicated but no answer has been given as to whether they are ready to negotiate seriously for a deal. Until recently I had expected to receive an answer before this time. But now, I am told, it has been delayed and is not expected much if any before September.

This company is one of several which got their fingers burned back in the years 1951-55 or so trying to sell Pearson-Rust picker units mounted on their own tractors. They apparently had no better luck than Pearson did. They could not keep the machines running and hence could not keep them sold. I am told their company took a big loss on the whole deal and they evidently decided the Rust type picker was not very good.

Since that time top management personnel of this company, I understand, has been almost if not completely changed but the new personnel have the corporate financial records to refer to and they are obviously quite conscious of that earlier experience. I think that some of the present personnel may still be judging my recent version of the Rust picker largely by the performance of the commercial Rust pickers as built and sold by A-C and Pearson and it is entirely possible that I may not be able to overcome this handicap in my efforts to deal with this concern until I have been able to deliver another full season's volume performance which should finally remove any doubts from their minds. This I hope to do this coming season.

It is doubtful if they have had anybody in their organization either at that time or since who knew enough about cotton pickers to understand why the machines failed or how to work out solutions for the problems encountered. At present they obviously do not consider that they have personnel competently familiar with cotton pickers and this perhaps is partly why they appear over-cautious in re-approaching the subject now.

It is possible also that they have problems of their own to be dealt with and settled (apart from any question of merit of the picker) before considering a new project such as this.

This company is not the only one which should be interested in a good cotton picker, but according to all the information I have been able to gather it would be by far the choice one of the bunch for me to deal with -- provided only that they will come along on the deal -- and I believe they will before the story is finished.

The situation as I see it now leaves me practically only one course to follow, that is, continue as heretofore for a little longer and make as many further improvements as possible on my present machine before the harvest begins. Then by starting in operation on the earliest available picking and keeping the machine running through the entire harvest, I would hope to make a conclusively favorable demonstration and earn some money in the process, all of which should contribute toward getting the production deal I am after.

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