

**AN INTERVIEW WITH  
WALTER JARCK**

by

**Peter McDonald & Michael Clow**

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## **Explanatory Notes to Accompany the Interview of Walter Jarck**

by  
Peter MacDonald

Imagine yourself an enthusiastic engineer whose job it is to design new forest machines. Imagine further that your potential customers are large and wealthy multi-national pulp and paper companies. The machines you would design could (and likely would) be very expensive and technologically sophisticated, thereby requiring regular and intensive maintenance by skilled technicians. But what if your potential customers were so impoverished that "... when I started in the woods in 1959 a lot of the crews were barefooted"? If you were Walter Jarck you would design the Go Getter – a machine that could be built from surplus parts by local blacksmiths and welding shops from a set of plans you gave to them for free (apart from thirty cents to cover postage and handling).

Bowaters, who in 1958 was building a new mill in Catawba, South Carolina, hired Jarck to be responsible for their wood procurement. Jarck characterizes his circumstances in this manner: "... as my boss said, we have ... a six million dollar paper mill being built and we're going to be relying on the sweat of a few labourers to hand load and to bring the wood in. There's got to be a better system than this." Given this injunction, he embarked on a career distinguished by a host of inventions, commencing with the Go Getter (a forwarder) and culminating in the Allen Jarck Harvester (a pulpwood processor). Moreover, his early mechanical innovations were severely constrained by the social and economic conditions identified in the first paragraph.

Near the beginning of the interview where we initiated the discussion of the evolution of the Go Getter, reference is made to frame steering. Because the phenomenon is known by different names (e.g. hydraulic steering, articulated steering), some confusion – quickly dispelled – arose. Much was made of frame steering because its invention constituted a significant technological innovation. Thus, some words of explanation are warranted.

Visualize the frame of a forest machine divided into a front and a rear half. These two halves are connected at a centered pivot point around which the two frame halves turn and oscillate. A hydraulic ram is located on each side of the frame; by pushing on the front half, the machine is steered by turning the frame in either direction.<sup>1</sup>

Frame steering was a technological leap forward because of the advantages it provided over conventional steering. Because the pivot point is located in the centre, the back portion of the machine will exactly follow the track of the front half in a turn. Contrast this with a car where the rear track will cut inside the track established by the front wheels. This capability is of

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<sup>1</sup>See photo #1 of this pivot point, p. vi.

evident importance when manoeuvring around trees. Operators need not be concerned with the location of the rear portion of their machines when steering it.

Because the two halves oscillate, all wheels will remain in contact with the ground in difficult terrain. With conventional rigid-frame vehicles, one or more wheels will at times lose contact. Again, this is of evident importance in four wheel drive vehicles when traction is required by all wheels to avoid becoming stuck.

Without the invention of frame steering, skidders and forwarders – machines that move the wood from the stump to the roadside – could not have performed this function nearly as effectively. Precisely because these machines were the first examples of mechanization, it is not an exaggeration to claim that without frame steering, the entire process of the mechanization of tree harvesting would have been severely compromised. Accordingly one is interested in who is responsible for this technological breakthrough. No one seems to know. Bruce McColl, responsible for inventing the forwarder in Canada (the Bonnard Prehailer), and Dwight Garret, responsible for the first frame steered skidder (the Tree Farmer), are often said to have co-invented the device.<sup>2</sup> From the interview, we find that Jarck came up with the concept independently, based on his employment at CAT where he acquired his knowledge from the example provided by their large, road construction scrapers.

In that portion of the interview wherein the various stages in the development of the Go Getter are recounted, the narrative time line is, at times, somewhat chaotic. Accordingly, it would likely be useful to identify those stages in the proper sequence. This reconstructed narrative will be accompanied by photographs and articles, all provided by Jarck.

Upon his arrival at Catawba, Jarck was confronted by a harvesting system which produced pulpwood at the stump by workers using chainsaws. They loaded this pulpwood by hand onto pallets that were dragged along the ground by CAT D2 bulldozers. Responding to the injunction from his boss to “do something” about a harvesting system so dependent on manual labour, and from the suggestions provided by the loggers themselves, the first thing Jarck did was to mount these pallets on wheels. Then he mounted a big stick loader, used for loading pulpwood lying on the ground onto the pallet, on the winch at the back of the tractor.<sup>3</sup>

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<sup>2</sup>When we researched the Busch Family Papers located at the Auburn University Library, we discovered a number of undated, uncaptioned photographs some of which were of an articulated, forwarder-type vehicle. Since we are uncertain of the date, though we think it may have been in the mid 1950s, no claim can be advanced about who was first. This question remains an intriguing one.

<sup>3</sup>See photo and article, p. vii.



Crawler tractors are not only slower but are also both more expensive and more maintenance intensive than conventional wheeled tractors. When CAT ceased production of their D2, Jarck was compelled to search for an alternative. He turned to conventional tractors, purchasing a Massey Ferguson farm tractor.<sup>4</sup> As can be seen from his request to the company for the appropriation of the necessary money, he intended to mate it with the pallet trailer mentioned above, retain the boom loader, and remove the front wheels thereby necessitating frame steering. Adding four wheel drive would provide a tractive force almost the equivalent of the crawler tractor to be replaced. Working with the equipment company from which he purchased the tractor, he designed and built the described machine.<sup>5</sup> This prototype was “proved” by winning a tug of war contest with a larger, conventional farm tractor.

The next step was to construct the definitive version of the machine, the Go Getter 704.<sup>6</sup> Inspection of the picture shows the machine partially turned around the central pivot point. As the interview indicates, the Go Getter could also be converted into a skidder.<sup>7</sup> Careful examination of this picture will reveal one of the hydraulic rams used for steering, located just under the frame at the pivot point.

This model was given to several loggers to use on a trial basis. Though pleased, some felt it was too expensive at projected price of \$8,000. The response to this reaction from Jarck’s boss was a request to build the machine for approximately \$5,000. Jarck complied, building one from surplus parts; here he used a Ford industrial engine, axles from surplus army trucks, and road grader wheels and tires. This machine provided the basis for the plans which Bowater provided to interested loggers, essentially for free. Many (approximately one hundred) were built in local shops scattered throughout the region. For those wishing a “manufactured” version, Jarck arranged with T.C. Brown of Louisville, Mississippi, manufacturer of the big stick loader, to produce the machine.

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<sup>4</sup>See copy of request, p. viii

<sup>5</sup>See photo of this farm tractor prototype, p. ix.

<sup>6</sup>See photo of the 704, p. x.

<sup>7</sup>See photo of Go Getter skidder, p.xi.

With a mechanized means to relocate pulpwood from the stump to the roadside, a fully mechanized shortwood harvesting system required a machine to produce the pulp at the stump for the forwarder – which is to say a machine to fell, delimb, and slash the tree into pulpwood. Moreover, this stage in the evolution of mechanization was stimulated by the problem of manually felled trees hanging up (given their proximity to other trees) during first thinnings of plantations. Accordingly, Jarck designed an apparatus that would fell the tree with a shear, dropping it into a carrier with a carriage. This carriage pulled the tree through the carrier in five foot strokes, delimiting and slashing with each stroke. This prototype was mounted on the side of a crawler tractor to evaluate the design. The attached article has pictures of this prototype.<sup>8</sup>

The version intended for production was mounted on a wheeled vehicle (similar to a front end loader) with the harvesting apparatus mounted on its front, extending over its top.<sup>9</sup> Testing revealed that with this design, the removed limbs inundated the machine.<sup>10</sup> This necessitated a redesign that processed the logs in front of the machine, thereby eliminating this problem.<sup>11</sup> This technique presaged what the Scandinavians were to do with the development of their cut-to-length harvesting machines. This final version was patented,<sup>12</sup> named the Allen Jarck Harvester, and manufactured. At least until the falling out between Andy Allen and his father.

In the 1960s, the formative period of mechanization in the woods, large equipment manufacturers appeared disinterested in the American Southeast. Indeed, CAT ceased production of their most useful logging machine – the D2 crawler tractor. During this same period, the South “... was so poor ... just an agricultural place...”. In these apparently despairing circumstances, Jarck was able to successfully introduce technological innovations. His accomplishments, especially in the face of such daunting conditions, render him a significant – perhaps unique – figure in the history of the mechanization of tree harvesting. His mode of innovation – free plans, surplus parts, a reliance on local talent lodged in old blacksmith and welding shops – proved ideally suited to this context, one hardly facilitative of mechanization.

Finally, I append a brief bibliography of some relevant articles:

For the Go Getter:

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<sup>8</sup>See article & photo from *Forest Industries*, pp. xii-xiii.

<sup>9</sup>See photo, p. xiv..

<sup>10</sup>This was not an uncommon problem. The first prototype of the Koehring Shortwood Harvester suffered as similar problem, compelling its engineers (particularly John Kurelek) to design a processing tower which tilted away from the machine while processing. Because of its design, the Timberjack RW 30 Tree Length Harvester was plagued with this problem. The detritus falling on the machine – on its engine and filters – at times resulted in fires.

<sup>11</sup>See photo, p. xv.

<sup>12</sup>See copy of the patent, pp. xvi – xix.

“Walter Jarck’s Self-Propelled Pallet Carrier”, *Pulpwood Production and Saw Mill Logging*, Vol. XI, No. 2, 1963, 18-22.

“The ‘Go-Getter’: a ‘PoMan’s’ Skidder”, *Pulpwood Production and Saw Mill Logging*, Vol. 12, No. 9, 1964, 14-16.

“The Catawba ‘Go-Getter’ gets it Done”, *The Arrow*, Vol. 11, No. 3, 1965, 7 (a Bowaters magazine).

Drushka, Ken. "Walter Jarck: a Forerunner in Cut-to-Length Harvesting", *Timberjack News*, No. 2, 1998: 24-25.

“Prehailer, Skidder for Independent Producers”, *Pulp and Paper*, 21 June, 1965, 50 & 56.

“704 Go Getter: An Improved Version”, *Pulpwood Production and Saw Mill Logging*, Vol. 13, No. 11, 1965, 30-32.

“Brown Machinery Offers All-New, Standardized Version of ‘Go-Getter’”, *Pulpwood Production and Saw Mill Logging*, Vol. 14, No. 8, 18-20.

“Go-Getter Replaces Mule and does Work Better, Faster”, *Evening Herald*, Rock Hill, 11 October, 1966.

“Forwarder Solves Logging Problems”, *Forest Industries*, October, 1967, 62-63.

For the Allen Jarck Harvester

“A ‘Po-Man’s’ Pulpwood Harvester, *Pulpwood Production and Saw Mill Logging*, 21-22.

“Harvester Cost is Modest”, *Forest Industries*, August, 1970, 60-61.

“Thinning Pine Plantations in North Carolina’s Sandhills”, *Pulpwood Production and Timber Harvesting*, December, 1975, 12-16.



Photo #1



**JARCKSTER LOADER  
Mounted On Trailer**

## **Mechanical Loader Under Development For Pallet Trailers**

CATAWBA, S. C.—Constantly seeking to develop new ways to make pulpwood production more efficient and easier on the woods crews, Forest Engineer Walter Jarck of Catawba Timber Co., has designed a mechanical pulpwood loader for pallet trailers.

The "Catawba Loader," as Mr. Jarck has informally christened it, is designed to improve the production of mechanized woods crews by speeding loading and removing much of the exertion of handling pulpwood by hand.

Ernest Horton, wood producer from nearby Heath Springs, requested Mr. Jarck to design the loader, so now the Horton crew is testing it. In fact, Mr. Horton, who is handy with a welding outfit, and his men built the loader in three days under Mr. Jarck's direction.

If the loader works, and field tests are indicating that it does, the design will be made available to anyone who wants to build one.

The loader consists of a mechanical stick loader mounted on a pallet trailer and a winch and cable and controls mounted on the tractor which pulls the trailer.

The winch and cable are operated by a power takeoff from the tractor engine. The controls are behind the tractor operator's seat, so all the driver has to do to operate the loader is turn around.

The steel cable attached to the winch is used to pull log bundles to the trailer from the point where the trees were felled as well as to hoist the bundles onto the trailer. The bundles are then pushed into place on the pallet.

This loader will be especially welcome to wood crews who have to handle hardwood pulpwood, which is heavier than pine, for the loader removes most of the lifting from wood production. This helps keep crews fresh, especially during the warm Carolina summers. Fresh crews mean higher production and morale.

## APPROPRIATION REQUEST

COMPANY **Catawba Timber Company**

DATE **March 6, 1961**

DESCRIPTION OF PROJECT

APPROPRIATION REQUEST NO.

JOB ORDER NO.

**Diesel Farm Tractor**

(Include Explanation of Purpose and Necessity, and Estimate of Savings—Use Reverse Side if Necessary)

Permission is requested to purchase a diesel farm tractor of about 40 hp. Our intentions are to modify this basic farm machine into a low cost, 4-wheel drive, pulpwood logging tractor. Such a machine with pulpwood trailer, boom loader, and radio controls should enable the reduction of one to two laborers from the present mechanized logging crew. This is of particular importance if the current government administration elects to drop the 12-man exemption and increase the minimum wage.

The tractor coupled to a powered pulpwood trailer (pallet type) could maneuver through our Piedmont woodlands at fairly high speeds, in most weather conditions, and with a minimum damage to young seedlings and reproduction. These are advantages over using a crawler tractor unit.

One man should be able to winch-in and load bundles of pulpwood at distances up to 100 feet from the tractor by activating the winch controls with the use of high frequency remote radio controls.

All fabrication and modification work will be done by contract and supervised by Catawba Timber Company personnel. We plan to keep the final cost of this unit to about \$5,000 or \$6,000, which we feel will be in the range of most of our Piedmont loggers.

(over)

| REQUESTED BY                           | ESTIMATED COST | ACTUAL COST | CLASSIFICATION   |
|--|----------------|-------------|------------------|
| LABOR—DISMANTLING                      |                |             | CAPITAL          |
| CONSTRUCTION                           |                |             | EXPENSE (PERIOD) |
| INSTALLATION                           |                |             |                  |
| MATERIAL—PURCHASED                     | <b>\$3,500</b> |             |                  |
| FROM STORES                            |                |             |                  |
| OTHER—DESIGNING, ENGINEERING, OVERHEAD |                |             | BUDGET PROVISION |
| TOTAL                                  | <b>\$3,500</b> |             |                  |

**THE EQUIPMENT LISTED BELOW WILL BE REMOVED**

| ITEM | DATE INSTALLED AND NORMAL LIFE EXPECTANCY | COST NEW | COST NEW (EST.) | DISPOSITION |
|------|---|----------|-----------------|-------------|
|      |   |          |                 |             |

**DISPOSITION OF APPROPRIATION REQUEST**

| PROJECT NOT APPROVED BECAUSE: | APPROVALS:        | DATE |
|-------------------------------|-------------------|------|
|                               | 1. _____          |      |
|                               | 2. _____          |      |
|                               | 3. _____          |      |
|                               | 4. VICE-PRESIDENT |      |
|                               | 5. CHAIRMAN       |      |

By \_\_\_\_\_ DATE \_\_\_\_\_ **viii** SECRETARY (FOR DIRECTORS)





Photo # 2

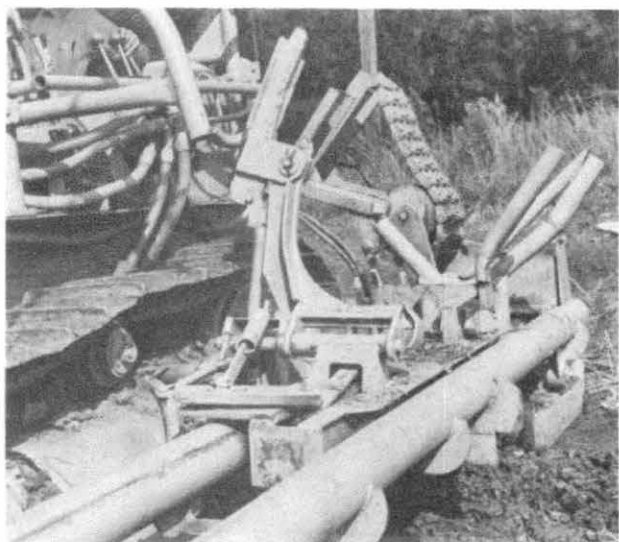


Photo # 3  
The 704 prototype

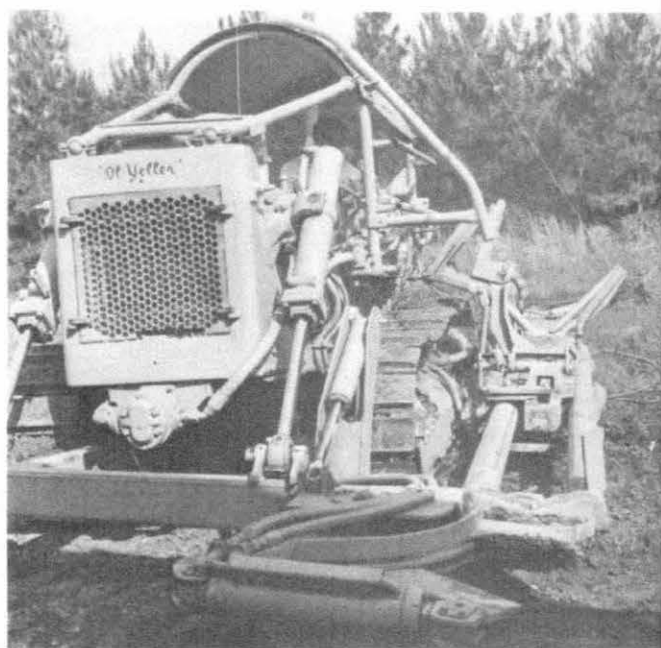




Photo #4  
The Go Getter skidder



Two views of timber harvester invented by Walter Jarck show shear, carrier, carriage, modified grab and delimber. Note how carrier and shear are attached to C-frame in front. Operation of the grabs on the carriage is automatic.



## Harvester cost is modest

Here's a complete mechanized logging tool within the reach of a medium-sized pulpwood producer. Shop-built on a D4, it fells, bucks and delimits with no man on the ground

By RICHARD W. BRYAN, Southern Editor

ROCK HILL, S.C.—Walter Jarck, forest engineer for Catawba Timber Co. (woods organization of Bowaters Carolina Corp.), has developed an attachment for thinning or final harvest of pulpwood plantations which is within the means of the medium to large producer and gives him a totally mechanized operation with no one on the ground.

Designed to be worked in conjunction with a pulpwood prehauler, which Jarck was instrumental in originating (See *FOREST INDUSTRIES*, August 1965 p. 58-59, October 1967 p.62-63), the attachment fells, limbs, bucks and prepiles wood up to 15 inches in diameter.

It was built entirely from proven components and should cost between \$12,000 and \$14,000, plus the cost of the carrier. The prototype model is mounted on a Caterpillar D4C crawler, but Jarck believes it will be possible to mount it on smaller crawlers, rubber-tired skidders or perhaps an industrial or farm tractor.

Basically the attachment consists of the Timberline FS-15 shear, which is used to both fell and buck, and the Timberline SPP-1 carrier, carriage and delimber. Jarck made several modifications, including the grab on

the carriage. The shear and front of the SPP-1 carrier are mounted on a C-frame attached to the front of the crawler. At present, the rear of the carrier is supported by a sled which slides along the ground. However, Jarck plans to mount a C-frame on the rear of the crawler to support the carrier and to aid in maneuvering the harvester.

The harvester operates primarily as a row machine whether it is row thinning or making a final harvest by rows. It can, of course, pick out individual trees between rows or operate in natural stands.

The operator fells a tree directionally so that it falls back parallel to the crawler, either directly into the carrier or sliding down the safety bar on the crawler, then into the carrier. He raises the shear to the bucking position and opens it, closes the delimiting device around the stem, and closes the toothed grab around the stem.

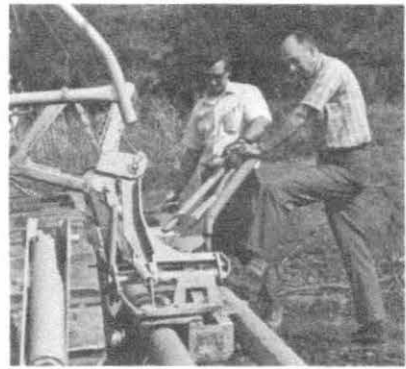
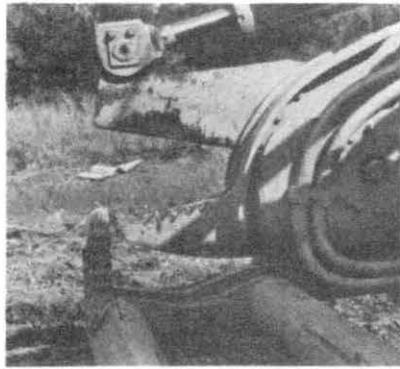
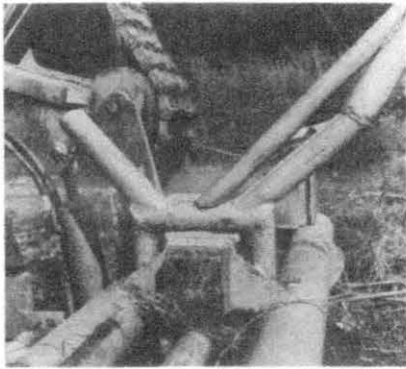
The operator then moves the carriage forward five feet until it stops, and bucks the first stick, which drops to the ground in front of the shear. The carriage has five feet of movement so there is no guesswork involved in bucking shortwood. The grab opens

slightly and the carriage returns to its original position for the process to be repeated. Each stick is dropped in front of the shear when it is bucked, prepiling the wood. When the tree is bucked, the harvester moves to the next tree. The prehauler follows whenever desired to pick up the wood.

Jarck wanted to keep operation of the harvester simple. A total of five valves control all functions: one raises the shear from the horizontal felling to vertical bucking position and lowers it; one closes and opens the shear blade, one operates the carriage moving it forward or backward, and one operates the delimber. Operation of the toothed grab is automatic.

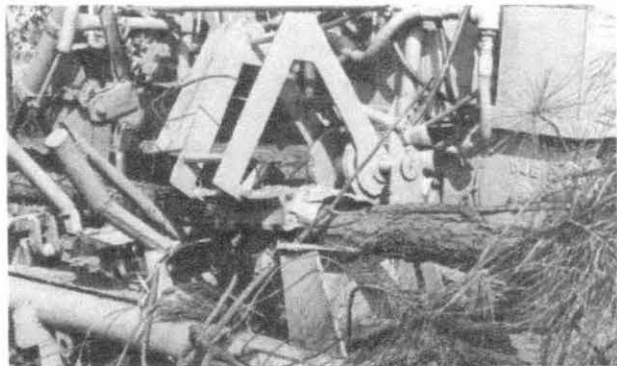
Stick length can be doubled by moving the carriage forward twice before bucking. Other lengths could be bucked by modifying the length of carriage travel. Also with some changes, the harvester could fell and limb stems tree length.

Jarck believes six or seven inches dbh is probably the smallest diameter timber in which the harvester can operate economically. He also pointed out that minimum height is important since the lower limbs of any tree felled must be far enough from the



**Left:** Second bar was added to holding device on carrier to help slide stems closer to delimeter, which is from a Buschcombine. **Center:** Shear is Timberline FS-15. Note guide

welded to outside cylinder of carrier which directs stems into shear for bucking. **Right:** Jarck (right) and equipment foreman David Comer discuss refinements planned.



**Delimiting process** in operation. Arms close around the stem as carriage moves it forward for bucking.



**Shortwood stick** being bucked and dropped in front of harvester. Toothed carriage moves stem forward 5'.

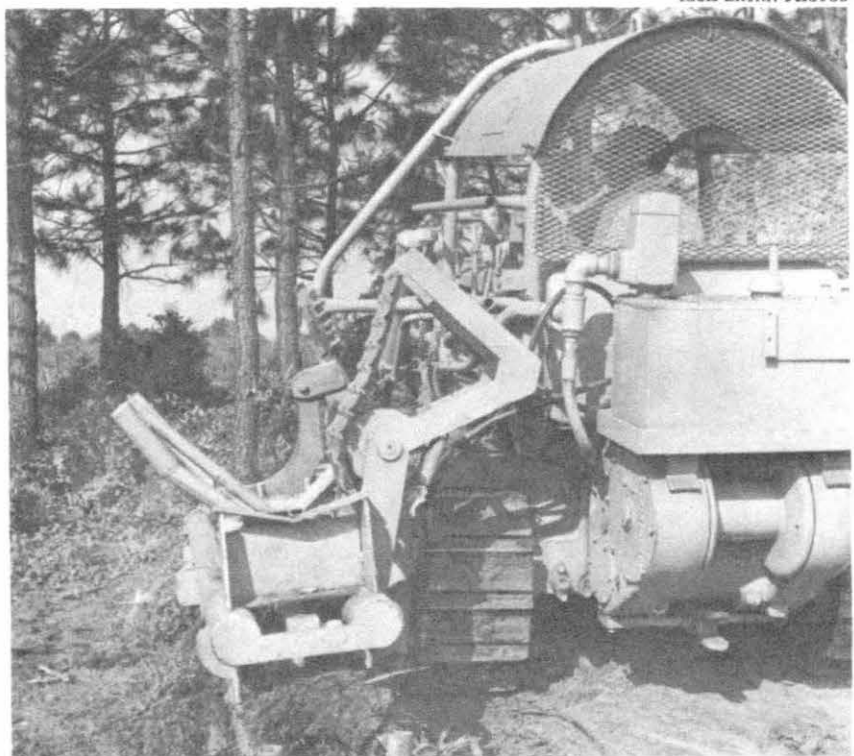
ground to clear the delimeter when the tree is sheared. On the other hand, maximum height is not felt to be a factor in harvester operation.

At present, tree spacing in plantations must be considered since the attachment and crawler measure slightly over eight feet wide. However, on a smaller carrier the width would be reduced.

The degree of slope in plantations should be a limiting factor, Jarck said, particularly if the carrier is moved up and down the slope.

Although some field testing has been done to date, Jarck believes the harvester is capable of completely processing two to three cords an hour. With a three-man crew including truck driver and driver for a pulpwood forwarder, production of a cord per man hour might be expected in the small diameter stems.

It should be emphasized that this is a prototype machine. It has some bugs and will require further refinement and sophistication. A good deal of field testing will be necessary. However, the basic concept is sound and it should be entirely possible to develop a highly workable machine from this prototype. ■



RICK BRYAN PHOTOS

**Severed tree** will fall onto carriage and carrier. Note safety bar over cab to direct falling stem. Toothed grab is raised out of the way. Also note sled supporting rear of carriage. "Ol' Yaller" is built on Caterpillar D4C.



Photo #5





Photo #6

# United States Patent [19]

[11] 3,999,582

Allen et al.

[45] Dec. 28, 1976

## [54] METHOD AND APPARATUS FOR PROCESSING AND HARVESTING TREES

[76] Inventors: Charles A. Allen, P.O. Box 6706, Savannah, Ga. 31405; Walter Jarck, 306 Grady Drive, Rock Hill, S.C. 29730

[22] Filed: June 4, 1975

[21] Appl. No.: 583,677

[52] U.S. Cl. .... 144/3 D; 144/2 Z; 144/34 E; 144/309 AC

[51] Int. Cl.<sup>2</sup> ..... A01G 23/08

[58] Field of Search ..... 144/2 Z, 3 D, 34 R, 144/34 E, 309 AC; 83/928

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| 3,797,539 | 3/1974 | Moser et al.   | 144/3 D    |
| 3,797,541 | 3/1974 | Kurelek et al. | 144/3 D    |

Primary Examiner—Robert Louis Spruill

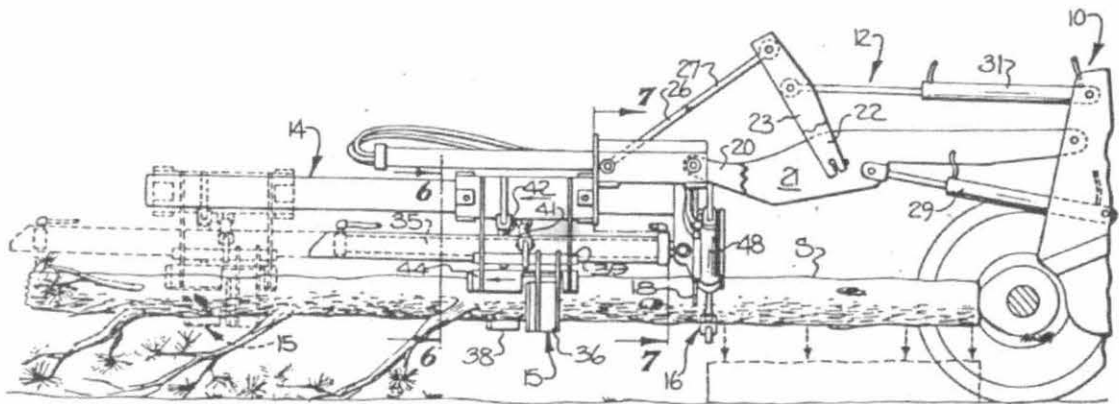
Assistant Examiner—W. D. Bray

Attorney, Agent, or Firm—Bell, Seltzer, Park & Gibson

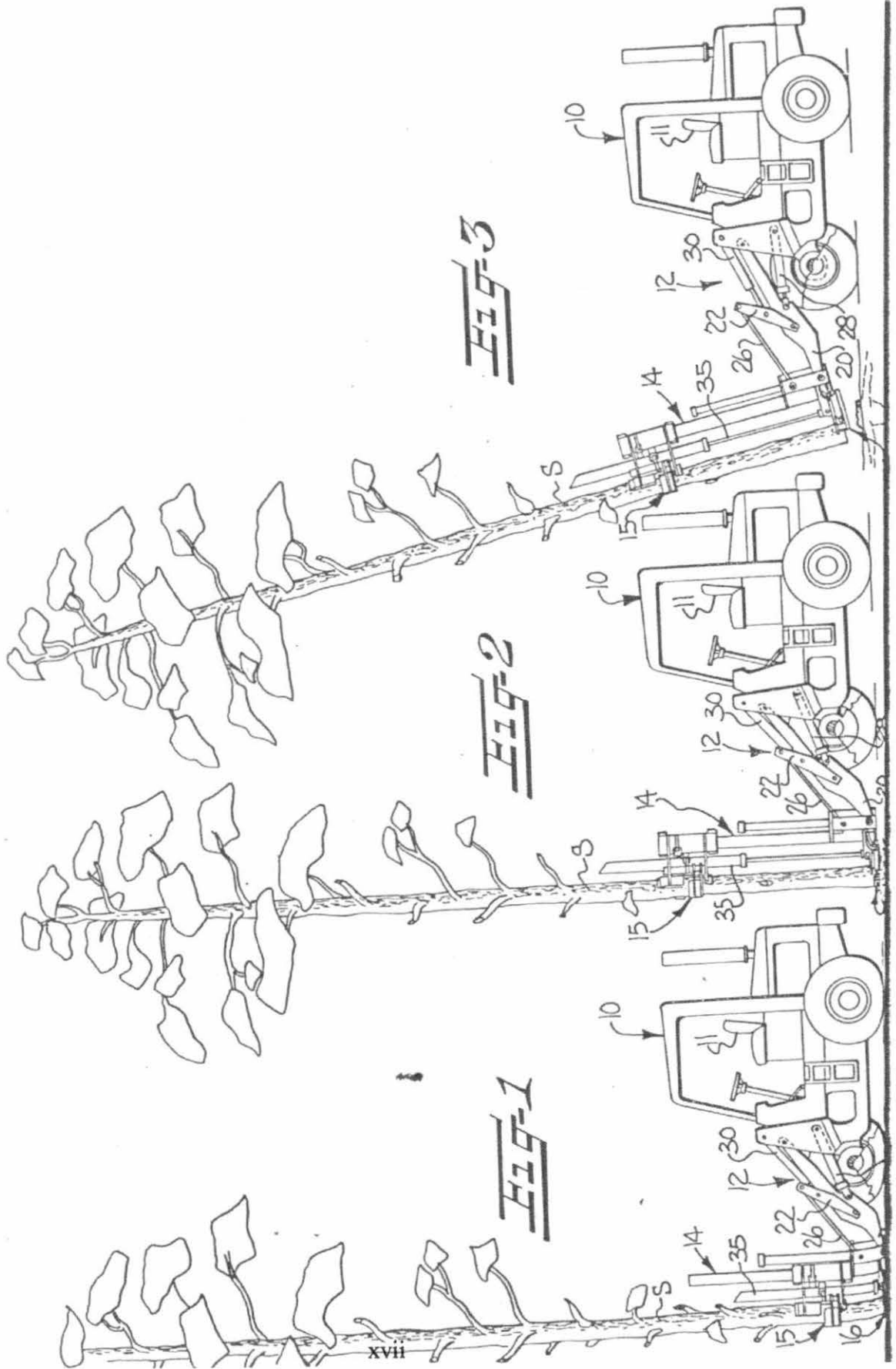
### [57] ABSTRACT

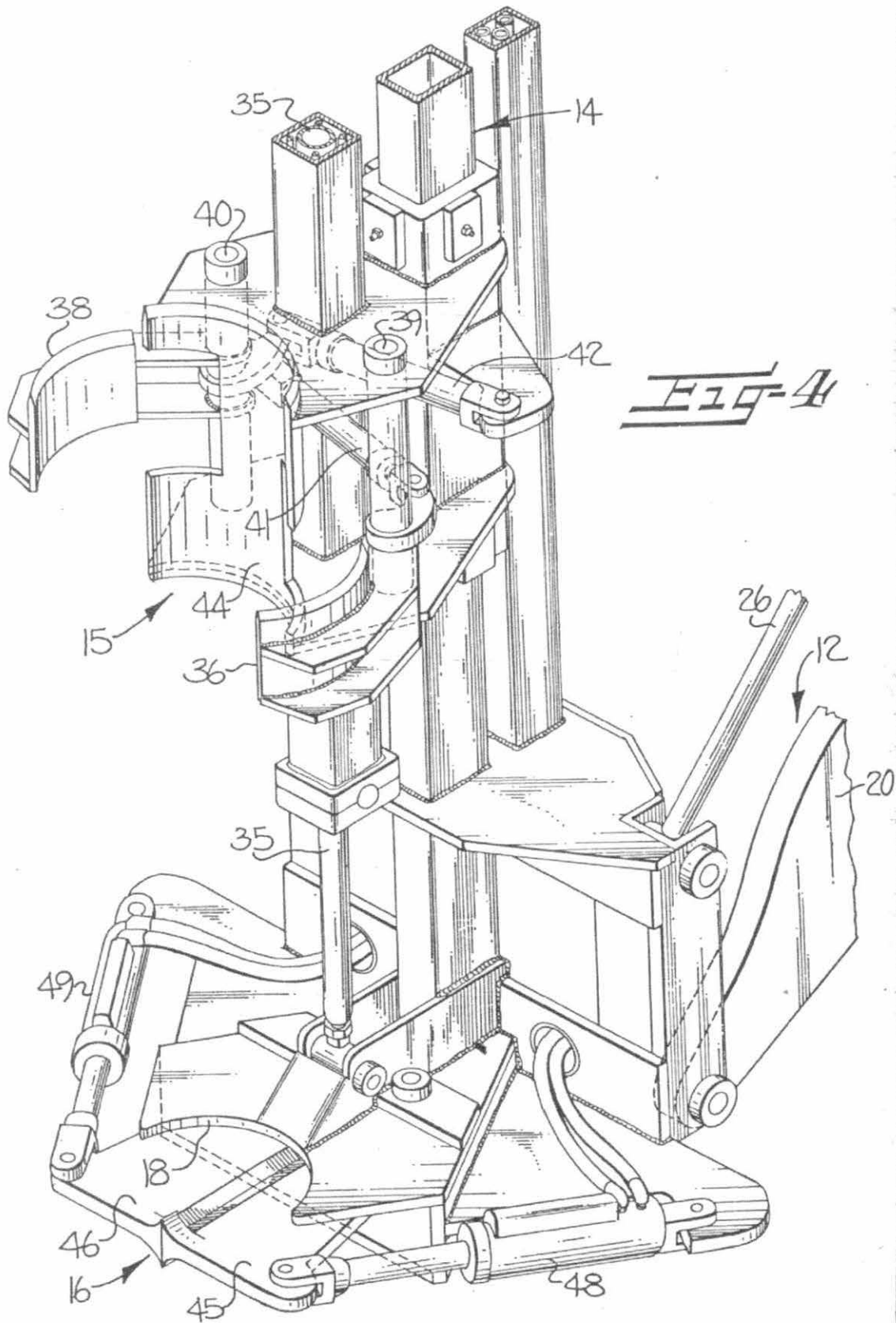
A method and apparatus for processing and harvesting trees in which the stem of a tree is encircled by instrumentalities mounted on an elongate member positioned adjacent the stem and the upper portion of the stem then exerts leverage about a fulcrum defined by the encircling instrumentalities to bias a butt end portion of the stem upwardly into engagement with an overlying guide mounted on the member adjacent cutting instrumentalities. Tree stems are processed by being advanced relative to the elongate member toward an automotive vehicle from which the elongate member is supported, while maintaining upward biasing of the stem into engagement with the overlying guide. The tree stem may be processed either into longwood or into shortwood sticks, with the processing beginning either from a growing tree which is harvested in accordance with this invention or from a previously felled stem which is lying on the ground.

14 Claims, 7 Drawing Figures

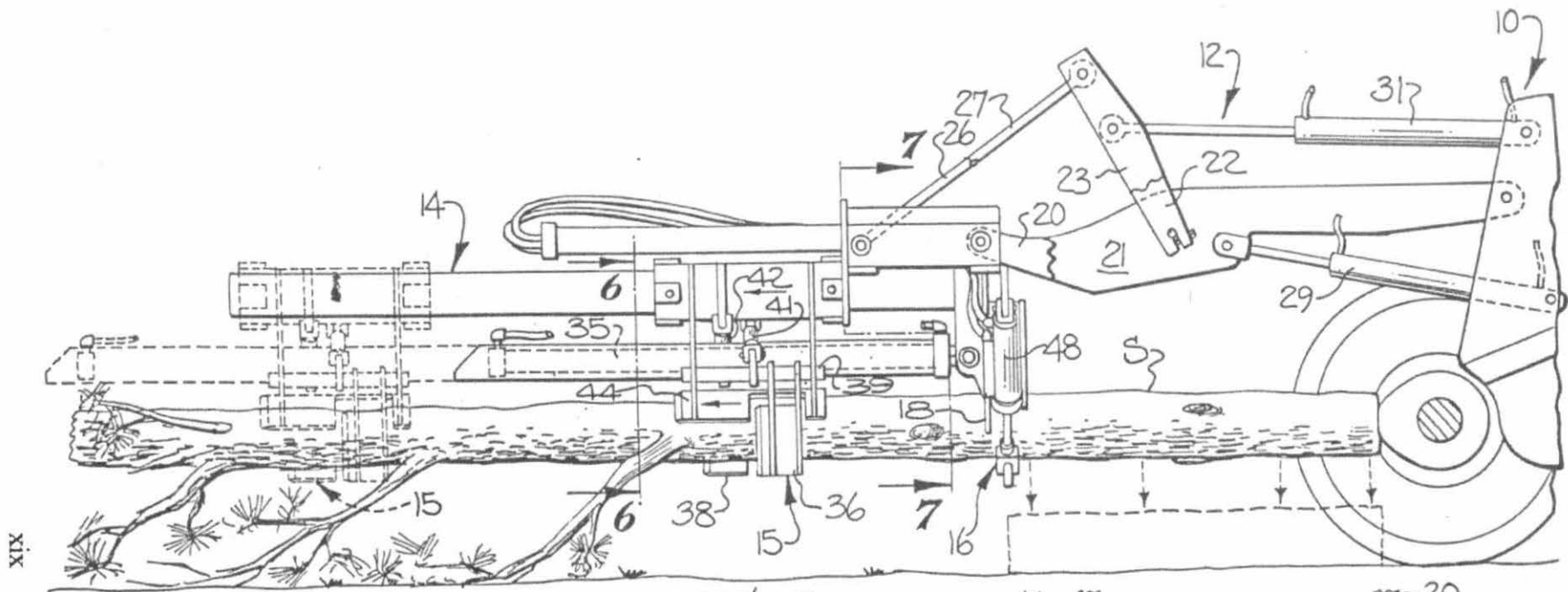


Patent for the Allen Jarck Harvester

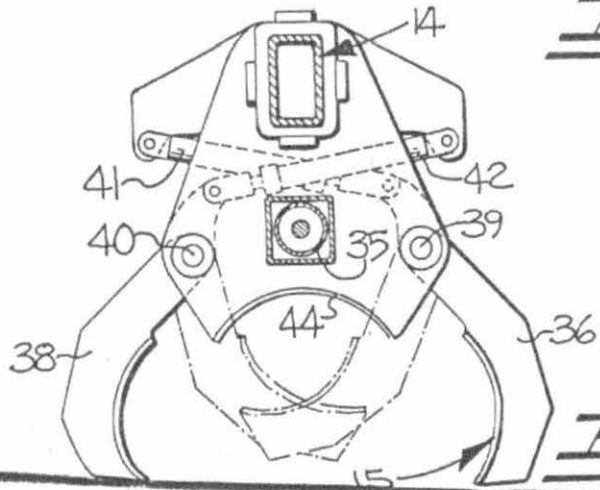




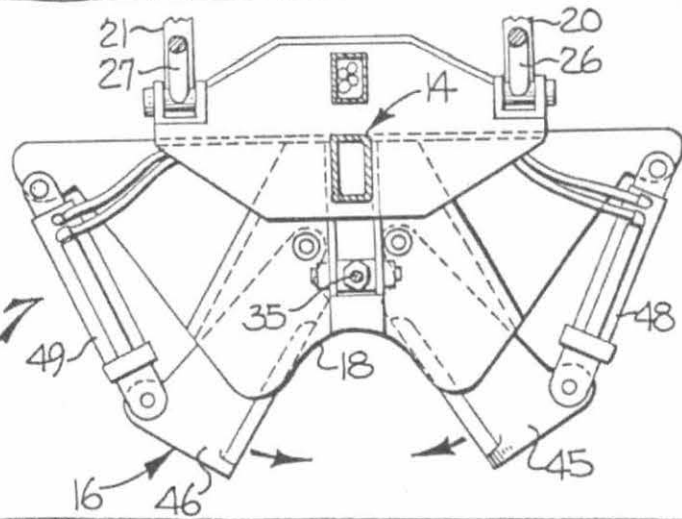




**FIG-5**



**FIG-6**



**FIG-7**

xix

Peter MacDonald (PM): It's the 24<sup>th</sup> of May, Monday, and we're interviewing Walter Jarck who amongst his many claims to fame is the inventor of the Go Getter. Primary interviewer is Peter McDonald. Also present is Michael Clow and Bob Izlar will probably be joining us in a few moments. So we'd like to begin, Walter, by just asking a little bit about your background, how you got into the business and that sort of thing and if it's not too intrusive when and where you were born.

Walter Jarck (WJ): Okay. I was born in New York, 1931. My mother and dad were immigrants and kind of instilled in me a hard work ethic that I probably still have and my kids resent it sometimes because I keep trying to instill this in them. I went to a technical high school for a while and then my folks broke up. I was fifteen years old, sixteen years old when they broke up so I moved with my mother to, my mother opened a restaurant on her own in the mountains of New York in the Catskills. And I moved up there and that's where I kind of fell in love with the woodlands and with trees and with nature and just had a great time. In fact, while I was in high school, in the meantime my mother remarried and my stepfather said one day to me where are you going to college. And I said I wasn't going to college, I was going to join the Navy and see the world and I wasn't planning to go on to higher education. And he was a great big fella and pretty hard on me sometimes. And he says tomorrow when you come home from school I want you to tell me what college you're going to. And I said I can't do that. So I went in the next morning at eight o'clock. I met with my guidance counselor and my guidance counselor said, well Walter, what do you really like to do and I said fish and hunt. And he said forestry, that's where you ought to go, to forestry. Later on I found out that I got very little time to fish and hunt. So he looked at the, gave me a curriculum and he says but you know, you can't get in because you haven't take a college preparatory course and I said oh, well, I'll pass that on. So I came home and finally at the dinner table the question came up. Well, do you have an answer for me and I said well, I'd like to go into forestry but I can't get in because I don't have the prerequisites. Well, why not. Well, because I haven't taken them for three years in school. So he says well, we'll see about that. So he says I want you to apply anyway. So I applied to New York State College of Forestry at Syracuse and very soon after I sent that letter off I got a rejection letter saying you know, you're not qualified. So he was, my stepfather was pretty political and he said well, we're going to get you into school somehow. That's where you want to go and I said yeah, for lack of any place else. So I got another letter then shortly after that saying since you're not prepared but if you'll pass a battery of exams that we throw at you, we run into this situation every once in a while where students don't have the background but do want to go to school. So I went up there and took seven hours of tests and in about three, four days later I got a letter saying you're conditionally accepted. [laughter] Everyone saying what, how did you get into school!

PM: Well, if anyone can last the seven hours of testing.

WJ: What scared me then I got to the school and the registrar had us all in the first auditorium and they said I want you to look to the right and I want you to look to the left and he says one of those is not going to be there at the end of the semester. The guy looking at me and this guy looking at me and I said it's not going to be me, I'm going to see. So anyway, I got really turned on and I did fairly well in school. I majored in, they didn't have a forest engineering at that time but they had, I took extra road construction courses, kind of toward the engineering side of it. I took surveying, extra advanced surveying, some of these things. And then in my senior year, well the war broke out, the Korean War broke out in my sophomore year and in my junior year I got a letter from the draft board saying come for your physical. And so I went down for an Army physical and I went back to the same registrar that had us in that convocation at the beginning and said look, I'm going to be drafted out of school. And he says they can't draft you, Walter, because you're in the top half of the class. So he wrote a letter and I came from a little town where my mother had that restaurant and I happened to know the guy that was part of the draft board and I saw him on the street one Thanksgiving I think it was and he said well, the day after you graduate, you're going to be in the Army. I'm going to get you. And I said well, maybe. [laughter] So anyway I found out about the Navy and again this was always something in the back of my mind, the Navy, and I thought about being a flyer, Navy flyer and so I went down to see. In my senior year I saw a recruiter and signed up and he says because you're going to be a college graduate by the

time we take you, you can be an officer. So I said well, I don't know. He says well, it's only a year longer and he says it's a whole lot better life than being in one of those holes in the ship you know. So I went and took the test and passed the test for an officer and was accepted into OCS. I came back to college, and this was around, I did all that around Christmastime of my senior year, came back and told some of my friends in school and we ended up with eighteen foresters all going to OCS and all being in the Navy. And we just had our fiftieth year reunion and it was real interesting. We talked about Navy more than we talked about our forestry classes. But it was really interesting. Anyway, in the Navy I got to work a lot with ships, mechanical systems, and propulsion systems and steam systems, hydraulic systems and all that. And then when I got out of the Navy I went to work with Caterpillar Tractor Company. I spent a year in their sales program, sales training program and in that sales training program we actually spent time on the assembly lines watching. We didn't actually put anything together because our union prevented us from doing that. But we put things together. We were in the welding shops. We were in the mechanical shops, the engine shops, and so on and I really got turned on. By the time I left I knew how a scraper was built. I knew how a bulldozer was built. And I was with them a year and a half and they had a down cycle and they furloughed a bunch of us because we hadn't really made any money for the company and so they furloughed us and I wrote to a few friends of mine who were in the southern industry because I'm a Yankee boy. I was born up north and educated up north. And they said there was a job, Brunswick Pulp and Paper was one of the leading companies at that time in the south. A fella by the name of Lucian Whittle was manager of Brunswick and he had worked with Caterpillar on a few projects. We had developed the root rakes and the FLECO under cutter, which is a blade, cutting blade that cuts trees down. When you're clearing land it shears trees off. And so I had experience with some of that and with him. And so he found out about Bowater building, or he knew about Bowater's building a plant at Catawba, South Carolina. They had already opened a big paper mill on the Tennessee, in Calhoun, Tennessee. And so he called a man by the name of Herb Carruth who was the woods manager up here and Herb was looking for a forest engineer. Well, with the Caterpillar, with my Navy experience, with the surveying and all that I had in college, I fell right in and I got that job.

PM: When would that be, Walter?

WJ: Huh?

PM: When would that be?

WJ: I started work in July of '58. And at that time Tom Walbridge, I don't know if you've interviewed him.

PM: Yes.

WJ: Have you?

PM: Yes.

WJ: He's quite a guy. Tom Walbridge had the forest engineering job at Calhoun, Tennessee, our sister company, and then I had it at Catawba and the two of us then would kind of conspire about what big stick loaders or whatever, what we need to get the, mechanize the industry. And as my boss said, we have, at that time, a six hundred million dollar paper mill being built and we're going to be relying on the sweat of a few laborers to hand load and to bring wood in. He says there's got to be a better system of this. So as I got into this, the first jobs I had was building office buildings and building wood yards and things like that. And then as soon as I got caught up on that he asked me to start looking at what we could do about equipment and how do we get all weather logging. See the difference in the south and the north is in the north you have spring breakup. You're familiar with this in Nova Scotia and New Brunswick. For a month after the weather turns warm the soil is real spongy. All the snow is melted in and you just stop. Your roads break up. Logging stops. Everything stops. Well, here in the south you might say we have breakup from November thru March.

PM: Because of the weather?

WJ: That's our rainy season. Now if you're in the sand, we have various types of soil types here. Your sand, the rain is the great place, you know, helps pack the sand and you can probably log. But if you're in the clays or if you're down in the tidal areas, it's impossible for winter. So winter logging is real bad. And in the past, in the old days here, and I'm talking about '40s and '50s, these paper companies would build up a six months supply of logs in their wood yards to overcome that winter weather. And that was a big cost to stockpile all that and then also lose some of it as it got old. So my job then became one of let's try to mechanize this and let's try to have all weather type operations. Okay.

PM: As a way of kind of controlling the inventory?

WJ: Yeah, have less inventory. In fact, some of the plants now are working on say a week's inventory at most.

PM: Is that the biggest reason do you think, Walter, to try to cut back on that large inventory?

WJ: Back then it was.

PM: Back then, un-huh.

WJ: Yeah, back then it was. That was a big cost. I think now we have all weather logging. In fact, we could not log just by the day really and some companies are working with real close margins. And it gets back to the cost I think. And there might be some other things but today it drives procurement people wild because when you're only working with a three day inventory, you know, and you get a hurricane thru here, which we do every once in a while, that could just knock you out bad.

PM: So the prime impetus then was to try to even that supply out over the year and the only way to do that was by mechanizing the harvesting system?

WJ: Yeah. Now I started out in 1959 and I just happen to pick this Bowater tree farming bulletin and I had a few, and this is what you do when you're trying to innovate, you find a few tamed loggers, loggers that are also innovators and who are willing to try different things. So many of the people in the business back then didn't want to be bothered or were afraid that it would slow them down or just afraid of changing the ways they were doing things. So there were a few that I worked with all the time. When I come up or they'd come and sit down with me over a cup of coffee and they say what can you do about this or what are we going to do about this or I have an idea, let me try this on you and then we'd talk about, you know, doing some of these things. Back in '59, '58, '59 when I first started, there was almost no equipment in the woods. There were a few D2 Caterpillar tractors, a few, there weren't any hardly any D4s and the D2 was stopped at that time. Caterpillar got out of D2 production. So this was about '59, '60 so all of a sudden there was not the availability of this little tractor, this little crawler so what else are we going to do?

PM: What was it used for?

WJ: It was used for skidding wood out. And back then we had a system called a pallet system, these wood racks, and they would take a D2 with a little skid pan, it was just a piece of metal looked like a toboggan turned up a little bit, and they'd have this pallet sitting on that skid pan and the D2 would pull it into the woods. They would hand load it and the D2 would pull it out and that was winched up on a truck.

PM: Okay, and this would be short wood?

WJ: This was short wood. If they were doing long wood they just logged with, put two or three logs in back of a D2. It was a small load and they would pull that out and that's how they did it at Crosset where I worked with GP as well. There were some farm tractors used and they were dangerous because a farm tractor would rise up, would turn over or whatever. And so we didn't have any logging equipment. There



was no logging equipment per se other than horses and a few of these Caterpillar D2s around. International had a TD9 at that time, which was a D4 size. That's what this picture here is. This was a TD9, little bigger. Okay, what I did, the first job I did, instead of pulling that pallet on the ground I put it on wheels. And so they hand loaded that for a while and then they said is there any way you can help us with the loading. So then I went and got the big stick loader boom and I mounted it to a winch on the back of the tractor.<sup>1</sup> And so then they went out and they would put one log on the ground this way and they'd put about five or six logs that way.

PM: Crossways.

WJ: And then they'd have a stick with a fork in it and they're push the cable in and pull it around and pick it up and they'd have a load sort of like this.

PM: Un-huh, and that's the big stick loader?

WJ: This is the big stick loader, yeah. Michael, this is, and what I was saying here is I mounted, instead of having a pallet dragging on the ground, I mounted it on wheels and this is a little tilt bed so I could unload it, slide it off and then the pallet, this is about one and a half cords of wood here, would then load it onto a truck. That in itself made production really jump up. It easily paid for the tractor and the trailer. Okay, so then the next logical step was, well, this tractor, we can't afford TD9 tractors or D4 tractors. They're too big, because the D2 had gone out and nobody bought any new equipment back then. Everybody was poor. In fact, when I started in the woods in 1959 a lot of the crews were barefooted.

PM: That poor?

WJ: Yeah, they were that poor. They were farm workers that were looking for extra work. And after the cotton was laid by or the cotton was picked, and we had fields and fields of cotton all over at that time. There were almost no trees back then. We actually created the forest and that's another whole area that I worked in. There was one county, which is the high producing county in South Carolina for pulpwood, they said you could see from one boundary to the other and it was all cotton fields. There were no trees. And that's probably true because when I came in '59, '58 and '59, there were eroded fields. There was very little timber production. If you cut two or three cords, four cords per acre, that was probably an average cut. And that was one of the problems we had is that the cut was so low that you could not afford much equipment.

PM: I guess not enough material to justify.

WJ: There was not enough material – that you could not get your production rates up. And we kind of pulled ourselves up by the bootstraps with some of this small equipment and used equipment. Okay, well then crawlers got to be the big problem and expense. So then I started looking around and saying well, what else was there. There was nothing else that I felt really worthwhile.

PM: So this would be what, '59 roughly?

WJ: This was '59, yeah. So then I in 19--, I just happened to pull this out, in 1961 I bought a Massey Ferguson 65 tractor<sup>2</sup> and I worked with a small farm equipment company in York, South Carolina, Kelly Farm Equipment, and I had them do the welding, mechanic labor, whatever and I bought the tractor from them. So I went ahead and designed this outfit.

PM: That was the first one?

WJ: This is the first one and this was an all wheel drive, which there was a Harrison Brown tractor, four-wheel tractor, but it was not four-wheel drive. It was just a trailer with a farm tractor on it and they had taken the front wheels off and we had hydraulic steering in back of these wheels right here.

Michael Clow (MC): Frame steering?

WJ: Huh?

MC: Frame steering?

WJ: Yeah, yeah, I developed all that for this. And also the rear axle could oscillate this way as well as this way.

PM: Help me be real sure about this because I find it interesting. So when you say hydraulic steering you mean frame steering or do you mean?

WJ: Well, what do you call frame steering because that sounds like a Canadian term?

MC: Two pieces articulated in such a way that you steer not by pushing the wheels but by...

WJ: Pushing against itself?

PM: Yes, using hydraulic rams too to tilt around the pivot.

WJ: That's what I, and that came from my experience from Caterpillar because that's how the big earthmovers are steered, the wheeled earthmovers.

PM: Oh, the ones that, the scrapers?

WJ: Big scrapers.

PM: Yes, okay. Right.

MC: Because our looking at Bruce McColl's stuff, that seemed to be a key innovation, using framed steering.

WJ: Yeah.

PM: So this is frame, what we would call frame steering?

WJ: This is what you call frame steering, yeah.

PM: So it's not just by braking one of the wheels that you steer, okay.

WJ: No, not at all, it pushed and I can draw you a little diagram of that I think. Some place, okay, here, oh, okay this comes along later. So I developed this and we gave this to several loggers to try out and there was a list of people that wanted to use this. And this was called the 704.<sup>3</sup> It was just equipment number 704. And the way I worked this, the power takeoff on this, and this is the reason I use a farm tractor, there's a live power takeoff.

PM: Off the back.

WJ: It would make sixteen turns to one revolution of this wheel. Okay. I went all over looking for another rear end that made sixteen turns. I couldn't find one.

PM: For the wheels back here?

WJ: Yeah, and I found an old Allis Chalmers WD70 I think, it's written up in one of these, that had an eight to one. Aah, all of a sudden light bulbs went on. Okay I'll just put a two to one gear ratio in there and I'll have it. So I went and found a couple of gears and rigged this thing up and with this guy, Mr. Kelly, welding it all, we worked on this thing one night 'til midnight and we had it all together. We rolled it out. This is not for publication. We rolled it out and he says put it in four wheel. Put the power takeoff in.

PM: Stop the tape. [tape turned off]

WJ: We got the biggest Massey Ferguson tractor and he says lets have a tug of war. I said okay. So I drove this thing. And I pulled his Massey Ferguson tractor all around the fields and all. He was trying to pull me and it was just not go along. I said we're there. We got it. This is the thing. And this thing would pull just immensely and it was really a fantastic new invention really.

MC: And that is what you called the Go Getter?

WJ: This was the 704. This is, the Go Getter, yeah. We called the Go Getter a lot of things here. This was the first four-wheel drive articulated farm tractor. I got a letter from a guy in Minnesota I think it was. His name was Gafner. Gafner makes the Iron Mule. Now Gafner wrote and said how did you do it. And I wrote to him and told him about the sixteen to one and eight to one. Next thing, there was a, because you know we were giving this thing out, there was commercial operation. Gafner used a Massey Ferguson tractor and came out with this iron mule. And that was a fantastic little tractor. It was a prehauler called a Treever, T-R-E-V-E-R. Okay, this cost about seven or eight thousand dollars as I remember.

PM: And this was again when, 1960, '61?

WJ: This was '61.

PM: Sixty-one, so that would be sixty-one dollars in 1961 dollars.

WJ: Yeah. And so everybody, people were all saying this guy was Shepherd, he was a logger, said that's too expensive. I can't afford that kind. Even though he'd probably double his production and he was being able to come out in rainy weather. He could do all kinds but you know I guess the mental sync on this was oh, this is still too expensive. So then I talked to my boss at Bowater and all and he said can you build a machine for about five thousand dollars. I said well, I think I can if I use surplus parts. And so I built this Go Getter and this used a Ford industrial four cylinder Ford industrial engine. The axles were GI World War II trucks. I welded, I used motor grader tires and motor rims and even though they said, you know, motor graders, the tires aren't for big loads, I never had a problem with loads or anything. I built it with the same kind of steering that you said. I put a big stick loader on it just as I had over here. And, by the way, on this one I actually at one time had a radio control where one man could go out and get a bundle of wood pulling it in because you could yard with this thing and he just pushed the button on his belt and it would pull it in. Then when he got into here he'd manually put it on top. I mean manually use the controls to put the. Okay, so I built this one for, this is the first Go Getter, I built that for five thousand dollars and that opened up just fantastic amount of interest and everybody wanted to know how I did this thing. So I put out a set of plans, and you see there's not very much. This is the one copy left and it shows the frame. You see here's the steering.

PM: Yes, yes, the frame steering, right.

WJ: Axles, this is how the engine set right on there. Gave the distances so I had the right balances. And what I used on this was I found a large steel pipe with an outside diameter that was just a few thousandths different from a large steel pipe with an inside diameter the same. And so this is the main

pipe that goes all the way through. This is the larger outside pipe and then there's a piece on each end and I just put that pipe right on through and then had a few grease fittings. So I had a bearing surface that was a great big long bearing surface and it would turn inside that so if you went over uneven ground, all four wheels were always on the ground.

PM: Right, because of the two halves of the sequence.

WJ: And that was a big development and that was also on that first machine I did. See that's seven-inch pipe and this is six inch. And then my drive shaft ran right down through that to the back. Now let's see, where does it show it here.

WJ: I actually sent out three hundred and forty plans and charge was thirty cents for the shipping and handling. And Bowater did this. I didn't do that. Bowater put the word out that if any loggers want this. And I'll bet out of those three hundred and forty there was pretty close to a hundred machines actually built in local shops all around. And people were trying, as I said, pull themselves up by the bootstraps. Now this also had a fair lead attachment. This was the pallet attachment that folded and tilted and then this was the fair lead attachment so if you had some long logs you wanted to pull out this could be used as a skidder. It could be used either way. And that had just a tremendous amount of, you know, desired ability there and people just really loved it. Okay, so that was built for five thousand dollars and we gave it to the industry. There was no patent or anything on this. This was just for the industry to make themselves a little more advanced in logging. And that was done. The drawings were sixty-four but I don't know, actually I had already worked with people like Guy Horton, Shepherd. There were two or three black producers that already had these things out. And so what happened after that was we had so much interest in this and a lot of people said where can you get one of these built if you don't want to do it yourself. So then we went to, I went to T.C. Brown who made the big stick loader in Louisville, Mississippi and he made the Go Getter. And the first Go Getter, no, I guess by that time I had gone to a hydraulic knuckle boom loader instead of the big stick.

PM: Right, because they were becoming available.

WJ: Yeah, Prentice had made a small loader at that time. This was the original. That's me sitting on it back there. But that was a workhorse too. That thing really did it. Now one of the problems we had with this particular one, we were logging in the river valley and it was a real steep bluff coming up. The gas tank was on top with a cap fill tank right in back and you see this is the exhaust back here. We were going up and the guy had over filled it and the gas came out against the exhaust pipe and we burned that engine up. Then after that we tried to modify that but he still had the same engine in this one. This is my wife and kids there. So this was the Go Getter and this also had a fair lead for skidding if you wanted it. This is how it worked. After it was loaded they slid the pallet off and then the pallet was slid onto a truck and the truck would carry three or five of these. So it was pretty innovative. Again pulpwood. Now back about this time then all of a sudden skidders were coming out. In fact, Franklin and several other companies had looked at this and wondered about making a skidder similar to this. Well, this was a little long for a skidder because a skidder had, you know, we needed to carry that pallet. There was an eight to ten foot pallet on the back. We needed to carry that.

PM: Right, but you had the right wheel base.

WJ: Skidder would be close coupled compared to that.

MC: Now this pallet itself, would that be unloading by hand at the stump?

WJ: No, we were doing it with a grapple.

PM: So the stump workers, they would just...



WJ: In some cases where the guy only had one pallet, he would bring this out. He would not dump it. He would leave it on there and use his grapple to just unload and put it on the truck, which was a little bit slower but it was probably better capital wise. And I've got several pieces on that. [Bob Izlar enters.] This again, if you need any pictures, this is the original machine. This is the second machine. This is the first one that Brown built. And then this is the one with the loader on it. In fact, this is T.C. Brown's son there, Tommy Brown, with a grapple on it. Showing him all these antiques.

Bob Izlar (BI): I've seen some of those.

WJ: You were down at Brunswick.

BI: Yes.

WJ: Traciwicz.

BI: O.G. [Oscar G. Traciwicz]

WJ: Yeah, was back then and then later, what was the other?

BI: Oh, you mean Frank Czerepinski ?

WJ: Czerepinski.

BI: Right.

WJ: Sounds like it was all Polish engineers down there.

BI: Exactly, yeah.

WJ: But Traciwicz liked using, because your soil was so different down there, he had to have bigger tires and all that kind of stuff.

BI: Right, yeah, you get a lot better flotation.

MC: Now did you know what McColl was doing at the same period?

WJ: No, not at all. I found out later.

PM: Oh, you did find out later?

WJ: I found out later but you know, the guy that was the head of the logging engineering, famous. My brain's not working right.

BI: Silversides.

WJ: Yeah, Ross Silversides came down a few times and met with us and at that time the American Pulpwood Association was the assembly point for forest engineers. And during this period of time that had to be the most glorious time for a forest engineer because everybody was looking for some answer, you know, and we'd get to meet two and three times a year and we'd all sit down and we'd have little models. We'd play with that stuff or we'd talk about what everybody was doing so we would kind of tie in to that. You had Tom Walbridge. You had myself. Georgia Kraft, before that, big fella. He went over to Coosa. And then you had Joe Blonsky.

BI: Joe Blonsky with Meade, right?

WJ: No he was Westvaco.

BI: Oh, excuse me, I'm thinking about the new company. Yeah, you're right, Westvaco. Then you had Czerepinski.

WJ: Czerepinski, well before that Traciiwitz.

BI: Right, yes.

WJ: And then you had the guy down at is it Camp Tanoak? Not Camp Tanoak. What is the prison in Florida?

BI: Start.

WJ: Yeah, there was a guy working out of Start though and he was originally from New Hampshire.

BI: Would that have been Jim, [Jim Kauffman] the old guy with Container?

WJ: Oh, we had the old guy with Container too. Gosh, anyway.

BI: Yeah, we'll think about it in a minute.

MC: What years is this, mid '60s?

WJ: This is early '60s.

PM: And this was regional, the people that you're mentioning, this was all in the southeast?

WJ: Just all south, yeah, and Dots, not Dots but who's the forester over at Auburn? His father was.

BI: Don Tufts.

WJ: Tufts, Tufts.

BI: Robert's at Auburn. His dad's Don Tufts.

WJ: Don Tufts was very good and very much into this thing. Carl Brown with IP was a woods manager at Georgetown and he was involved in this.

BI: When did Jim Arnold come along with St. Regis? Do you remember Jim?

WJ: Yeah, Jim came later, about ten years later, I think, yeah. At first it was maybe five, Ken Ralston was part of it.

BI: Ken, right, when he was with...

WJ: Coosa.

BI: Coosa, that's right, yeah.

WJ: And his boss, whoever the guy was, was there at the same, there were two guys from Coosa, two guys from Bowater, and just a few others. Glen Plummer and all came later.

PM: What is Coosa?

WJ: Coosa, Coosa River, what was that? That was Kimberly Clark.

BI: Kimberly Clark, yeah.

PM: Okay.

WJ: The Coosa River.

BI: It's Alabama, right? Kimberly Clark.

WJ: So that's how we got started and it was being pushed by the various top people, Bob Edgar with Bowater, some of the high guys with IP. Every time we'd meet they went, what are you guys doing, you know, blah, blah. Let's get going on this thing.

PM: Southern Mills was really keen to bring this about?

WJ: Yeah. Tom Walbridge had a whole lot bigger budget. All this was built out of scrap iron from the paper mill. Tom Walbridge was lucky. Bob Edgar was there at Calhoun and whatever Tom wanted he'd just write a requisition and get it. When I wanted something I had to go out and scrounge for it. [laughter] So, okay, now we had done something about getting the wood out during bad weather. We had all weather capability with some of this and then as skidders came we had all weather capability. We still had this problem of, we were cutting six-inch trees and it was really labor intensive because you had to cut the tree down in a forest that was planted now. It was hard to get the tree to lay down because there were so many trees holding it up. Trees were planted eight x eight or eight x nine or something like that. And so I started looking at what can we do to mechanize the cutting of the tree and processing it into the small wood. And so I started playing with several different ideas. Let me see, I've got all these. I developed a harvester and got a patent on a harvester that. Let me find it. This is later stuff here. That actually cut the tree down, delimbed it and bucked it and piled it.

PM: On the ground?

WJ: On the ground and it left a pile of five foot at each stump. And as we worked through that we found that the, hold on a minute, let me see if I can find one. This is it here. What I did, I had a shear that, fold it down and it could cut the tree off. Actually, it was this way, cut it and bring it back. Dropped the tree in a rack and then there's a carriage here. There's a carriage that brought the tree back down through the shear and it had a five foot stroke and it would cut it off and leave the. But what happened, after a few trees it looked like a haystack. I couldn't get rid of all the stuff. It was going the wrong way with it. So what I did.

PM: It was, delimbed it, it was being drawn down through here?

WJ: It was delimbed as it came through this knife and it was the same, the Busch Combine the same belt with knives that Busch Combine used. As it pulled on down and it cut it off and all the limbs and all were supposed to fall back in here. But what happened they all hung up on the machine. And so I quickly found that what I needed to do is turn it that way, turn it away from the tractor. So I redesigned this thing so that it would go up. A cutting head would go up to the tree, sever it, fold the tree out and then bring it back this way and have the logs right in front of you. This was the device that we had there. It was one of the first bunchers [feller bunchers] and this was '76. This was patented. This was AllenJarck Harvester, Allen out of Savannah. And there it is. See it was pulling it back and then dropped the tree, dropped the five foot right in front of the front axle. It would go up to the tree. The tree was right up here. And it would pull away from and the tree was held underneath rather than on top. Before everything fell on the machine so now I'm dropping everything. And this was the delimiting knife right

here and it would go out and cut everything off. And then this was the shear. This was both the felling and the bucking knife.

PM: So the delimeter wasn't fixed, it moved?

WJ: It was on a carriage. It went five feet at a time. And it would, we actually held, this is all coming back to me. You actually cut into the log and held it so as the delimeter went out it wouldn't pull the whole log out. The log would stay there. Okay, otherwise the log would push out with it. And that really worked well. We actually, Allen built twenty-two of these and L.O. Wright. L.O. Wright had four of these running.

PM: Make a note of that, Michael.

WJ: And Sam Allen who was the father, this was Andy Allen was working with me. He was a hydraulics engineer. He and his father got drunk and got mad at each other and his father threw him out and closed the shop down. And so that was the end of the AllenJarck machine. [laughter]

BI: That's like American Chopper is today. How long did it take you to get that patent, a couple of years or was it a shorter time than that?

WJ: This one took me a couple of years. This one went pretty fast.

MC: Where did you get the idea of delimiting like that?

WJ: From the Busch Combine.

MC: So the Busch Combine delimits like that as well?

WJ: Yeah and I loved the way it did it and I said, why reinvent the wheel. Let's use it. So I bought, I'm trying to think of the guy that sold for Busch Combine for a while. He was out of Savannah. I'll think of his name. Anyway, I bought the belt and then put it on this carriage. The arm would come up and the belt was just loose then and then the arm would come down and the belt would go around about three-fourths of the log. On the bottom there was one fixed blade so we got it three hundred and sixty degrees. It did pretty good job of delimiting.

PM: And this was 1978?

WJ: No, '74.

PM: Oh, sorry, 1974 you did this.

WJ: Yeah, '74 thru '76. Well, probably thru the '80s, early '80s. At the time they had their argument. This was where I was going with this and I was going to have, I was going to use a skidder or some kind of a front end loader type device and I was going to put a knuckle boom, Michael, a knuckle boom on there so that, with this other I had to drive to each tree. With this I wanted to just reach out and get several trees maybe.

MC: Without moving the machine, right.

WJ: That's when the whole thing kind of fell apart and that's when I went to Georgia Pacific, by the way.

BI: Was the concept of an accumulator around at that time?

WJ: Yeah, we had an accumulator, extra arm that would get two or three trees and hold them and then process two or three trees. That was the concept. It was going to go I think. You know, here's two guys that are mad at each other and that was it. Let me see, I had, we had Bill Stewart and Walbridge do a study on that first harvester, on that one. They did a study on that and we found it was too slow in some areas.

PM: That was a harvesting research project study.

WJ: This was the advertising bulletin that sold those twenty harvesters on this latest design. We had a three-man crew and they were all Vietnamese that he had down there and they made over a hundred cords a week with three men. There was one on the truck, one on this, and one on the prehaul. So he was using something like this and he was using this and then he had one guy trucking. The three men made pretty good money. I mean that was good and L.O. just wanted to have a whole lot of these things but because of the two individuals we never.

PM: Kept this [book] for sure.

BI: Oh, absolutely.

WJ: All right, let's see what else I have for you. I think this was my first. This was the patent for that machine and this took a long while. This was at the time on the side of a caterpillar. It was on the left side of the caterpillar and that was '73. And this is the one that just covered the machine up with the limbs and I quickly went ahead and changed that. I don't know how much of this stuff you want, Bob. Whatever, copies you want.

BI: We'll take them all and then we can copy for them whatever they desire.

WJ: Okay. Every one of these magazines have some article about it some place. This is later. This is '70. So when I went to Georgia Pacific then I went to work, this is that original, that original, that's the patented machine. And this is the shear and the felling position and then the shear turned up. You see it turned up there into the bucking position. And here's that belt, delimiting belt. This is it and it just wrapped around the log.

BI: It moved the log.

WJ: Yeah and it was on a carriage. See this whole thing moved. This ran on that pipe. Pretty neat.

MC: Really neat.

PM: So the harvester was started something. When we started doing our research we found there wasn't very much at all written about understanding the mechanization of tree harvesting. We had to basically figure out well what do we do to harvest the trees.

WJ: Yeah. There was an article by Earl Deal too. You knew Earl.

BI: Oh, yeah, with N.C. State.

WH: Yeah, he was. This is my machine for harvesting. This was on a Case and then they had a big grapple come along and pick those up. Here's the Jarck harvester, fifteen dollars and eighty-eight cents a cord, pretty cheap. You want that too? Oh, I also, this is one of Ralston's favorites. I made a concrete culvert that came in pieces and you could pick it up after you finished logging and take it out and use it over and over, a boxed culvert and Ralston wrote this one up. Okay well now, what happened after I went to Georgia Pacific, this guy was one of the great guys for getting the word out. He ran this magazine, Pulpwood Production, [Pulpwood Production and Timber Harvesting] Charlie *Klein* and he

would, every couple of months, it was like being on a tour, he'd go around to each of the plants and say what do you guys have, what are you doing, and he'd write something up. And it was kind of the record keeping for everything that was going on in the industry. So if you get these old Pulpwood Production [Pulpwood Production and Timber Harvesting] magazines, you'll get a pretty good history of what went on. I also built, designed tree planters. I built machines for the seed orchards. I did all kinds of, I built forty wood yards and I built six hundred miles of road, all while I was doing all of this stuff too. Let's see, these are just some shots of the prehaulers and different operations. I guess we at one time we must have had twenty of these Go Getters out and it helped a whole lot. This is some of the machinery here. This was the Harrison Brown and the Brown was Carl Brown of IP and this was not powered. I went out to see what this thing was doing. This was a farm tractor, was a Case farm tractor, had a little grapple, could pick up one log at a time, which I didn't like and it had a dead axle back here. And I went out and watched it just get mired down and they had to get a bulldozer to pull it out and I said well, that's not the way I want to go. And so I went to, this is a commercial operation here, a commercial, Sonderham. Was it Sonderham?

BI: Un-huh.

WJ: Sonderham built this machine and Big Stick built this machine and they're both pre haulers. And then several others, Franklin, Massey Ferguson, Treever, they all had pre haulers like this. And this was one of the earlier ones that had the tree back on top of it. We changed all that. This is the way we used to buy wood, pick up loads. [laughter] Okay, when I went with GP why we were in the log business so a lot of this just was filed and I didn't spend any more time with trying to develop any equipment because we had several people at GP that did that kind of work so I didn't compete with them. But while I was with GP I ran across an invention in, this is the same old machine, in Australia that Carl Scrimber and I was telling Bob about this earlier, and I got GP signed up for it and it's engineered lumber. And GP played with it a while, developed it further, and then Pete Correll decided he didn't want to be in the building products business. He wanted to be in the paper business, and particularly in the tissue business. So he dropped it and one of the Australians and myself went and negotiated and after two years of negotiating we ended up with the rights to this particular product and we now are trying to market that in the U.S. and Canada so you'll probably be hearing more about that. And I have a piece of wood out there you can look at. I don't know what else you want to know. I've kind of skimmed around quite a bit.

BI: Did ya'll discuss the Harvesting Research Project in detail?

WJ: No, I didn't mention that at all. Walbridge, and if you talk to Walbridge, this is all that old stuff, he left Bowater must have been in the '70s and what the southern industry did, they started up they called it HRP, Harvesting Research Project, and they had each of the companies that wanted to be in it put in a hundred thousand dollars or whatever and then he hired some of these engineers Blonsky.

BI: Bill Stuart was there.

WJ: Stuart was there.

BI: Who was the guy that ran the IP sawmill in Hattiesburg for a while? Not Hattiesburg but.

WJ: Jim Hawkes? No, it wasn't Jim Hawkes.

BI: Not Jim. Got his masters at Yale.

WJ: I'm vague on that.

BI: Yeah, he was one of them. [It was Joe Strickland].



WJ: I was there as the Bowater representative because once Tom left and was the head of it then Bowater sent somebody to represent the company and that's when Plummer and all those people got into it and Czerepinski.

BI: And Syd Kinne was involved in that.

WJ: Syd Kinne, yeah, Syd was in it and Kaufman, Jim Kaufman.

BI: Jim was the guy I was trying to think about earlier.

WJ: Yeah, okay, Jim Kaufman was in it. The guy I was thinking was Jim's predecessor whoever that was. [This person is Corky Burkhart]

BI: Oh, yeah.

WJ: Anyway, so they got money and their project was to develop logging mechanization and they spent quite a bit of money. They came up with some pretty good ideas but...

WJ: The HRP project brought a lot of notoriety and interest because it was a very popular thing at that time and they were good at getting the word out. We had a lot of companies then that were in the skidder business and wood processing business and this kind of thing and I think it helped to bring some of that into the industry. You can find out more probably talking more with Tom Walbridge and some of those people. Well, what else?

PM: Okay, a couple of quick things that I can think of. When you sold the plans for the first Go Getter for thirty cents a piece.

WJ: Thirty cents a piece. [laughter]

PM: And basically the people bought the plans, you know, themselves and, you know, some local shops or whatever basically put that together there was a fairly widespread infrastructure of that kind of technical knowledge and skills and the fact they were, you know, able to do that?

WJ: Back then like the old blacksmith shop each town or each county had somebody that was a welder and fixer of farm equipment and there was a lot of that type of talent around. A lot of the loggers did their own welding and all. And then I would get all kinds of calls sometimes late at night by somebody that had too many beers say, I don't understand this thing, what did you do about this. And I would always come back. I'd have one of these plans, wherever it is, at my house and I'd always quote back and say well, did you read under the filler materials and he said no, what did it say. And I said it says lots of nuts and bolts and patience. [laughter] I got a plan here some place if I could find it. Is it under there?

MC: Yeah, here it is.

WJ: I just wanted to quote that back to you. But then people say well, I have this kind of axle and I have that kind of axle, can I use it. As long as the gear ratios, you know, the reductions were right, you could use anything you wanted to.

PM: Says less materials and those sorts of things?

WJ: What this did, I thought it was in here. Yeah, assorted nuts, bolts and patience. [laughter] What this did though is this gave most of these loggers their first experience in mechanization and it wasn't the ultimate. It was a step up the rung, the first rung of the ladder maybe for a lot of these people. And so they learned about more production. They learned about, you know, maintenance. They learned about having a machine being there when they needed it, this kind of thing. And then from there I think they

went to some of the store bought, some of the professional stuff and it was that step to get them on up in that direction.

PM: Would that work today, do you think?

WJ: Huh?

PM: Would that work today? Would local people be able to build their own Go Getters in the same sort of way?

WJ: I think that there are a lot less of them to be able to do that.

PM: That's what I thought too.

WJ: But you still have these innovators. You have some people that come up with good ideas and are still the innovators in the logging industry and other loggers sit back and watch them and then when they have something that works out, whether it's a process or whether it's a piece of equipment, then they'll jump in on it. And you always have that. And in your mechanization process you have to find these innovators, these willing guys out there like the Hortons and some of these people like that, that are willing to chance, find something new and if it doesn't work they don't just throw their hands up. You know, they come back and say well okay now, if we did this and this and this, would that help it. And they were always interested in progress and then after they had something working real well, well, all these others would jump in on it and that was good. And if you can find those in the community or in the logging industry then you're going to be successful, you know, because the others are going to follow. But if you pick the wrong people and it doesn't work, then forget it, you've lost ten years or whatever before anybody will let you do something again. So we were fortunate. And we had lots of mistakes. I mean this was by the seat of your pants kind of thing. I'm not an engineer. I'm a forester, you know, but I knew what we needed and so we ended up doing it.

PM: And this was probably the only way that many of these guys could have afforded.

WJ: Oh, yeah, yeah. I mean they couldn't afford that eight thousand dollar machine back then and then they wanted a five thousand dollar machine and some of them had a problem with that back then.

PM: But they could afford the thirty cents plans.

WJ: But then you see after that they could buy a twelve thousand dollar skidder because they had gone up the ladder a little bit and they understood it. I think they'd have bombed out.

BI: When they went this first step to mechanization, Walter, what kind of productivity gains did they see?

WJ: We went up probably three or four cords per man a day. Today it's nothing but back then we were only one or two, you know, cords per man a day back then. So we jumped it on up. And like that crew that L.O. had that consistently got a hundred cords a week. So that's twenty cords a day and three people so that's seven cords per man a day. That's pretty good. And we were maybe two or three before that so they jumped. Now that was an exceptional crew though. They had just come from Vietnam and, you know, we had just closed down that war and they wanted to make good and they were workers and they did pretty well with that.

BI: In addition to the productivity gain and this kind of stuff brought, what kind of safety and loss control gains did you see in the woods?

WJ: Well, I think it was a lot safer. I don't have any numbers on that but having three people off the ground. Before that you had chainsaw guys out there and you had cut legs and you had all this. You had



one man on the feller buncher. You had one man on the prehaul and one man on the truck. It had to be a lot safer and you got all these people off the ground and eventually in cabs. So not only productivity but I think it was a lot safer. I don't have any way to document that but.

PM: Now how did the company help enable the contractors to make these?

WJ: Okay, in the case of Bowater Calhoun they had a revolving fund over there. I don't know it was a couple of hundred thousand dollars. It was a surety type thing and they would, let's say, help the logger buy the equipment or help him build a piece of equipment and then he would pay it off as he brought wood in. It was so much a cord or so. And as soon as he got paid off they'd give another person, you know, whatever he needed or part of what he needed. And I don't know, I think some of the other companies did that as well.

BI: We did the same at Brunswick. [Brunswick Pulp Land Company] The company would finance and then out of the weekly settlement they would deduct a payment. The interest rates were not exorbitant.

WJ: Yeah, it was fairly cheap. What we were trying to do is get people to mechanize you know and so it was to our benefit to give them the best deal we could give them. Now they lost some money with some guys running away or guys. I know in Tennessee that was the case. A couple of guys disappeared and owed a lot of money but over the whole program it was real good for the company.

BI: Yes, it was.

PM: So it must have led over time quite a change in the nature of the contractor's business, who the people were, what they could do, the kind of people who were working in the woods I would think.

WJ: Yeah, yeah. There was an article in one of these and before we quit I'm going to quote this back to you, the exact numbers, because this is way back and the number, and this was just in my area, the number of part time producers was like some great percentage. It was like forty, fifty percent were part time loggers. And what that meant was they were farmers or agriculturists that when they didn't have crops to work they'd go to logging and when they made a lot of money with their crops they wouldn't come back to logging for a while, you know. So you had a lot of this. All right here, this is in '65, "according to the American Pulpwood Association, thirty-nine percent of our industry wood is produced by part time producers." So almost forty percent say. "Twenty-five percent is by chip suppliers, nine percent by paper company crews, and only twenty-seven percent by fulltime producers." Like a quarter of them were fulltime producers. What we had at Bowater and especially in Tennessee was, you know, every morning we'd say there's something like eight hundred chainsaws start up and we'd get wood in, in pickup trucks. We actually had some people bring it in the trunks of their cars and things. I mean it was these part time producers and you work yourself to death to try to get a few sticks that way. And now, today, we're basically a hundred percent by fulltime producers and big producers, large producers, not compared to what we had back then, as a young forest engineer in 1960. [laughter]

PM: What was the relationship between agriculture and logging in terms of seasons, like which was when?

WJ: Okay, it worked real good for cotton farming because early in the spring they would plow their fields and they'd seed and then it was a fairly light, they'd do a little bit of spraying and a little bit of cultivation. And so in the summertime when we were going full board to get lots of wood because we are building these inventories, we had lots of labor in the summertime and during the hottest part of the year, putting them in the hottest woods. Okay, and then in the fall when it became cotton picking time, it all vanished. They were all out there picking cotton. And back then a lot of the cotton was still picked by hand. And so then they would disappear and then probably late October or November they'd be back. But then by December you'd start getting bad weather. So you had these people available but you didn't have the ability to get wood out. And so then the next year was the same thing all over again.

PM: So would they own their own small farms or would they be working for others or both?

WJ: It was mostly with the pulp and paper industry and with the pulpwood production it was mostly wood dealers who would own the trucks and maybe sometimes logging equipment. And occasionally you'd have producers that owned their own trucks but they were probably financed by wood dealers, wouldn't you say back then?

BI: Yeah.

WJ: I mean we lived with the wood dealer system and still have a wood dealer system but not like it was back then.

PM: So the companies would deal mostly with the wood dealers?

WJ: Yeah, and that, the companies always wanted an arm's length relationship and the wood dealer provided that relationship so you didn't deal directly with that man with the saw on the truck out there. And that's different now, again, because you've got large loggers that are perfectly capable for their own finances. You know back, I remember back and I have done this, Monday mornings to have any labor you'd have to go to the jail and bail them out. They'd get paid on Friday and they'd get drunk and then they'd get locked up and then you had to go and bail them out.

BI: They used to call it Blue Monday.

WJ: Yeah, Monday production was terrible and then it'd come up by Wednesday and then by Friday afternoon it would be back down again. It was horrible.

PM: And you representing the company would have to sometimes bail the people out of jail?

WJ: This was my own, for my own crew, not for, the dealer did that for his crew. I had a crew that was experimental logging and I tested a lot of this and I had to do that a few times. But you know I tried to get rid of those people eventually and tried to have people that I could count on would be there by Monday morning, that have safety boots on, you know would be people that were trained that would do a good job rather than just picking up people off the street corner. And we've come a long way baby, as they say.

PM: Well that must have made the introduction of machinery quite difficult.

WJ: It was. It was a slow process and that was the reason for these crews. When the companies had this nine percent that was where you didn't have innovators or entrepreneurs, you'd do that just to show the world that you could do that. Brunswick had crews. Just about everybody had one or two crews.

PM: One general question I'd like to ask you, Walter, is that you spent so much time in the short wood system, why do you think the long wood system took over?

WJ: Labor, labor and cost. Now I still have a feeling that for first thinnings, you know we plant our trees, we have so many acres of plantation here in the south. I think there's thirty-seven million acres that need thinning right now according to some of our consultants. For the first thinning and we've planted these trees eight by ten or eight by eight feet apart, and so to cut them when they're say fifteen years old. We get a tree, which is different from what you get in Canada, but we get a tree that's maybe six to eight inches in diameter, breast high in fifteen years. Okay, so we have all these trees eight feet apart. Okay, and the tops are all, branches are all intermingled and all. Okay, so you cut that tree. If you cut it with a chainsaw, cut that tree off, what's it going to do? It's going to remain standing because it's being held by the tops. And so this is why mechanical logging has to come in and actually push that tree down. Okay,

now if you are tree lengthening that and you're just taking out say 30 or 40 percent of the stand to open it up so that you get bigger diameters, soft timber diameters, you've got to wrestle that tree down and then you've got to be able to pull that tree and that tree might be forty, fifty feet tall. You have to pull it around all these other trees and you scrape up and you damage the standing trees. That's my big fault with thinning with tree length system. And so if you can take a system like we've shown with this processor that I had designed, lay the tree down, bring it back and cut it up, go on do that again and then you pick up those short pieces without damaging any of the roots or any of the stumps around the other trees. That's important. After that when you go in for the second thinning, you've already taken out say 30 or 40 percent of the trees in that first thinning, so you've opened it up a little bit. Then that's when you should be using your tree length system. That's a personal opinion now but you know. I see a lot of logs and a lot of thinning being done with tree length. You look at all this going into the paper mills now. They're all tree length and they're trees that big around. I hate to think what the rest of the stand looks like. Now with some paper companies, and this was Bowater, they felt like we'll cut all the trees down at thirty-five years. We're not going to worry about a first thinning. We're just going to take it all. If it's damaged, so what? And that's all right. But if you're in the soft timber business and you want to grow a little extra nice clear wood out there, which is what the Weyerhaeuser and the GPs, and the IPs were trying to do, then you've got to be real careful because you're introducing all kinds of fungus. You're introducing bugs. You're introducing slower growth because you've run over the roots, this kind of thing. So it's important I think to be careful on that first thinning. So my feeling is this still has a good reason to be around if we can get the production up and have it compete with some of the other systems out there. That's kind of where I am.

PM: In Canada, we mostly have long wood systems but the single grip harvesters from Scandinavia have definitely built themselves in niches.

WJ: Yeah, yeah, and that's kind of what we have here really. You know the Swedish and the Finish machines are very, you know, we've kind of all come together even though we were working separately on this. You've got several of the logging machineries from Finland and Sweden that use a grapple and load on the back.

BI: Even the Bell from South Africa, which was a tricycle one will a feller buncher head on the front of it.

WJ: Tricycle, yeah.

BI: Which was originally designed to harvest sugarcane.

WJ: That's right.

BI: But it's been modified for logging.

WJ: And it's good for getting around and sort.

BI: You're right, it seems that even in Australia, New Zealand, about the same time all over the world, these innovations started coming up. I suppose the most sophisticated ones have come from the Scandinavian countries but that technology sometimes doesn't translate well to the heat in the south or the operators who are not as sophisticated from an electrical standpoint or mechanical standpoint as some of the Scandinavian operators are.

WJ: Yeah. We're getting there. But we've come a long way from where we were. And we still have a long ways to go I think.

PM: Are the Scandinavians to keep building themselves in [next years]?

WJ: I think we have several, they haven't really, they haven't caught on all that great. We have several. We used one in West Virginia. There are several around in Alabama but they're pretty expensive. One of

the problems too is, they may have changed this now but back a few years ago, the hydraulics were not interchangeable with American hydraulics. So if you wanted a certain part you had to order it from either that dealer or go back to Finland or Sweden to get it. So we had some problems with that. Now where are you in Canada with those systems? Are they using any of those?

PM: They're becoming increasingly popular, the single head harvesters, yes.

WJ: Okay. I watched one of them just a year or so ago in Olympic Peninsula in Washington. They were using it to cut to length system with the grapple and a processing head and all of that, very expensive, very expensive. Beautiful equipment. Our people here in the south are still having problems with, maybe you ought not put this in there. [Tape turned off.]

PM: Well, I think we've covered the basics.

WJ: Well, I hope my little bit of work here has helped you some. You know, there were like less than ten forest engineers like myself when we first started and I think we helped bring this mini revolution, industrial revolution about. In fact, when I left and went to Georgia Pacific in 1982, the comment was made to me that you guys did too good a job. We've got too much production now and you've mechanized it too well. We'd have been better off back then, which I don't agree with. But that was the comment made to me that we've done too good a job on this thing

MC: It must have made a complete difference in the lives of the people working with it.

WJ: Oh, fantastic. I mean the forest industry is the number one industry in most of these southern states. It wasn't back then. Agriculture was the number one industry and everybody, like I said, people were still barefooted back then. This country was so poor. The south was just an agricultural place that nobody really wanted to work here. A lot of my classmates from the northern schools wouldn't come south. No, they didn't want to work here. And now this is the wood basket of the country right here. So we brought it about by doing the planting, the genetics, and getting forests started on some of these eroded old cotton lands. And like I said, when I first had the logging crew I decided I wasn't going to cut any wood that the cut was less than I think it was four cords per acre. Four cords per acre, that's nothing. I mean you're out there working, looking for a few sticks of wood. Now the cut is twenty, thirty cords per acre. It's enough to make a profit where back then you couldn't make a profit. Now how do you want, I'll leave all this with you. This is the only map, the only plan I have so sometime I'd like to get that back.

BI: Okay, sure.

WJ: All the other stuff you can have or you make copies of. And each of these magazines has some article, whatever it is. So you can look through some of the stuff. This was the purchase order for the first tractor, thirty-five hundred dollars. They thought I was really breaking the bank. [laughter]

BI: I bet they did.

WJ: And you look through, you know, if you read some of these old magazines, not just the articles I did but it's pretty interesting to see what it was all about when you go through one of these old magazines. I don't know, a lot of this is repetitious I guess. News release. This is the way back in the '50s we used crawlers with pallets. This is crawlers and pallets and that was pretty slow. See it was hand loaded. That's Champion and it says here "the results of this experiment pointed out that production per man hour is approximately the same in a cut of four, six, or seven cords per acre, the range being from .4 to .43 cords per man hour. At ten cords per acre cut the man hour production dropped." Now, you know, come on guys. I mean that's the kind of conflicting stuff we had back then. [laughter] Oh, this is the D4C. Having been with Caterpillar when I came to Catawba and I bought a D4. The old cylinders on the D4B I guess it was, were on top of the track. There was a cylinder. I don't know that you saw that. The cylinders for raising the blade were right over the track and the hoses came from the side of the engine and made a



loop and went to that cylinder. And you go through the woods and probably in the first hour you break those, pop those out. So I built a, I bought the D4 tractor and I put cylinders on each side of the cowling here on the radiator and Caterpillar came down and took pictures of it and all. Within a couple of months they came out with a D4D with cylinders on the side. [laughter] So I felt, I didn't get any credit for that but I liked it. See, here's an Allis Chalmers and the cylinders were still on this. On this they were inside. On the Caterpillar they were on the outside. And you'd break them off. This is that early machine.

PM: We've heard in a couple of places that one of the key things that made a lot of innovations possible and which may explain why they came about in so many different places along similar lines at roughly the same time was the ability to do high pressure hydraulics, the idea that you couldn't do all this manipulation and shearing until you had that.

WJ: Yeah. One of our early meetings that we had when we got together, got these few people together.

PM: And what time would this be?

WJ: This was in the probably late '50s, early '60s, maybe around 1960, was okay, if we want to do, if we want to build machinery, do we do it with air pressure, do we do it mechanically with gears and pinions and things like that, or do we do it with hydraulics. And we decided we wanted to go with hydraulics. And we talked to various hydraulic people, Vickers and various people, to come in and tell us because we were mostly foresters like myself, tell us about how we design hydraulic systems. And we had a couple of lessons, you know, where people come in for a couple of hours and talk to you about hydraulics. And that's how we got into the hydraulic business. And that was the right move to go hydraulics on a lot of this and I think you're right, that helped to bring a lot of the stuff about, helped us to be able to, you know, here's the cylinders down here, you see them. That took a lot of pressure to be able to push against a boulder or push up a hill to make this thing turn when you wanted it too.

MC: Much less run a shear.

WJ: Yeah, and a shear, yeah. Colquitt, Colquitt, he was the guy that helped us with the shear and the delimiters and all. He worked for Timberline at the time. John Colquitt, was that his name?

BI: John Colquitt, yeah.

WJ: And he's still around I think.

BI: Yeah, later ended up at Hercules in Brunswick.

WJ: Yeah, okay. You might want to talk to him.

BI: He has since retired.

WJ: Has he retired now?

BI: Yeah.

WJ: He's down at Hercules in Brunswick.

BI: Brunswick right.

WJ: So he was a big help to us and he was kind of the sales guy for you know the shears and some of the hydraulics and like I said, the delimiters.



PM: It sounds like there were very few people trained as forest engineers. Walbridge would have been one.

WJ: He wasn't trained as, he was trained just as I was. He was trained as a road builder and he didn't, it's something he acquired as I acquired, how to do the hydraulics or how to design a harvester or this kind of thing. He was a graduate of Montana and I think he actually taught some out there. But it was road building that he taught. It wasn't the mechanical engineering side. I mean a forest engineer had to be a civil engineer back then and a mechanical engineer and a forester and a geneticist and everything else I think. Like my background was road building too in the civil engineering side of it. I just happened to love to do the mechanical stuff and always picked up on that. And like I said, my Caterpillar training really helped me in this because I got into seeing how they built these big machines and what makes them tic and I was involved in the assembly line and then I had to learn how to operate each piece of equipment. That was great, you know, to give me that type of experience and it made it real easy to do some of this then.

PM: When does forest engineering as a discipline begin to emerge?

WJ: That happened about, I know Syracuse wrote to me and said what does it take to be a forest engineer with a company. I talked about exactly what I just said that not only does it have to have some civil engineering knowledge, it has to have some mechanical engineering knowledge.

PM: What year was this?

WJ: This was in the '60s, early '60s. Now I think now though we've graduated beyond where we were and so now if you need a hydraulics engineer or you need some hydraulics knowledge, you get a hydraulics engineer and you can pull somebody in from outside or from one of the vendors or some place and you can do that. Or even better, let them design it, which is what's happening now. You got the Franklins and the Timber Jacks and the John Deeres and the Caterpillars all wanting a piece of that action. So you can encourage them to do some of that by working with them to develop a piece of equipment or to test a piece of equipment for you. Back when we were there nobody wanted to take part. Forestry, I mean you guys don't, you know, you don't have that much of a business and until you show them that there's a pent up business out there that people will buy once you come out with the right piece of equipment, now they're willing to do this. Back then you couldn't entice anybody to do anything. Caterpillar dropped the D2 and we're saying hey, this is the number one logging machinery. The Caterpillar dealer in Georgia sold more D2s than anybody else in the country and all of a sudden his business was gone because they decided there wasn't enough production to keep the D2 in production. But what happened then, John Deere later on, but it took a while. John Deere and International and some of these other companies went back and started building small equipment again and it was because we found there was a need for that stuff. But originally nobody cared about, logging, what are you talking about. There's no money in that.

PM: It appeared that in Canada the pulpwood manufacturers got involved in a whole lot of different kinds of relationships with the manufacturer. They developed or pushed to becoming involved in building equipment, forming alliances with manufactures, etc.

WJ: Yeah, they were a whole lot more advanced along that end and willing to push that I think than there were here in the south.

PM: Why?

WJ: I guess it was because of the, possibly because of the relationship with the dealer system that we had here and there was a buffer there. We didn't have but just a few companies. In Canada it sees a company operations, the company logging back then. Now it might be different but back then I know when we bought Great Northern in Maine and they had all the, it was set up just like Irving or some of the Canadian companies. They had camps and when I went to Cornerbrook I spent half my life up there

when I was up there in logging camps and it was all company crews. They'd take them out on a bus on Monday morning and they'd bring them back Thursday night, back to town. In the meantime they lived in that camp and they logged with the company equipment and the company set up the training and the specs as to how the logging should be done, this kind of thing. See, here it was all kind of arms length. I think that was a big part of that. What do you think?

BI: I think so too, I really do. And you still see a lot of vestiges of that today.

WJ: Yeah, yeah.

PM: Well, the obvious question from the Canadian point of view is you could see the example up there, why didn't the companies here want to emulate it?

WJ: It cost you more to do that than it cost us. I think that was it. You know, I'm familiar with that because went to Mercey and went to Cornerbrook and was familiar with what was going on with Bowater and our costs were a lot cheaper. Seemed like the CEO and all these people liked southern operations because we operated so much cheaper. But we had some problems that didn't show up on the balance sheet maybe. But it was tough to sell and it was tougher to get mechanization down here. When Georgia Pacific bought Great Northern and I went up there and I looked at what they had in investment in camps and in all kinds of logging, expensive logging equipment, it was a Canadian type operation. I guess we were considered a southern company then. We went and put all that on the market and sold it all. We weren't going to do that. We were going to run it by contract and they're still doing that, although it's not Georgia Pacific anymore. You know even Bowater bought it after we had Great Northern and then sold it again. I think it got down to the cost per cord or cost per ton, whatever, and they try to be competitive that way.

PM: So why do we Canadians, why do we do it with the company organizing the cutting rather than trying to create some system?

WJ: Like we have? I think you're a little more social about how you do business and I think we're a little more cutthroat as to how we do business. I think, you know when we look at logging and we look at pulp and paper industry, we have a problem in that we're looking at what's happening, as I said, in Brazil and all. I think you have a worse problem. You're a higher cost operator in Canada than we are. And I think one of the things that's helping you right now is that so much of your forest is government owned and the government can give you a cheaper wood maybe because the government is more interested in continuing to have jobs than government is interested in making money on its forest. Our forests are all privately owned here and so we have a completely different structure here because we have to go out and pay that tree farmer or pay that landowner what he wants for his timber. Otherwise we're going to sit here without any logging to do. So there's a whole different infrastructure here than what you have and I think that's where a lot of our lumber side is having problems with the imports of Canadian lumber into this country because again, it's because so much of your forests are either provincially owned or federally owned. And you have to give people like Irving credit. They're buying land and planting trees and competing just like say our Maine operations are. But when you get into Ontario or into British Columbia then you have a whole different situation. Do you want to cut me off?

PM: No.

WJ: So I think that's part of our differences there, a big part of our differences. And again, this is one man's opinion. You realize that so this is not schools or, yeah. But having traveled and having been involved worldwide, you know, I can see some of the differences that you have. I think having a large acreage of provincial or Canadian owned forest is great and I would like to be in that situation rather than have to go out and buy from a bunch of little farmers here that decide, well, if we don't get this price we're not going to sell our timber. That's a tough situation to be in and that's what we have here. And the logger has the same situation too. We say to the logger, well if you don't bring it in at this price, we

don't want it. So where's he then, you know, and where is mechanization or where is moving up the ladder another rung. It's hard to do that.

BI: Ya'll, let's take a break. Dale and Bobby are waiting on us over at the Georgia Center for lunch.

WJ: Oh, okay. Is that what you're going to do?

PM: Well, I've got, it's almost twelve thirty anyway.

WJ: Okay.

PM: One more question, from a Canadian perspective, it looks like chaos from the mill procurer's point of view.

WJ: You mean here?

MC: Yeah, he's got no security, no stable system.

WJ: No, it's a cutthroat system. I mean it's cutthroat and if he doesn't do it, and I've been there, if the procurement guy doesn't produce, he's gone, bring another guy in, this kind of thing and it's pretty tough. It gives you ulcers real quick. Where I'd love to have the Canadian forest backing me up out there and saying okay, I have so many limits and I can cut so many thousand tons or cords and if I do my job right it's going to be there next year. We don't have that at all. We don't have that. And now it's even worse, Mike, because when I was involved we got twenty-five percent of our stumpage, of our wood coming in from company forest, twenty-five. The other 75 percent we bought outside. Okay, what have they done recently? They've sold all the forests and so now a 100 percent of that has to come in from outside sources. Now the agreement on some of these sales is well, for the first year we'll get 90 percent of that wood, the next year 80 percent, 70 percent. But what's going to happen over a few years when those companies that bought that stumpage, bought that wood and that land don't have to sell it to us anymore? You're going to see a tremendous chaos happen and you know I'm glad I'm not part of that and I fought that all where I was in and able to not sell the land off while I was there. But what's happened now is going to be a real problem for the American industry.

BI: I agree a hundred percent. They're going to get a wake up call when these timber agreements or whatever they are, say like they were ten years old and so forth, and you know, GP sold all their land. Weyerhaeuser's selling everything they've got in Georgia right now.

WJ: IP's selling theirs.

BI: IP's doing the same thing. So you know if they ever get back in the wood crunch again and they don't have any company land to fall back on. And the other great thing about having company land was if the stumpage price got up too high, then you could go to company land and log off of that for a while.

WJ: That's right and that's what we did see.

BI: Because it was a lot cheaper.

WJ: We could make that transfer rate anything we wanted it to be.

BI: Oh, yeah, absolutely. It could be zero a cord or ten dollars a cord.

WJ: But now that's not, you know, in the next few years that's not going to happen.

BI: Un-uh because there's nothing to fall back on.

WJ: And if I were wealthy enough that I could buy a few hundred thousand acres of land with timber on it I'd sit there and wait for that next big rush.

PM: [Not able to understand comment.]

WJ: Yeah, yeah.

MC: Why are the companies selling off their land?

WJ: Because our business consultants, whether they're in house or outside, are saying this is a commodity. You can just buy this anytime you want. I don't think they understand and it took, you know my generation, Mike and Peter, I started, what I was telling you, there was no wood out there and we planted and we did all this and we created this forest economy that we have here in the south. Oh, okay, now all of a sudden and this is what happened with GP, I made the forest part of our investments start to pay off and as soon as, it was a cash cow. We were starting to make money on our forests and all of a sudden these people out of Harvard Business School and all these consultants said hey, here's the way you can make some money on your, sell this off because you're going to be able to buy all this timber anyway. And so the CEOs and the boards and the companies have, and they all fall suit like a bunch of sheep following that goat, you know.

BI: And they've all got the same consultants.

WJ: Same consultants, yeah. You know I was fighting these guys. This is one of the things I did for the last five years in my career and I was able to stave it off. Okay, now that we made money all of a sudden they sell all this off and now they're all following suit, they're all selling. Bowater did it. I.P.'s doing it. Let's see, LP's doing it. Weyerhaeuser's doing it. GP sold it all off to Plum Creek. Where is this going to end up? Well, the people that made this decision to sell it all are going to be retired before this crunch hits. They're all going to leave and they're all going to be wealthy. I'd hate to be the CEO five years from now, ten years from now. And I think there's going to be a big crunch. So maybe everything we did...

PM: You're thinking about a Brazilian source of chips.

WJ: Yeah, yeah, yeah, yeah, that's right. You're going to see that. And so what's going to happen? Maybe all this is for naught because unless you speak Portuguese or Spanish and I keep telling foresters when I was teaching here, learn another language. You may need it some day. This goes for Canada too now, even more so because your costs are higher. And eventually the environmentalists are going to lock up your forests like they did ours. So where are you going to be then? And what are we going to do when we don't have the paper resources or the lumber or the wood resources? We're going to be in sad shape. Anyway, let's stop.

MC: Well, on that cheery note [laughter].

WJ: Let's stop and go and eat because it only gets worse.

MC: Well, that's what they say, the trouble with normal is it only gets worse.

WJ: Yeah. I'm going to turn this off, okay?

PM: Yes.