

Headlie Taylor's Story

I made my bow to the world at the little town of Henty NSW. On July 7, 1883 and lived in that district continually until 1915, the year which I went to Melbourne in order to supervise the building of a number of headers for the dual purpose of demonstrating their capabilities to the farming community and interesting Australian agricultural machinery manufacturers in the invention.

Years of familiarity with farm machinery had given rise to certain ideas of improvement and in the long run I became firmly convinced that a harvesting machine could be constructed that would handle the grain crop more economically than the stripper harvester, then at the zenith of its fame.

The most popular machine of the market at the time was the famous Sunshine Stripper Harvester, invented and manufactured by Hugh McKay. This machine was a combination of two earlier inventions, the Stripper and the Winnower. The combined machine first built by Mr McKay in 1884 proved such a labour saving device that it was used by farmers all over Australia and efforts were made by other manufacturers to build similar machines. In a few years there were many different types of stripper harvesters working in Australian grain fields. The stripper harvester worked well in standing crops, but its efforts to rescue the grain from down and tangled crops were attended by considerable waste of grain. It was this failing which caused me to wonder if a machine could not be devised that would handle the tangled mass of a down crop without such a deplorable loss of grain. The rough idea gave place to be considered plans and January 1911 found me ready to start building the machine of my dreams.

It was first necessary considerably to enlarge this little farm workshop, as I required to install some machinery, a lath, a power drilling machine, emery wheel and various other fixtures, besides allowing room for the projected machine itself and working space.

I fully realised that my progress would be slow, with long hours of tedious work and the likelihood of two or maybe three years passing before success or failure could be proved. However, I was determined to give my plans a practical test and there was no turning back. I had confidence in my ability to do the job myself but the problem that gave the greatest worry was that of finance. Would I be able to hold out long enough to accomplish my desire? I could only hope for the best.

Now came a period of book buying, books on mechanical drawing, on pattern making, on moulding, in fact any book that I thought would help me. The knowledge gained from these books, plus natural commonsense was all I had to go guide me through. It must be borne in mind that although the year 1911 does not seem so long ago, there were at that time none of the engineering facilities in country towns such as exist today. Now-a-days we have up-to-date garages even in small country towns, garages employing skilled tradesmen who would make many things that I had to make myself in that year. If I should need a 'striker' for some small job, I had to call upon the good offices of one of my sisters, and if the job was a heavy one it simply had to wait until one of my brothers came home at night.

I worked practically day & night in an endeavour to have my machine ready for a trial in the 1911-1912 harvest and managed to complete it early in the New Year. By then most of the crops had been harvested, but there was a small paddock of standing crop close to the

workshop that I had reserved for this purpose and into this crop I drove the machine. It was yet far from perfect, however and I took nearly half a day to get once around the paddock. There were frequent stoppages and fresh endeavours to get the machine going, but the comb simply would not go into the crop, and knocked down more heads than it gathered, so I took the machine back to the workshop and considered what alterations might be effected in order to overcome the trouble manifested. It was very evident that it could not be got ready for a second trial that season and feeling the effects of strenuous work and concentration. I decided to take a holiday and endeavour to freshen up for another attempt. With the exception of shearing operations, my two brothers had undertaken the work on the farm, so I was free from worry on that score and enjoyed three weeks of complete rest, returning to the farm fit and well.

Work on the header started immediately, and another supply of material was procured. I redesigned the entire machine, practically scrapping the first one, and only retaining the wheels and axle. After the gruelling task of building the first machine single handed, I felt the need of someone to help me so I employed a friend, Mr Ralph Garth. With Mr Garth's help, work on the second machine proceeded apace and it was complete in good time for try out in the 1912-13 crop. With a few minor adjustments the header worked well, and took off about 200 acres, some of it fairly heavy crop and badly down and tangled. It was now plain to me that I was on the right track and that with my machine a heavy crop could be handled with ease, even though badly lodged and tangled.

In October 1913 the first patents were taken out, and in fact I was granted more claims for novel features than had ever been granted for a harvesting machine before.

With the experience gained in the previous two years, both in the construction and practical working of the machine, I felt quite sure that I could build a third header that would be unbeatable, so I set to work on this third machine with a view of having it completed for exhibition at the Henty Show in the Spring of 1914. It was completed all right and painted up to some order about two days before the show. Well I remember as I took the machine to the showground wondering what people would say about it, and I tried to put myself in the position of the casual onlooker, walking around the machine to see what I thought of its workmanship and design. After carefully considering it, both from the angle of workmanship and probabilities in practical work, I felt quite pleased, and there and then resolved to defend it stoutly against the most severe critics.

The new machine was quite a centre of attention at the Show and excited considerable comment amongst visiting farmers. Some conceded that perhaps that it might work; others championed it manfully and declared that there was no doubt of its ability to harvest a crop. All day long people crowded around, and I was delighted to witness the interest farmers were taking in my machine. It was something of an antidote to the discouraging remarks of the people who could "never understand why I wasted my time and money on such a thing". When one has spent the major portion of his worldly wealth (in my case a very modest total) upon the invention, with no tangible result in the way of a return, except that of toil, a desire is created to push on to success and to prove to the pessimists that they were wrong. So it will be readily understood that the encouragement I received at that little Henty Show, was a welcome stimulant to my sorely tried ambitions.

This new Header, the third one I had constructed, was duly taken into the ripened wheat crop in December 1914 and worked very well indeed. Yet I was not satisfied, for further ideas of improvement presented themselves to my mind. However, I experimented with the machine

in the crop for a few days, and then I challenged my brother Horace to secure as much wheat per acre with his harvester as I could garner with the new header. He took up the challenge with alacrity, but was decisively beaten, for his harvester could not get within half a bag per acre of the yield that my new machine was producing.

Here was encouragement indeed, and before the crops were all harvested, I determined to demonstrate to farmers and any agricultural machinery manufacturers interested, the manner in which a heavy crop could be handled by the new machine. A publication in the local news sheet, and letters of invitation to the various machinery manufacturers, brought quite a large concourse to the demonstration, and although the first, it was a most interesting and successful demonstration, both from point of view of the behaviour of the header in the crop and the marked enthusiasm of the audience. To give some idea of the impression my machine made, I might mention that several influential farmers straight away offered to finance a company with capital of Fifty Thousand Pounds to build a new machine, provided that I would supervise the work. I weighed this proposition very carefully before coming to the conclusion, but ultimately rejected it. A factory would have to be built, expensive machinery installed, and the chances were that many years would elapse before a profit could be shown.

I determined to try and place the invention with some existing organisation but this was easier said than done. Every manufacturer and manufacturers representative who saw the header work, commented upon its possibilities, and more than one admitted that if its manufacture were undertaken by others, considerable loss would ensue to their own organisation, and yet I could not get one of them to entertain a proposition for the purchase of my patent rights.

Expenses from 1911 to 1914, including the cost of taking out patents, were heavy; so heavy in fact that I had spent all my available fund and had found it necessary to borrow from my brothers in order to keep going. The great problem at that stage was to raise money so that I could keep my header before the Australian agricultural machinery manufacturers and create competition for its acquirements. I felt sure I had an invention that would easily be disposed of in America, and indeed feelers has already been put out on behalf of American manufacturer; but I had definitely decided that the machine would not go out of this country, if it were possible to come to reasonable terms with an Australian manufactory. Clearly then, the thing to do was to create a competitive desire for my invention among Australian manufacturers, but it was not so clear how I was to go about it. The manufacturers had their own harvesting machines and were unwilling to go to any lengths to secure a farmers invention that had not been thoroughly tested out. Here was the solution of the problem. I knew what they header would do, and had faith in it. They had witnessed or heard of one small demonstration, but the impression had not lasted; I must test my machine out thoroughly and force the manufacturers to become interested.

Several farmers had wanted the machine after seeing it demonstrated, so it was quite an easy matter to book a few orders, far easier than it was to get the machine built. Finance was the great barrier. The first few machines would cost a lot more than I could charge for them and I had very little money to draw upon. However, I decided to try and build five or six machines for sale, and set about endeavouring to raise the money. And here I met with unexpected success. I knew I had some staunch friends, but I did not know until then what true friends they were. Believe me, "a friend in need is a friend indeed", and I was advanced as much money as I required by Mr A. Gale of Albury.

A machinery manufacturer in Melbourne arranged to build me five headers, on the same lines as my model machine, but incorporating a few improvements that I had decided upon after the trial. My model machine was trucked to Melbourne, and in the month of April 1915 worked commenced. What a job it was! Patterns, bulldozer blocks, and tools of all sorts had to be made, so that the machine would be built to a standard pattern and each part duplicated. Although I had to pay for the five machines, only three could be got ready for the 1915-1916 harvest. These three machines cost me 1,500 pounds and as I sold them for 150 pounds each, I had in no uncertain manner "burnt my boats behind me".

The three machines were duly started in the harvest of 1915, the purchasers being Mr Nottle of Wyalong NSW, Mr P. Shiphard of Brocklesby NSW and Mr J.H.E. Kendall of 'Wattle Grove', Henty NSW. Results were in each case satisfactory, and I was everywhere congratulated on the work the machines were doing. News of their success spread rapidly over a great part of NSW, assisted by the timely parts in some of the leading papers, and manufacturers as well as farmers came long distances to see the machine work.

To provide an opportunity for those manufacturers who had not seen the machine work, I arranged another demonstration, this time on the farm of Mr J.H.E. Kendall at Henty, in a crop that was tall and heavy. The demonstration was widely advertised, and to make certain of success in the quarter wherein my hopes were centred, I wrote direct to the largest manufacturer of agricultural machinery in Australia, stating that I would like him to witness the trial. A couple of days later a reply came to hand regretting the writer's inability to be present at the trial, but promising to come along a few days later. The trial was held and was a success, as I knew it would be, but my thoughts were centred on a trial that would take place in a few days time. My visitor arrived as promised. He was the late Hugh Victor McKay, inventor of the stripper harvester thirty years previously, and the founder of that great manufacturing concern which bears his name, a name which is a household word from coast to coast of Australia.

It was pardonable trepidation that I prepared to demonstrate the capabilities of my header in the presence of Mr McKay. I drove into the crop and my visitor accompanied me, sometimes walking behind, the better to observe its action and work. We went around the paddock and Mr McKay closely examined the machine and its work from every angle. He stated that undoubtedly my machines were very simple, light in draught and that it incorporated many novel features, 'But' he asked, 'What advantages do you claim over the stripper harvester?' I replied that I could handle a heavy lodged crop and get practically the whole of grain from it; whereupon Mr McKay remarked that if such was the case, he was prepared to negotiate for the patent rights. We had a long talk on the subject and eventually departed, with an understanding that I was to visit Sunshine a few days hence with a view to opening negotiations.

An appointment was made and I set about preparing for business. Indeed, I needed all the preparations I had made, for I was negotiating with a shrewd businessman. However, after protracted negotiations an arrangement was arrived at. On March 4, 1916, the agreement was signed, and I had the satisfaction of knowing that the header would be manufactured in my native land. I looked forward to the future hopefully, knowing that my machine would be sponsored by a firm whose success was based on the solid foundations of service and knowing that the header would itself prove a boon to the grain growers of Australia.

The agreement provided that I was to supervise the building of the header for at least two years, and make further alterations that were advisable after closely watching the performance of the three machines that worked in the 1915 harvest. So on April 6, 1916, I started with Hugh Victor McKay at Sunshine, commencing operations in what was called the 'Motor Body Works', a large shop, separate from the factory. Our first programme was for six machines, to be completed in time for the 1916-17 harvest. Fresh templates were made and I had a busy time supervising the making and assembling of parts. My state of mind, however, was in marked contrast to that which endured whilst I built the previous machines, for uncertainty was dispelled and now my invention has an opportunity to prove its worth to the farming community. Yet, even I, with all my unbounded faith, was astounded at the extraordinary success of the header. The six machines built at Sunshine, and called at the time 'Taylor Headers', were working in the harvest of 1916-17 and as a result, a large number of orders flowed in for delivery the following season. Each year saw the demand grow and each year the factory accommodation and plant had to be increased to cope with it; until, in the harvest of 1920-21, a crowning success was achieved, that not only placed my header (now called the Sunshine Header), at the forefront of public favour, but by its means saved millions of bushels of wheat to the farmers of Australia, that would, but for the header, have been irretrievably lost.

In that year, 1920, extraordinary favourable conditions persisted from the time the crops were sown until harvest time, and frequent falls of rain caused such a prolific growth that the crops were all over the fences in a great many portions of the Eastern Australian Wheat Belt, especially in the North West districts of NSW. Imagine the consternation of the farmers then, when during November violent storms lashed the heavy crops to the ground, flattening them and tangling them to such a degree that all appeared lost. Here was the supreme chance for the Sunshine Header to prove its worth and save the crops. The factory worked day and night and November and December of that year saw over a thousand of these machines driven into storm flattened crops, each machine equipped with a specially designed 'Headlie' crop lifter (A set of wooden fingers that lift the crop up onto the comb). There was no doubt of the result. Astonished farmers found themselves securing over thirty bushels of wheat to the acre, from crops which they had believed were completely ruined. Never before had down and tangled crops been harvested without heavy loss.

Australian farmers were richer by millions of bushels of rescued grain, and the Sunshine Header had won its position as the greatest of all harvesting machines. My dreams an accomplished fact.

I might aptly finish my narrative with a brief description of the Sunshine Header and some reasons for its proved superiority over other types of harvesting machines.

1. The principle of the header is to cut the heads from the standing crops, instead of beating them off and threshing the grain from the heads as was done with the older machines.
2. The remarkable device for quickly yet gently removing the heads of grain from the opening of the comb the moment that are cut off. Two spirals are arranged the full length of the comb, the front one gathering up the incoming heads whilst between both spirals, the heads are conveyed to the elevator which delivers the mass to the threshing drum. With this arrangement the heaviest crop is successfully handled.
3. The comb remains level when raised to its highest or depressed to its lowest point, and no loss of grain from the point of the comb results when harvesting a very short crop, nor is a tall crop pushed away by the breast of the comb when working at its highest point.
4. Unnecessary parts such as the large fan case and fan, used for generating blast in all

previous machines, are eliminated. In the Sunshine Header, the blast is generated by two quite narrow fans attached one at each end of the threshing drum, and enclosed by portion of the drum case. With such cumbersome parts omitted, it was possible to make the machine very compact and strong.

5. The main drives are so distributed as to avoid undue wear on any particular part, a feature that has saved the farmers many pounds on his duplicate part bill.

6. The entire design, which enables the successful handling of every condition of crop, light, heavy, storm tangled or weed infested.”

H.S. Taylor