

Explanatory Patents

Spanish version: www.imet.com.ar/sembradoras/Explicativo_Patentes.pdf

- **Patent Descriptive report AR045396A1** (Joints in agricultural machines): This patent was filed in 2003, is a unique development that generates a very important solution to the existing problem till, very high forces, in different directions and magnitudes. Unfortunately for a mistake I made in the payment process (I missed the expiration date), it was taken down. That is, became available to the public. There are factories in the country of great renown, who for some years are using this development in their implements. This comment was performed only as an indication, that such development (conceived in 2001) would be a great addition to the market of machinery for tillage.
- **Patent Descriptive report AR040019B1** (Groove-forming element "v" and seed saver): This patent was granted in 2009. Comes to represent a concept "futuristic" carved terrain of direct seeding for all types of situations, I'm rehearsing with complete success that item to replace the traditional dual-drive system or the like. It achieves much lower power consumption, a groove much better trained (ideal for depositing the seed and promote root development) and work seamlessly in any land or stubble situation where traditional devices present any difficulties ("stuck" clay, clogging, etc.).
- **Patent Descriptive report AR045239B1** (Chisel tillage): This patent was granted in 2008. It represents one of the most important innovations in farm machinery from the point of view of energy saving and conservation of the land. Pressing needs of small and medium agricultural producers. Very low power consumption (compared to any existing traditional elements), very low ground clearance, perfect "cleansing" the groove of the presence of residues, which produce air chambers and fungus that seriously hinder the germination process of the seeds planted and very uniform seeding depth even in highly compacted soils (pasture).
- **Patent Descriptive report AR043294B1** (Marker path of the tractor-fertilizing seeding machines): This patent was granted in 2008. Its innovative design saves space, which benefits the user the ability to "win" a groove and sometimes two rows around the entire periphery of the lot to plant. Its unique dual pivot rod in regulating the angle of attack allows an accurate and free of tools (working with your hands). Its design also took into account the problems of shock or hitches with hydraulic drive that have all machines. Here, the hydraulic and hoses are fully protected (not shown).
- **Patent Descriptive report AR046591B1** (Compactors filling wheels and furrow): This patent was granted in 2010. Among the most important features we can highlight the absence of compression springs in your registry, which produce continuous problems in regulating the planting depth as important when encountering uneven terrain, the turns are going to work together as a solid, which ends lifting the entire module, leaving the seed in the surface (uncapped). Its design adapts to any planting situation, for its varied and precise regulations (height, pressure and type / angle covered).
- **Patent Descriptive report AR057018B1** (System independent fertilization): This patent was granted in 2014. It is the most satisfying personal development has brought me. Both from the point of view of the users of the machines, as all (without exception) who have seen in agricultural shows where we have been present. Its simple design allows NOTICEABLY decrease the number of stops for the load of the machine (seeds and / or fertilizer), which represents a saving of time

and fuel in planting. Studies conducted times, has identified a net gain of a groove over traditional machines on the market. That is, if the machine has 9 rows, equivalent to time spent in planting, one of 10 rows. Also the ability to "remove" the fertilizer instantly and easily when not needed, saving more than half the power and fuel compared to other machines.

- **Patent Descriptive report AR043296B1** (Device for adjusting the depth of seeding and / or fertilizing): This patent was granted in 2009. A complete and detailed explanation is presented in the document entitled: [Comparison between leveling devices](#).
- **Patent Descriptive report AR043295A1** (Seeds down tube): This patent was granted in 2010. Its unique and innovative design helps reduce the number of bounces NOTICEABLY seed against the tube, in its downward, in the case of working with seed dispensers monograno non-vertical type. Measured (corn seeds, 4 per meter) determined a similar argument to or better than a dispenser of the pneumatic type.
- **Patent Descriptive report P20110103109** (Safety device for farm tools): This patent is pending. It is a development that points directly to agriculture in extreme soil conditions, ie with abundant logs, stone and important bodies of hardness which can lead to fracture of the fundamentals of farming. By a very precise safe device with automatic reset occurs "saved" tillage element (chisel) and develops an angular movement backwards until touching the opener, causing the rise of the body until tillage pass (below), the obstacle.
- **Patent Descriptive report AR086434B3** (Device for adjusting beam depth of tillage tools): This patent was granted in 2016. It is a development that comes to improving the only "disadvantage" that presented the invention of my authorship AR043296B1 (see explanatory document: [Comparativo ruedas gemelas dispositivo IMET.pdf](#), [item # 2]), leaving the comparative wheels system in 9 (advantages for IMET) to 0 (advantages in favor of the old system). There are no disadvantages compared to planting copied to bias. This new device from Rocker, averages between the heights of the side level wheels and symmetric about the opener. Evaluated and approved by ANR Patents (NA 075/11).
- **Patent Descriptive report 20120103855** (Safety device for transmission with variable distance between axles): This patent is pending. All gearbox machines, have a box next to unhook. The sensitivity level of the safe, should be very low, because of the distance and the number of components that must be protected. For drills, the real possibility of placing a security by the seed meter, on axis with variable separation allows the safe be regulated with very high sensitivity, which ensures distortion free operation. Evaluated and approved by ANR Patents (NA 092/12).
- **Patent Descriptive report AR088356B3** (Marker path of the tractor seeders - fertilizing conservationists): This patent was granted in 2016. It is also the evolution of my authorship AR043294B1 patent. Allows 100% conservation behavior, for its innovative new design implemented in markup. An automatic safe prevents overload or interference, saving the marker inevitable breakage or deformation. The ability to be telescopic, also solves a big problem during the transfer of the machine. Evaluated and approved by ANR Patents (NA 093/12).
- **Patent Descriptive report 20140100750** (Tense gearbox chain to roller chain): This is a regular device capable of fast, simple and very effective, the chain tension roller gearbox all that is required to change the rpm range output relative to the input. Only with a hand unlocks the device to its regulation. Settles the position of the chain and finally locked in position.

- **Patent Descriptive report AR099278B3** (Multi furrow closing wheels manual command): This patent was granted in 2017. This is an evolved device Patent AR046591B1 my authorship. Which combines ease of construction and operation, ergonomic design of last generation (patent pending issues mentioned). Allows very wide regulation of possibilities in the type and form of ground covered, adapting quickly and easily to the desired conditions. With the simple use of the hands.