

Trench Digger

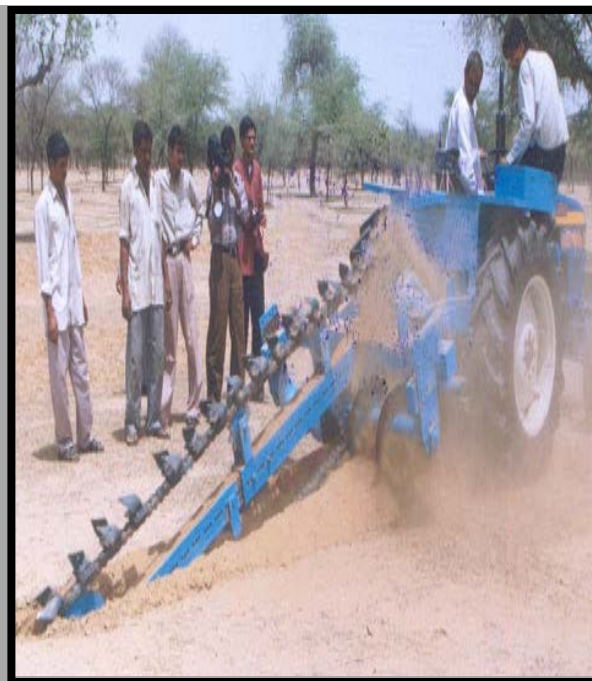
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Problem addressed:

Conventionally, the task of digging trench for laying underground water supply lines, phone and electric cables, sewage lines, etc. is done manually. The task is too laborious and time consuming. In addition, it is very difficult to maintain uniform depth and width. The available trench diggers were having certain limitations that were restricting the usage. E.g. earthmovers, job had slow speed and the machines available were not able to cut trenches uniformly. Besides, the machines were bulky and very costly. Innovator thus developed a model which is a low cost can be mounted on a tractor and digs very fast and uniformly.

Product:

The trench digger developed by innovator is tractor-mounted machine that makes trench with sharp edges rapidly. The machine has a long arm having a rotator chain over it and sharp edged blades mounted over the chain. These blades cut the soil and throw it out as the chain rotates continuously. This chain is supported by a large wheel at the rear end of the arm and two mini wheels framed up on the main frame slot. The arrangement consists of a planetary gear system and motion converter unit to deliver power from the tractor, a chain gear and roller system and a belt with sharp trench digging blades of high carbon steel. An additional gear drive system is mounted within the wheel of the tractor to convert the 550 rpm of the tractor wheel to the desired 90 rpm speed of the shaft.



Technical

Specifications

- Mounted on a 60 hp tractor.
- Roller Chain- 27 feet long, 108 links mounted on 74 blades.
- Rear Wheel - 20 inch diameter
- Lower Chain Gear- 11 inch diameter with 13 teeth
- Chain Gear - 22-inch diameter with 32 teeth
- Mini Rollers - 2 rollers each 8-9 inch diameter and 11-12 teeth

Price :

Rs. 3.50 lacs (ex-factory price + packaging). The price does not include transportation costs, taxes, etc.



Time to deliver:	<ul style="list-style-type: none"> • 15 days after receipt of 50 % as advance payment. • For bulk order – Innovator can deliver 4 machines in a month
Key Competitive Advantage:	<ul style="list-style-type: none"> • It is an optimized and cost effective solution, dig narrow and deep channels evenly, on hard and soft soil conditions. • In one hour, it can dig a pit 65 meter long, 6 feet deep and 14 inch wide while consuming only 2.5 liter of diesel per hour. • Affordable machine for laying cables & pipes
Achievements:	<p>He was awarded first by NIF under the National Award category in the above said competition in the year 2005 and also supported under MVIF scheme of NIF. Apart from this Yusuf Khan was also nominated for the Asian Innovation Awards at Singapore in 2005 as he qualified among the ten finalists. Innovator till now has sold more than 350 units in Rajasthan.</p>
IPR Status:	<p>Indian Patent Applied for (132/DEL/2009)</p>
BD website link:	<p>http://www.nif.org.in/bd/product-detail/trench-digger</p>
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