

Texas A&M University Corpus Christi

***AUTOMOBILE TRACTORIZATION
HIGHLIGHTS***

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An important part of the Eastern and Southern European workforce is employed in the agricultural sector [1].

Country	% of Population 2000-2009	Tractors / 1000 ha		
		1995	2000	2005
Bosnia-Herzegovina	19.9%	34.1	*	*
Bulgaria	6.7%	9.6	9.8	11.4
Croatia	14.7%	31.5	27.3	*
Hungary	4.8%	19.2	24.6	26.2
Moldova	27.1%	28.2	22.9	21.4
Poland	12.7%	92.8	93.4	118.4
Romania	29.2%	17.5	17.1	19.3
Serbia	21.5%	*	*	20.6
Turkey	23.8%	31.5	39.5	*
Ukraine	17.0%	14.1	9.8	10.9
European Union	5.2%	76.3	77.3	70.8

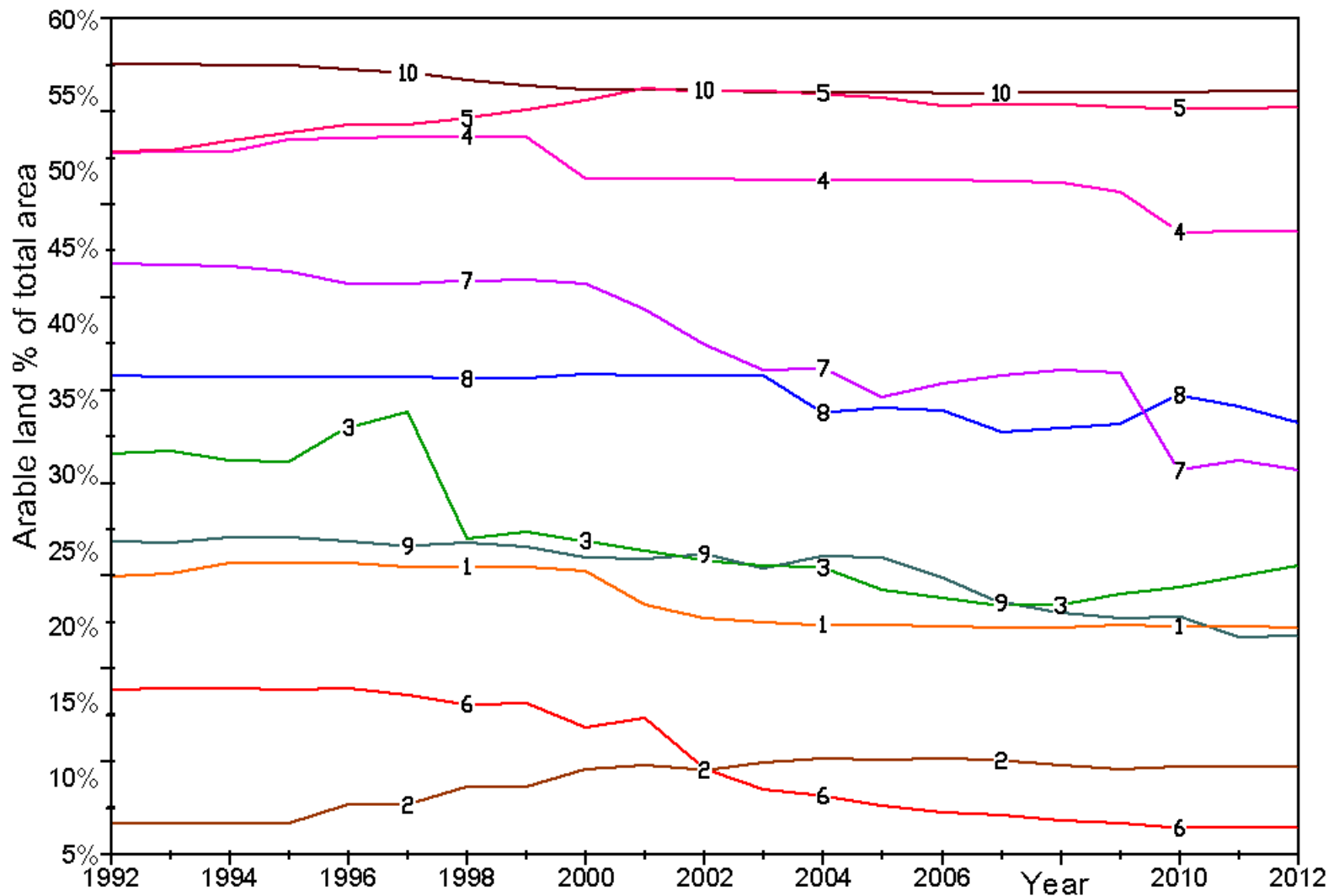
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But farm machinery is insufficient.



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and the use of arable land is in decline.



(1) Belarus, (2) Bosnia-Herzegovina, (3) Bulgaria, (4) Hungary, (5) Moldova, (6) Macedonia, (7) Poland, (8) Romania, (9) Turkey and (10) Ukraine.

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while road accidents involving animal drawn carts is on the rise.

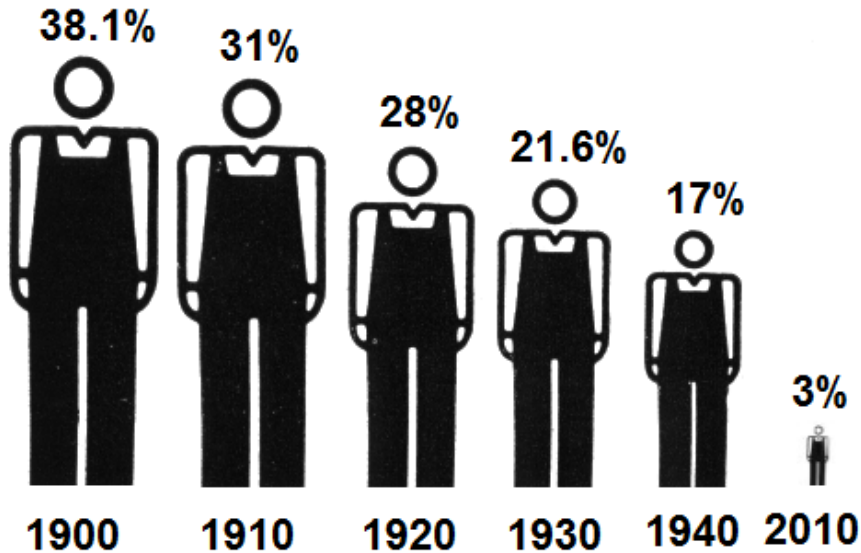


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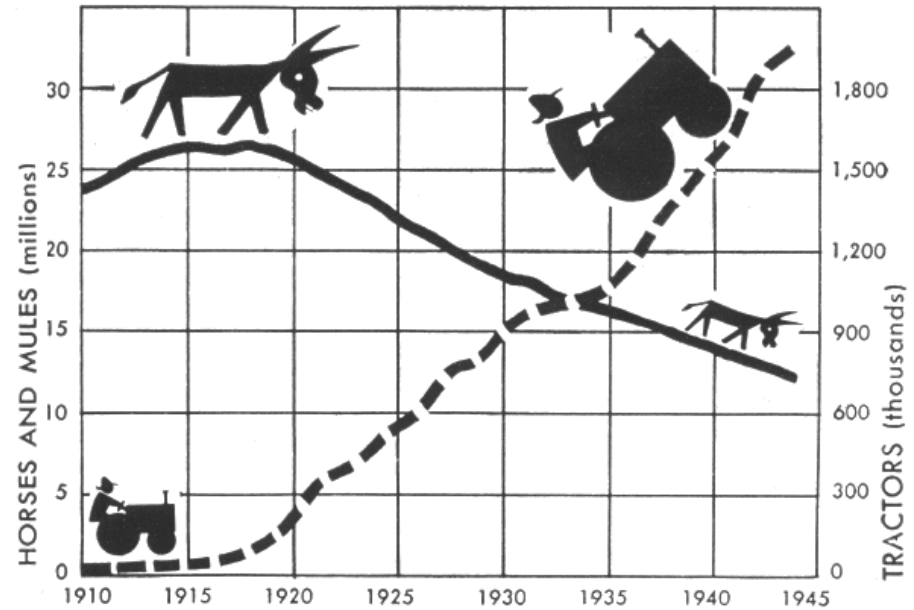
Countries in Asia and Sub-Saharan Africa are experiencing even more stringent problems [2][3].



USA faced their own challenges in its past.



US agricultural labor force as percent of total labor force over the years



Horses and mules and tractors on US farms

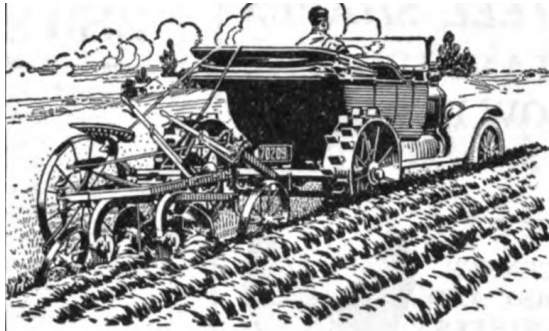
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Between 1910 and 1950, part of the farm mechanization has been done in the USA with tractorized automobiles [4], [5], [6], [7].



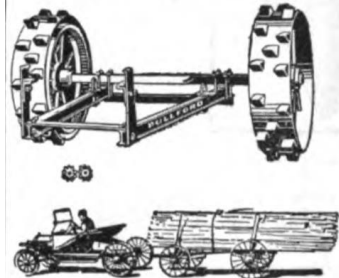
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Tractorization could be done using conversion kits



Plow and Pull
 With **FORD** All That 4
 Your **Pullford \$155** Horses Can
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MAKES a practical tractor out of a Ford or most any other car. Easily attached to or removed from the car in thirty minutes. No holes to drill, no springs to remove. **Practical, Durable, Reliable.**



New FAN DEVICE Prevents Heating
 Hundreds **WORKING NOW** for Satisfied and Enthusiastic Owners

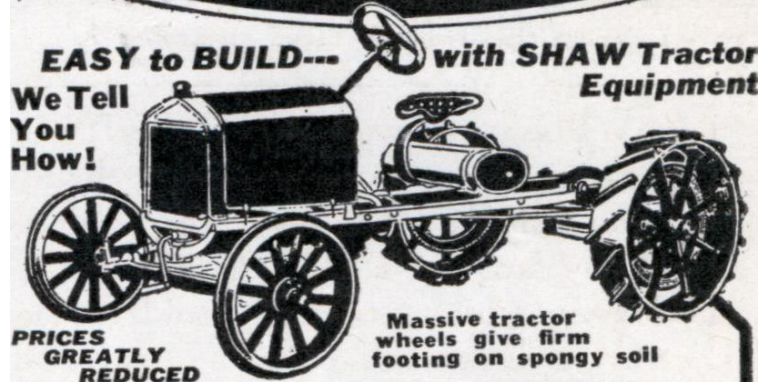
Pulls plows, harrows, drills, mowers, binders, hay loaders, road graders, wagons, trucks, etc. Steel wheels with roller bearings and tires 10 inches wide, two pairs of hardened Vanadium steel pinions, one for plowing and one for hauling speed. A tractor with the reliability and durability of the Ford car. Prompt shipment. Write for catalog.

It was the Pullford attached to Ford cars pulling two 12-inch plows running on Kerosene, equipped with new fan device, that made a most successful demonstration at Fremont, Nebraska.

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Massive tractor wheels give firm footing on spongy soil

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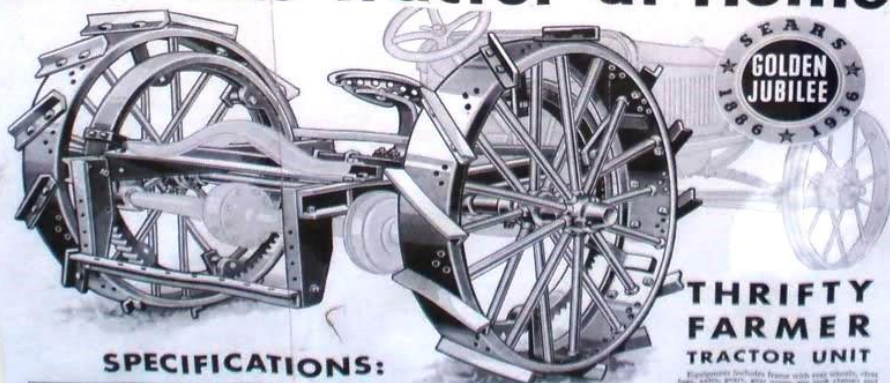
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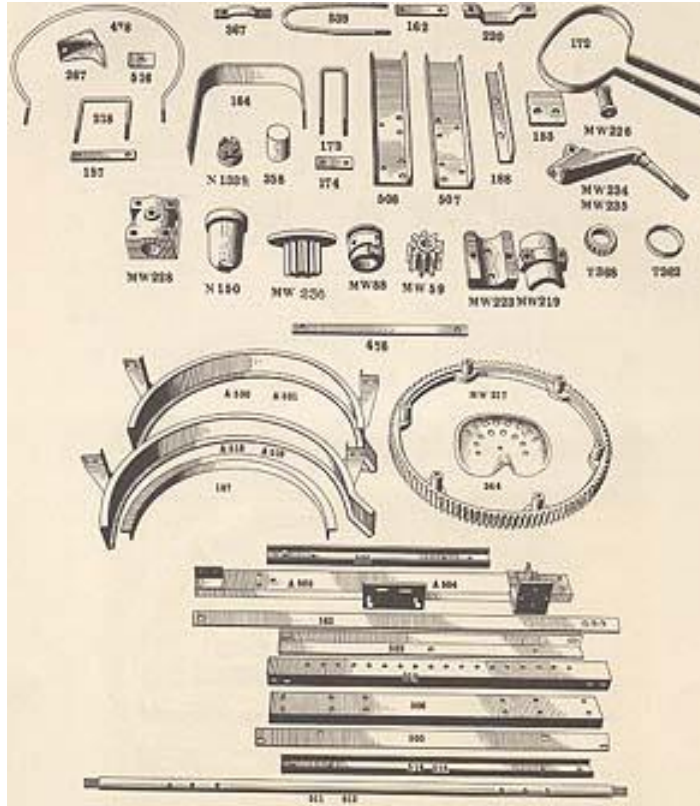
THRIFTY FARMER TRACTOR UNIT

SPECIFICATIONS:

Engines include frame with seat, steering, and other accessories. Price shown with seat, steering, and other accessories.

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sold by companies like Sears, Montgomery Ward, Shaw Mfg. or Pulford



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Nowadays one can occasionally see tractorized motorcycles [8], [9].



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and tractorized automobiles



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Some better looking than others.



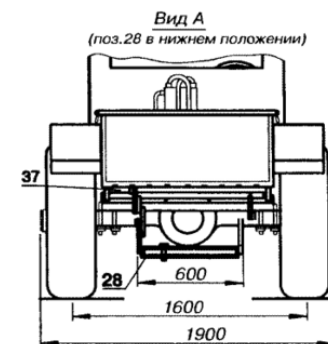
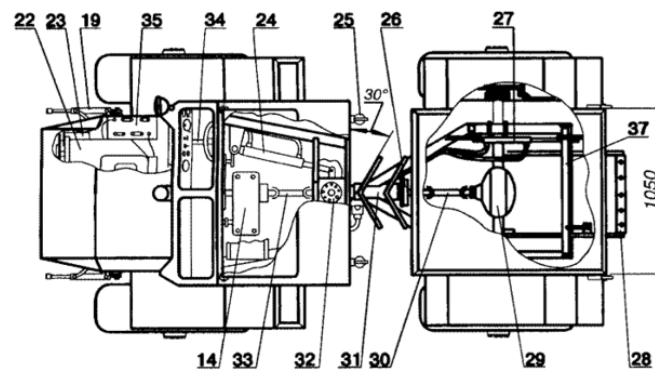
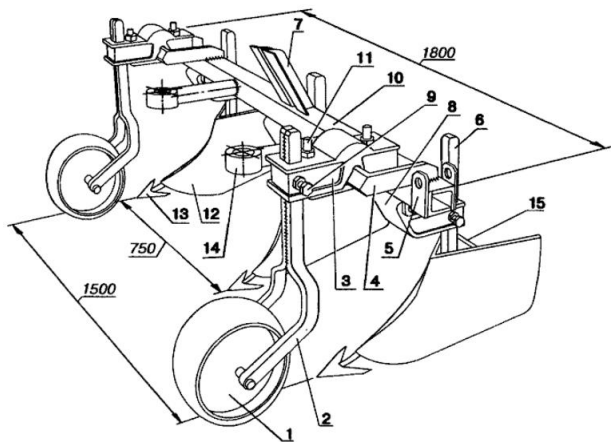
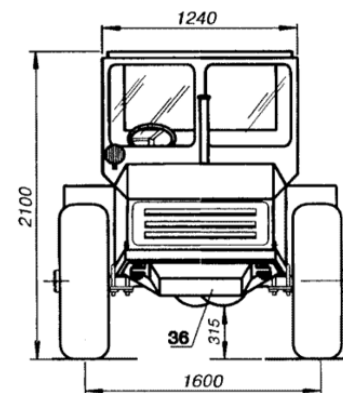
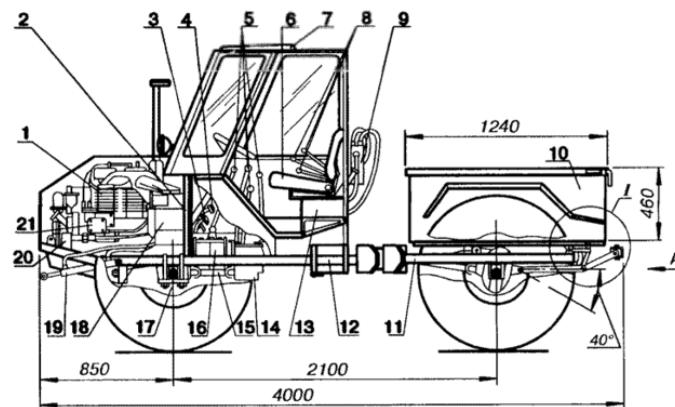
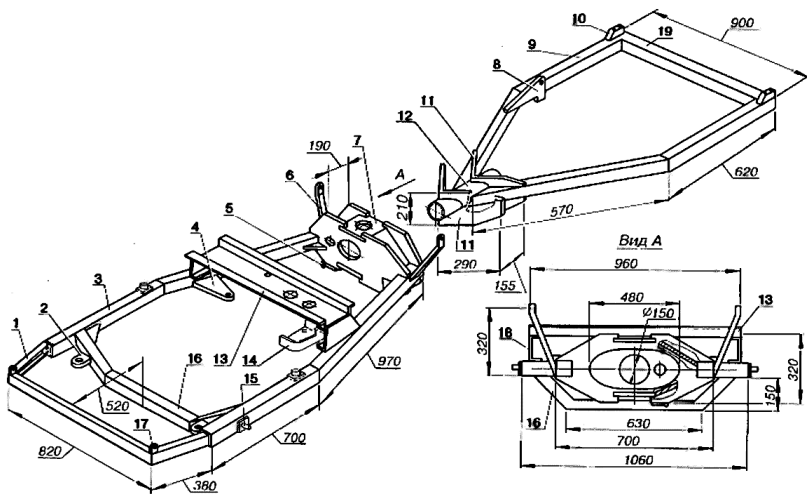
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Resources exist

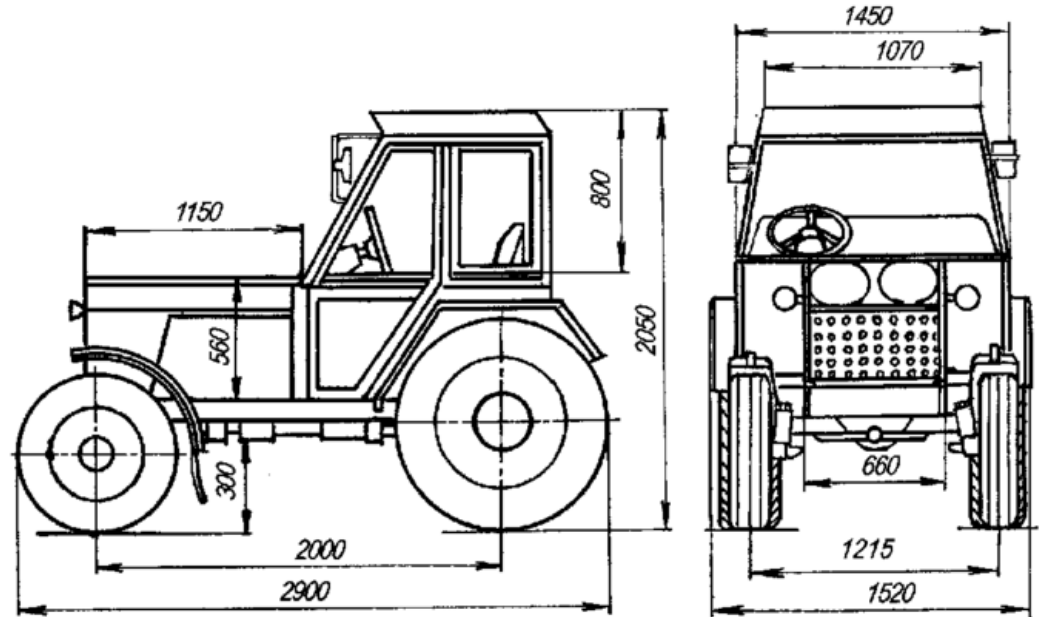
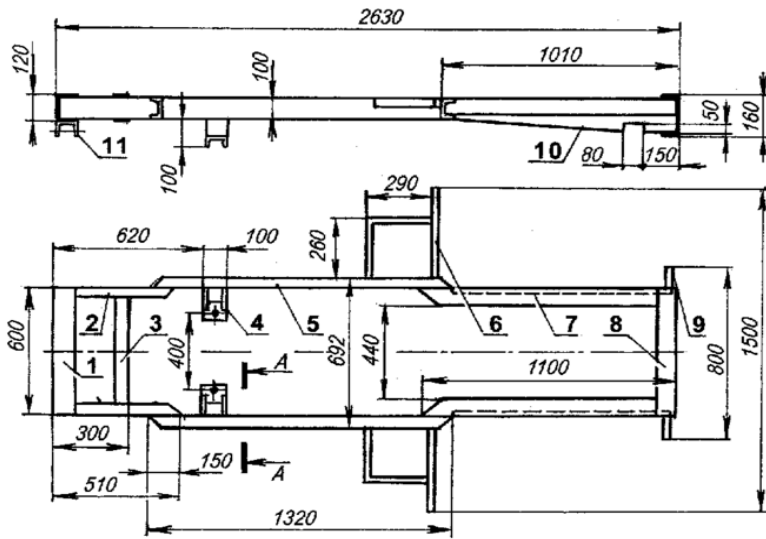
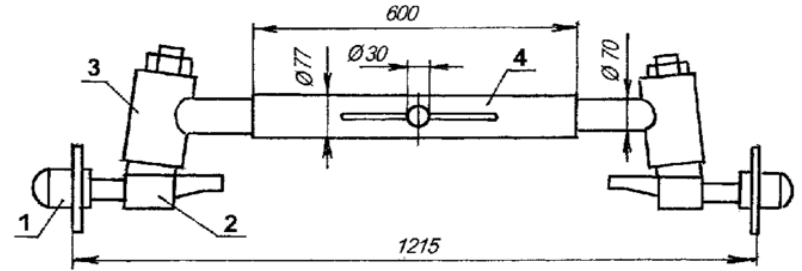
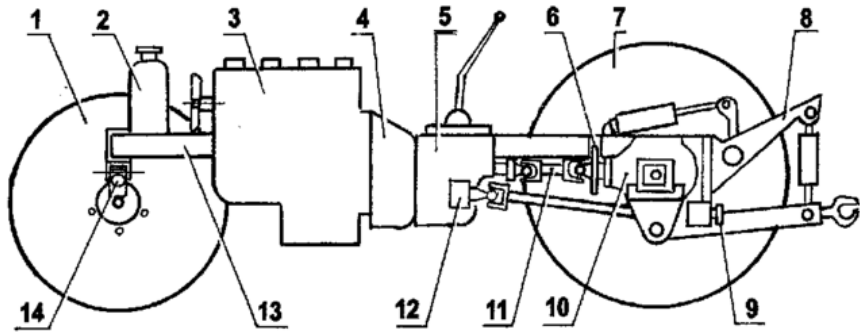


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As well as solutions, but they need to be publicized [9].



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REFRENCES:

- [1] The World Bank <http://data.worldbank.org/indicator/>
- [2] Crossley, P., Chamen, T. and Kienzle, J. "Rural transport and traction enterprises for improved livelihoods", FAO Diversification Booklet nr. 10, Rural Infrastructure and Agro-Industries Division, Food and Agriculture Organization of the United Nations, Rome 2009.
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- [5] Suddaby, H. "How to build your own farm or garden tractor" Popular Mechanics, Vol. 8, 1939.
- [6] Carlson, F. "Garden Tractor" Popular Mechanics, March 1946, p. 222-226.
- [7] Moris, W. W. "This tractor costs only \$50" Popular Science, May 1950, p. 209-212.
- [8] Google searches for: "doodlebug tractor", "DIY tractor", "EPA tractor", "homemade tractor", "samodelni traktor", "traktor domaci vyroby", "caruța cu motor", "házi traktor"
- [9] P. A. Simionescu, Lumkes, J. H. Jr. and Austin, W. "Automobile Tractorization, American Concept Applicable to Eastern European Agriculture" International Symposium ISB-INMATEH Agricultural and Mechanical Engineering, Bucharest - Romania, 29 -31 Oct. 2015, p. 389-394.

Questions ?

