International Standard 6747

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION•МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ•ORGANISATION INTERNATIONALE DE NORMALISATION

Earth-moving machinery — Tractors — Terminology

Engins de terrassement — Tracteurs — Terminologie

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Descriptors : earth handling equipment, tractors, definitions, nomenclature, accessories, dimensions.

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 6747 was developed by Technical Committee ISO/TC 127, *Earth-moving machinery*, and was circulated to the member bodies in February 1980.

It has been approved by the member bodies of the following countries :

Australia	Finland	Romania
Austria	France	South Africa, Rep. of
Belgium	Germany, F. R.	Sweden
Bulgaria	Japan	United Kingdom
Czechoslovakia	Pakistan	USA
Egypt, Arab Rep. of	Poland	USSR

No member body expressed disapproval of the document.

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Contents

Earth-moving machinery — Tractors — Terminology

1 Scope

This International Standard establishes terminology and commercial literature specifications for self-propelled crawler and wheel tractors and their equipment.

2 Field of application

This International Standard applies to tractors of earth-moving machinery as defined in ISO 6165.

3 References

ISO 3450, *Earth-moving machinery — Minimum performance criteria for brake systems.*

ISO 6165, *Earth-moving machinery — Basic types — Vocabulary.*

ISO 6746/1, *Earth-moving machinery — Definitions of dimensions and symbols — Part 1 : Base machine.*

ISO 6746/2, *Earth-moving machinery — Definitions of dimensions and symbols — Part 2 : Equipment.*

4 Definitions

4.1 tractor : Self-propelled crawler or wheeled machine used to exert a push or pull force through a mounted attachment or drawbar.

4.2 base machine : A tractor, without equipment, as described by the manufacturer specifications. The machine should be provided with the necessary mountings to secure equipment as shown in clause 6.

5 Basic model

5.1 Type of tractors

5.1.1 Undercarriage

5.1.1.1 Crawler tractor (see figure 1).

5.1.1.2 Wheel tractor (see figures 2 to 5).

5.1.2 Engine location

5.1.2.1 Front engine (see figures 1 and 3).

5.1.2.2 Rear engine (see figures 2, 4 and 5).

5.1.3 Number of drive axles (drive wheels)

5.1.3.1 Rear axle (rear wheels) drive (see figure 3).

5.1.3.2 Both axles (all wheels) drive (see figures 2, 4 and 5).

5.1.4 Steering system

5.1.4.1 Front wheel steer (see figure 3).

5.1.4.2 Rear wheel steer (see figure 2).

5.1.4.3 Articulated steering (see figures 4 and 5).

5.1.4.4 Crawler — skid steer.

5.1.5 Operator's position (concerns articulated machines)

5.1.5.1 Operator front (see figure 4).

5.1.5.2 Operator rear (see figure 5).

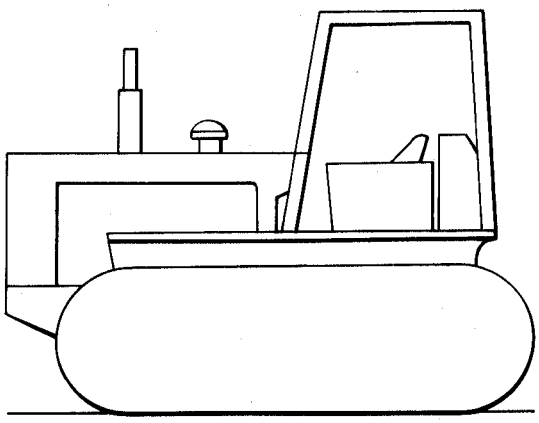

Figure 1 — Crawler tractor

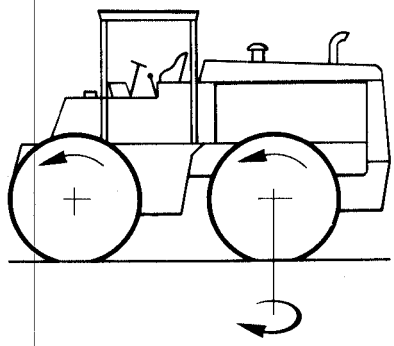

Figure 2 — Wheel tractor — Four wheel, rear wheel steer, four wheel drive

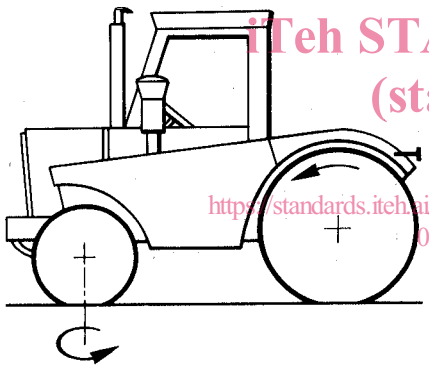

Figure 3 — Wheel tractor — Four wheel, front wheel steer, rear wheel drive

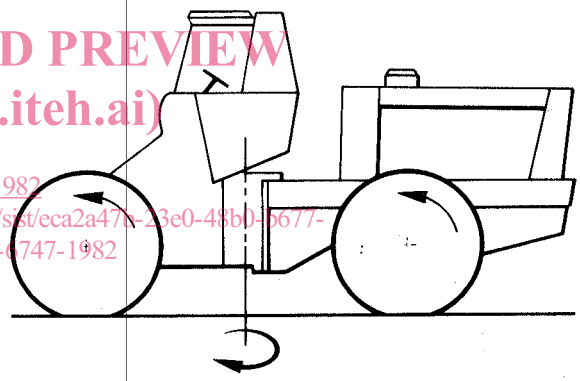

Figure 4 — Wheel tractor — Four wheel, articulated steer, four wheel drive, operator front

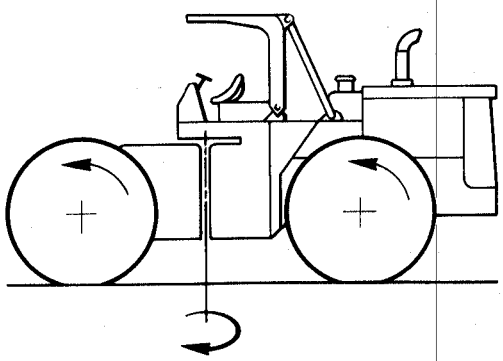

Figure 5 — Wheel tractor — Four wheel, articulated steer, four wheel drive, operator rear

5.2 Dimensions (see figures 6 and 7)

For definitions of dimensions, see ISO 6746/1.

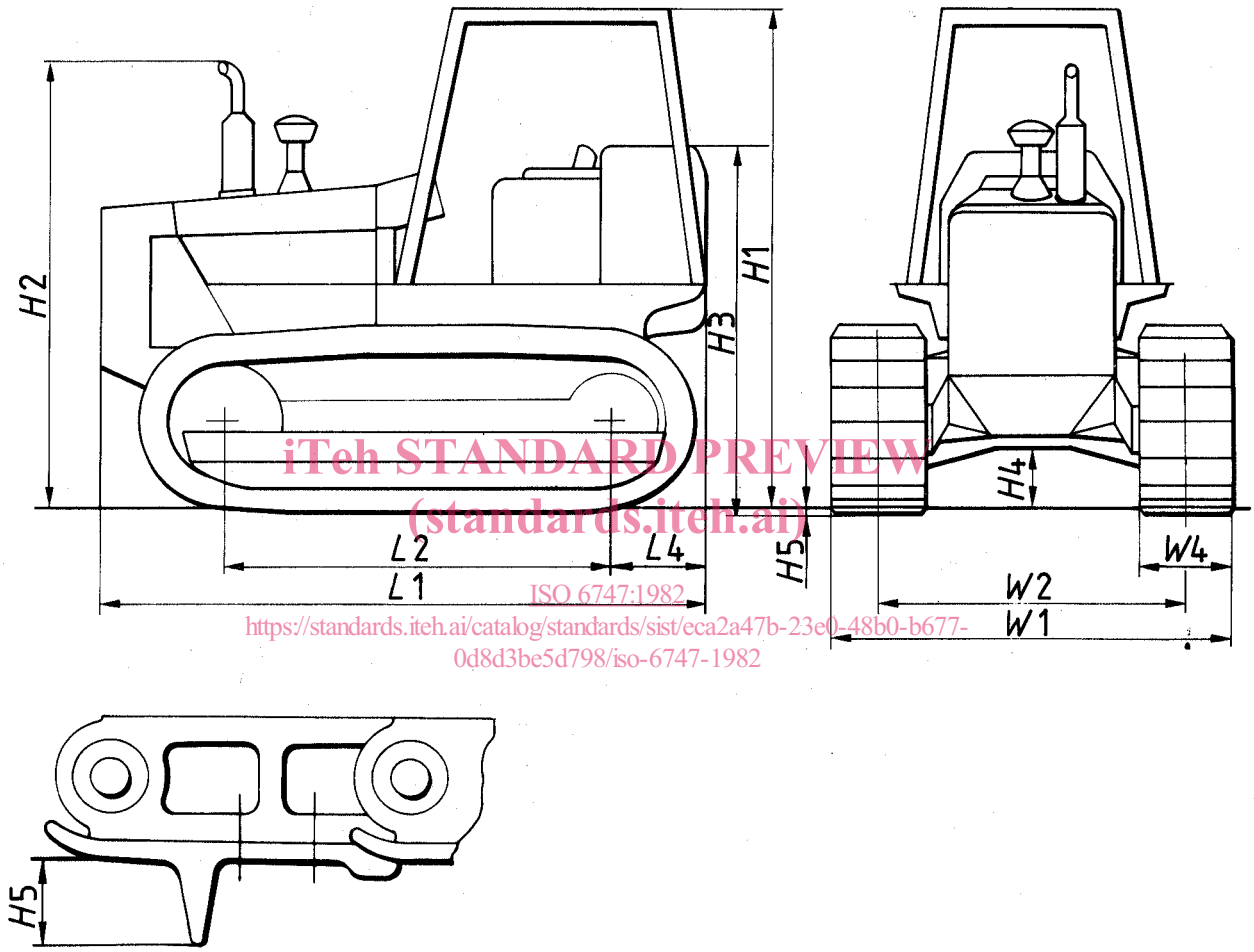

Figure 6 — Dimensions of base machine (crawler tractor)

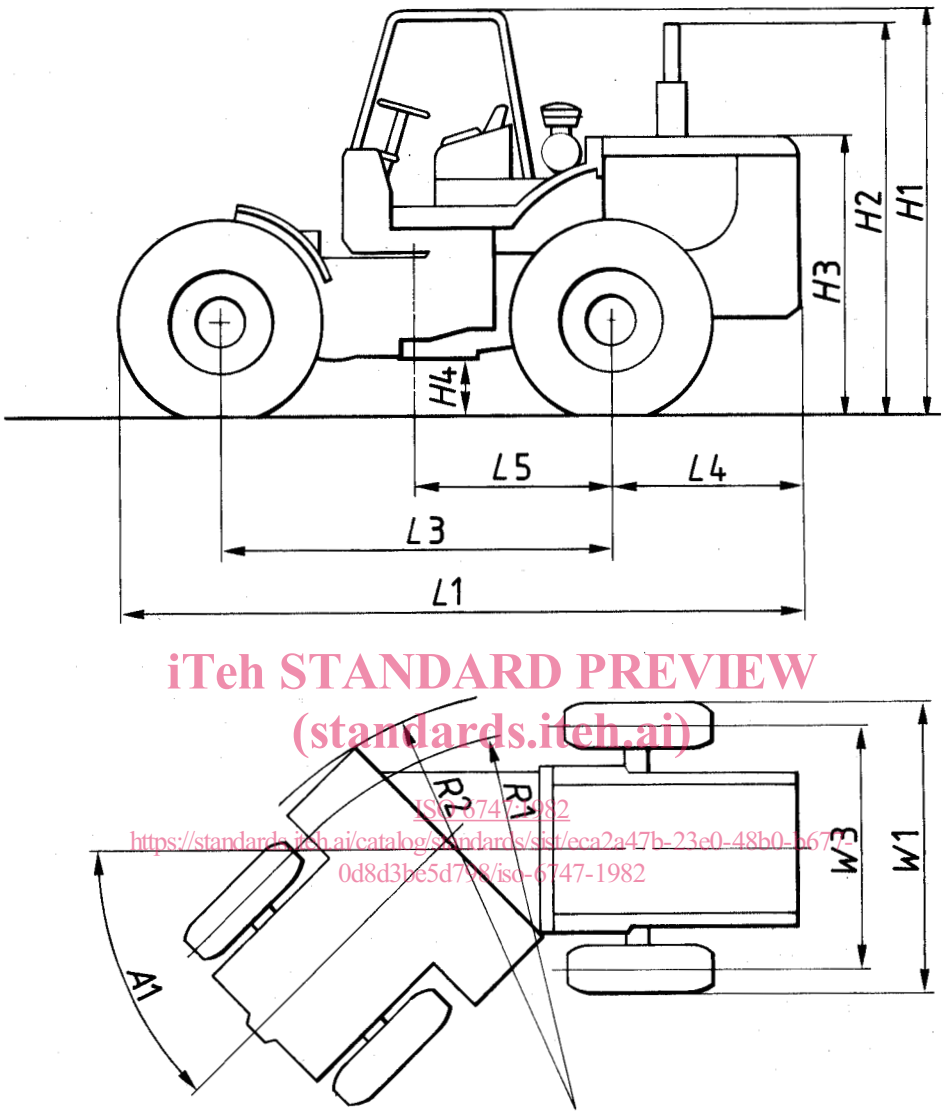

Figure 7 — Dimensions of base machine (wheel tractor)

5.3 Masses

5.3.1 operating mass : The mass of the base machine with all standard equipments, operator (75 kg), full fuel tank and full lubricating and cooling systems.

5.3.2 shipping mass : The mass of the machine without operator, with full lubricating and cooling systems, 10 % of fuel tank capacity and with or without equipments, cab, canopy, ROPS[1] or FOPS[2], as stated.

5.3.3 cab, canopy, ROPS or FOPS mass : The mass of cab, canopy, ROPS or FOPS with all components and mountings required to secure these to the base machine.

1) ROPS — Roll-over protective structure.

2) FOPS — Falling object protective structure.

6 Equipment

6.1 Definitions

6.1.1 dozer equipment (see figures 8 and 9) : Consists of a front blade, its relevant frame, and controls for positioning the blade.

6.1.1.1 straight dozer : The blade is maintained in a position where the cutting edge is parallel to the "X" plane.

6.1.1.2 angling dozer : The blade position may be changed so that the cutting edge is at an angle to the "X" plane.

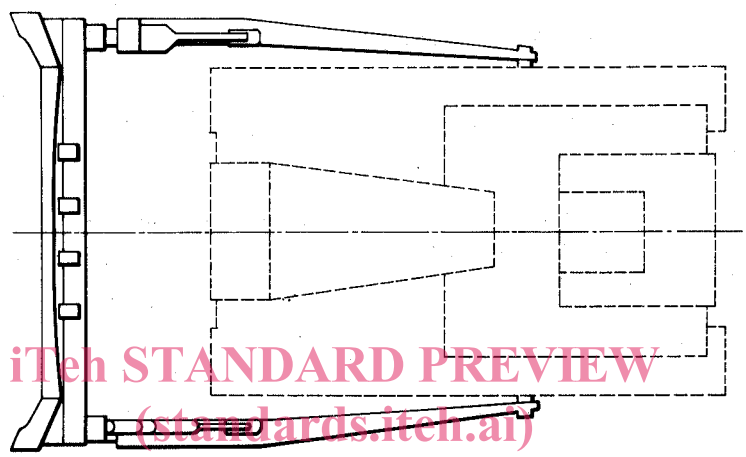

Figure 8 — Crawler tractor with straight dozer

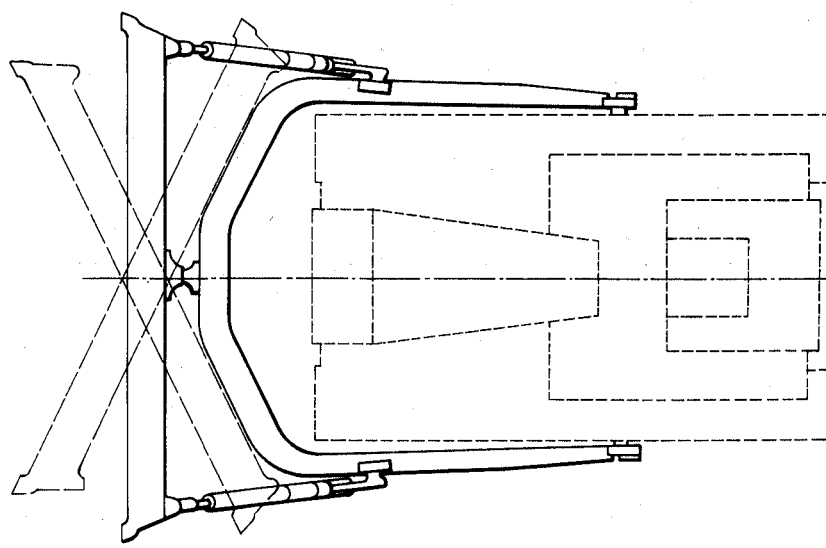

Figure 9 — Crawler tractor with angling dozer

6.1.1.3 The blade of both types of equipment referred to in 6.1.1.1 and 6.1.1.2 can have :

— tilt movement (see figure 10) : The blade position may be changed so that the cutting edge is at an angle to the "Z" plane.

— pitch movement (see figure 11) : Blade movement in which the upper portion of the blade may be changed in angle by pivoting it around a line parallel to the cutting edge.

As regards blade operation, there are :

— cable control, when the operation is performed by means of a mechanical system;

— hydraulic control, when the operation is performed by means of a hydraulic system.

6.1.2 ripper equipment (see figures 12, 13 and 14) : Consists of a frame connected to the rear part of the base machine by means of a mounting bracket. It is equipped with one tooth or more.

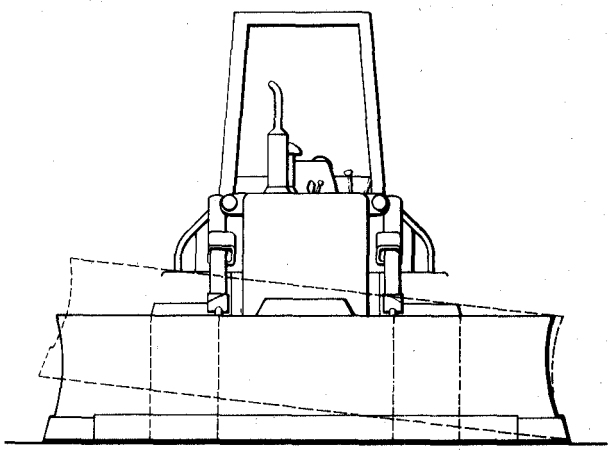

Figure 10 — Tilt movement

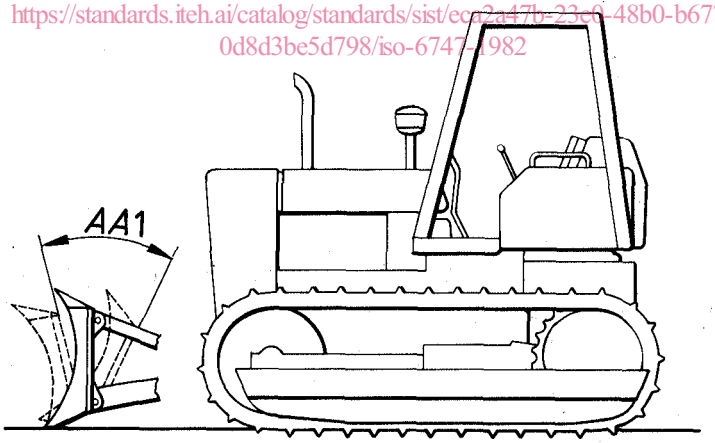

Figure 11 — Pitch movement

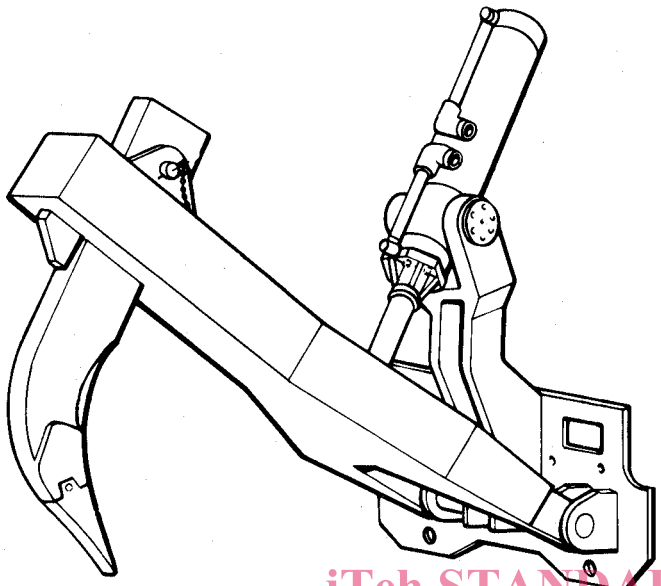

Figure 12 — Ripper equipment — Hinge type

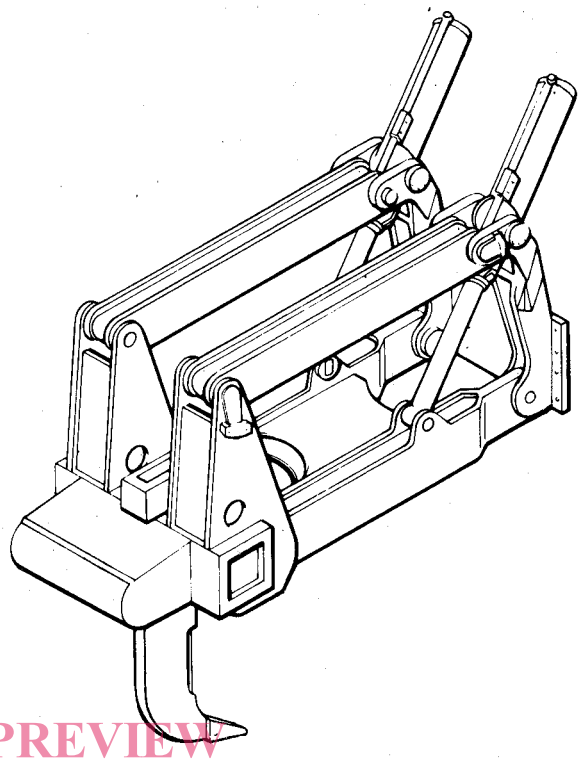

Figure 14 — Ripper equipment — Variable type

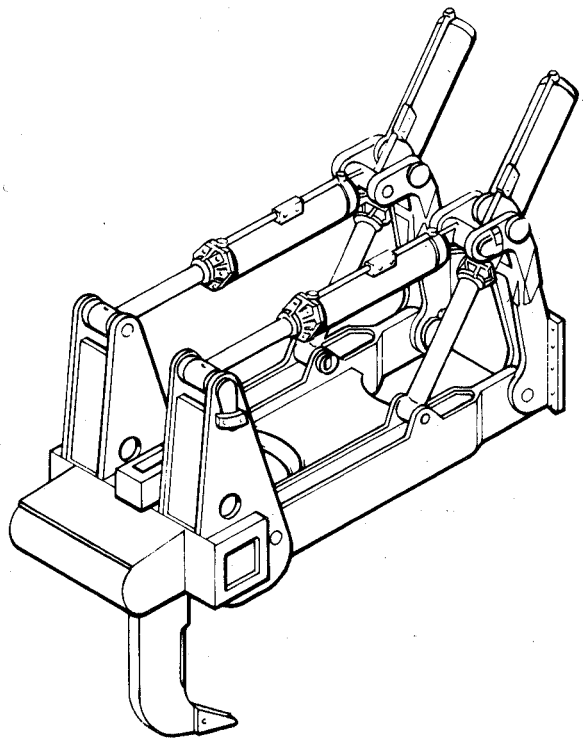

Figure 13 — Ripper equipment — Parallelogram type

There are three types of rippers :

6.1.2.1 hinge type : The ripping angle of the tooth tip to the ground varies according to change of the working depth.

6.1.2.2 parallelogram type : The ripping angle of the tooth tip to the ground remains constant regardless of variations in working depth.

6.1.2.3 variable type : The ripping angle of the tooth tip to the ground can make a compromise between the conditions in 6.1.2.1 and 6.1.2.2.

6.1.3 winch equipment : Consists of a frame equipped with a drum and connected to the rear part of the base machine.

As regards the winch operation, there are :

a) direct drive, when the operation is performed by a manual clutch and brakes;

b) power controlled, when the operation is performed by power clutches and brakes.

6.1.4 swinging drawbar : Consists of a frame, equipped with an articulation selector bar and a drawbar, connected to the rear part of the base machine.