Felling Head Terminology and Nomenclature—SAE J1272 OCT79

SAE Recommended Practice
Approved October 1979

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FELLING HEAD TERMINOLOGY AND NOMENCLATURE—SAE J1272 OCT79

SAE Recommended Practice

Report of the Off-Road Machinery Technical Committee, approved October 1979. Rationale statement available.

1. Purpose—The purpose of this recommended practice is to set forth accepted definitions for functions of tree felling heads and to classify and establish nomenclature for major components and parts peculiar to these mechanisms.

2. Scope—The recommended practice is intended to describe the basic types of felling heads, including those with bunching capabilities, that are attachments to a self-propelled machine. Only the major components that are necessary to describe the functions of the felling head, and to apply the principles of the recommended practice are included. Illustrations used are not intended to include all existing felling heads or to describe any particular manufacturer's variation.

3. Definitions

3.1 **Felling**—Cutting off or uprooting standing trees, causing the tree to fall under controlled or uncontrolled conditions.

3.2 **Bunching**—Gathering and arranging trees or parts of trees in piles.

3.3 **Accumulating**—The process of collecting and holding multiple trees or stems for subsequent bunching.

3.4 **Felling Head**—A mechanism carried by a self-propelled machine for felling trees. The felling head may contain provisions for accumulating and/or bunching.

4. Classifications

4.1 Shear Felling Heads

4.1.1 Pivoted Single Blade—Felling is by a single shear blade that travels in an arc about an axis perpendicular to the plane of cutting and works against an anvil for cutting (Fig. 1).

4.1.2 Single Guillotine Blade—Felling is by a single sliding shear blade that works against a fixed anvil or tree clamping device (Fig. 2).

4.1.3 Pivoted Double Blades—Felling is by two shear blades that travel in arcs of planar motion about one or more axes perpendicular to the plane of cutting. The blades work toward each other (Fig. 3).

4.1.4 Pivoted Curved Blades—Felling is by two cylindrical or cupped blade sections that travel in arcs about one or more axes that are not perpendicular to the plane of cutting. The blades work toward each other (Fig. 4).

4.2 Cutter Felling Heads

4.2.1 Saw Chain—Felling is by use of a saw chain and guide bar. A shear blade may be incorporated to cut small diameter trees or for making the final cut (Fig. 5).

4.2.2 Auger—Felling is by a rotating horizontal cylindrical bar, with fluted cutters on the circumference, that cuts toward anvil (Fig. 6).

4.2.3 Circular Disk—Felling is by one or more horizontal rotating disks with peripheral cutters (Fig. 7).

4.3 Uprooter—Felling is by severing of the lateral root system and applying a vertical lifting force to the tree (Fig. 8).

5. Nomenclature:

1. Main frame
2. Mast, main frame
3. Shear blade
4. Saw chain and bar
5. Auger
6. Disk cutter
7. Root shear
8. Tilt cylinder or link (fore and aft)
9. Anvil
10. Shear blade guide
11. Grapple arm
12. Shear blade cylinder
13. Shear blade arm
14. Accumulator arm
15. Accumulator arm cylinder
16. Accumulator gate
17. Cutter drive motor
18. Cutter feed cylinder
19. Grappel arm cylinder
20. Gate actuator
21. Tree rest
22. Transverse tilt cylinder
23. Main support (or king pin)

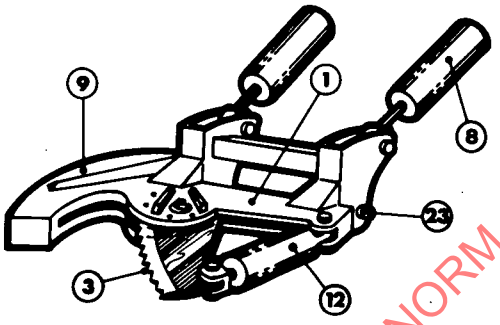

FIG. 1—PIVOTED SINGLE BLADE

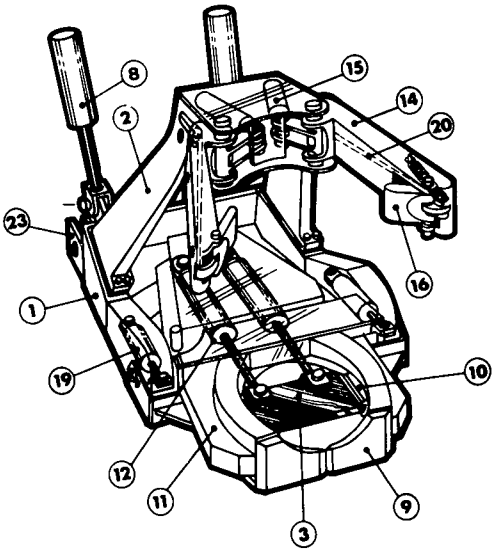

FIG. 2—SINGLE GUILLOTINE BLADE

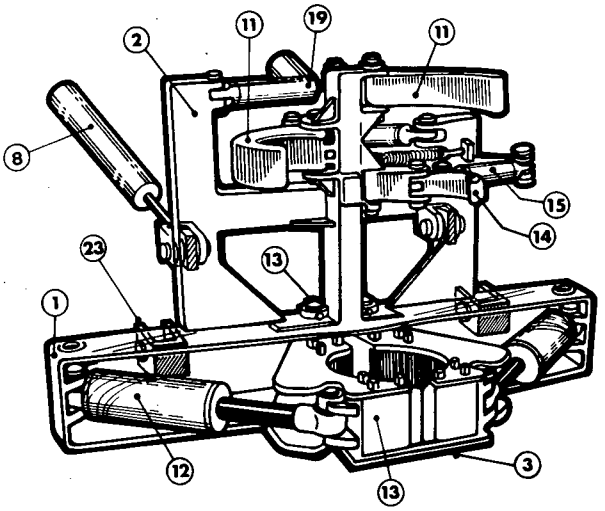

FIG. 3—PIVOTED DOUBLE BLADES