

Submitted for recognition as an American National Standard

(R) FELLING HEAD TERMINOLOGY AND NOMENCLATURE

Foreword—This Document has also changed to comply with the new SAE Technical Standards Board Format.

1. **Scope**—This SAE Standard 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.

1.1 **Purpose**—The purpose of this document 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 machines.

2. **References**

2.1 **Applicable Publications**—The following publication forms a part of this specification to the extent specified herein. The latest issue of SAE publications shall apply.

2.1.1 SAE PUBLICATION—Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

SAE J1209—Identification Terminology of Mobile Forestry Machines

3. **Definitions**

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

3.2 **Bunching**—See SAE J1209.

3.3 **Carriage**—A movable frame driven by suitable means to advance the saw disc through the tree and retract the saw after the tree is cut.

3.4 **Felling**—See SAE J1209.

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

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4. Classifications

4.1 Shear Felling Heads

4.1.1 PIVOTED SINGLE BLADE—Felling is by single shear blade that travels in an arc about an axis perpendicular to the plane of cutting and works against an anvil for cutting (Figure 1).

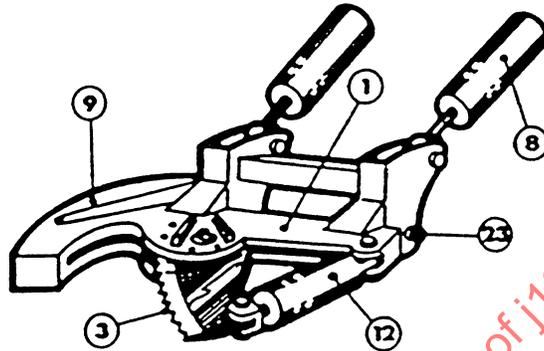


FIGURE 1—PIVOTED SINGLE BLADE

4.1.2 SINGLE GUILLOTINE BLADE—Felling is by a single shear blade that works against a fixed anvil or tree clamping device (Figure 2).

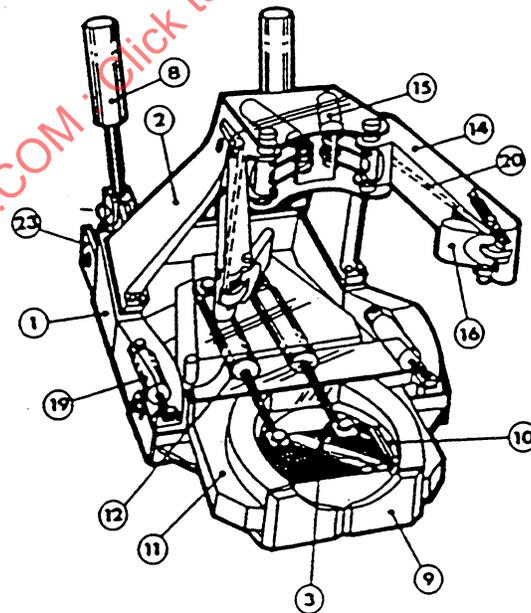


FIGURE 2—SINGLE GUILLOTINE BLADE

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 (Figure 3).

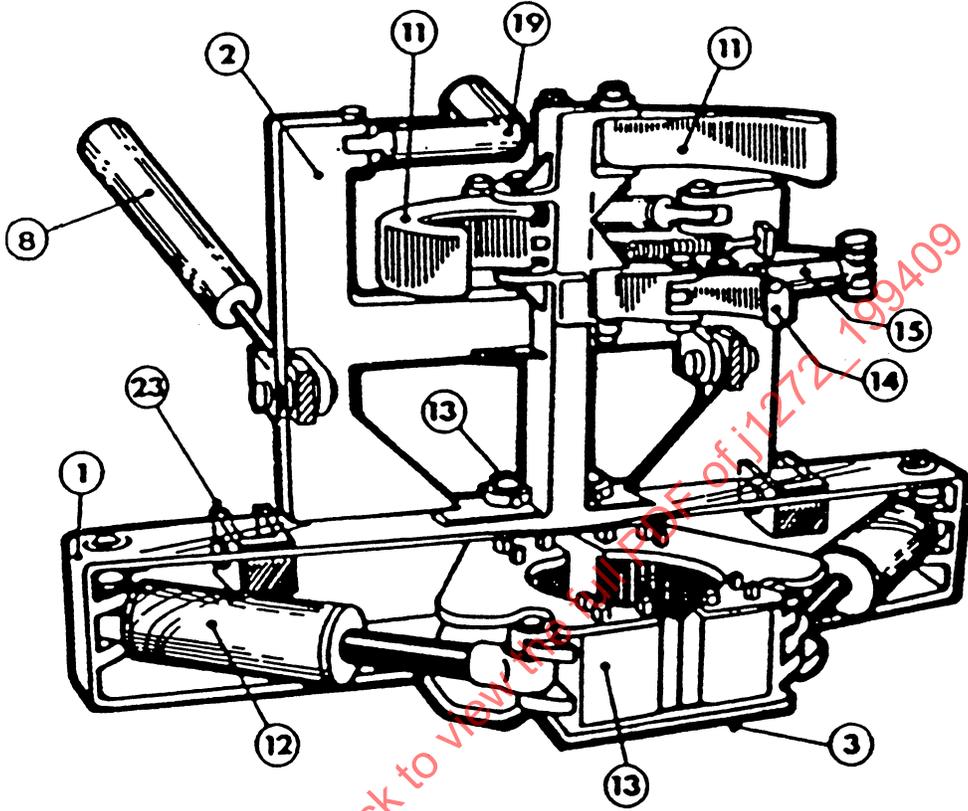


FIGURE 3—PIVOTED DOUBLE BLADES

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 (Figure 4).

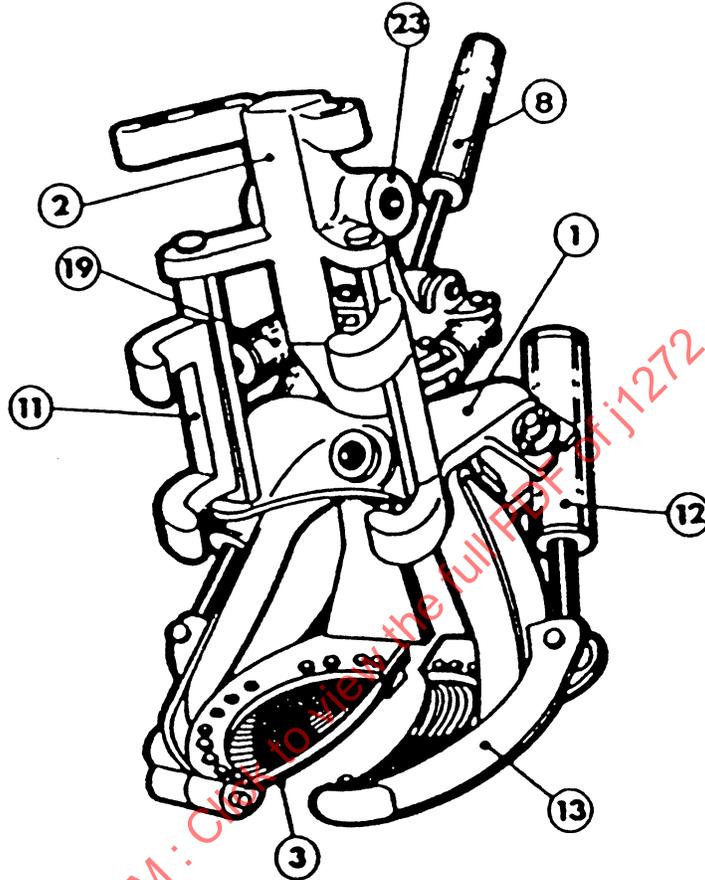


FIGURE 4—PIVOTED CURVED BLADES

4.2 Cutting Felling Heads

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

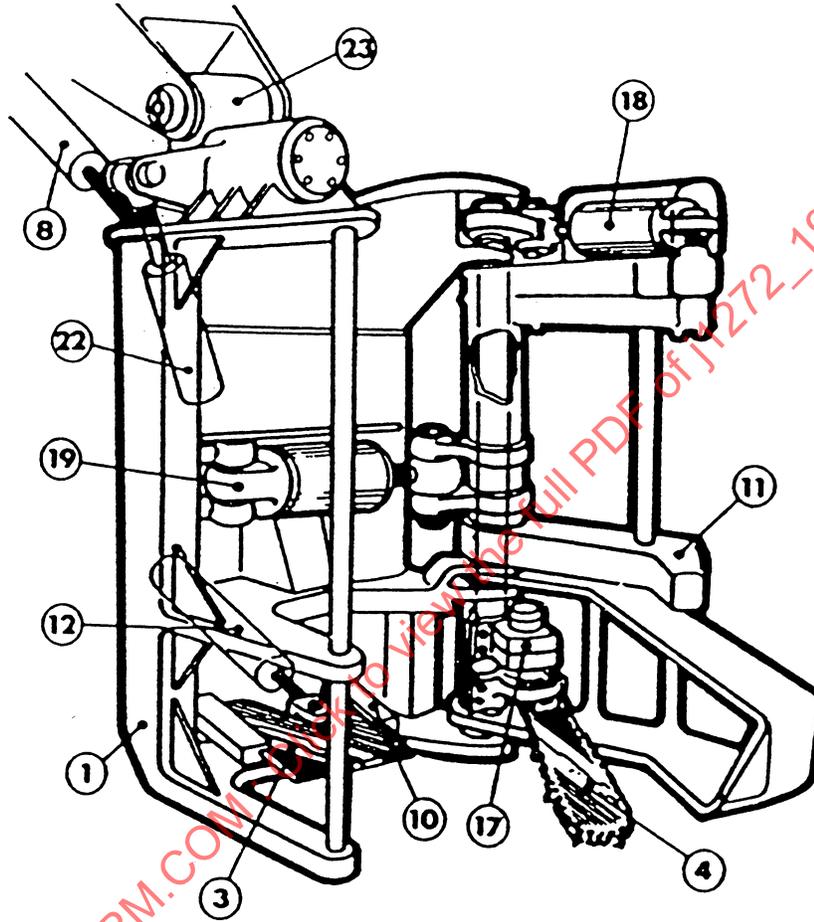


FIGURE 5—SAW CHAIN

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

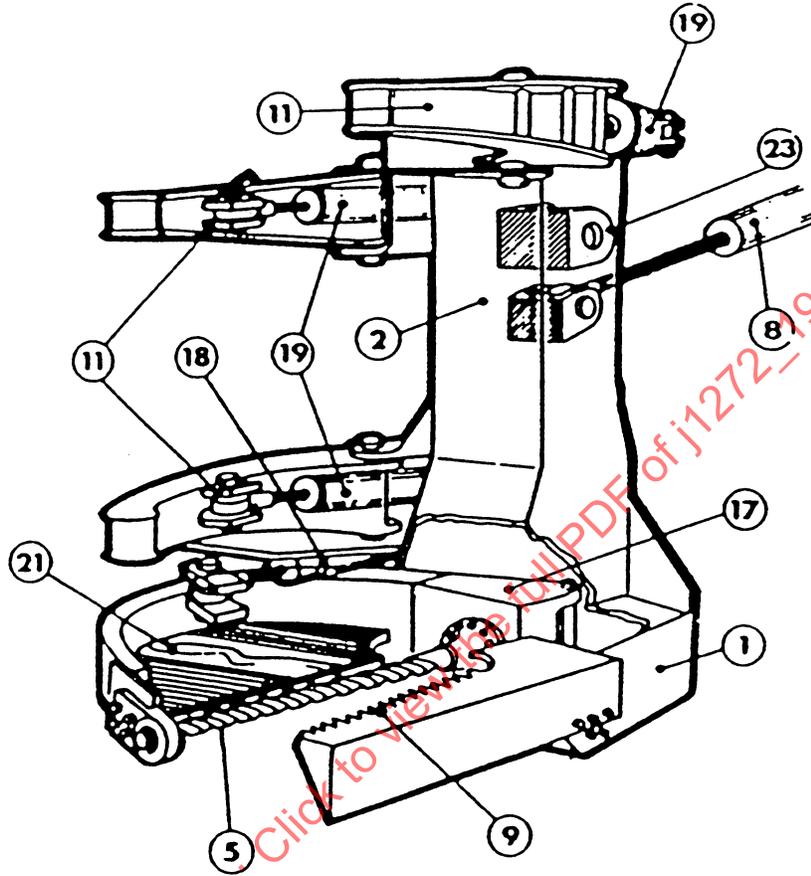


FIGURE 6—AUGER

4.2.3 CIRCULAR DISK—Felling is by one or more horizontal rotating disks with peripheral cutters.

4.2.3.1 *Continuous Disk*—The disk is rotated constantly at high speed with lower torque. The inertia of the high-speed disk stores energy sufficient to cut the tree (Figure 7).

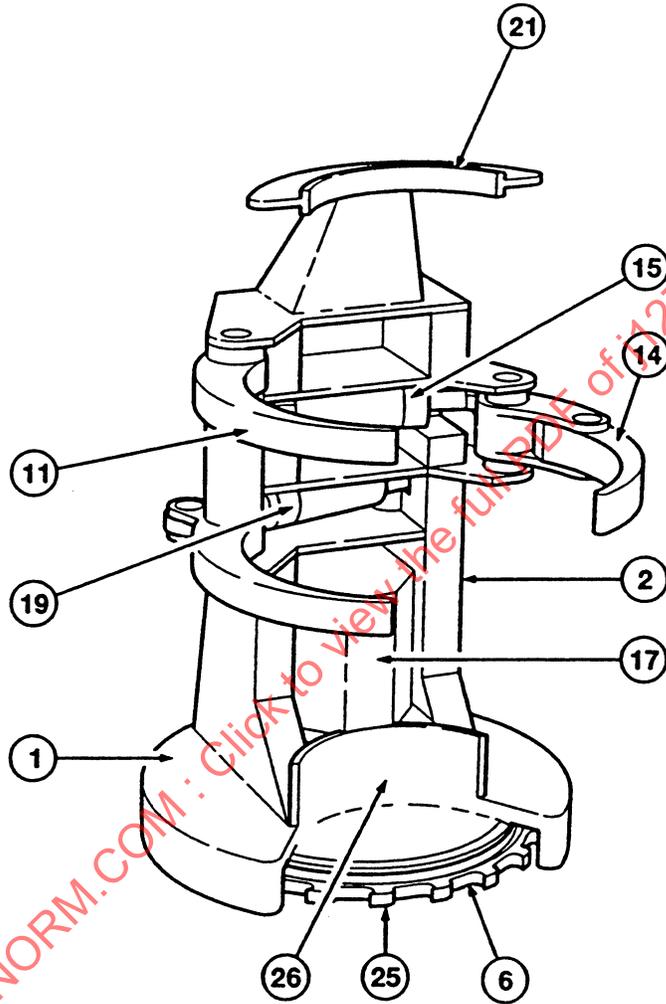


FIGURE 7—CIRCULAR SAW CONTINUOUS

4.2.3.2 *Intermittent Disk*—The disk rotates only during the cutting portion of a work cycle. This type is also characterized by a lower speed of rotation and with higher driven torque. Intermittent disk saws usually are mounted on a carriage frame (Figure 8).

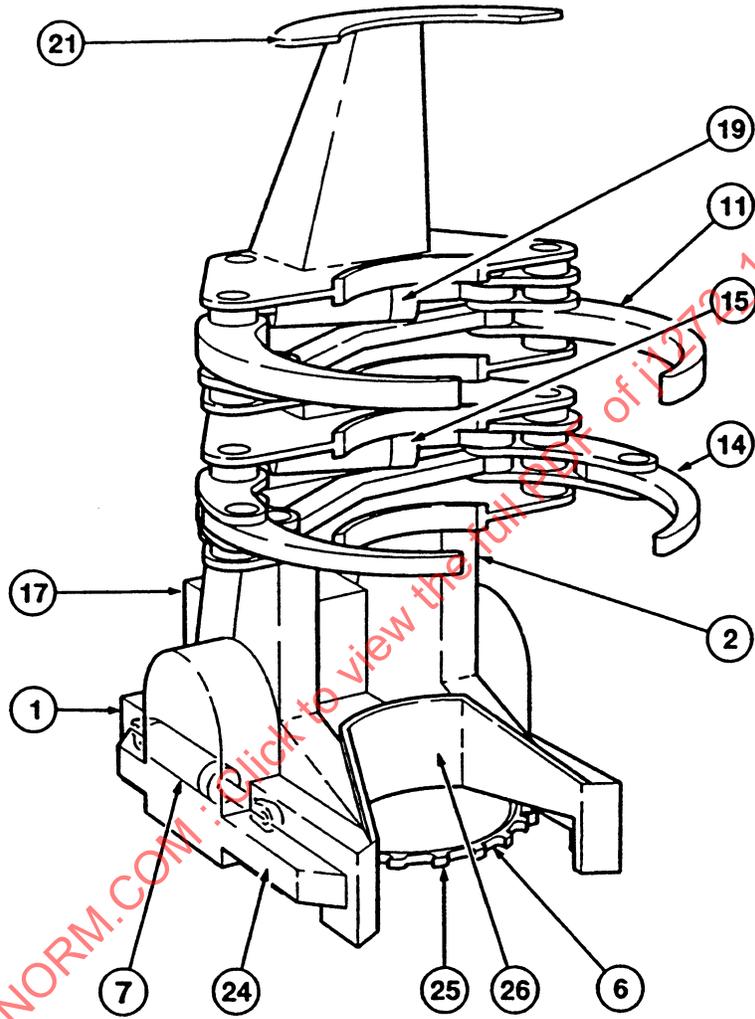


FIGURE 8—CIRCULAR SAW INTERMITTENT