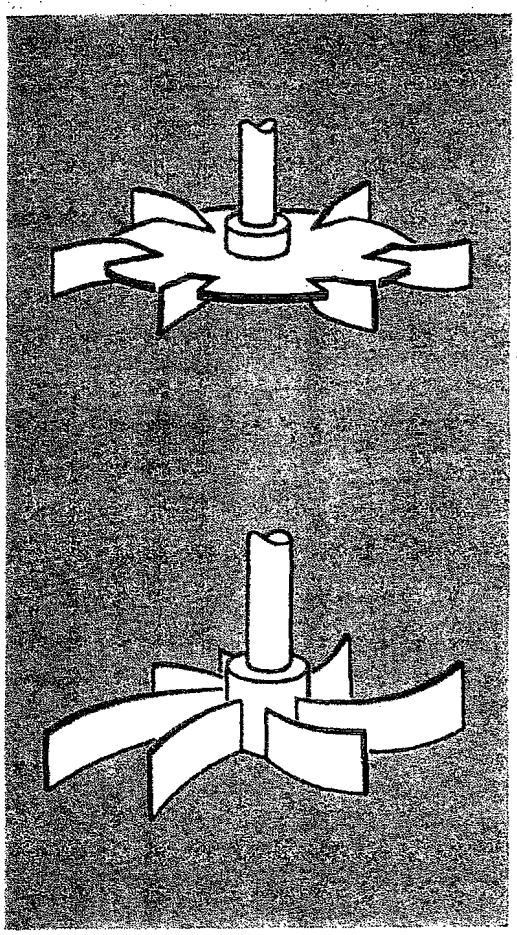
Advantages and limitations of two basic turbine impeller constructions — Table II



CENTER DISK (NOT CONSIDERING BLADE ANGLE)

Advantages

(Mechanical)
Lighter construction.

Can be split.

Number of blades can be varied.

(Process)
Satisfactory for gas absorption in all sizes.

Disadvantages

(Mechanical)
Corrosion and abrasion problems if fabricated.

(Process)
Viscosity limitation.
Top-to-bottom interchange limited by disk.

OPEN TYPE (NOT CONSIDERING BLADE ANGLE)

Advantages

(Mechanical)
Can be split.

Tips can be bolted on.

Casting has hard surface.

(Process)

Best type for high-viscosity applications.
Very satisfactory for solids suspension.

Disadvantages

(Mechanical)
Usually cannot vary number of blades when cast.

Corrosion and abrasion problems if fabricated.

(Process)

Not applicable in larger sizes for gas absorption without modification.

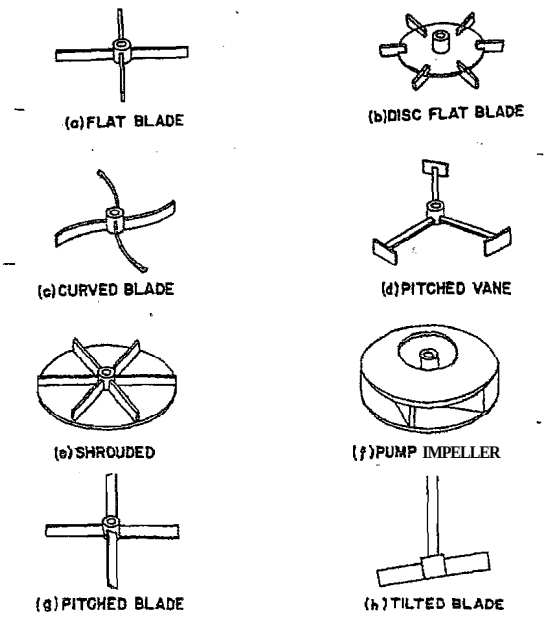


Fig. 6. Turbine impellers.

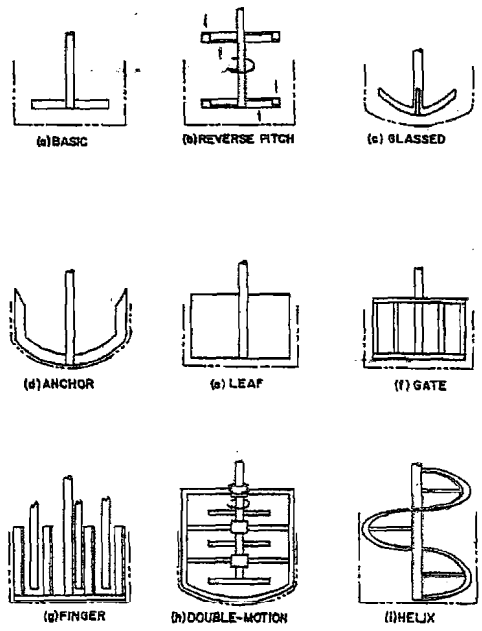


Fig. 7. Paddle impellers.

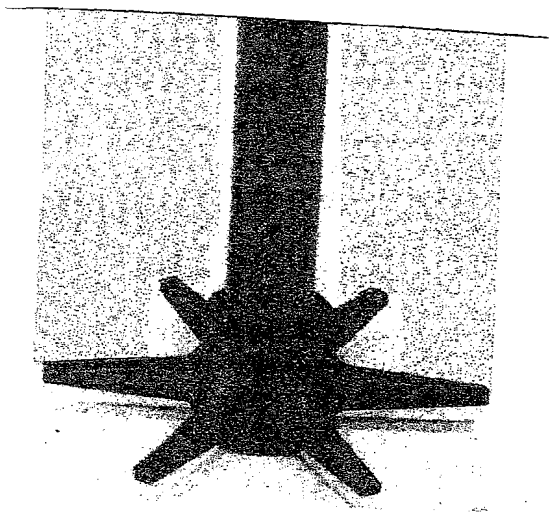


FIG. 10. *Modified* turbine **impeller.** (*Chemineer, Inc.*)

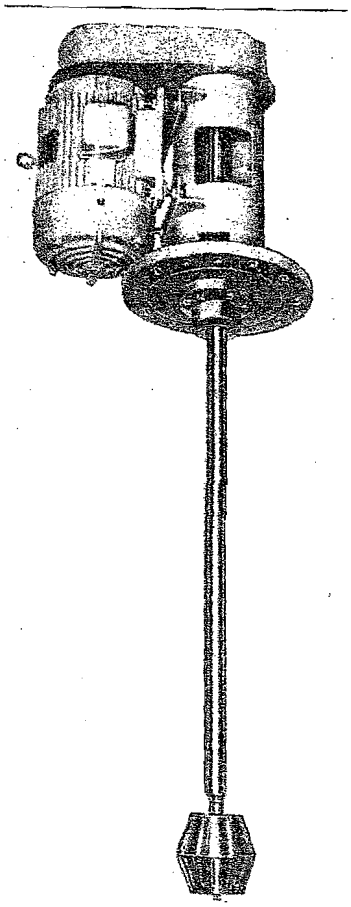


Fig. 51—This modified-cone design features a slotted impelle . (Premier Mill Corp. Dispersator)

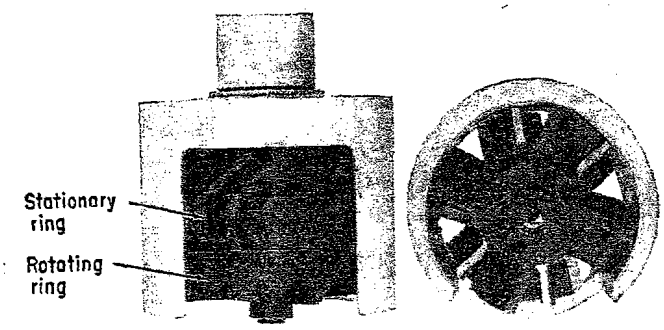
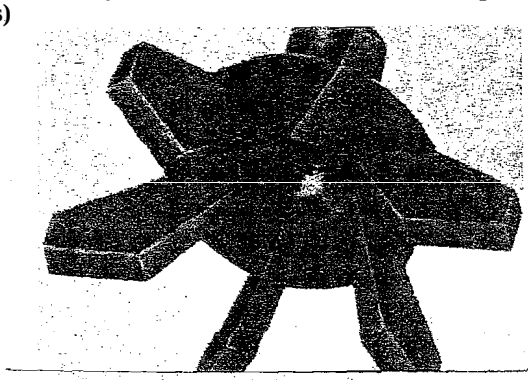


Fig. 53—Cut-away view shows elevation (a) and end (b) of another modified-turbine high-shear mixer. This one has a single stationary blade and two rotors. (Gabb Special Products)



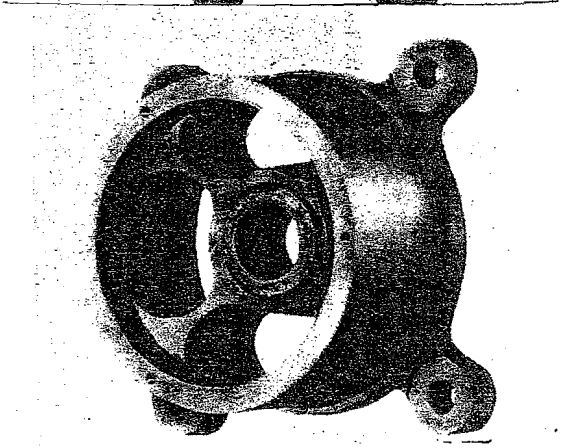


FIG. 11. **Rotor-stator impeller.** (*Gifford-Wood Co.*)

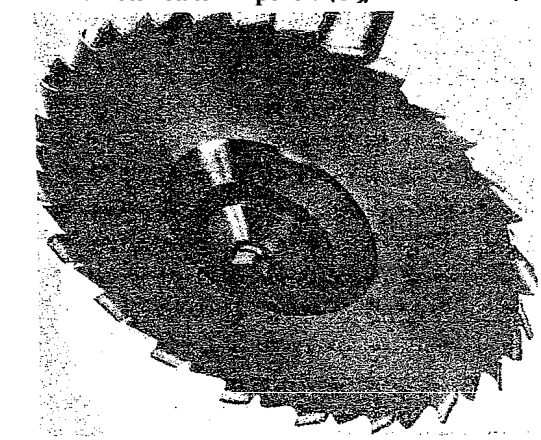


FIG. 8. **Modified disc** *style* **impeller.** (*Cowles Dissolver Co.*)