

Keyless offset - boon or bane?

Fuchs, Boris.

1994

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Keyless Offset - Boon Or Bane?

By

Boris Fuchs

IFRA/AMIC - Workshop Web Offset Technology in Bangkok, Thailand, 8 - 9 September, 1994

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Boris Fuchs, IFRA

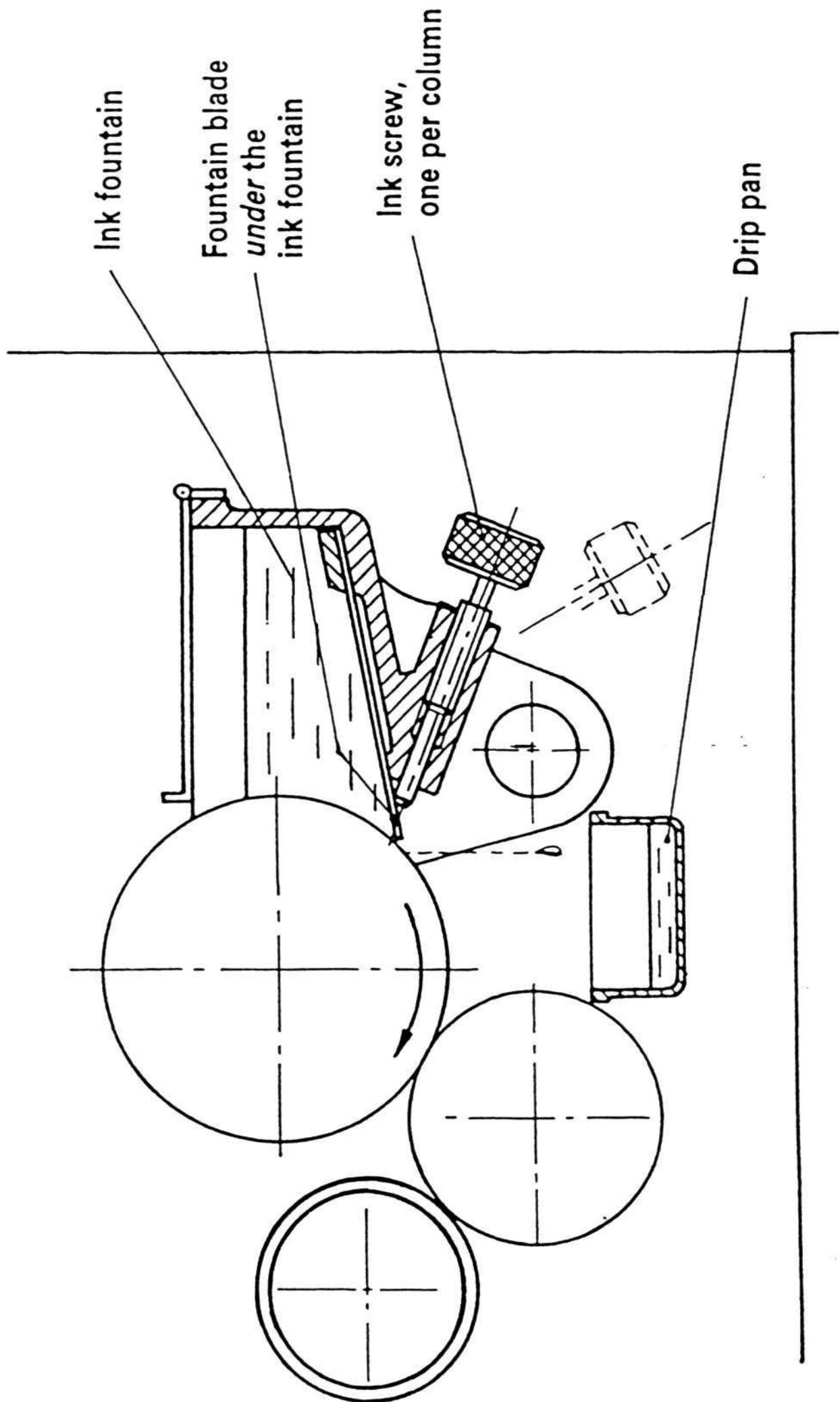
PRINTING PROCESSES IN NEWSPAPER PRODUCTION

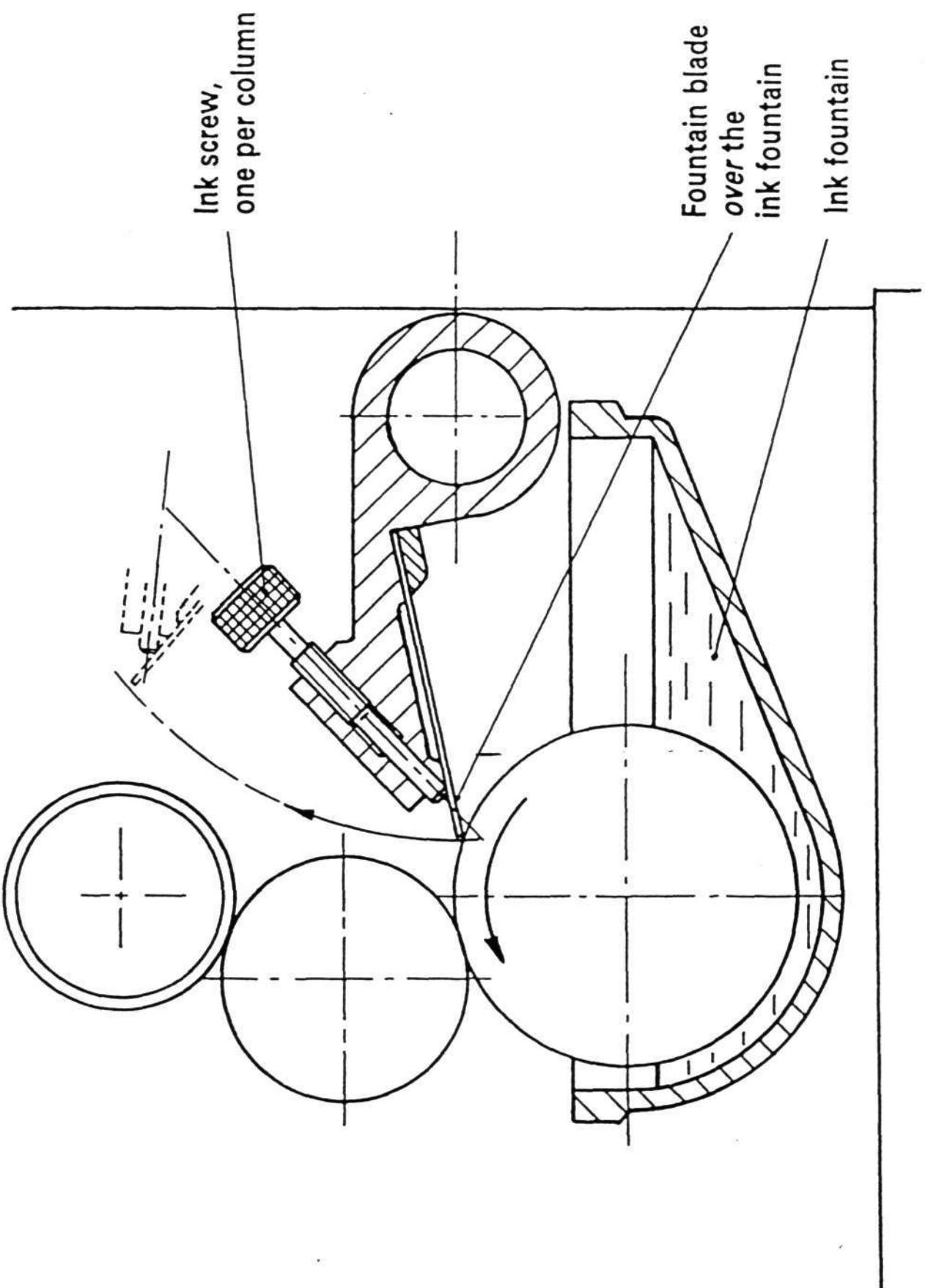
OFFSET - CONVENTIONAL

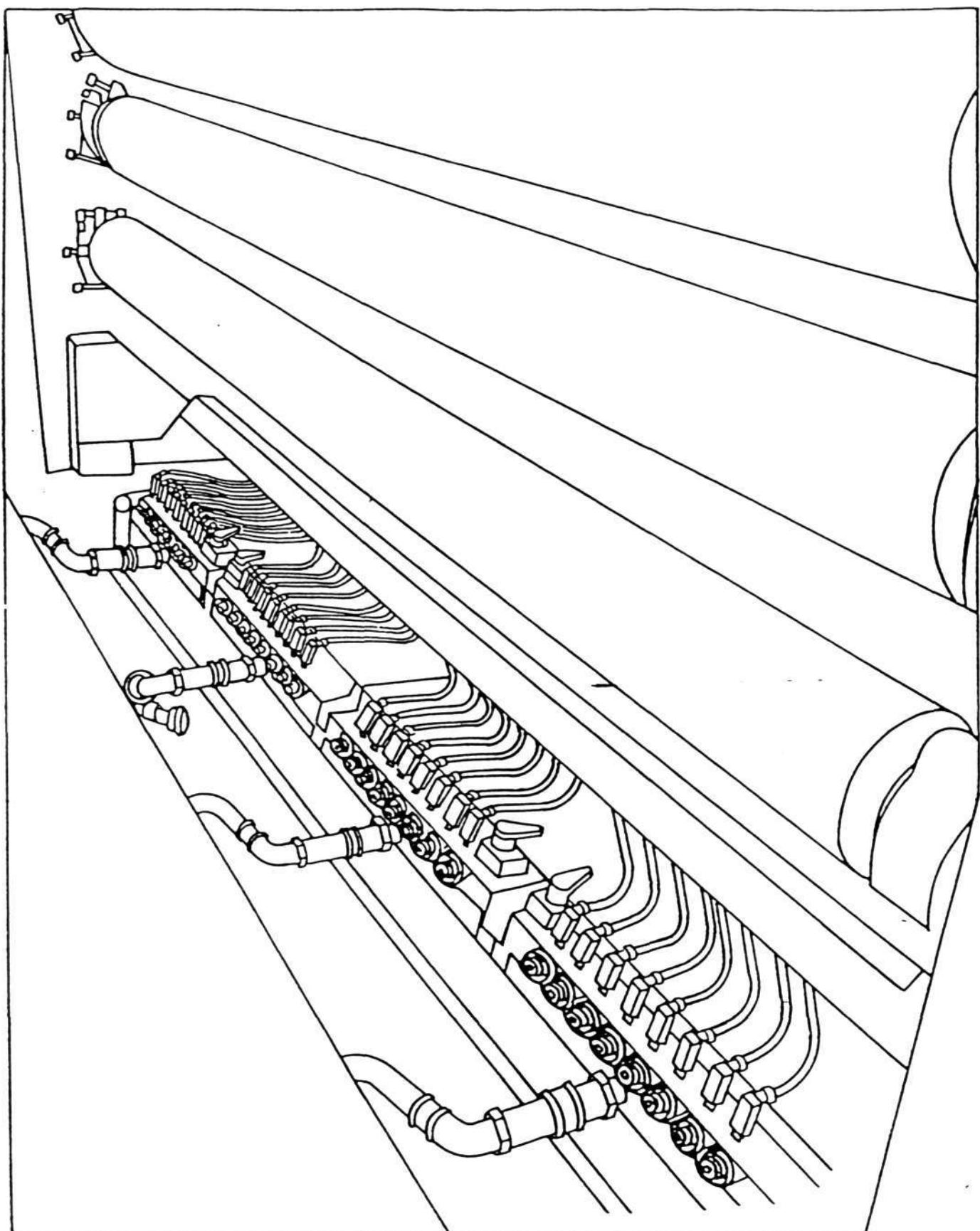
FILM INKING

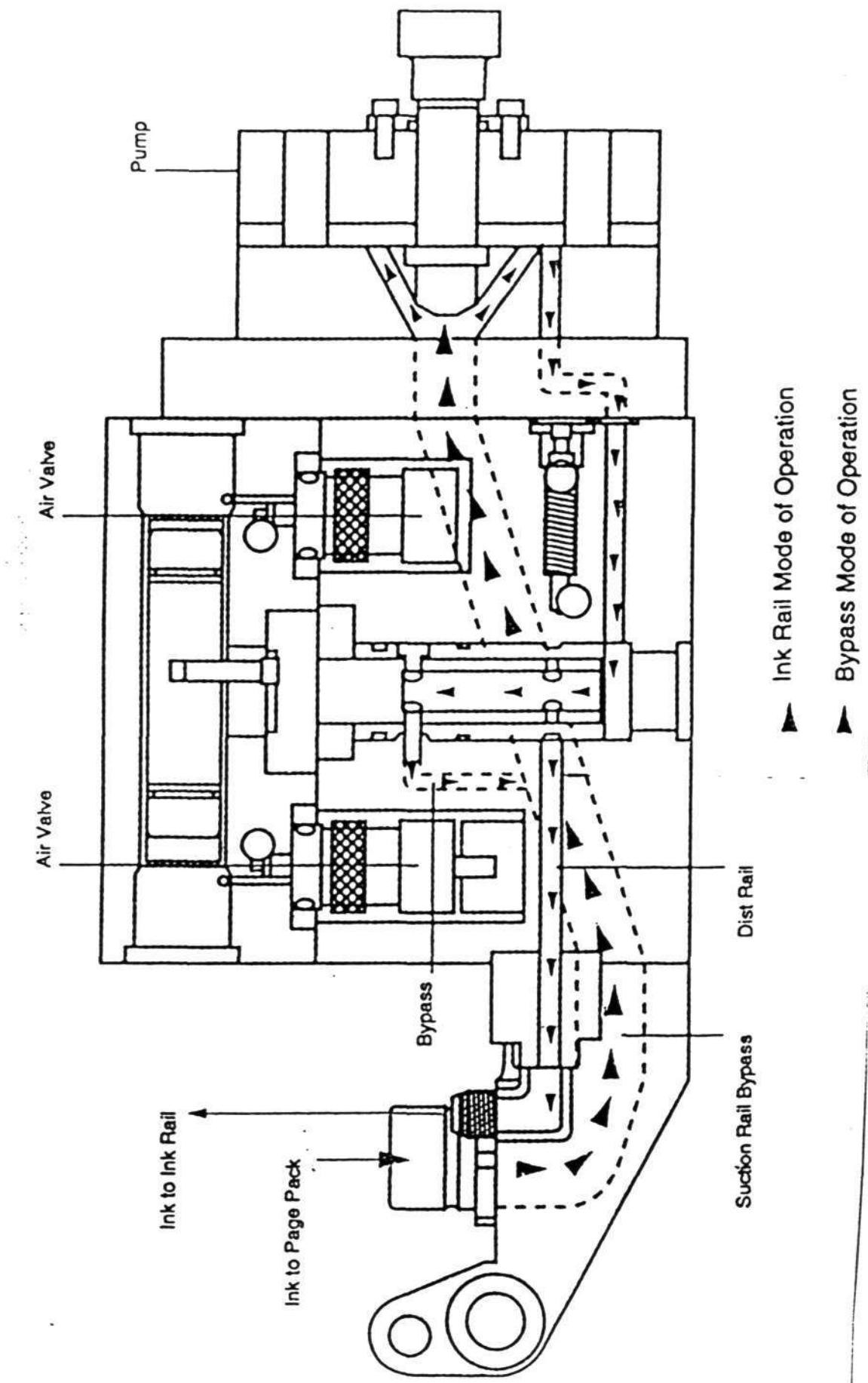
- 1. UNDERSHOT**
- 2. OVERSHOT**
- 3. PUMP INKING**
(INJECTION INKING)

DUCTOR INKING (Not used in newspaper printing)









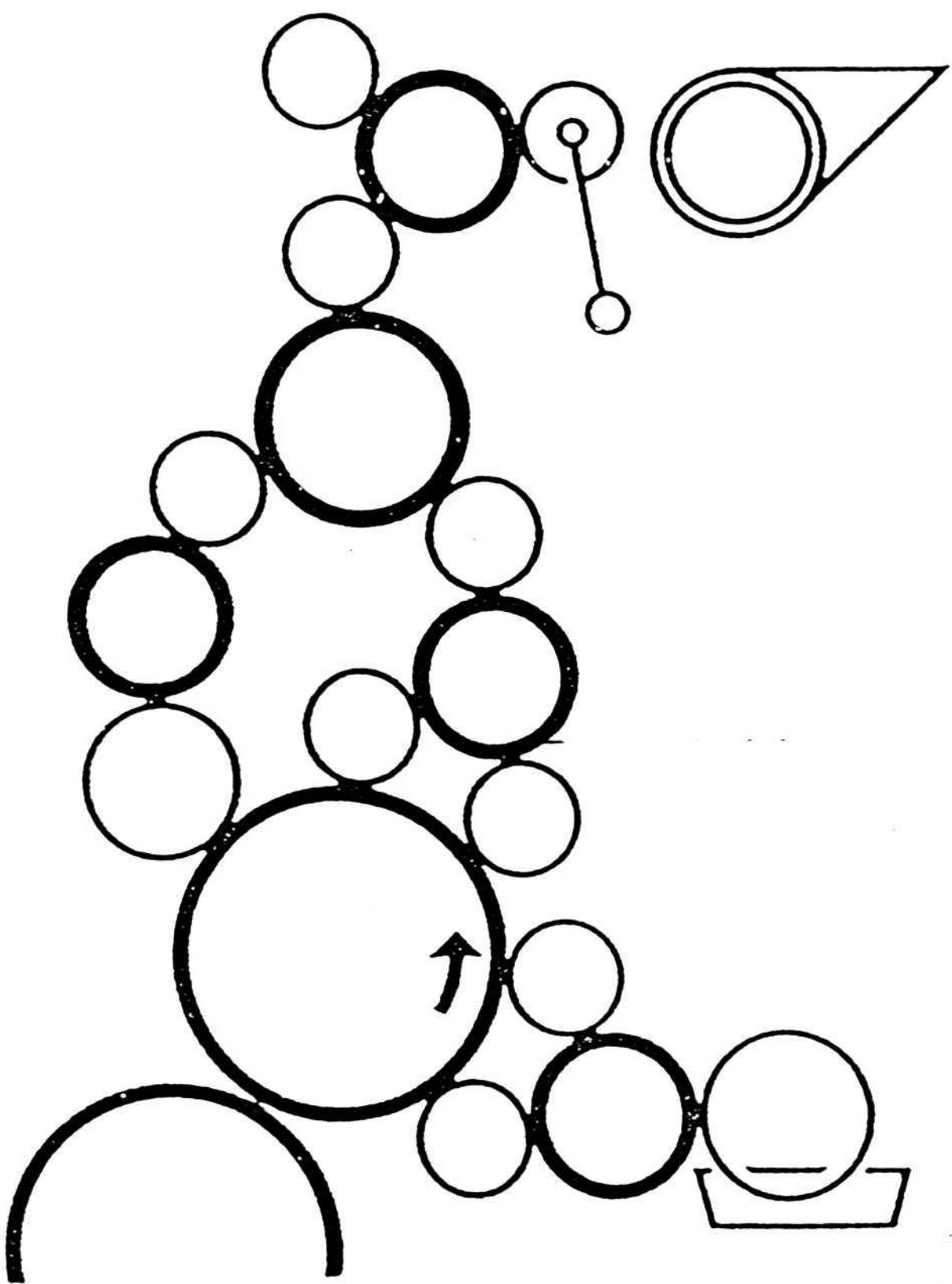
DEMANDS ON NEWSINK

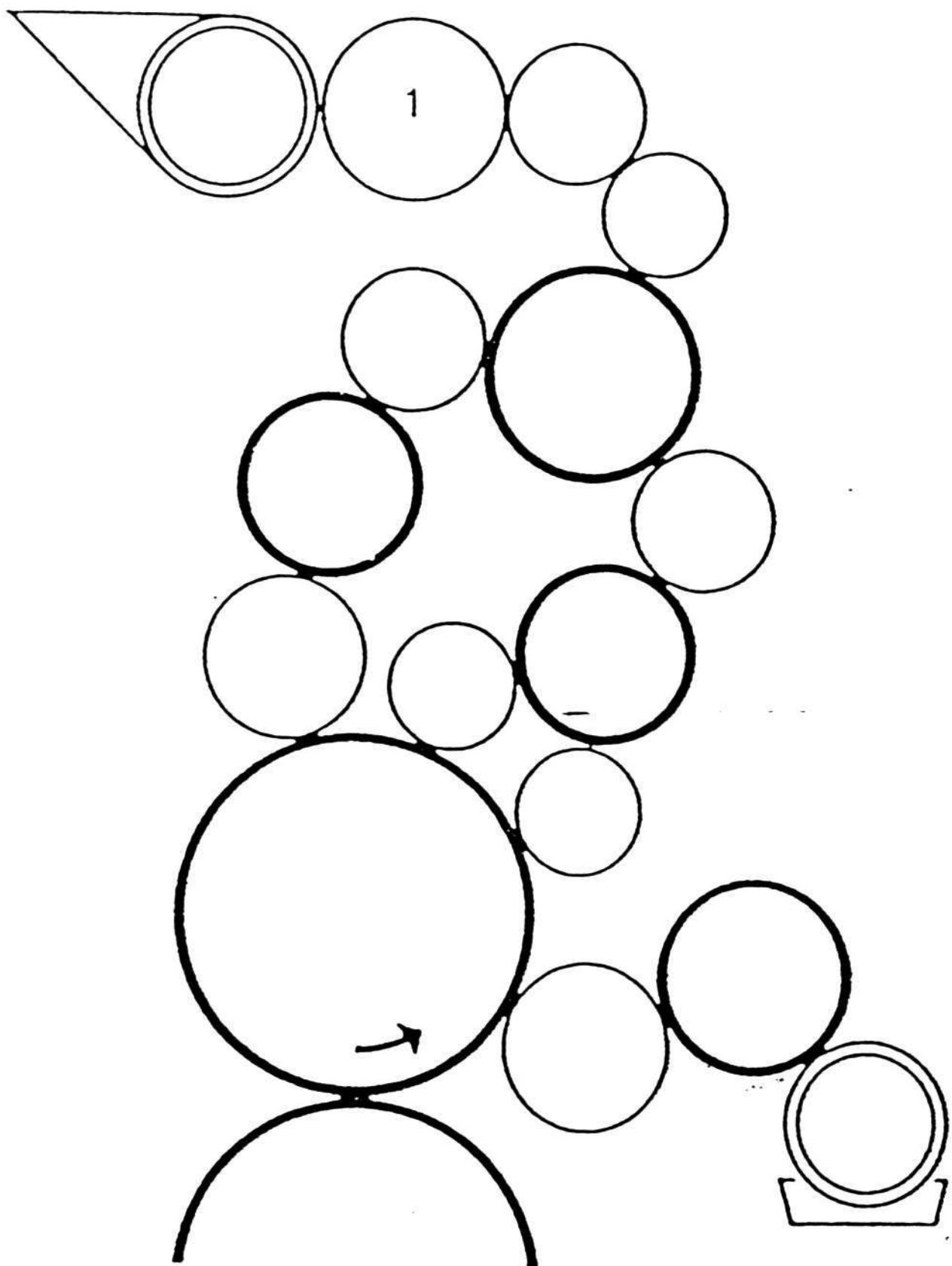
UNDERSHOT	Overshot	INKPUMPS
Viscous	Less viscous	Even less viscous
Short	Long	Long
High relative polarity for a high water take-up	Low relative polarity for a low water take-up	Even lower relative polarity to avoid excessive water take-up

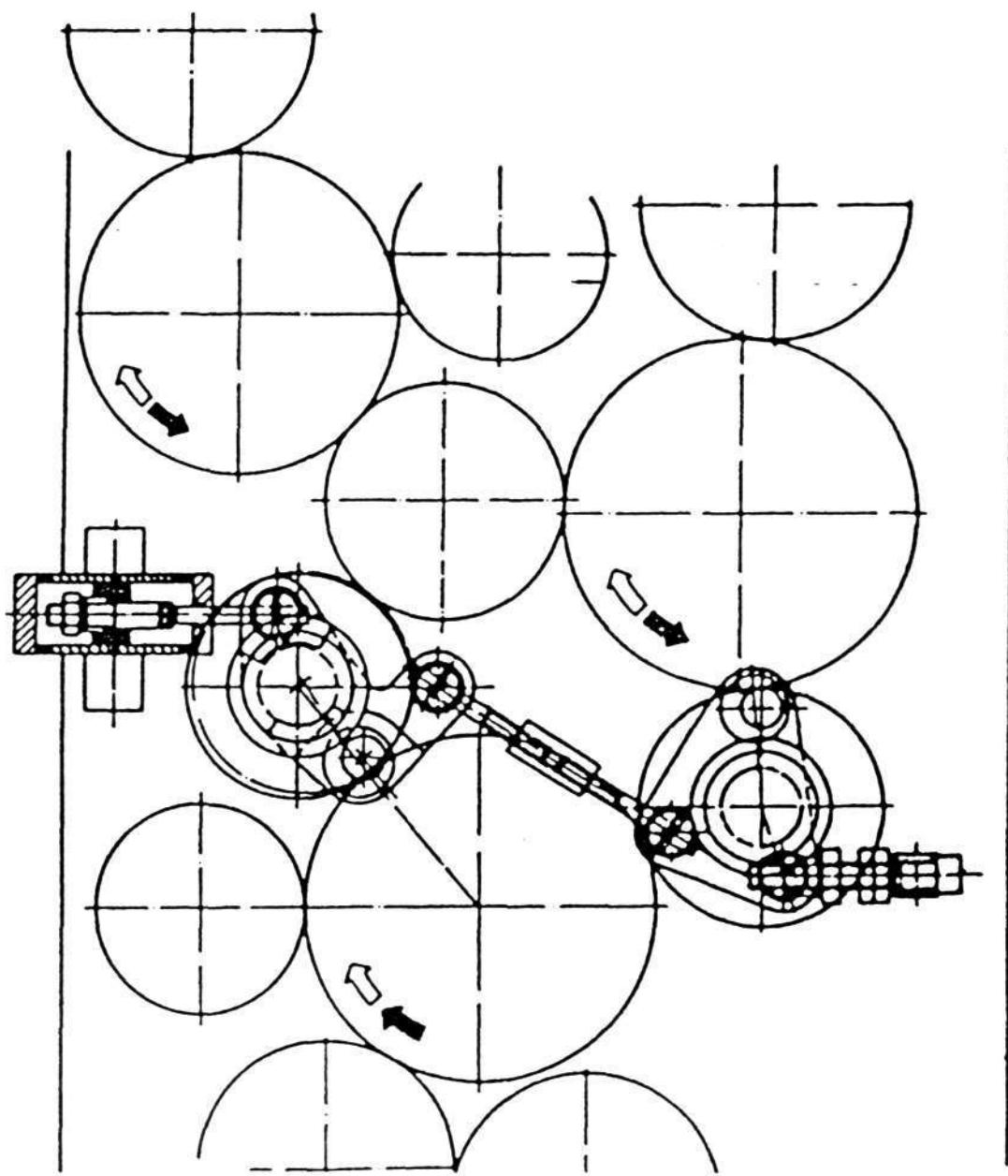
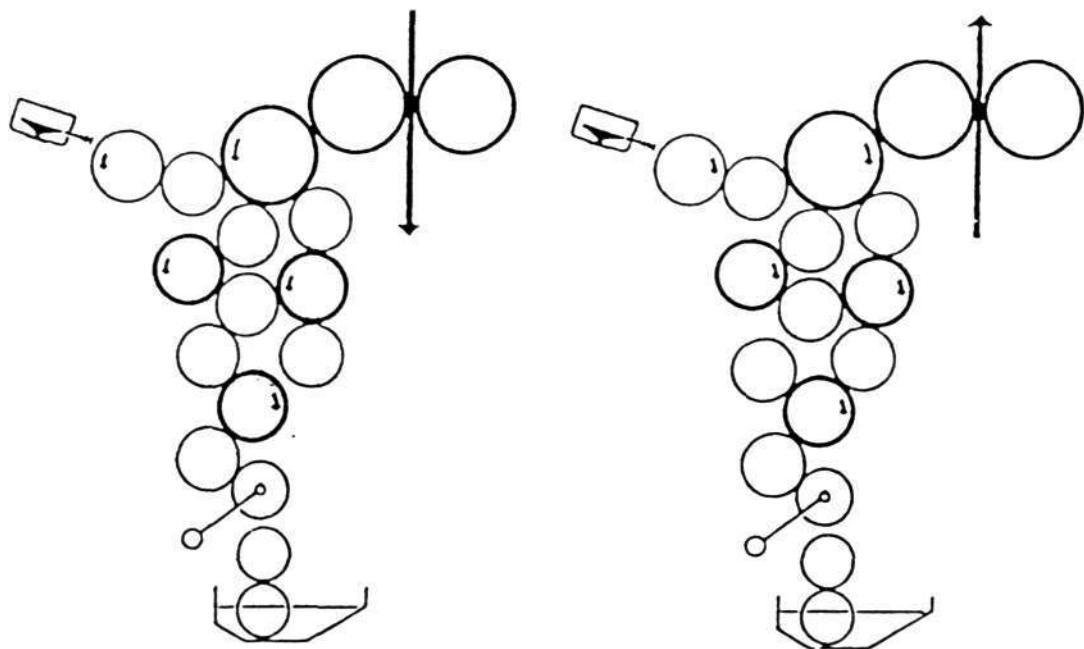
IN PRACTICE

- Viscous and short inks create greater tendency to linting and rub-off
- if undershot inking is used > use newsprint with low linting and rub-off propensity (rough newsprint)
- Long and low viscous inks have tendency to ink misting and strike-through
- if overshot or pump inking is used, special additives in ink and newsprint with good opacity properties are needed
- High water take-up requires fountain solution with good wetting properties

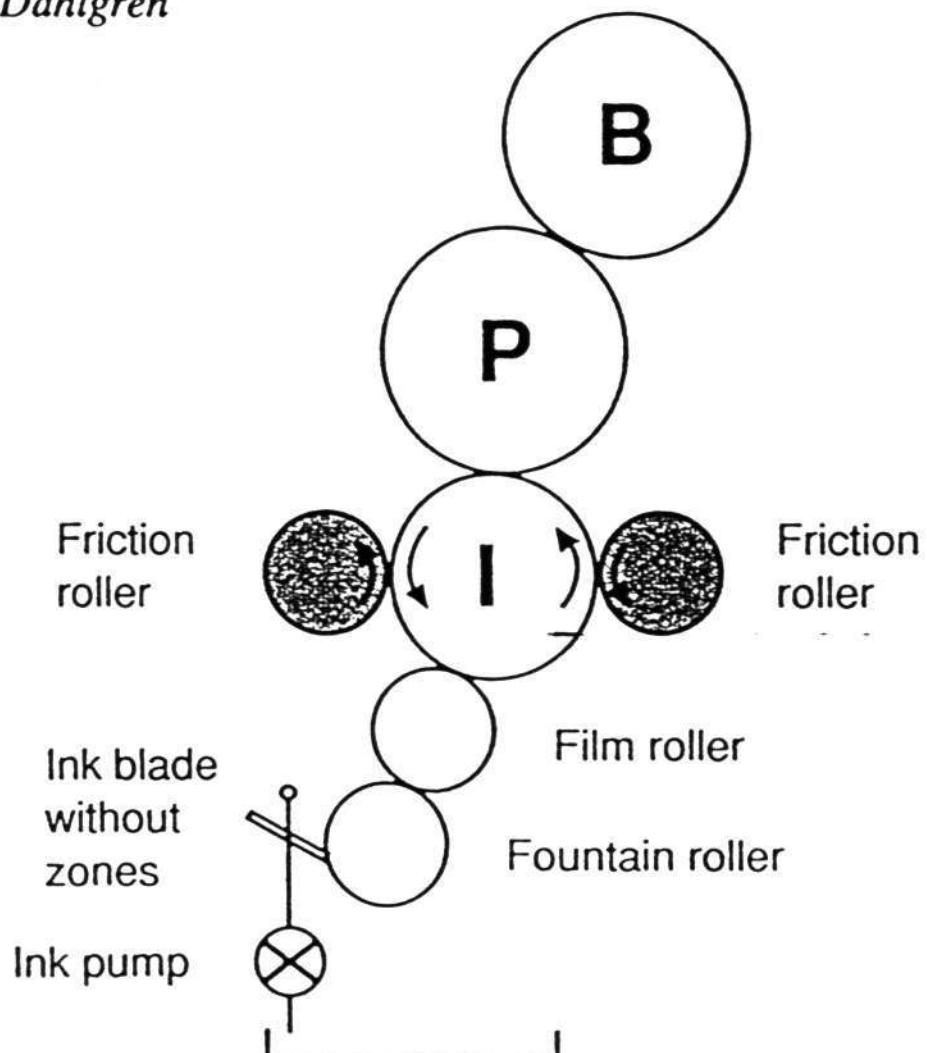
> Ink, fountain solution, paper, inking unit and blanket properties are inter-related and must be dealt with as an entity



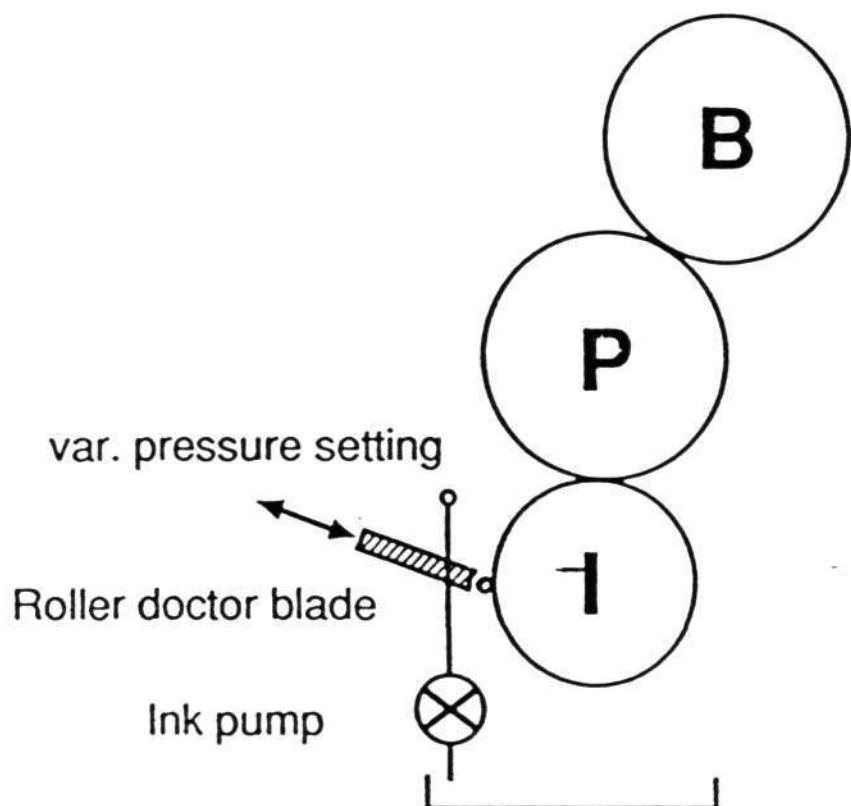


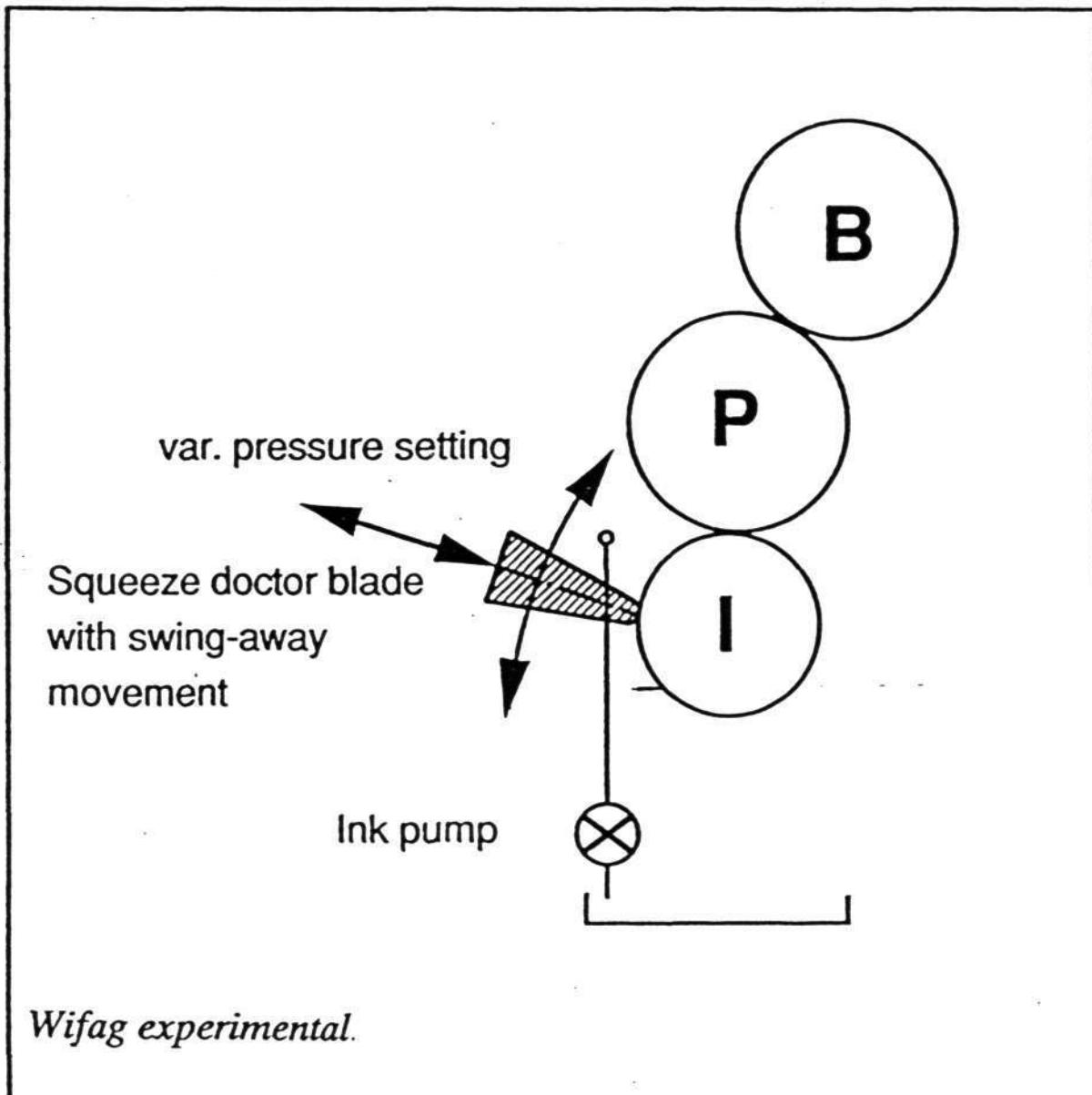


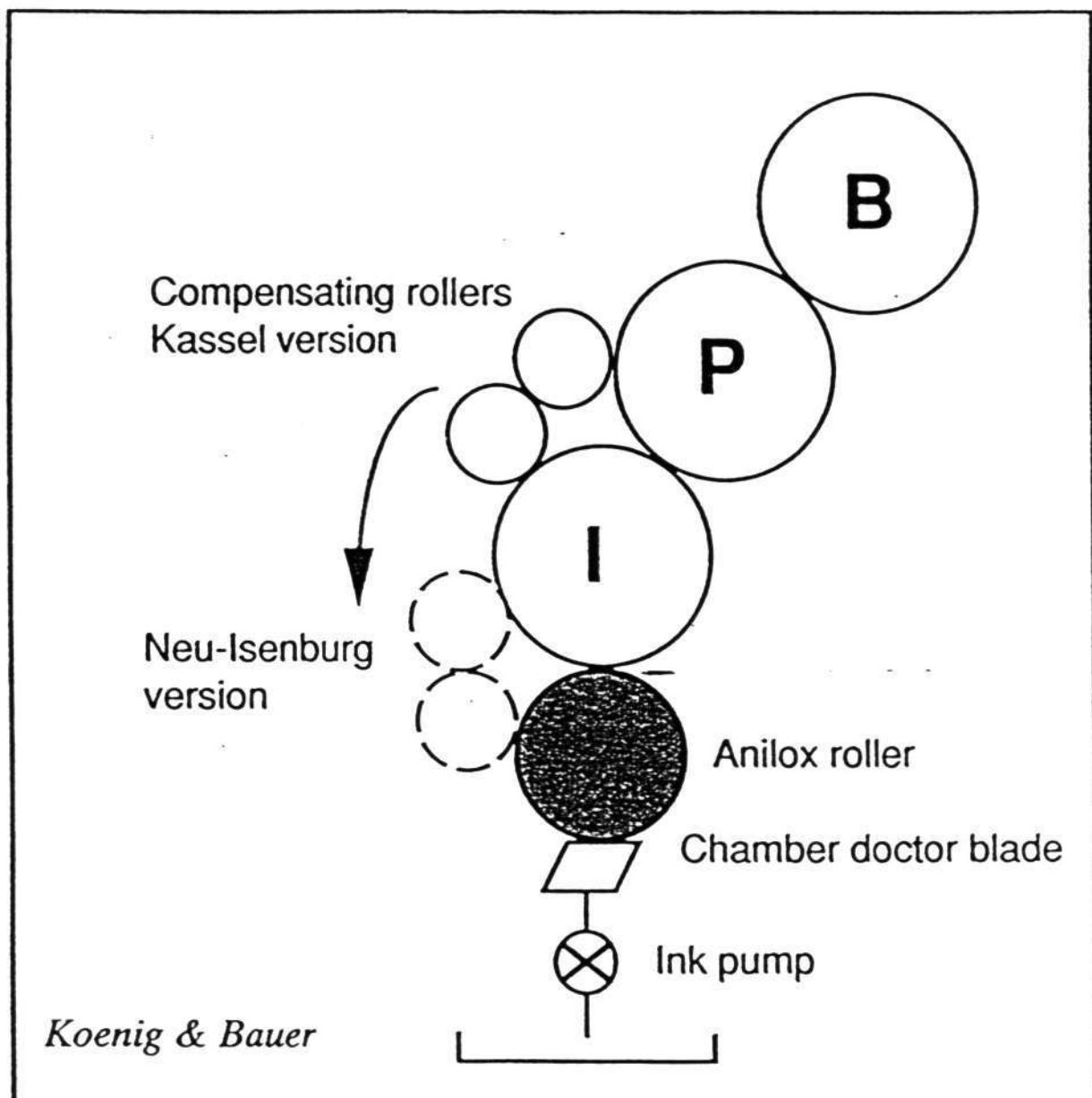
Harold Dahlgren

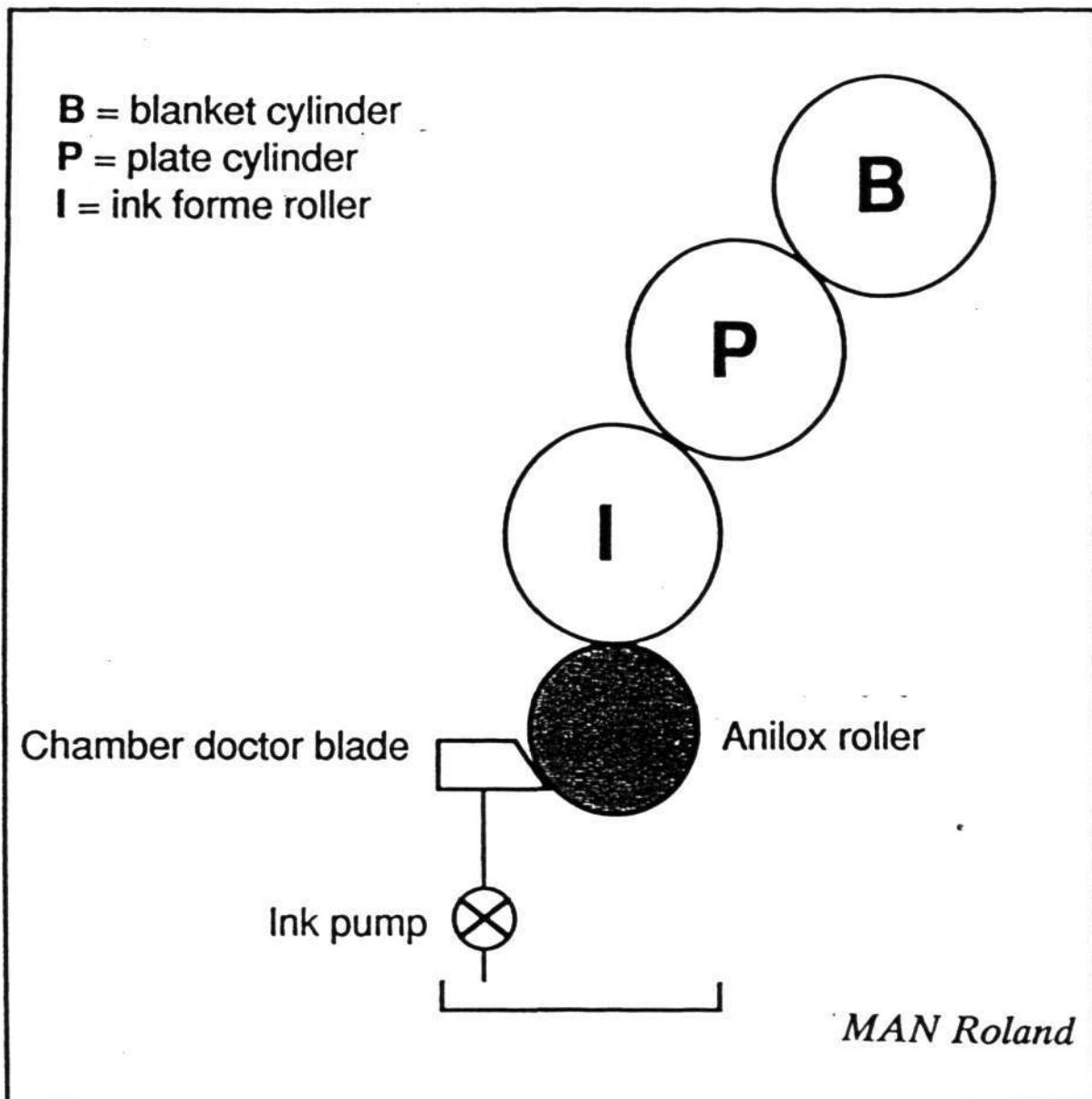


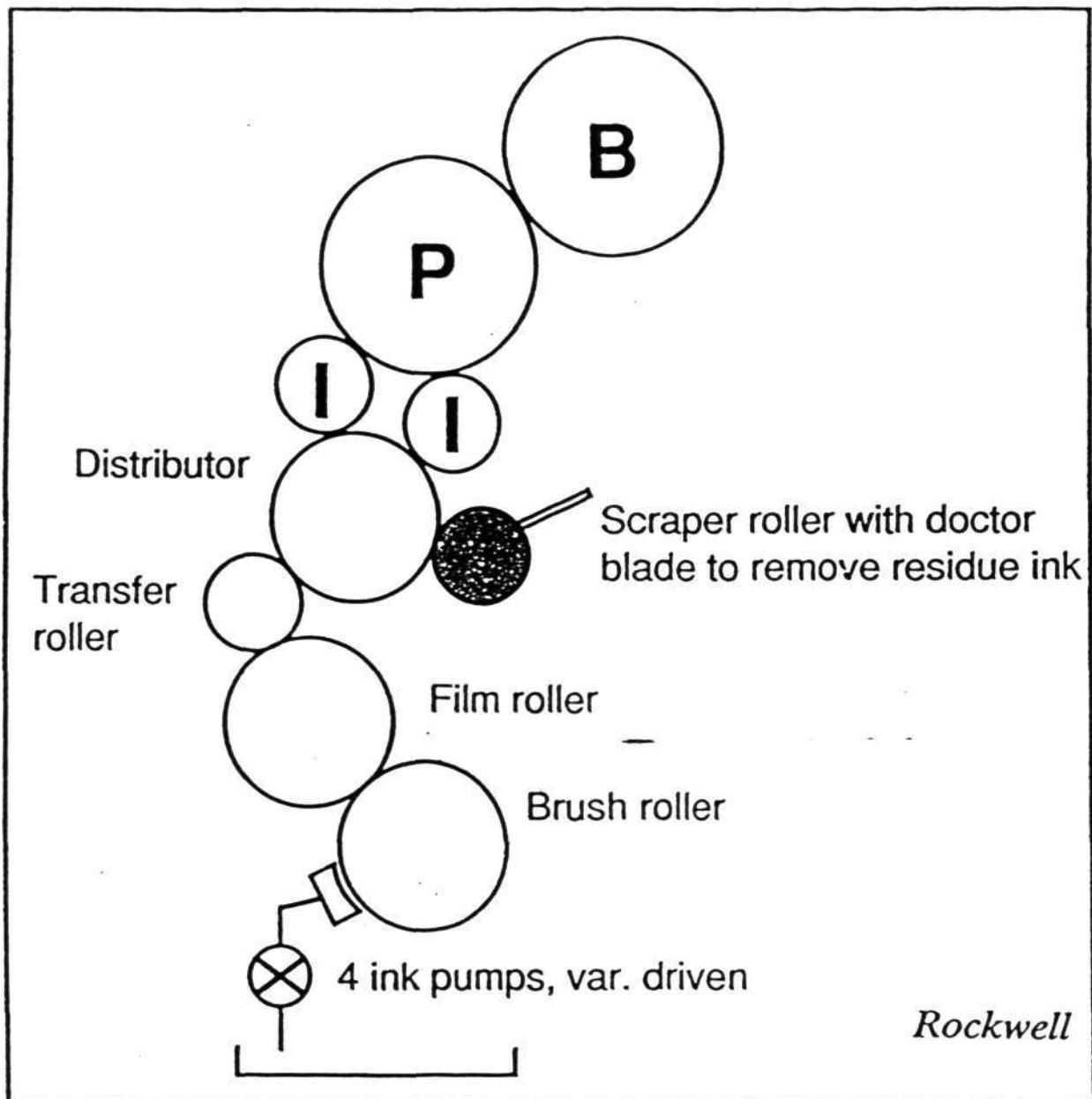
Louis Jean Chambon

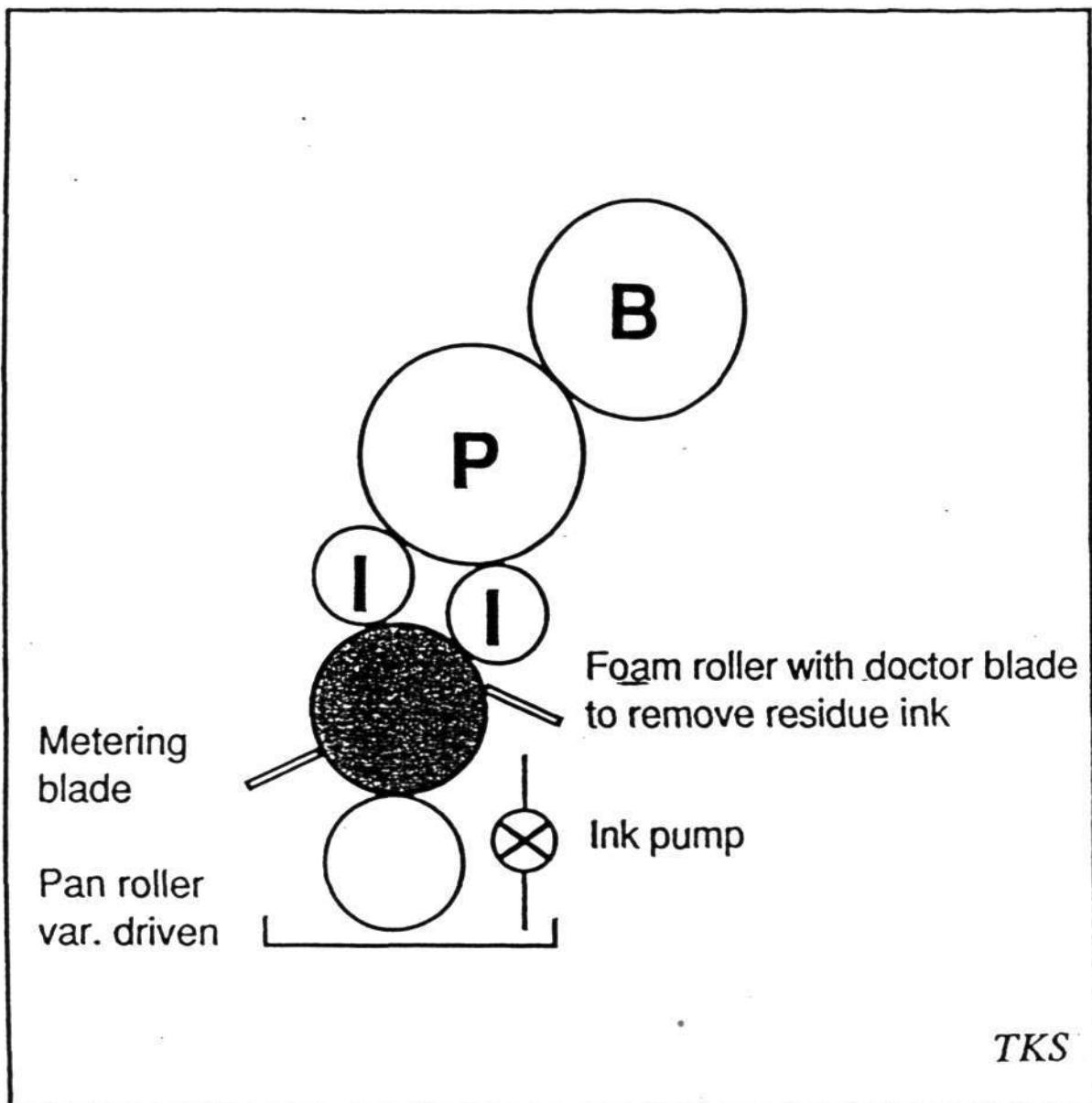


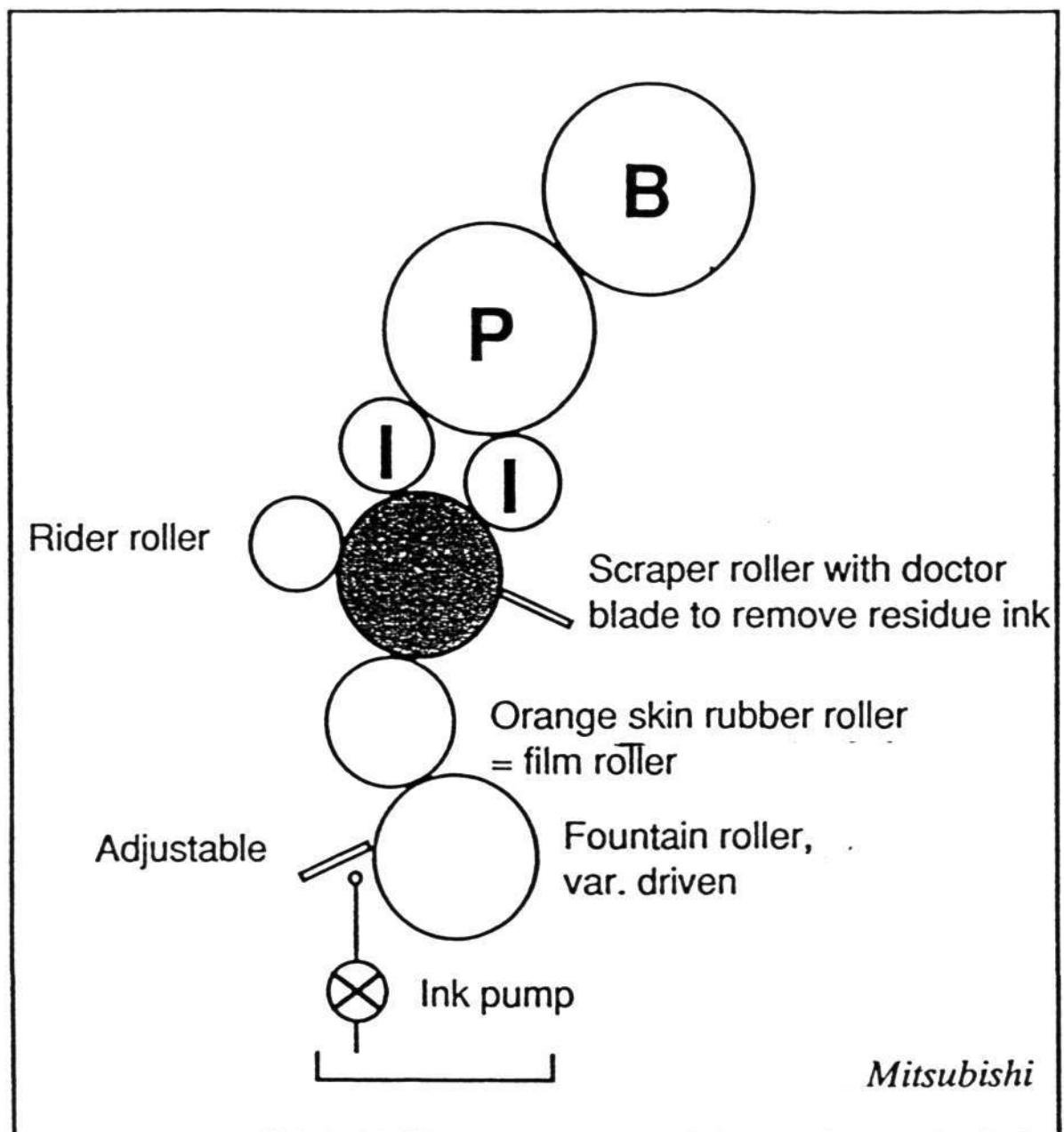


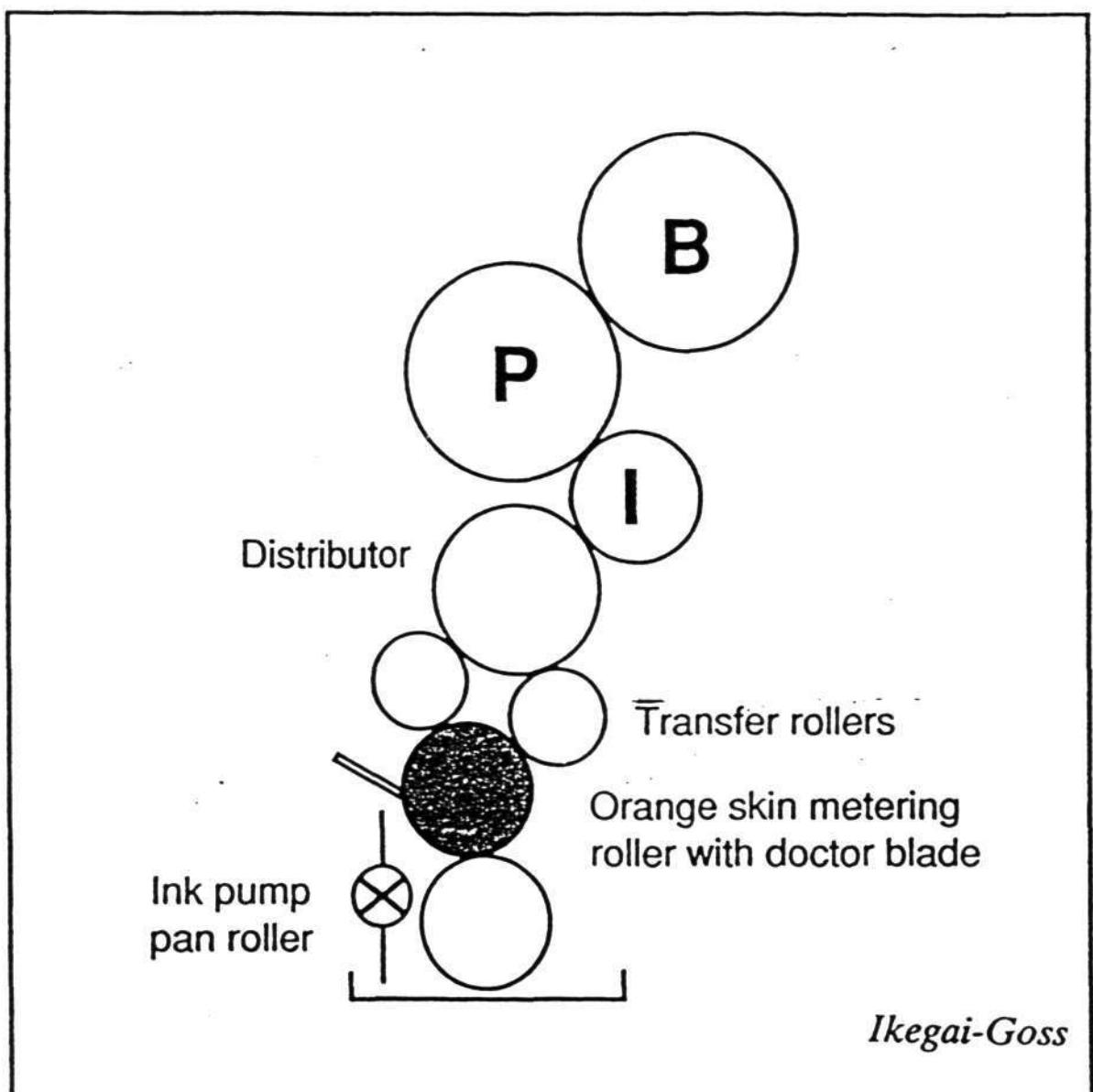




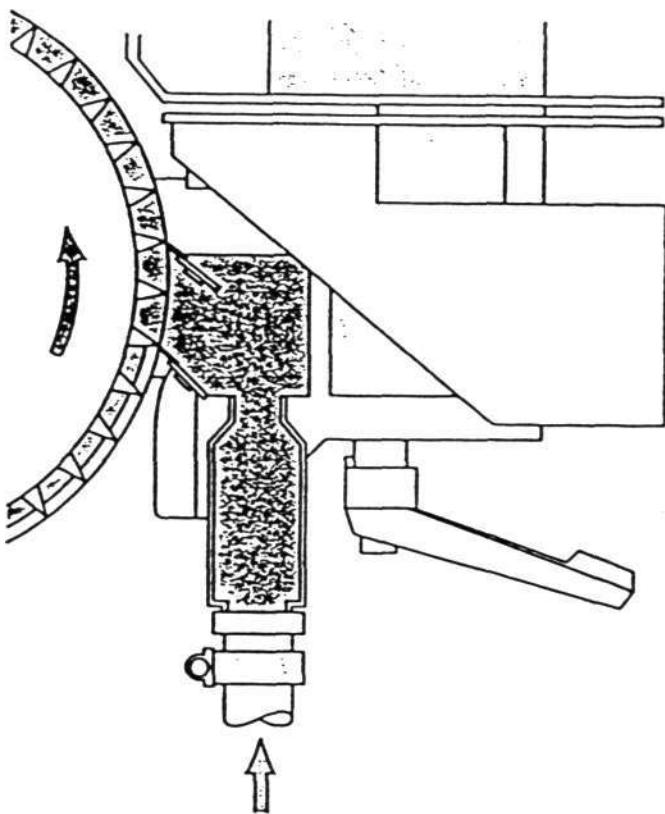






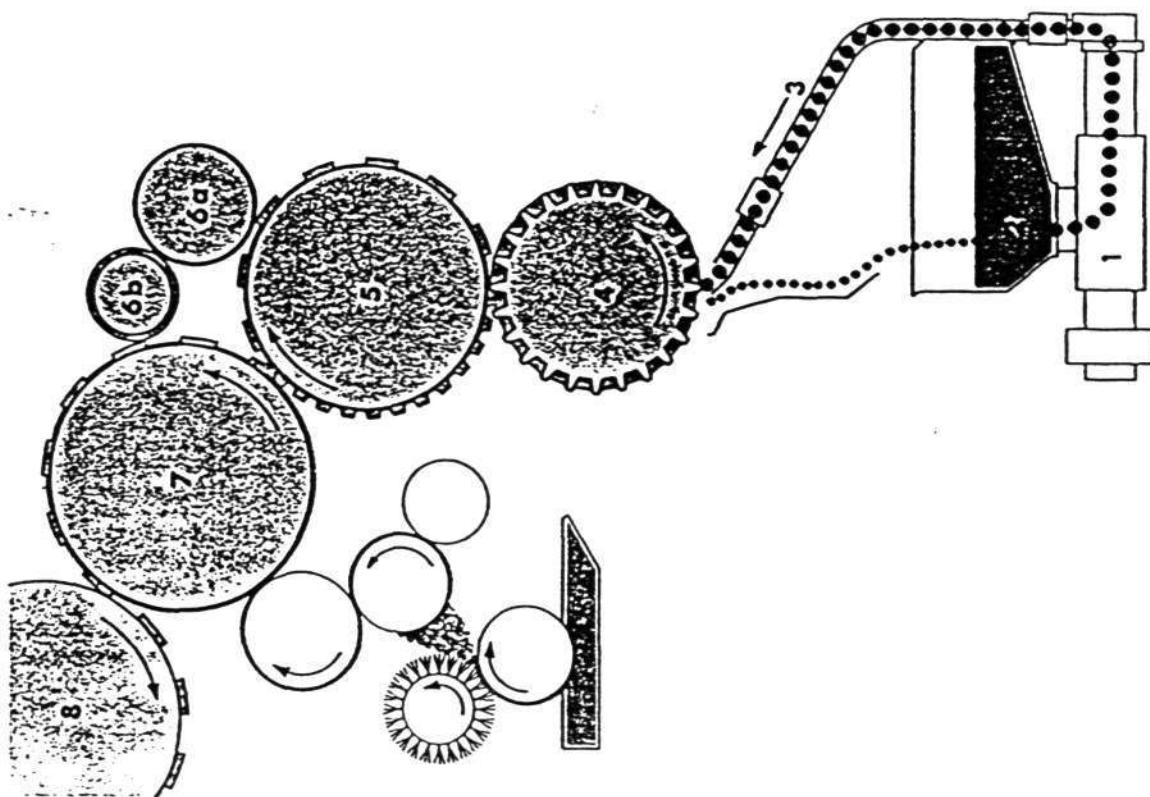


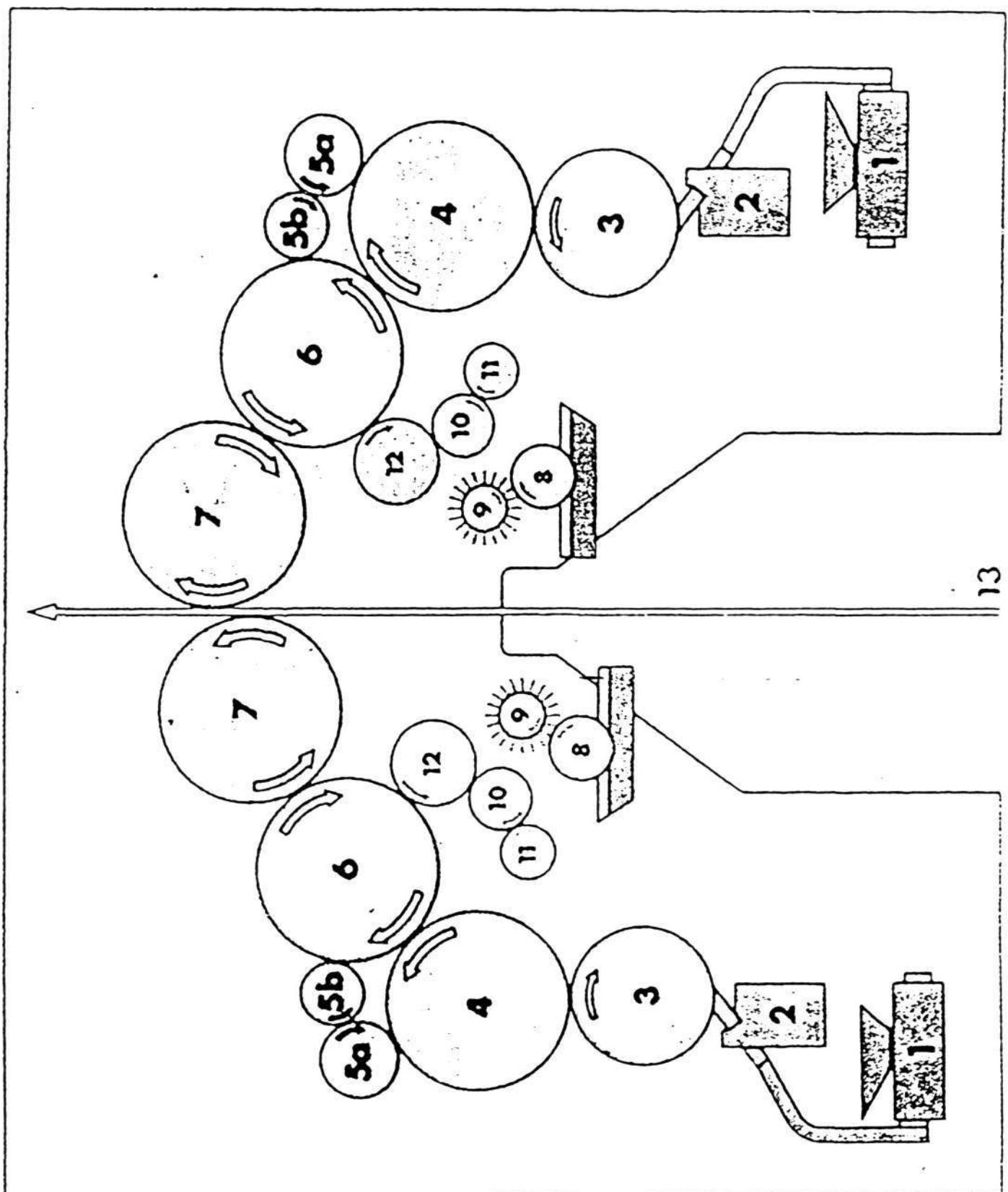
Cross-section through a chamber-doctor system with blade holder, clamp, doctor blades and ink feed

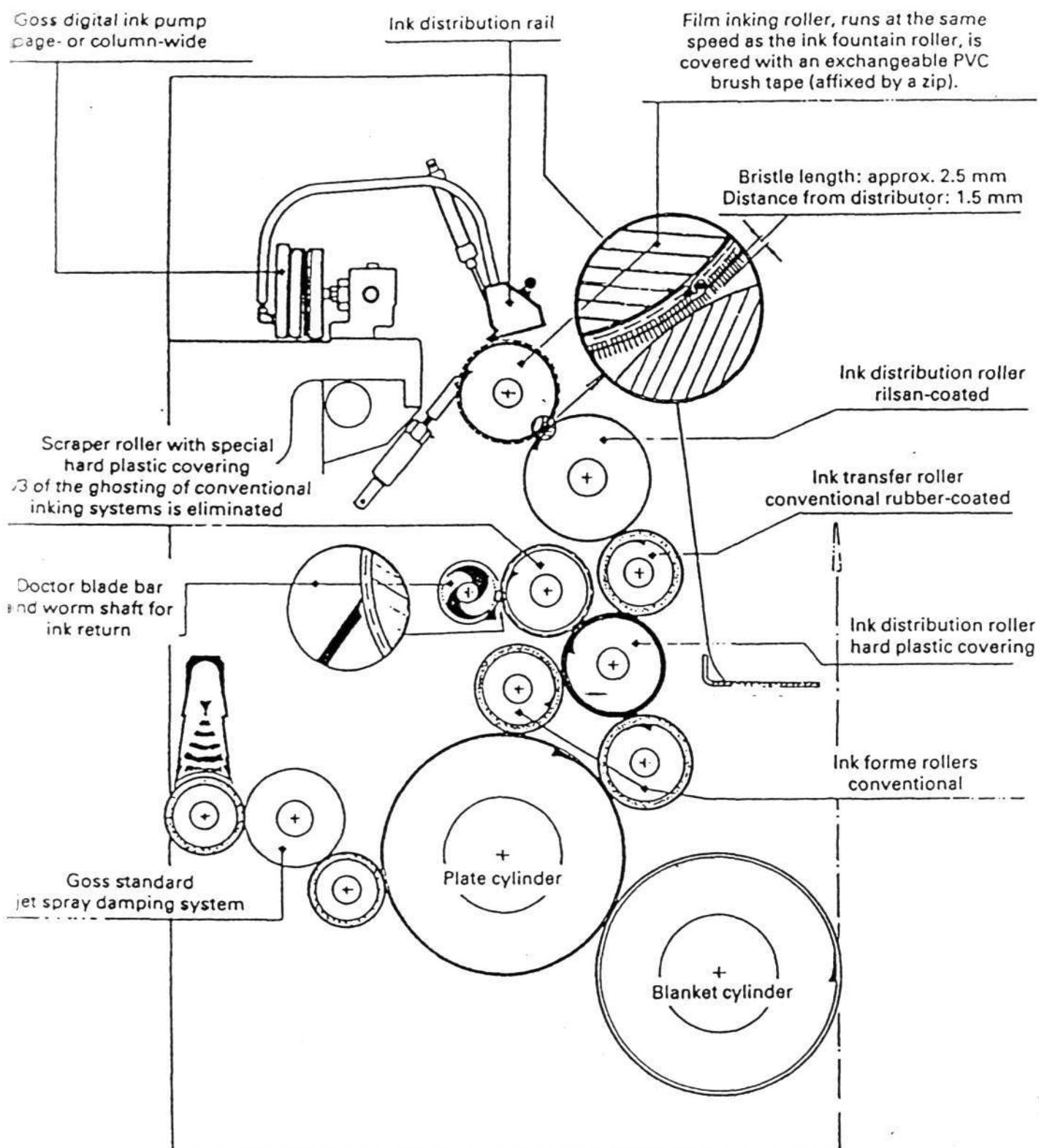


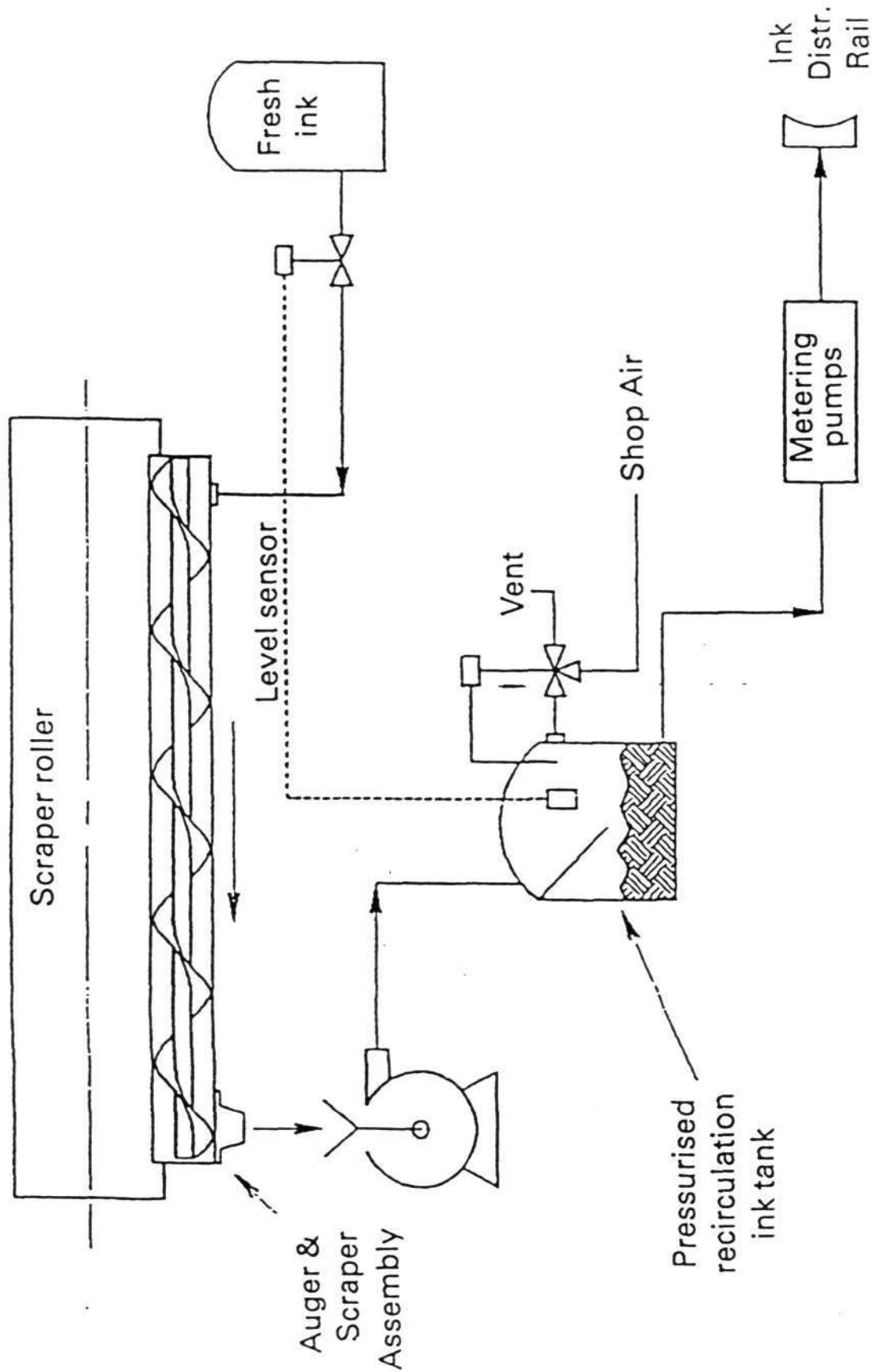
How Ink transfer functions in anilox offset:

1. Ink pump
2. Ink trough
3. Ink feed
4. Anilox screen roller
5. Ink forme roller
6. Ink rollers
7. plate cylinder
8. Blanket cylinder



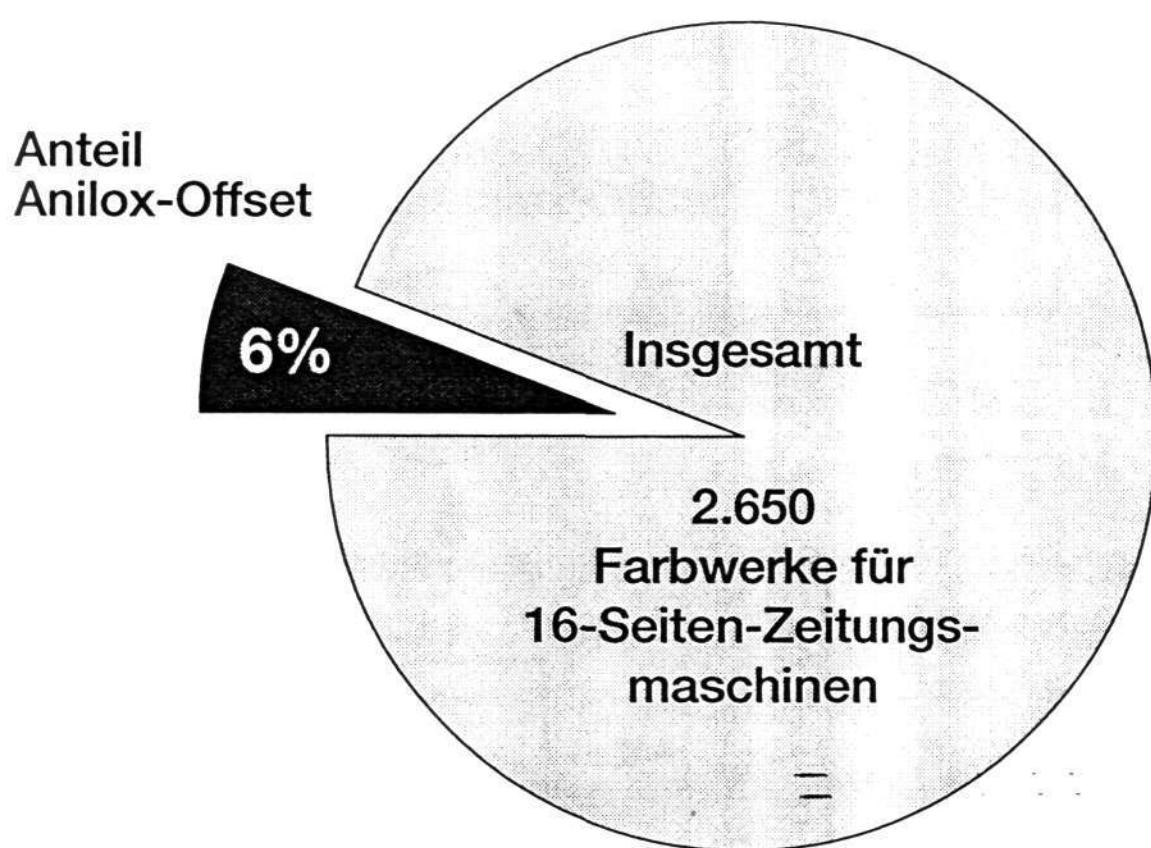






Anteil der in den letzten 4 Jahren georderten Anilox-Offset-Farbwerke in Westeuropa

(Basis: Auftragseingang aller Hersteller
für 16-Seiten-Zeitungsoffset im Zeitraum GJ 90/91 - 93/94)

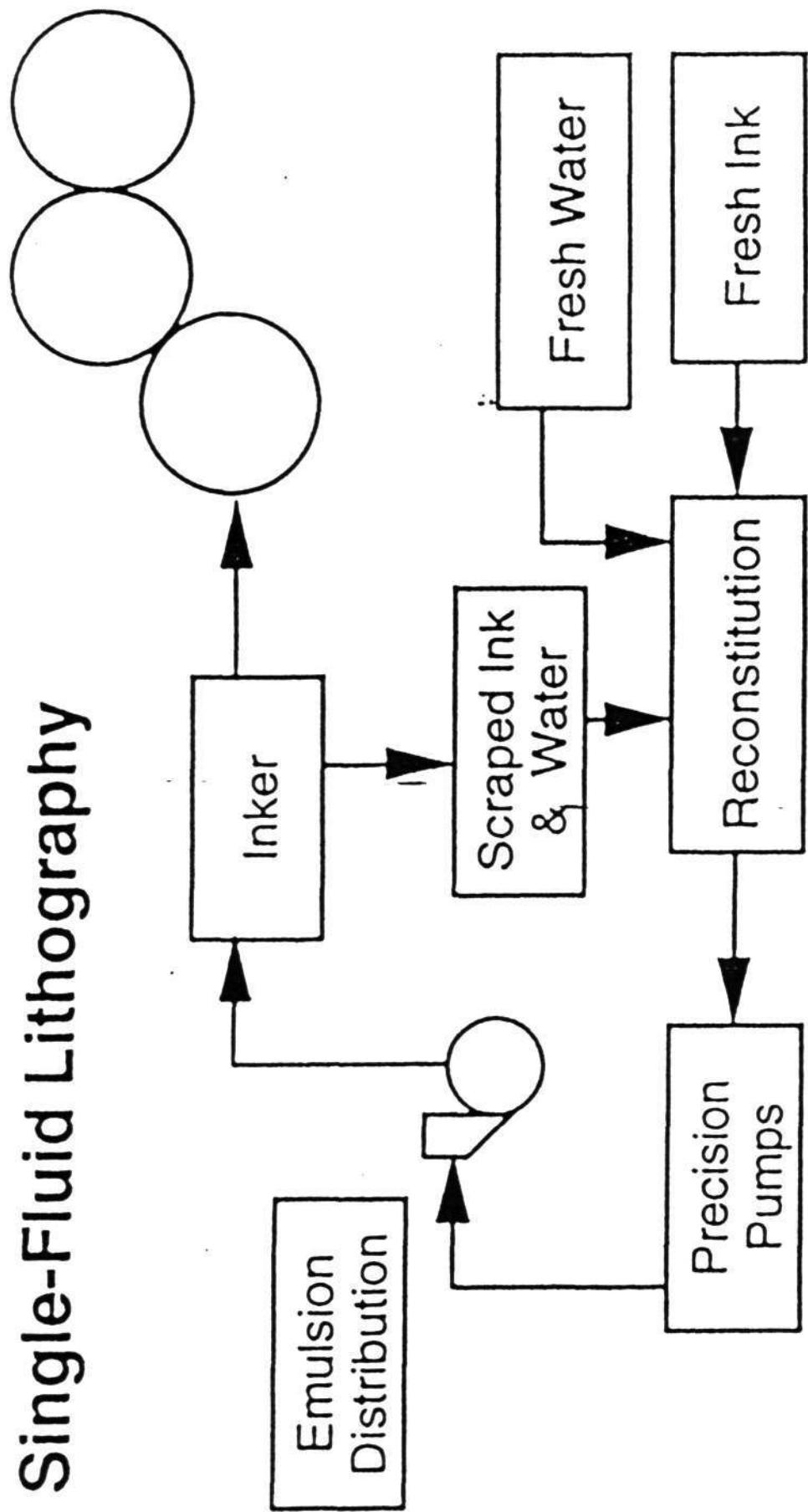


B. Fuchs 5

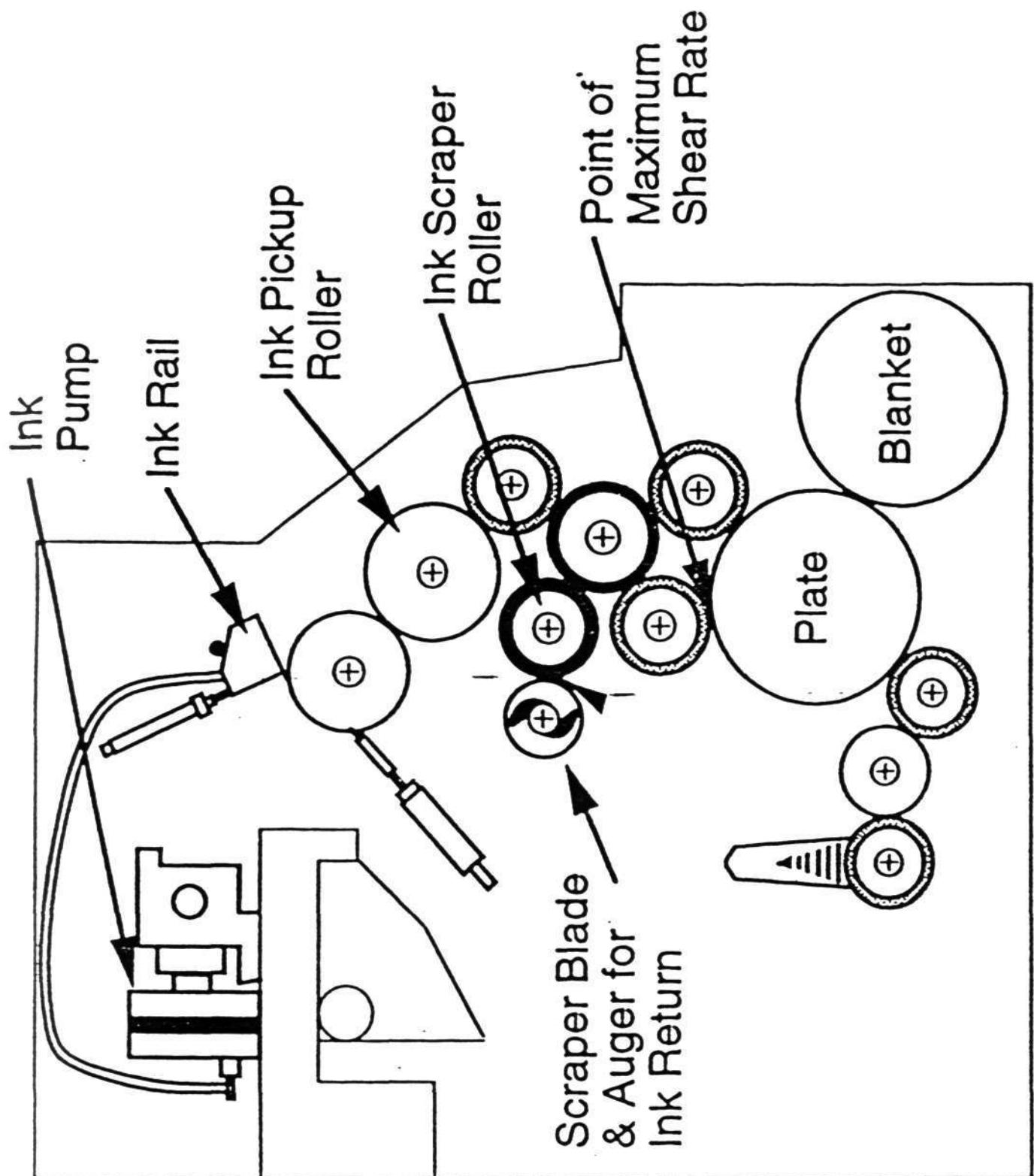
Marktdurchdringung
Anilox-Offset in Westeuropa



Single-Fluid Lithography

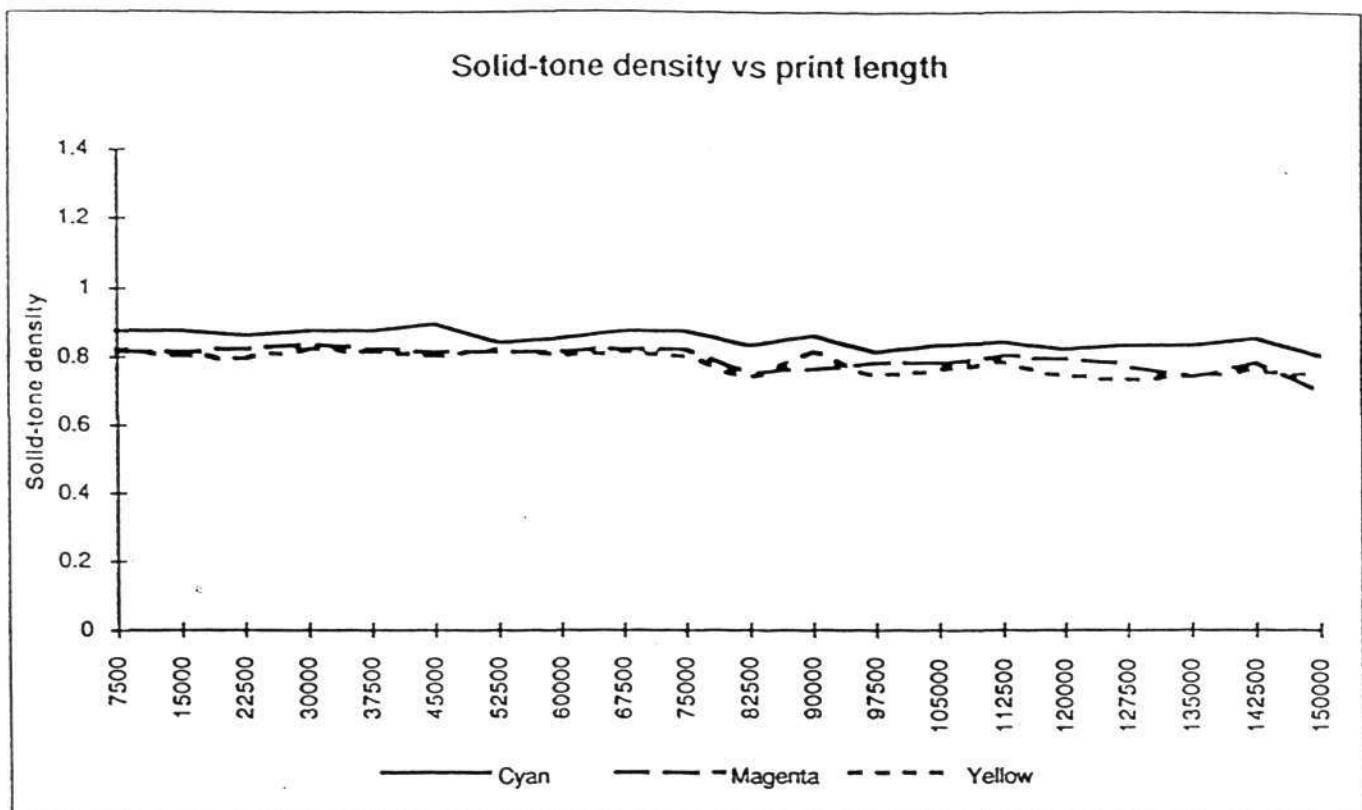


Source: Rockwell Graphic Systems

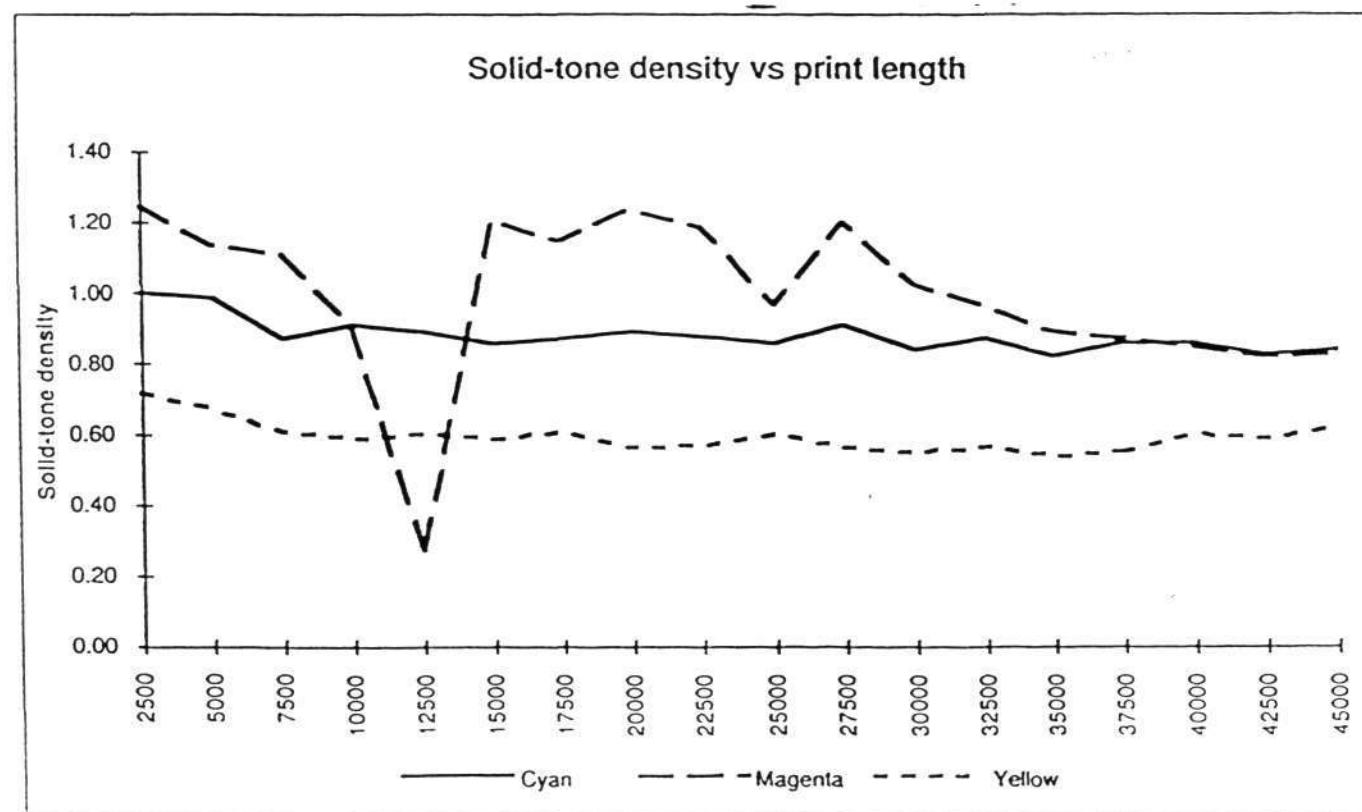


Source: Rockwell Graphic Systems

App. 1.— Solid tone density vs print length



Example of a small variation



Example of a large variation

