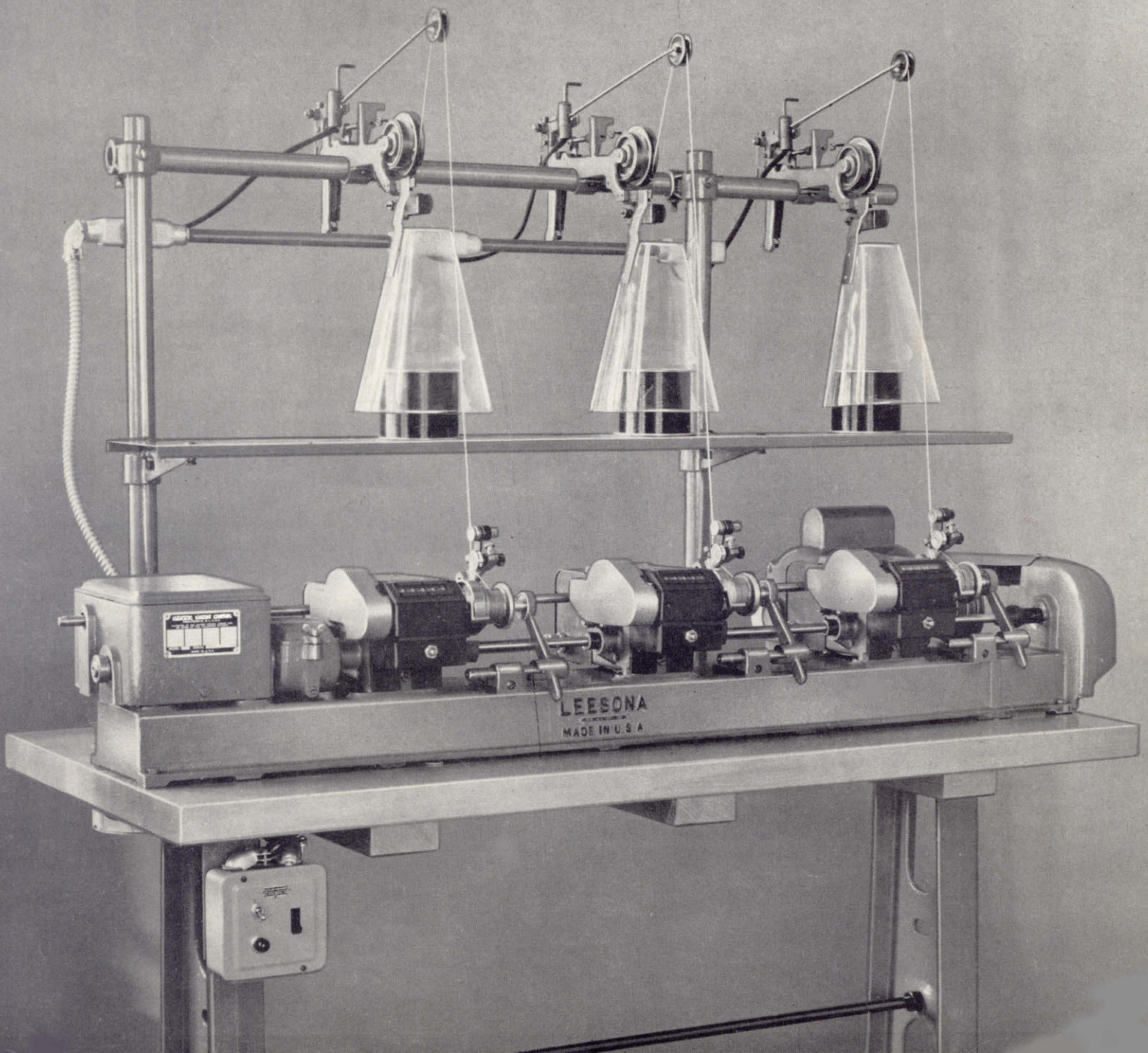
LEESONA

NEW NO. 102-B LEESONA COIL WINDER

SYNCHRONIZED PRODUCTION OF SPOOL-WOUND COILS

BULLETIN 1025-1-5056



SYNCHRONIZED WINDING AND HANDLING TIME FOR MAXIMUM COIL PRODUCTION

The No. 102-B Winder's several individually-operated heads enable you to synchronize handling time per coil. You can schedule the winding so that certain heads are producing while manual operations are performed on other heads.

For example, on a coil with 1200 turns and self leads, where handling time (loading, starting and unloading) does not exceed 20 seconds: operating at 1800 rpm, there should be a 40-second winding period per head on a three-head machine. In that 40 seconds all manual operations can be performed on the other two heads, resulting in one coil every 20 seconds—or 144 coils per hour—at 80% efficiency.

Full efficiency on this type of machine is always realized when winding time is twice the coil-handling time.

TRAVERSE MECHANISM (A, Fig. 1)

The winding arbor is individually controlled on each head, but there is a common setting for all heads as to length of wire traverse and number of wire turns per layer. The mechanism governing the wire-layer length is easily adjusted for any length of coil from 1/16 in. to 2 13/16 in., and no extra cams are needed.

AUXILIARY GEARING (B, Fig. 1)

Permits winding wire turns per layer from 10 to 800.

It's a simple matter to replace gears with the quick-change gear arm. It can be swung upward to lift the gears out of the case for removal (see Fig. 2). No other parts need be disturbed even when the largest gears are changed.

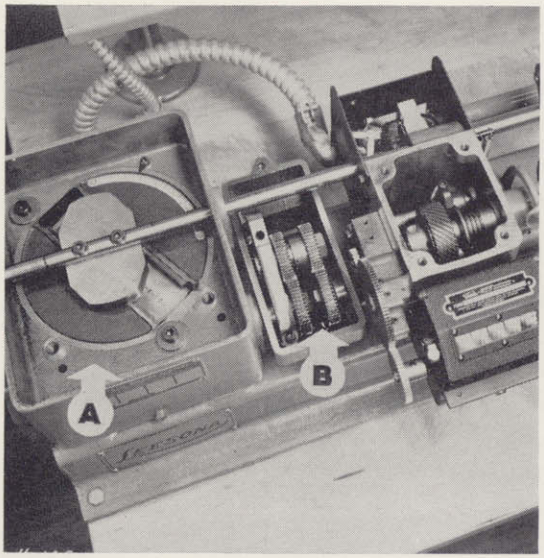


Fig. 1

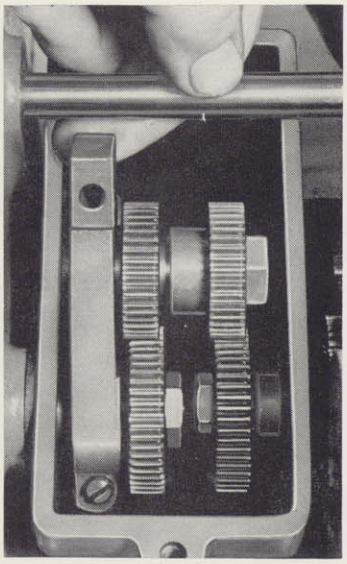


Fig. 2

COUNTERS

Winding is automatically controlled by an electrically operated counter which disengages the clutch and stops the coil at a predetermined number of wire turns. These counters are geared to meter every two turns of wire as a single turn. Winding also can be stopped manually by a push-button conveniently located below the counter on the front of each winding head. (See Fig. 3).

Fig. 3

WIRE BREAKAGE DETECTOR (Fig. 4)

When a wire spool runs out or a break occurs, this device stops the winding promptly and prevents recording wire turns that are not actually being wound. This makes it unnecessary for the operator to watch each spool of wire during winding.

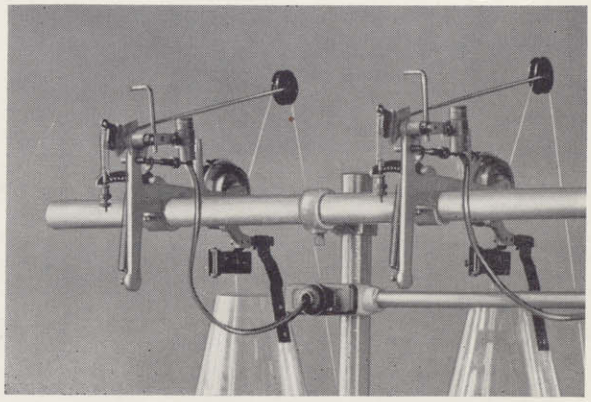


Fig. 4

OVER-END TENSIONS

The over-end supply is particularly suited for quick-start winding, because the wire is taken off over the end of the spool without having to overcome spool inertia. Uniform tension on the wire is maintained by the compensator.

All tensions are equipped with an auxiliary spring to assure quick release of the brake-band, and enable the coil to start quickly without danger of wire breakage on even the finest sizes. They also facilitate starting the first turn of wire against the inside of the coil bobbin head.

The use of springs, having uniform tension permits recording tension settings for different wire sizes and reduces set-up time to a minimum.

Unrolling tensions with steel strap control are optional and accommodate wire sizes No. 19 to 42 (B & S), but winding speed is in general reduced with this type of tension.

Compensators: Over-end tensions are provided with two types of compensator (light and heavy wires) and will accommodate wires from No. 24 to No. 42 (B & S).

MOTOR CONTROL (C, Fig. 5)

A conveniently located dual switch with indicator lights controls the motor and also the winding head clutch solenoids.

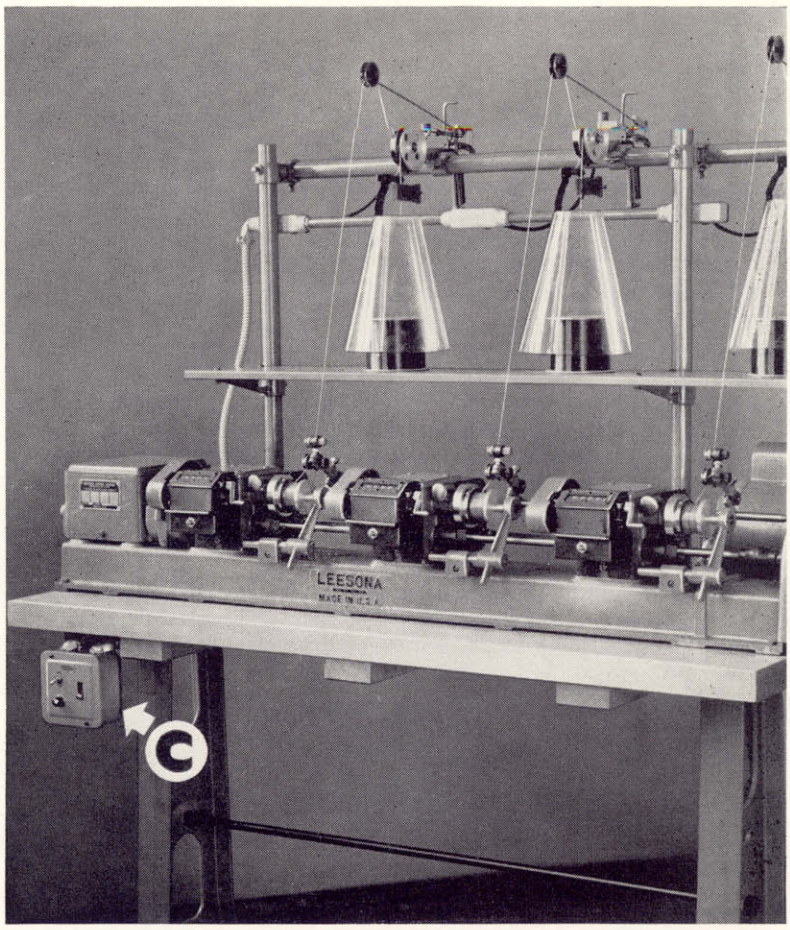


Fig. 5

WIRE GUIDE CLIPS (Fig. 6)

All wire guides are furnished with a receding-type holder, which makes it easy for the operator to shunt the guide out of the way when removing finished coils. The holder is also equipped with a wire-clip or retainer. When the holder is elevated at the finish of a coil, this clip automatically grips the wire, holding it in place for convenience in starting the next coil.

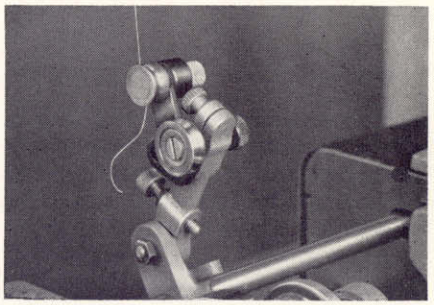


Fig. 6

TWO COILS PER HEAD

For certain classes of work having a high number of wire turns or containing two sections, it is more economical to wind two coils simultaneously. For this purpose, each winding head can be equipped with double tensions and wire guides.

MOTOR DRIVE

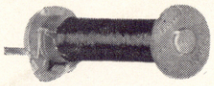
This compact driving arrangement is equipped with high-speed precision bearings for long wear and efficiency. The four-step pulleys which are included present a wide range of winding speeds for varied requirements.

WOOD-TOP WORK TABLE

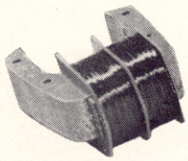
The No. 102-B machine can be mounted on a work bench, but most manufacturers prefer the standard mount, a wood-top work table with supporting members of cast iron finished in machine gray. This mounting foundation or work table has a heavy wood top $1\frac{3}{4}''$ thick and provides sufficient rigidity to eliminate separate bracing of the tension stand.

SYNCHRONIZED WINDING RESULTED IN COST REDUCTIONS OF THESE COILS

Telephone Relay Coil: 3″ long, containing 17,500 turns of No. 42 enameled wire. Operating two three-head units, one operator produces a total output of 400 coils in eight hours, including twisting leads.

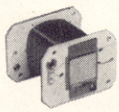


Electric Shaver Coil: 1500 turns of No. 36 enameled wire in each half of the coil. Two sections are wound simultaneously, and one operator, keeping three winding heads in constant production, obtains an output of 1000 coils in eight hours.

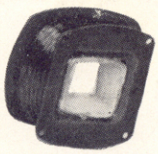


Operating Coil for High-Sensitivity Instrument Relay: 35,000 turns of No. 46 enameled wire, one three-head machine to an operator winding two coils on each head, at 5000 rpm, produces 240 coils per eight-hour day including a complicated taping operation.

Low-Voltage Transformer: 128 turns of No. 27 enameled wire in the primary and 2700 turns of No. 36 in the secondary, wound on a fibre core. Using two heads on the primary and three heads on the secondary, the No. 102-B Winder consistently produces 125 individual windings or an average of 62 complete transformers per hour.



Small Motor Field Coil (spool-wound): 320 turns of No. 29 enameled wire, with fibre flanges. A prominent manufacturer using a two-head No. 102-B machine obtains an output of 1000 per eight-hour day per operator.



COILS — SPECIFICATIONS

Range in length	1/16″ to 2 13/16″
Maximum diameter	3 1/4″
Wire turns per layer	10 to 800
Wire size range	
with Over-end Tension	Nos. 24 to 42 (B&S)
with Unrolling Tension	Nos. 19 to 42 (B&S)
with Pot-type Tension	Nos. 40 to 50 (B&S)

CLEARANCE BETWEEN HEADS

	Without Tail Stocks	*With Tail Stocks*
Between first and second	6 1/16″	4 3/4″
Between second and third	6 1/16″	4 3/4″
Between third and belt guard	6 3/8″	4 3/4″

FLOOR SPACE

Two- or three-head machine with work table	59 5/8″ x 28″

DRIVE DATA

Maximum winding speed	5000 rpm
Horsepower	1/2 HP
Motor and machine pulleys, four-step cone type	4 1/2″ large diam.
Drive belt	V-type

ATTACHMENTS AND ACCESSORIES

Semi-Finished Chucks or Face Plate with 3/8 in. tapped hole is supplied on each winding head as machine equipment. Finished coil chucks can be completed by the machine user or by us on a cost-plus basis.

Change Gears. Sets of gears for various ratios of wire turns per layer from 10 to 800.

Outer Arbor Supports or tail stocks.

Wire Breakage Detectors

SHIPPING DATA

Case #1 Machinery — Gross weight 615 lbs. Cubic feet 64	Net weight 425 lbs.
Case #2 Motor — Gross weight 40 lbs. Cubic feet 2	Net weight 32 lbs.
Total — Gross weight 655 lbs. Cubic feet 66	Net weight 457 lbs.

DEMONSTRATION ROOM

We maintain fully-equipped coil winding machine demonstration rooms in the United States and in Europe. We will be pleased to show our machines in operation at any time to interested visitors.

LEESONA

LEESONA CORPORATION

333 STRAWBERRY FIELD ROAD, WARWICK, RHODE ISLAND

FOR WINDING COILS IN QUANTITY ACCURATELY . . . USE LEESONA WINDING MACHINES

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