

SHORT WAVE NEWS

Vol. I.
No. 4.
APRIL, 1946.

In this Issue :

BROADCAST NEWS
OF THE MONTH.

ON THE HAM BANDS.

AROUND THE SHACKS.

"RESONANT LINES."

BROADCAST STATION
LIST.

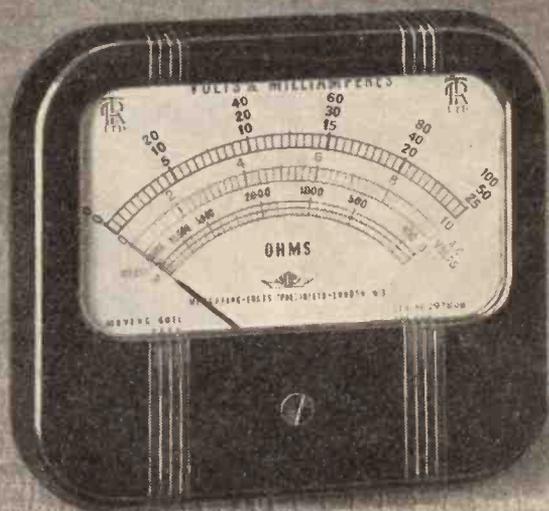
DAILY EXPRESS
"HELLSCHREIBER."

AND

100 WATTS ON TEN.

15 WATT AC/DC
AMPLIFIER/MODULATOR.

SUNSPOTS & SHORT-WAVE
DISTURBANCES.



The M.I.P. Series "35" Foundation Instrument.

A
SHORT WAVE PRESS
PUBLICATION.

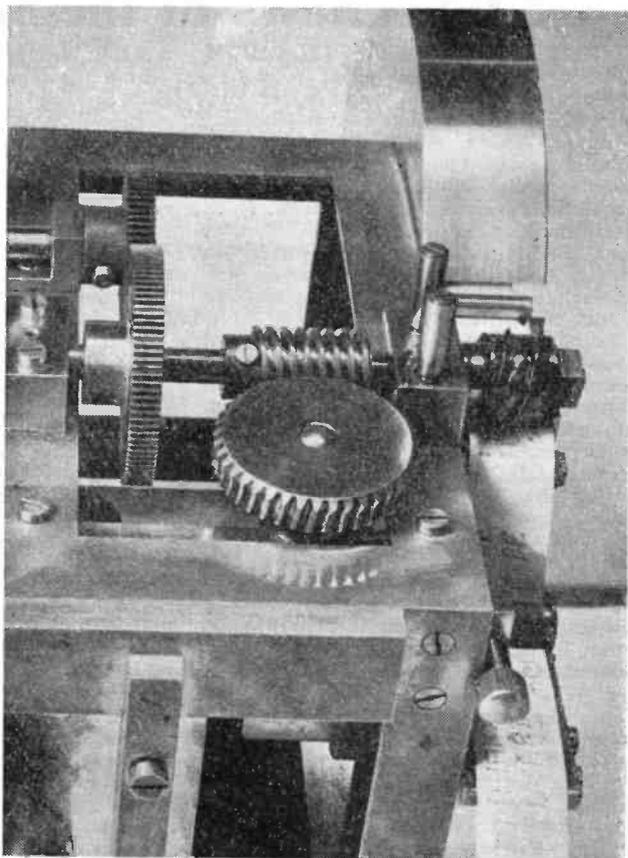
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The "Daily Express" Hellschreiber.

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A Short Description
of an
interesting
High-Speed
Recorder.

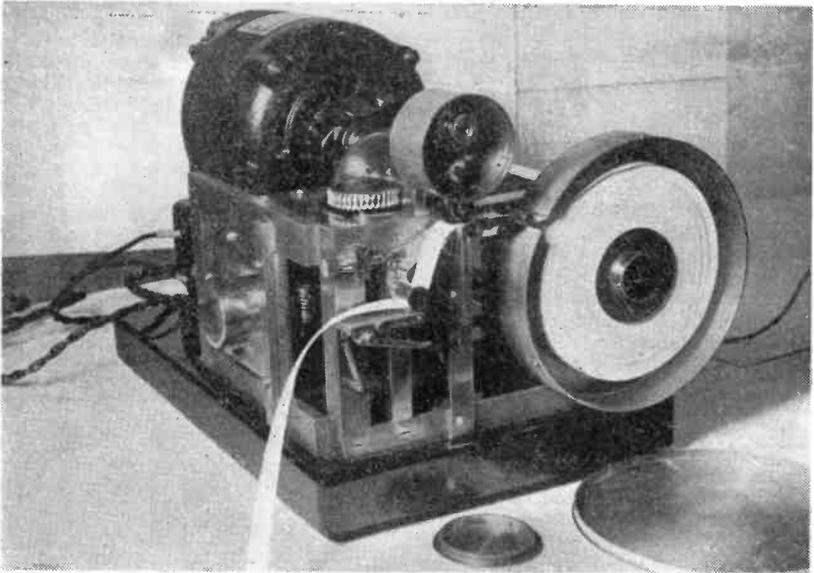


Close-up of Inker and Tape.

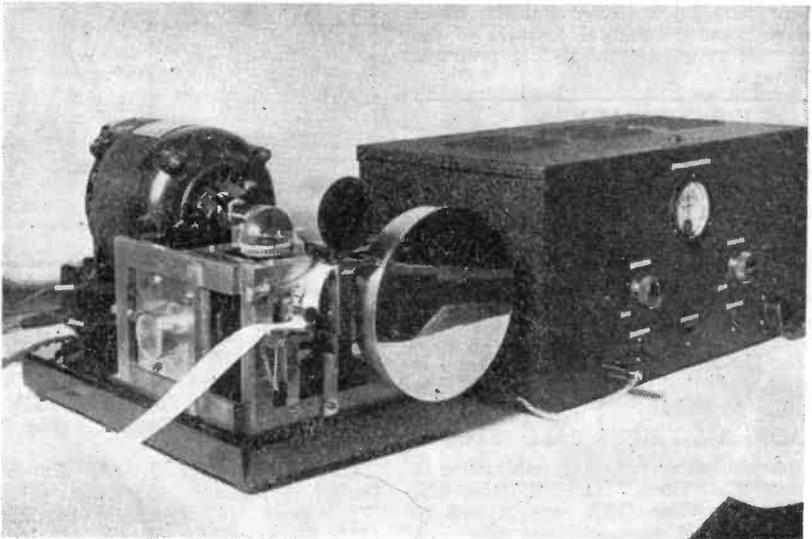
THE Hellschreiber radioprinter apparatus is an instrument by means of which Roman character letters can be recorded directly on to paper tape, thus dispensing with the necessity of transcribing morse characters recorded in the more normal way by perforations or an inked trace. It has been described as being to wireless communication what the teleprinter is to land line communication. As will be gathered from its name, the apparatus is of German origin and was originally exclusively used by Germany. During the war, the Germans had quite an extensive Hellschreiber system for transmitting news and instructions to newspapers and agents in their occupied countries. The enemy little guessed that these "secret" transmissions were being "tapped" in this

country. We are indebted to the "DAILY EXPRESS" for permission to describe a Hellschreiber receiver which they operated in their radio news monitoring station during the war and upon which many of the enemy's secret communications were received.

The fundamental principle of this printer is that a revolving thread or coarse screw—which is so arranged that it carries a thin film of ink—is so constructed that if it is held against a moving tape it makes a verticle line during the course of one revolution. If on the other hand its contact with the tape is intermittent, then a series of small short lines are made. Thus by a combination of long and short lines, the various letters of the alphabet can be built up.



The complete Inking mechanism.



The Inker with its associated Amplifier.

(THE "DAILY EXPRESS"
HELLSCHREIBER—Cont. from page 105).

Most of the features of the apparatus can be seen from the accompanying photos. The rotating thread or "Scroll" as it is termed, rotates against a felt pad impregnated with ink in the smaller of the two metal drums. The supply of paper tape is contained in the larger drum and a relay operated striker device so arranged that the paper can be intermittently brought into contact with the revolving screw as it passes beneath it.

The transmitter and receiver have to be fairly accurately synchronised. The effect of bad synchronisation is to make the letters drift off the edge of the paper tape. By using a Scroll with a double thread and so printing two lines of type, this difficulty can be allowed for because if the lower line moves off the tape, the upper one moves down the tape and vice versa, so that the message is never lost.

The transmitter is modulated by a special keying unit actuated by perforated tape. Synchronisation between transmitter and receiver can be arranged by fitting electrical governors to D.C. motors or by using small synchronous motors working from the A.C. mains. The signals received from the transmitter are rectified by the receiver and used to actuate the relay which presses the paper tape against the Scroll.

Our photos show a Hellschreiber Printing Unit with its amplifier and the close-ups show some mechanical features of the printer and type of "script" it produces on the tape.

VHF CALIBRATION AID

The B.B.C. is now relaying the Home Service on a frequency of 90.3 Mcs. daily from 1900-2230, until further notice. This is a Frequency Modulated transmission.

UNDER CONSTRUCTION

The R.C.A. and Mackay American radio firms are to build two powerful radio stations in the International Zone of Tangier. These will be used for relay work with the U.S.S.R. and the Middle East. It is anticipated that the stations will take two years to build.

RADIO AMATEUR'S CALL BOOK

All hams licenced since the publication of the last "Call Book" and all hams who have changed their QRA, are invited to contact the publishers who are now preparing the first post-war edition. Address all communications to:—Radio Amateur's Call Book Magazine, 608 South Dearborn Street, Chicago, Illinois, U.S.A.

RADIO AMATEURS' EXAMINATION

The G.P.O. announces that these examinations will be held annually in the future, or more frequently if there is sufficient demand for them; it is possible that a further examination may be held before the end of the present year. Intending candidates who may experience difficulty in finding a suitable examination centre should write to the Superintendent, City and Guilds of London Institute, Department of Technology, 31, Brechin Road, London, S.W.7, who will also supply particulars of the "Radio Amateurs' Examination" on demand.

RADIO TERMS
ILLUSTRATED



Input

Answer to Crossword No. 3

Across: (1) Trend. (6) Trade. (9) Adaptor. (10) Paper. (11) Image. (13) Ops. (15) Lathe. (16 and 18) R.E.M.E. (21) Confirmations. (25) CE. (26) ET. (29) Delta. (30) Dry. (32) Units. (33) Level. (34) Impel. (35) Emitron. (36) Tuned. (37) Great.

Down: (1) Typical. (2) Expect. (3) Darker. (4) Radio. (5) Atlas. (6) Triple. (7) Adapts. (8) Everest. (14) Plumber. (17) Exide. (18) Metre. (22 and 20) Modulation. (23 and 19) Insulating. (24, 31 and 12 across) Eleven-year-cycle. (25) Called. (27) Tubing. (28) Ripple. (30) Drain.