GRIFFITH PRINTER

An experimental page printer which uses aggregate motion positioning of a spring-loaded, sector-shaped semi-typewheel. The unit features typewheel retraction.

YEARS PRODUCED & QUANTITY:

PRIMARY CUSTOMER(S):

CLASSIFICATION CODE:

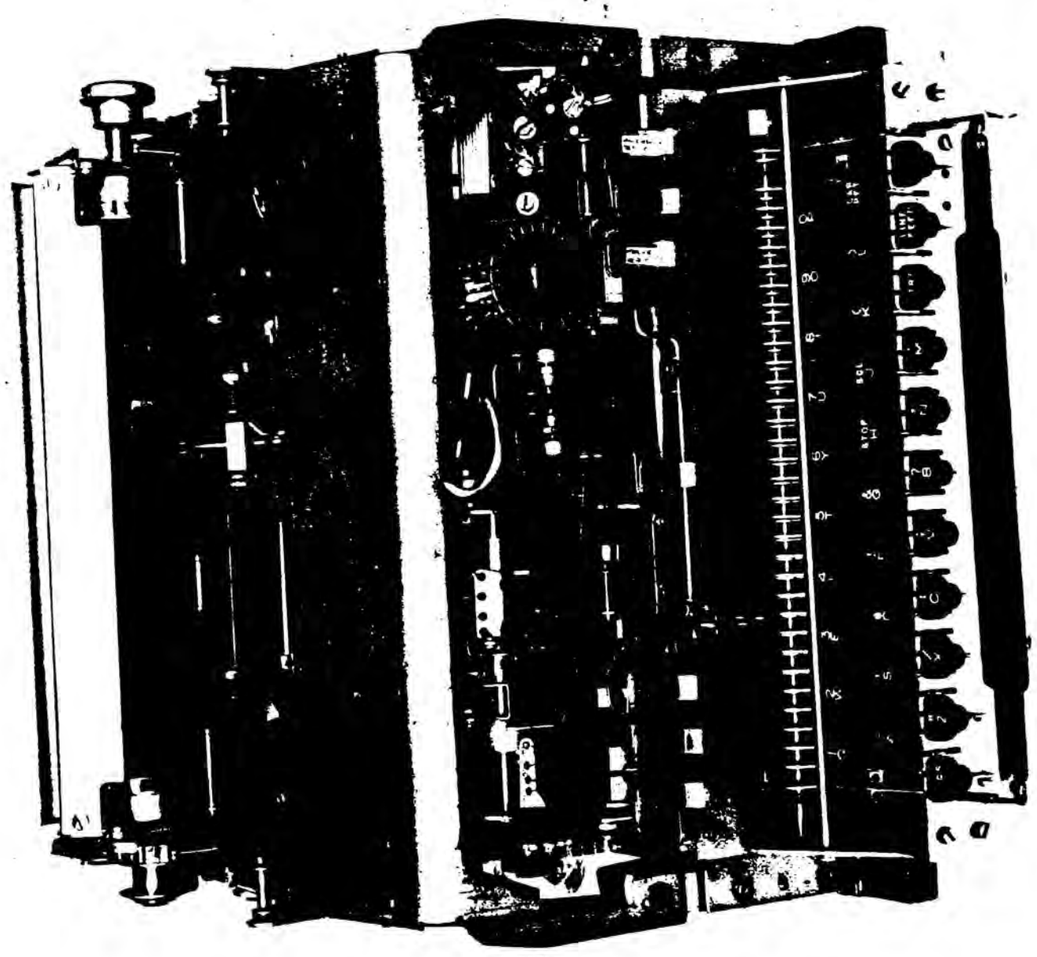
MUSEUM EQUIPMENT CODE: 1D-2

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): 690505-39

PATENT(S):

LIBRARY REFERENCE(S):



"MISSING"

SAGEM

This unit, maufactured in France in 1961, has a selector magnet which can be wired for polar or neutral operation. keyboard contacts are of the multiple variety and an answerback is included.

YEARS PRODUCED & QUANTITY:

PRIMARY CUSTOMER(S):

CLASSIFICATION CODE:

MUSEUM EQUIPMENT CODE: 1D-4

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): Polaroid TU141

PATENT(S):

LIBRARY REFERENCE(S):

GRIFFITH PAGE PRINTER

An experiment page printer which uses aggregate motion positioning of a spring-loaded, sector-shaped semi-typewheel. The unit features typewheel retraction. This unit is complete with cover.

YEARS PRODUCED & QUANTITY:

PRIMARY CUSTOMER(S):

CLASSIFICATION CODE:

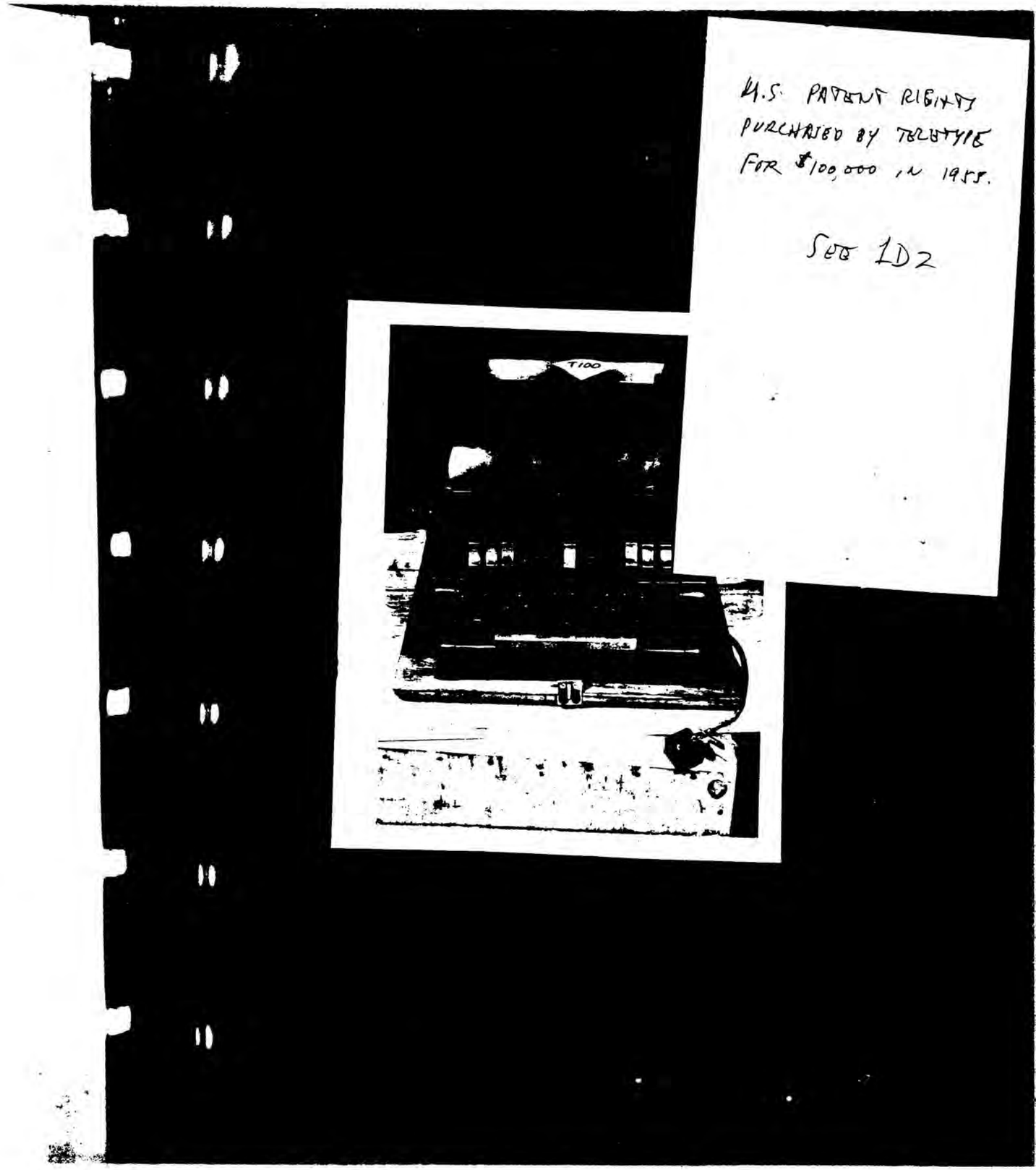
MUSEUM EQUIPMENT CODE: 1D-7

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): Polaroid T100; 551017-82

PATENT(S):

LIBRARY REFERENCE(S):



U.S. PATENT RIGHTS PURCHASED BY TELETYPE FOR $100,000, IN 1955.

SEE 1D2

WESTERN UNION PRINTER (103)

This teleprinter was designed by Western Union engineers. The printer mechanism was manufactured by Underwood Portable Typewriter Company while the keyboard was made by the Edison Company. Although nearly 5,000 machines were built, the unit was not a success because of large maintenance costs.

YEARS PRODUCED & QUANTITY: C. 1947-48 (5000 units)

PRIMARY CUSTOMER(S): Western Union

CLASSIFICATION CODE: W. U. Teleprinter 103

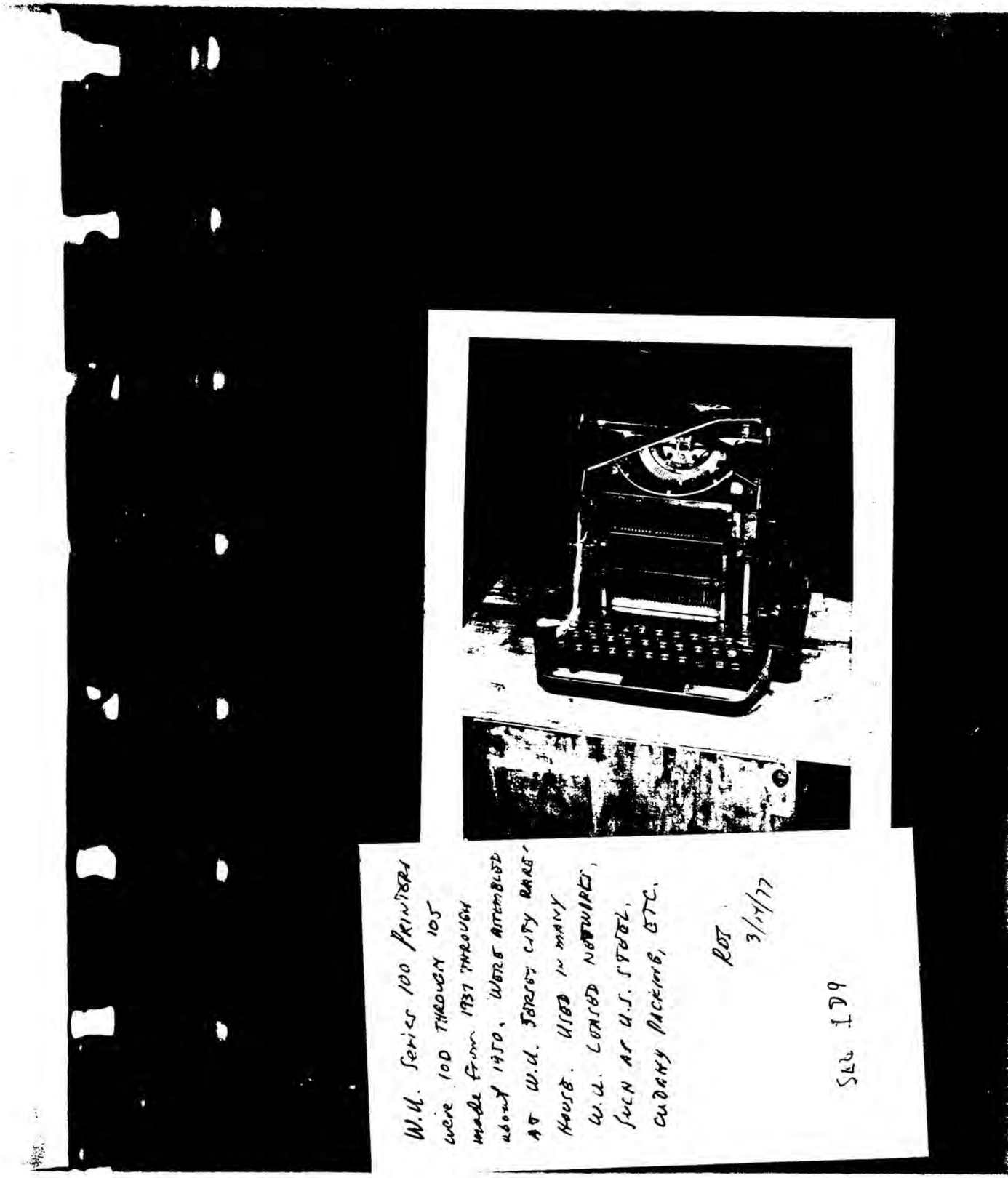
MUSEUM EQUIPMENT CODE: 1D-8

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): Polaroid T087

PATENT(S):

LIBRARY REFERENCE(S):



WESTERN UNION PRINTER (103)

This teleprinter was designed by Western Union engineers. The printer mechanism was manufactured by Underwood Portable Typewriter Company while the keyboard was made by the Edison Company. Although nearly 5,000 machines were built, the unit was not a success because of large maintenance costs.

YEARS PRODUCED & QUANTITY: C. 1947-48 (5000 units)

PRIMARY CUSTOMER(S): Western Union

CLASSIFICATION CODE: W. U. Teleprinter

MUSEUM EQUIPMENT CODE: 1D-9

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): 690505-13

PATENT(S):

LIBRARY REFERENCE(S):

TELETYPEWRITER PAGE PRINTER (TT-4A/TG)(K)

This portable teletypeprinter was designed specifically for use by the Signal Corps. It weighed about 45 pounds, and compared with field equipment that weighed 225 pounds, was one-fourth the size of older equipment, had 300 fewer parts, was stronger and consequently required less maintenance. Development of this printer began in earnest until around 1944. It was developed by the Signal Corps Engineering Laboratories at Fort Monmouth, New Jersey, through a research and development contract with Kleinschmidt Laboratories, Incorporated. Essentially, the machine was a keyboard-operated, 100-word-per-minute teletypewriter printer consisting of the printer, a power unit, and a cabinet of accessories.

YEARS PRODUCED & QUANTITY: C.1949

PRIMARY CUSTOMER(S): Signal Corps

CLASSIFICATION CODE: TT-4A/TG

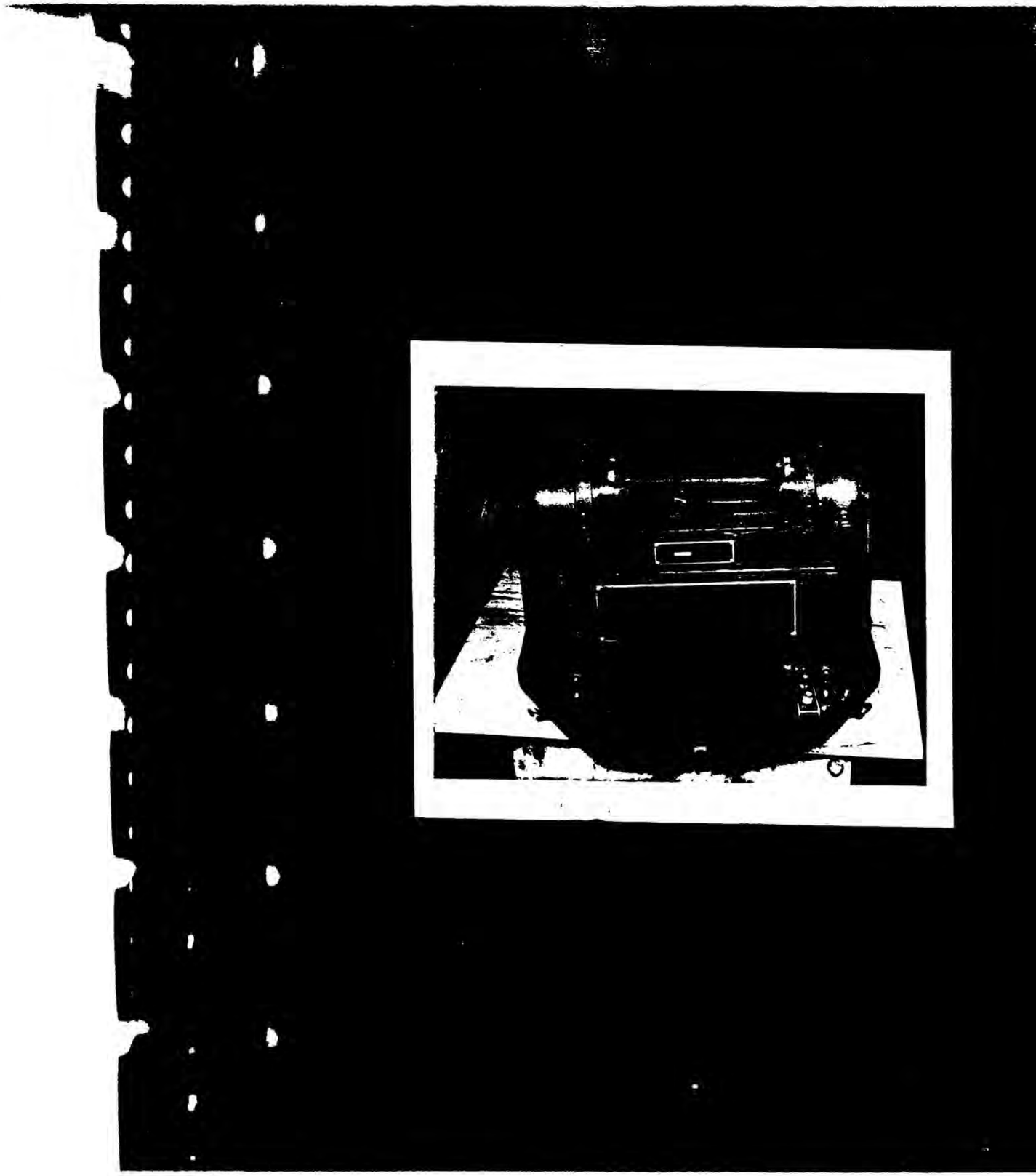
MUSEUM EQUIPMENT CODE: 1D-10

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): Polaroid T106

PATENT(S):

LIBRARY REFERENCE(S): Kleinschmidt; E.E., Printing Telegraphy... A New Era Begins, 1965, pp. 51-56.



SIEMENS PAGE PRINTER

A production model page printer manufactured by the Siemens-Halske Company of Germany.

YEARS PRODUCED & QUANTITY:

PRIMARY CUSTOMER(S):

CLASSIFICATION CODE:

MUSEUM EQUIPMENT CODE: 1D-11

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): T155

PATENT(S):

LIBRARY REFERENCE(S):

CREED MODEL NO. 7

The Creed Model 7 has been developed over a 25-year period to meet requirements of the British Post Office (responsible for all communications in the British Isles) and for European and Commonwealth administrations. In 1956, a 100-wpm model was developed for h... sp ed news service. The same mechanism is produced in page printer (Models 7, 52 and 54) and tape printer (Model 47) forms. There are numerous variations of optional facilities to suit customer requirements. The Creed Model 54, still in production, is ... duty machine developed from the Model 7.

The typewheel positioning system makes use of a releasing friction clutch operating in a circular translator. The early models had no overlap in the cam unit and therefore left one character in the machine.

YEARS PRODUCED & QUANTITY: C. 1931

PRIMARY CUSTOMER(S): British Post Office

CLASSIFICATION CODE: No. 7

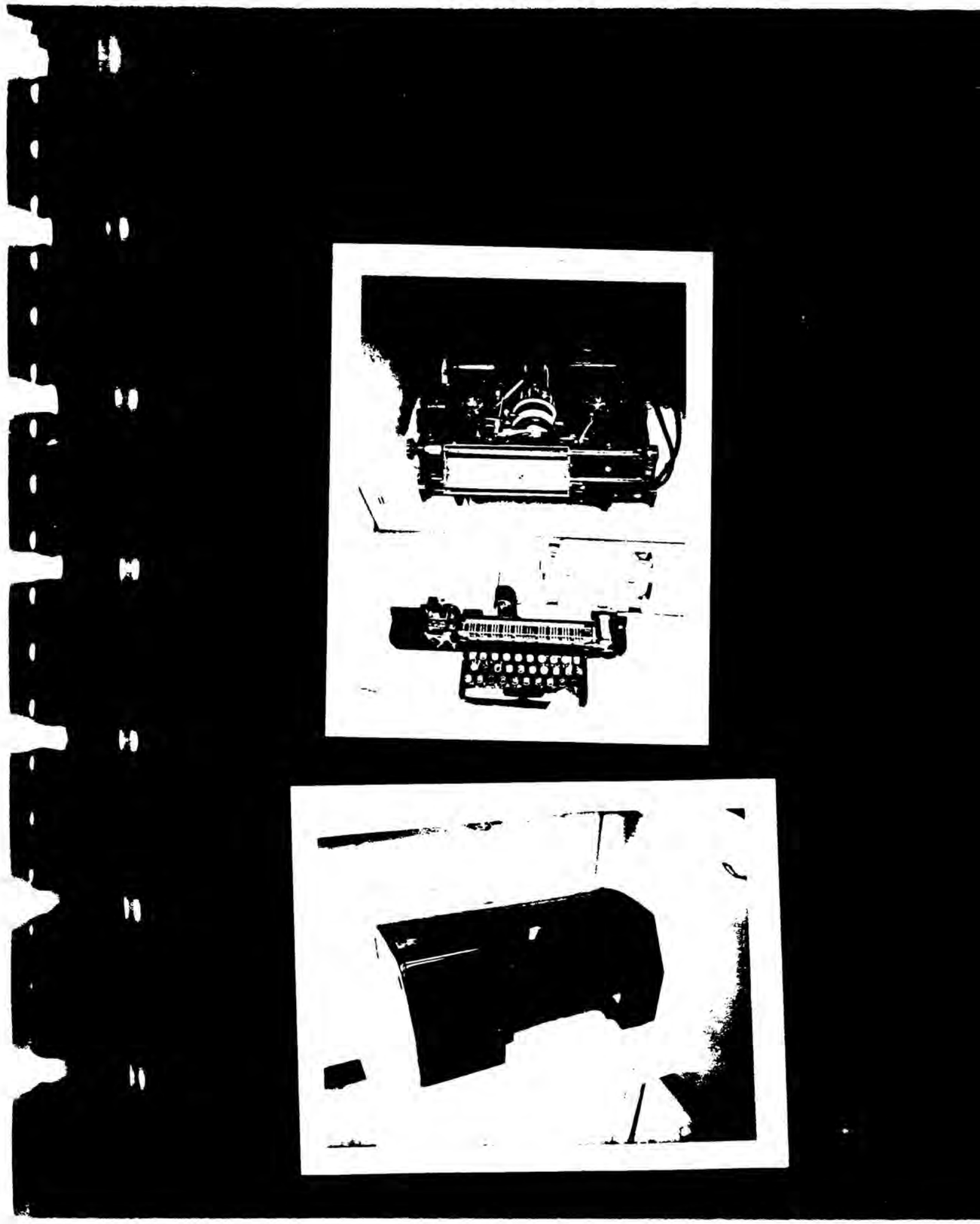
MUSEUM EQUIPMENT CODE: 1D-12

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): Polaroid TU137, TU138

PATENT(S):

LIBRARY REFERENCE(S): Telegraphy, Sir Isaac Pitman & Sons. ... London, 1963, pp. 377-416



MODEL 11 TAPE PRINTER
(Multimagnet)

One of the first models of the 11 Type Printer which was
produced by the Morkrum Company. Similar to the Baudot prin
by J. Carpentier of France.

YEARS PRODUCED & QUANTITY: 1921

PRIMARY CUSTOMER(S):

CLASSIFICATION CODE:

MUSEUM EQUIPMENT CODE: 28-1

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): 650326-61

PATENT(S):

LIBRARY REFERENCE(S):

Donated to Edison Institute

MODEL 11 TAPE PRINTER

With the increased load being placed on telegraph circuits, the Morkrum Company developed a printing telegraph which would operate on the standard five-unit code but which was so simple that it could be used at stations which handled as little as fifty messages per day.

In view of the remarkable record of service of the printing unit of the Baudot system, it was decided to adopt a similar mechanism for the printing portion of this machine. This meant printing on a tape and the consequent gumming of the tape to the message blank.

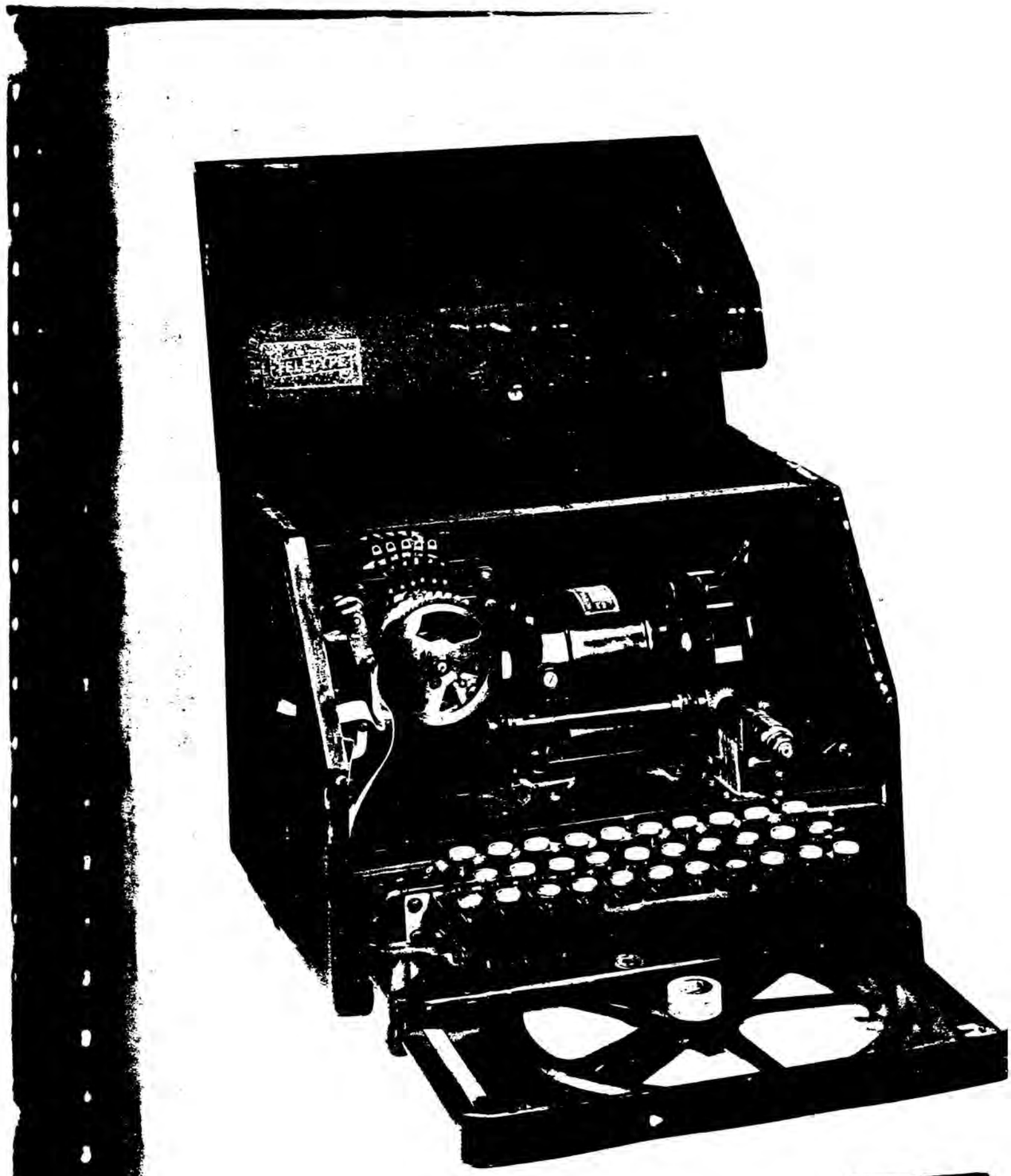
The tape printer was considerably simpler than a page printer. With a type wheel tape printer of the Baudot class it was merely necessary to release the printing arm at the time determined by the particular code combination to secure printing or spacing or shifting. For this reason there was a considerable saving in line time with the tape printer.

In 1921 the Model 11, a compact machine operating at 40 words per minute was introduced for light duty service. It was the first to which the name "Teletype" was first applied. One of the early installations of the Model 11 was in the Congress Hotel in 1922.

YEARS PRODUCED & QUANTITY: 1921-27; 883 sold
PRIMARY CUSTOMER(S): Hotels and local message services
CLASSIFICATION CODE: Model 11
MUSEUM CODE: 28-[redacted]2
TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): [redacted] 650622-93; 650674-12,13
PATENT(S):

LIBRARY REFERENCE(S): Kleinschmidt, E. E., Printing Telegraph... Era Begins, 1965, pp. 25-26; McNicol, D., Printing Telegraph Systems, 1925, pp. 69-78; Herbert, T. E., Telegraphy, 1925, pp. [illegible].



650624-13

Donated to Chicago Museum of Science and Industry

MODEL 11 TAPE PRINTER

With the increased load being placed on telegraph circuits, the Morkrum Company developed a printing telegraph which would operate on the standard five-unit code but which was so simple that it could be used at stations which handled as little as fifty messages per day.

In view of the remarkable record of service of the printing unit of the Baudot system, it was decided to adopt a similar mechanism for the printing portion of this machine. This meant printing on a t... the consequent gumming of the tape to the message blank.

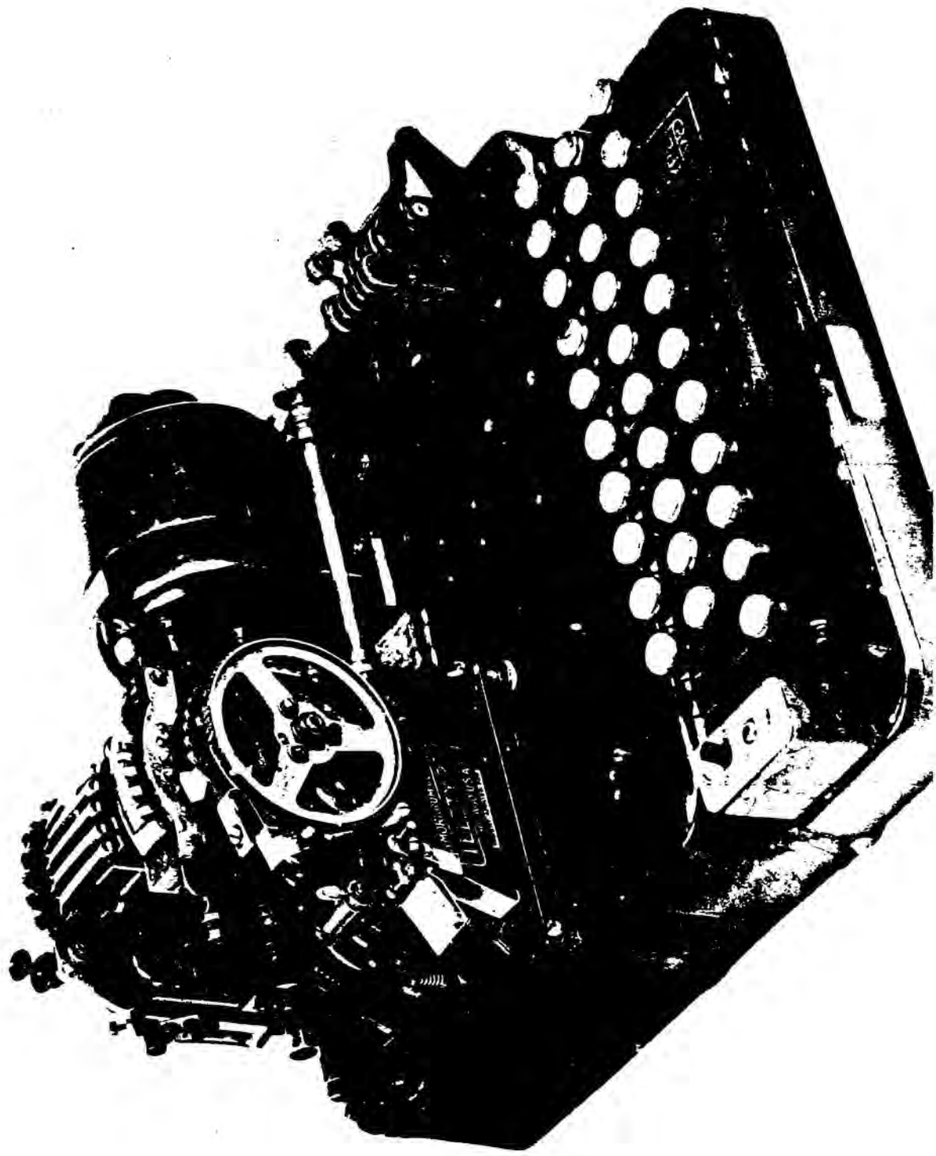
The tape printer was considerably simpler than a page printer. With a type wheel tape printer of the Baudot class it was merely necessary to release the printing arm at the time determined by the particular code combination to secure printing or spacing or shifting. For this reason there was a considerable saving in line time with the tape printer.

In 1921 the Model 11, a compact machine operating at 40 ... minute was introduced for light duty service. It was the ... to which the name "Teletype" was first applied. One of the ... installations of the Model 11 was in the Congress Hotel in 1922.

YEARS PRODUCED & QUANTITY: 1921-27; 883 sold
PRIMARY CUSTOMER(S): Hotels and local message services
CLASSIFICATION CODE: Model 11
MUSEUM CODE: 28-[redacted]3
TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): [redacted] 650622-91,92; 650624-11,14
PATENT(S):

LIBRARY REFERENCE(S): Kleinschmidt, E. E., Printing Telegraph... ... Era Begins, 1935, pp. 25-26; McNicol, D., Printing Telegraph... ... Systems, 1925, pp. 69-78; Herbert, T. E., Telegraphy, 1926, pp. ...



11

MODEL 11 TAPE PRINTER

With the increased load being placed on telegraph circuits, the Morkrum Company developed a printing telegraph which would operate on the standard five-unit code but which was so simple that it could be used at stations which handled as little as fifty messages per day.

In view of the remarkable record of service of the printing unit of the Baudot system, it was decided to adopt a similar mechanism for the printing portion of this machine. This meant printing on a tape and the consequent gumming of the tape to the message blank.

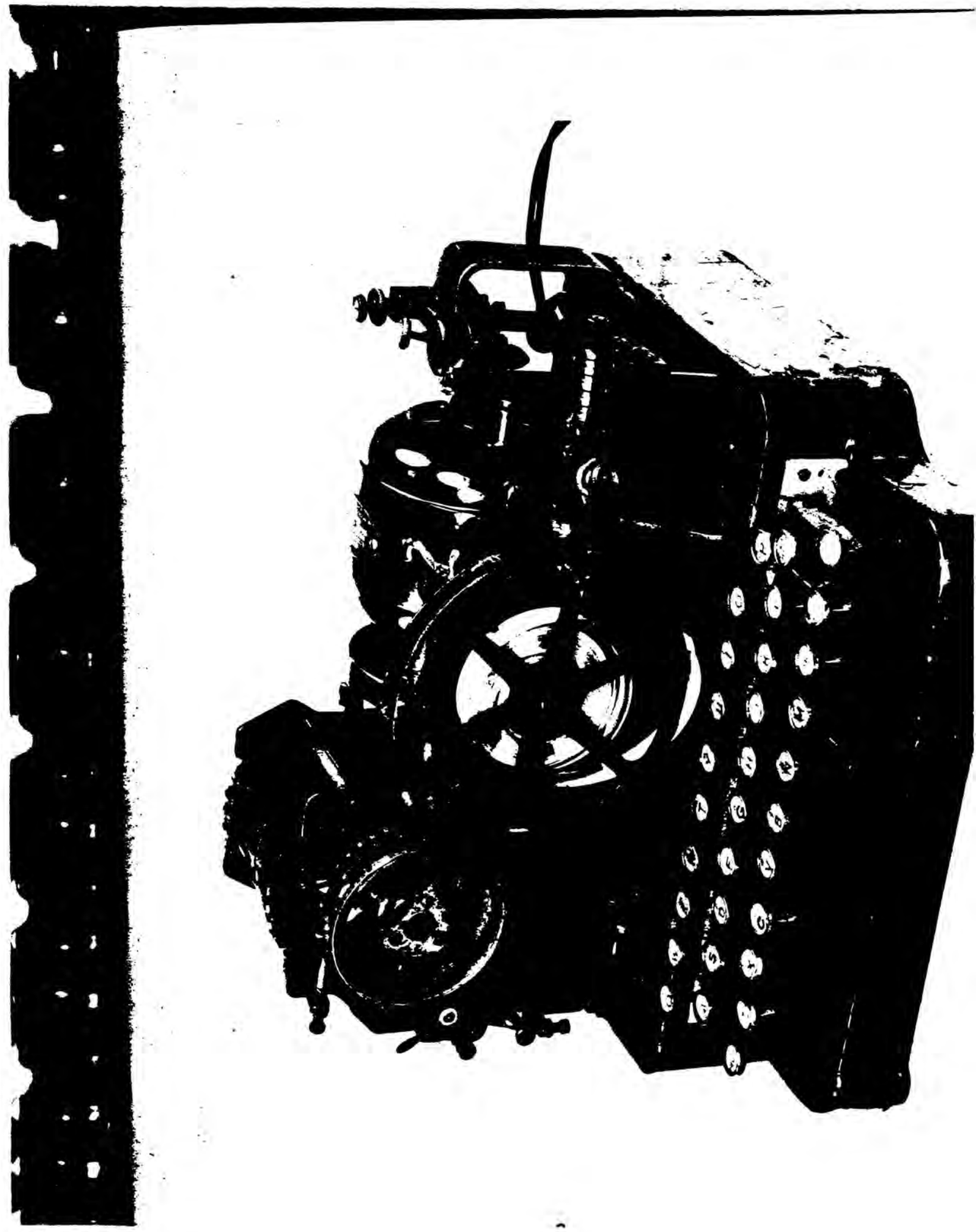
The tape printer was considerably simpler than a page printer. With a type wheel tape printer of the Baudot class it was merely necessary to release the printing arm at the time determined by the particular code combination to secure printing or spacing or shifting. For this reason there was a considerable saving in line time with the tape printer.

In 1921 the Model 11, a compact machine operating at 40 words per minute was introduced for light duty service. It was the first machine to which the name "Teletype" was first applied. One of the earliest installations of the Model 11 was in the Congress Hotel in 1922.

YEARS PRODUCED & QUANTITY: 1921-27; 883 sold
PRIMARY CUSTOMER(S): Hotels and local message services
CLASSIFICATION CODE: Model 11
MUSEUM CODE: 2B-[redacted]4
TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): [redacted] 650326-56
PATENT(S):

LIBRARY REFERENCE(S): Kleinschmidt, E. E., Printing Telegraph...A New Era Begins, 1965, pp. 25-26; McNicol, D., Printing Telegraph Systems, 1925, pp. 69-78; Herbert, T. E., Telegraphy, 1926, pp. 6[illegible]-712.



Donated to Chicago Museum of Science and Industry

SIMPLEX 1A TYPE BAR TAPE PRINTER

Tape printer with single magnet selector.

One of the early typebar printers using permutation code bars, seeker and operating bail to actuate selected type bar. This model also has a motor stop mechanism which responds to a selected code (blank in this case), and which is unlatched when a line signal is received.

Unit produced initially by Kleinschmidt. Production continued at Morkrum-Kleinschmidt.

Same unit with a multi-magnet selector was known as the Mul[illegible] 21A. The typebar selecting and actuating mechanism principles were continued in the Model 14 and 15 units subsequently produced at Teletype.

YEARS PRODUCED & QUANTITY: 1924

PRIMARY CUSTOMER(S):

CLASSIFICATION CODE:

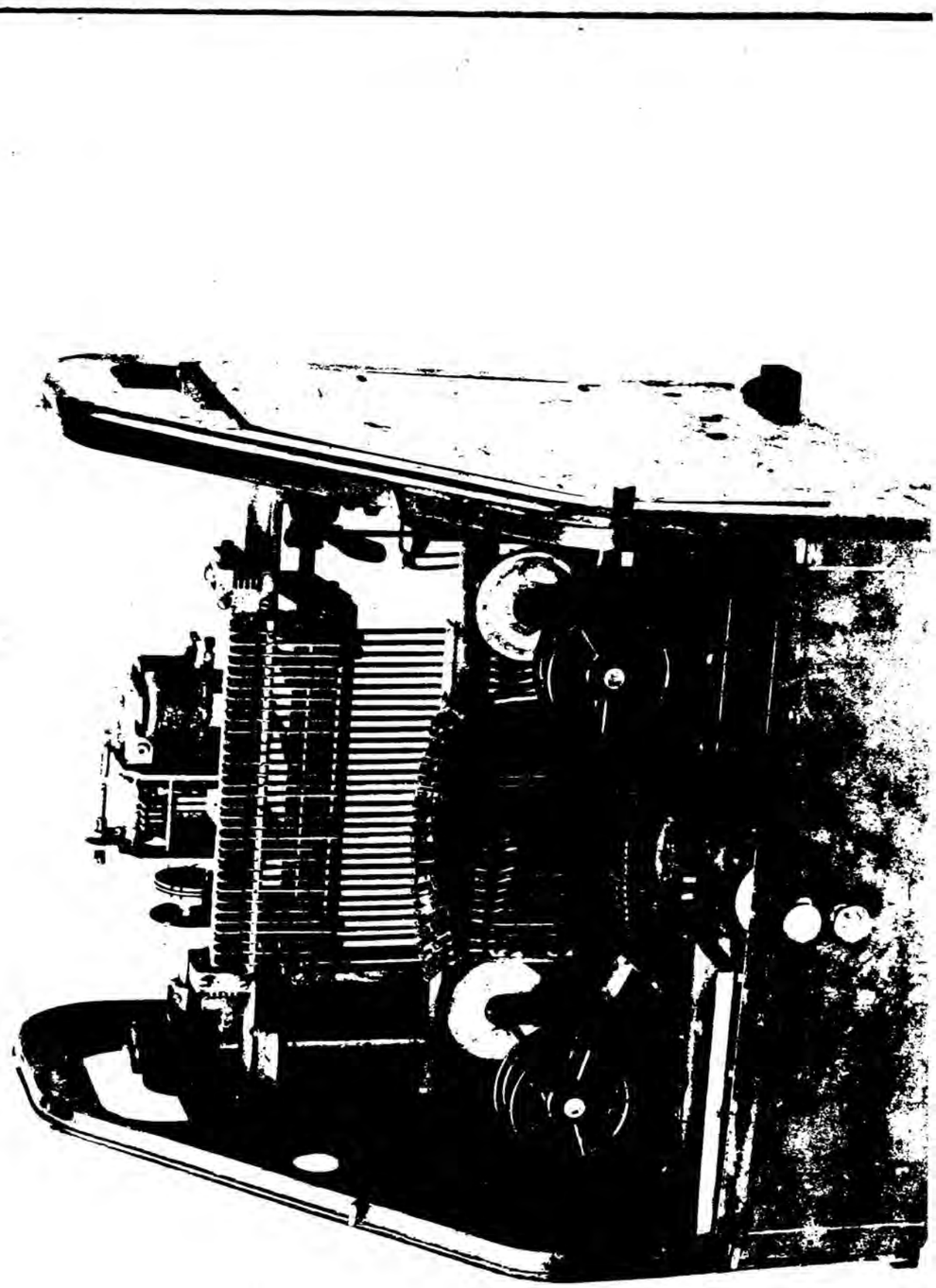
MUSEUM EQUIPMENT CODE: 2B-5

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): 650322-58, 59 280501-2

PATENT(S):

LIBRARY REFERENCE(S):



SIMPLEX 1A TYPEBAR TAPE PRINTER

Tape printer - keyboard set with single magnet selector.

One of the early typebar printers using permutation code bars, seeker and operating bail to actuate selected type bar. This model also has a motor stop mechanism which responds to a selected code (blank in this case), and which is unlatched when a line signal is received.

Unit produced initially by Kleinschmidt. Production continued at Morkrum-Kleinschmidt.

Same unit with a multi-magnet selector was known as the Multiplex 21A. The typebar selecting and actuating mechanism principles were continued in the Model 14 and 15 units subsequently produced at Teletype.

YEARS PRODUCED & QUANTITY: 1924

PRIMARY CUSTOMER(S):

CLASSIFICATION CODE:

MUSEUM EQUIPMENT CODE: 2B-6

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): 650319-08,09

PATENT(S):

LIBRARY REFERENCE(S):

KLEINSCHMIDT 21A TYPEBAR TAPE PRINTER

Printed messages on paper tape, gunned or ungummed.

Solenoid and magnet on multiples signals. This was a receiving only unit arranged for use in conjunction with a multiples receiving-distributor, which sent five selecting impulses and a "triggering" sixth pulse for each character printed by the MTP.

When Morkrum Company acquired Kleinschmidt, this equipment went into production with little change by the Morkrum-Kleinschmidt Corp.

When "Start-Stop" signalling came into general use this machine was superseded by the Model 14.

YEARS PRODUCED & QUANTITY: 1926-30

PRIMARY CUSTOMER(S): Postal Telegraph Western Union

CLASSIFICATION CODE:

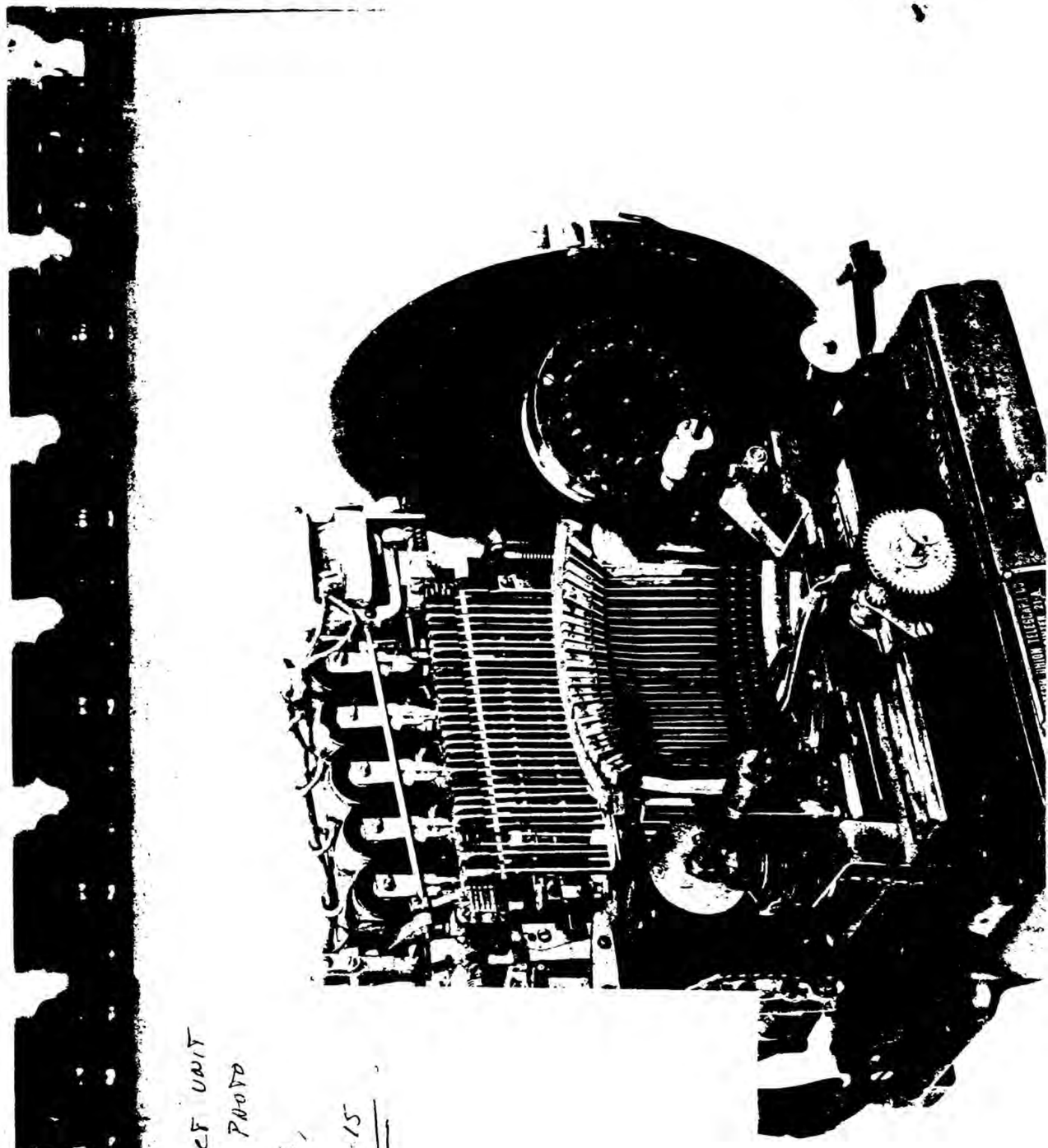
MUSEUM EQUIPMENT CODE: 2B-7

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): 650322-60 280501-48

PATENT(S):

LIBRARY REFERENCE(S):



SAME EXACT UNIT
SHOWN IN PHOTO
650322-60,
CODE 2B-15

Donated to Smithsonian Institution

KLEINSCHMIDT ESCAPEMENT TAPE PRINTER
(Model G)

Double acting ratchet drive steps typewheel keyed to common shaft with rotary brush of commutator arrangement. A multi-wire (corresponding to each character position on the typewheel) input is required and conditions that commutator segment selected so that as the typewheel and rotor rotate, the circuit to the print and feed magnet is completed when the typewheel is in the correct printing position. This unit also provides for a magnet driven shift between two rows characters on the typewheel. Equipped with a ten "push button" panel for providing ten character capacity input.

YEARS PRODUCED & QUANTITY: C. 1928

PRIMARY CUSTOMER(S):

CLASSIFICATION CODE:

MUSEUM EQUIPMENT CODE: 2B-9

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): 381014-48,51 650421-15

PATENT(S):

LIBRARY REFERENCE(S):

KLEINSCHMIDT ESCAPEMENT
TAPE PRINTER

Testing means for positioning typewheel.

Double acting ratchet drive steps typewheel keyed to common shaft with rotary brush of commutator arrangement. A multi-wire (corresp... to each character position on the typewheel) input is required and conditions that commutator segment selected so that as the typewheel and rotar rotate, the circuit to the print and feed magnet is completed when the typewheel is in the correct printing position. This unit provides for a magnet driven shift between two rows of characters on the typewheel.

YEARS PRODUCED & QUANTITY:

PRIMARY CUSTOMER(S):

CLASSIFICATION CODE:

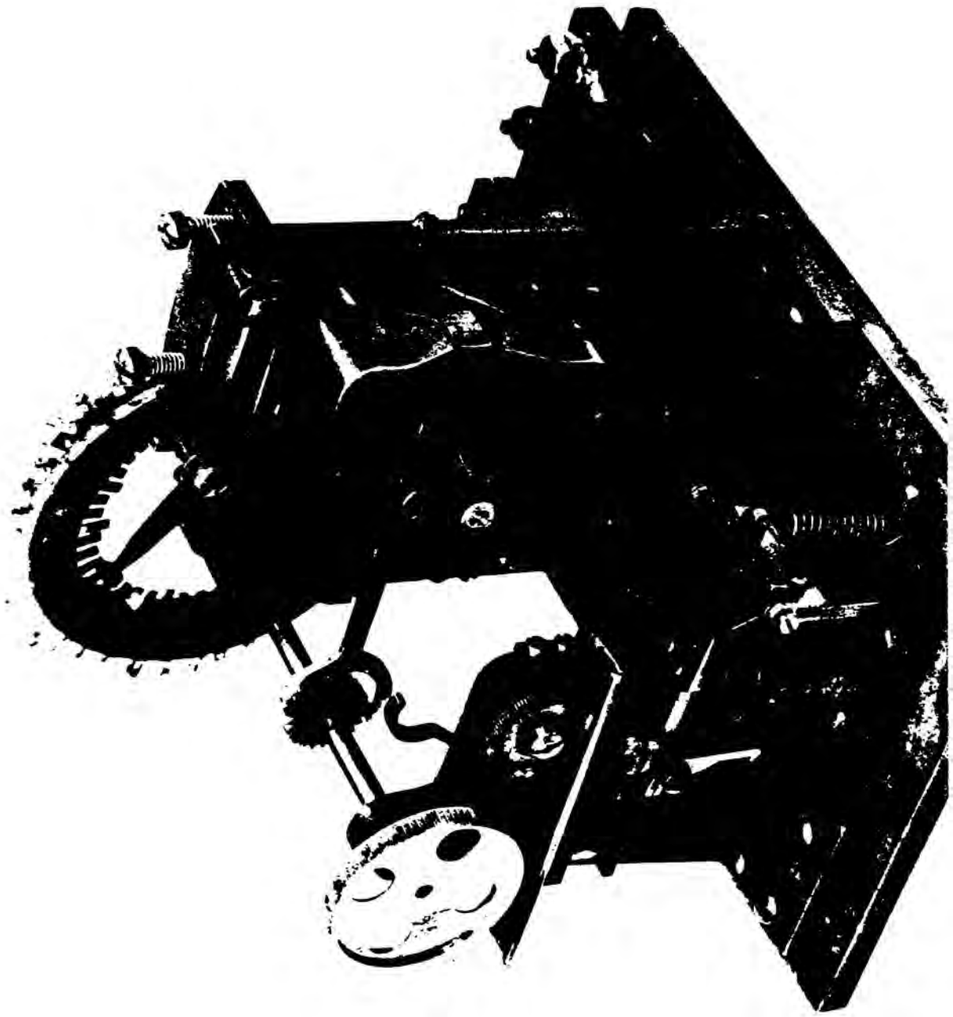
MUSEUM EQUIPMENT CODE: 2B-10

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): 381014-48 650421-~~15~~ 14

PATENT(S):

LIBRARY REFERENCE(S):



KLEINSCHMIDT ESCAPEMENT TAPE PRINTER

Similar to 2B-10 except a keyboard is included to provide the multi-wire input to the printer.

YEARS PRODUCED & QUANTITY: Approx. 1928

PRIMARY CUSTOMER(S):

CLASSIFICATION CODE:

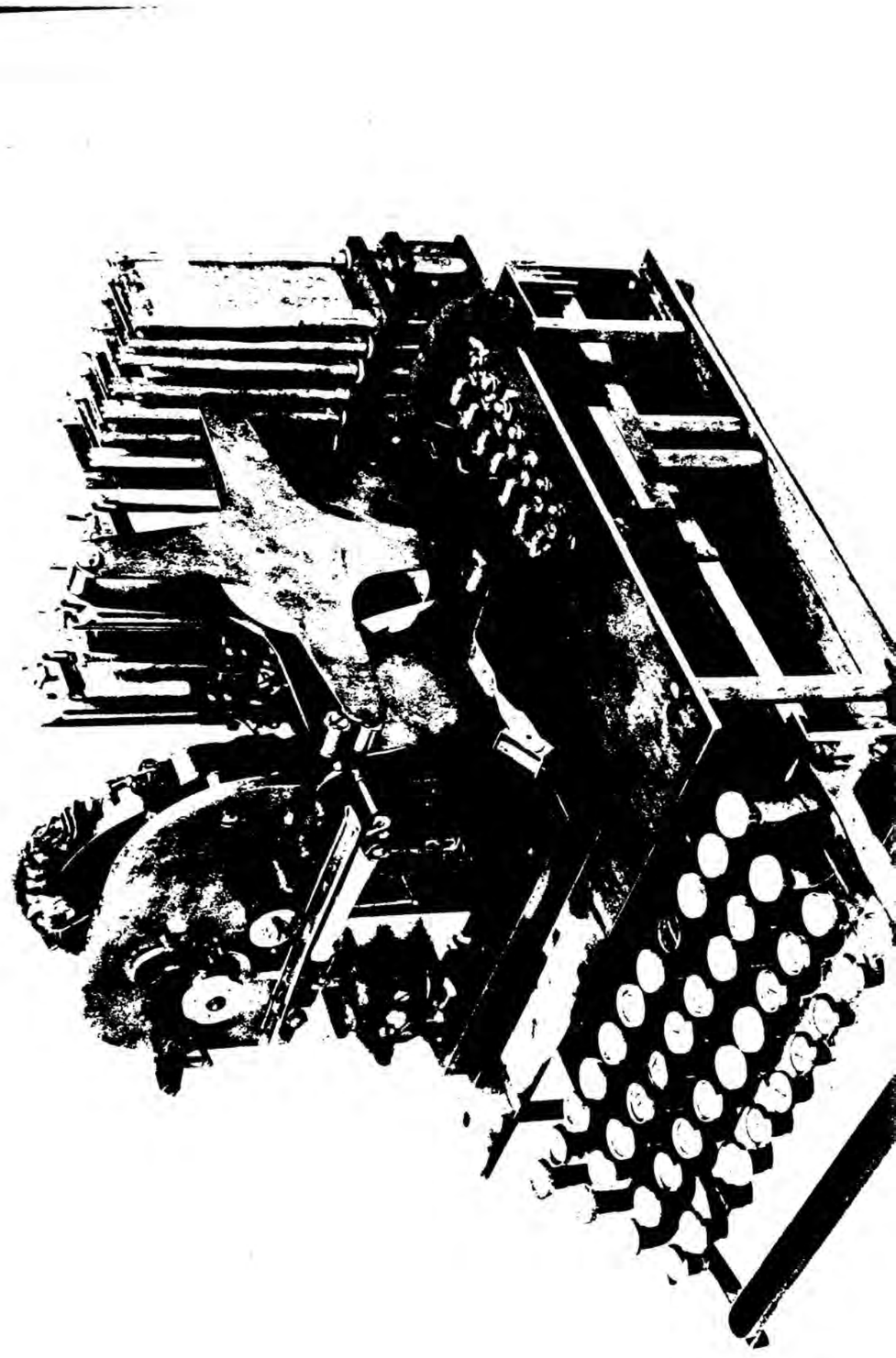
MUSEUM EQUIPMENT CODE: 2B-11

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): 340207-8,9,10,11 331227-1 650329-80,81

PATENT(S):

LIBRARY REFERENCE(S):



KLEINSCHMIDT ESCAPEMENT TAPE PRINTER

Similar to 2B-10 except type wheel shaft is spring driven with escapement mechanism to control stepping. How spring is wound is not evident in this model.

YEARS PRODUCED & QUANTITY: Approx. 1928 Model 4A

PRIMARY CUSTOMER(S):

CLASSIFICATION CODE:

MUSEUM EQUIPMENT CODE: 2B-12

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): 381014-49 650421-12,13

PATENT(S):

LIBRARY REFERENCE(S):

Donated to Smithsonian Institution

MODEL 11 TAPE PRINTER

With the increased load being placed on telegraph circuits, the Morkrum Company developed a printing telegraph which would operate on the standard five-unit code but which was so simple that it could be used at stations which handled as little as fifty messages per day.

In view of the remarkable record of service of the printing unit of the Baudot system, it was decided to adopt a similar mechanism for the printing portion of this machine. This meant printing on a tape and the consequent gumming of the tape to the message blank.

The tape printer was considerably simpler than a page printer. With a type wheel tape printer of the Baudot class it was merely necessary to release the printing arm at the time determined by the particular code combination to secure printing or spacing or shifting. For this reason there was a considerable saving in line time with the tape printer.

In 1921 the Model 11, a compact machine operating at 40 words per minute was introduced for light duty service. It was the first machine to which the name "Teletype" was first applied. One of the earliest installations of the Model 11 was in the Congress Hotel in 1922.

YEARS PRODUCED & QUANTITY: 1921-27; 883 sold

PRIMARY CUSTOMER(S): Hotels and local message services

CLASSIFICATION CODE: Model 11

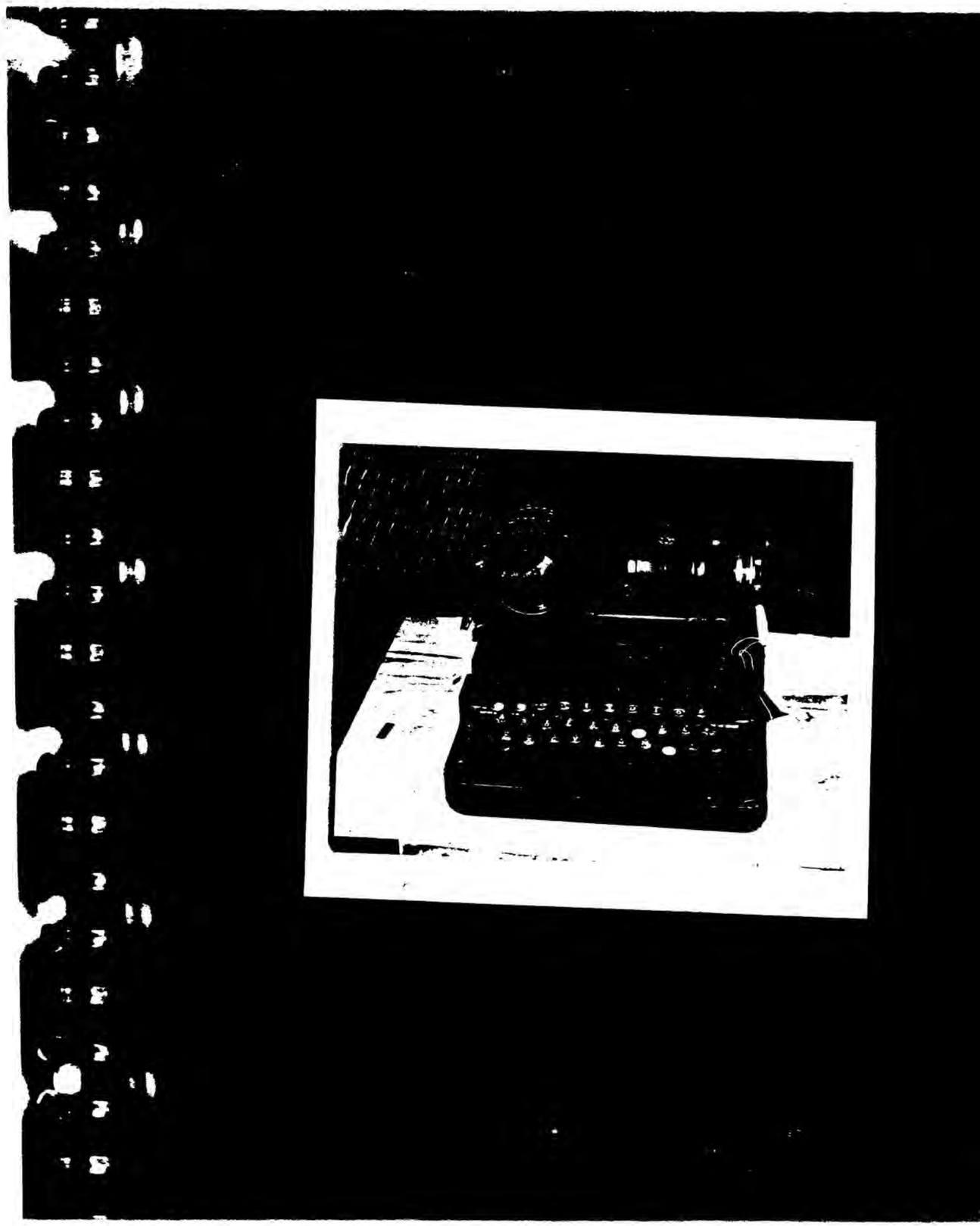
MUSEUM EQUIPMENT CODE: 2B-14

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): Polaroid T065

PATENT(S):

LIBRARY REFERENCE(S): Kleinschmidt, E. E., Printing Telegraph... A New Era Begins, 1965, pp. 25-26; McNicol, D., Printing Telegraph Systems, 1925, pp. 69-78; Herbert, T. E., Telegraphy, 1926, pp. 694-712.

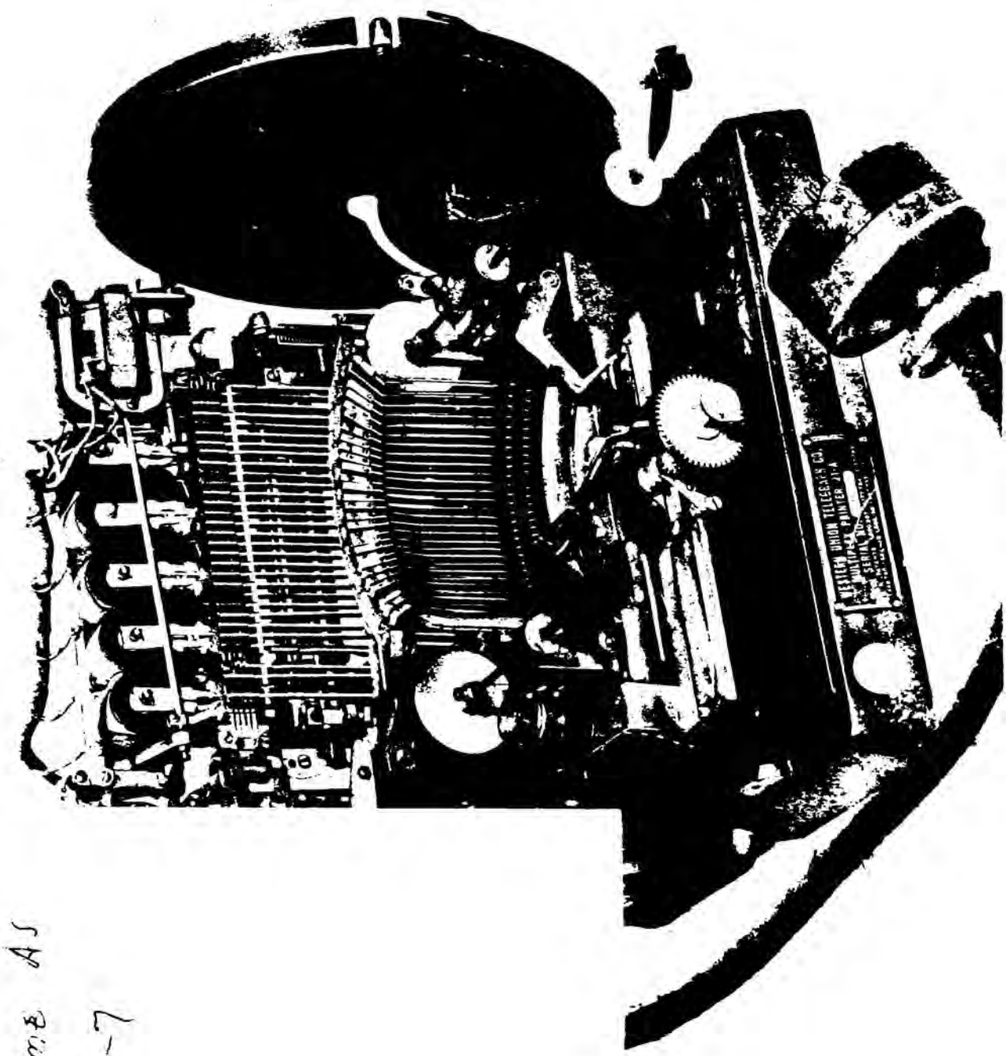


MULTIPLEX PRINTER 21-A

This was a typebar page printer, redesigned to print on tape. Printing was accomplished by using the same selection controls and operating the typebars to print downward on the tape instead of upward against the platen as in the 3A and 3B page printers. A tape gummer to attach the tape to a message blank was also designed. This unit was also made to operate on a seven-level code, using no more or less than three levels for each character.

YEARS PRODUCED & QUANTITY: C. 1920; 1926-1950, 3,878 units sold.
PRIMARY CUSTOMER(S): Western Union Telegraph Company
CLASSIFICATION CODE: 21-A, also 25-A
MUSEUM EQUIPMENT CODE: 2B-15
TECHNICAL BULLETINS & SPECS: NA
PHOTO NO(S): 650622-86
PATENT(S):

LIBRARY REFERENCE(S): Kleinschmidt, E. E., Printing Telegraphy... A New Era Begins, 1965, pp. 13 and 33; Nicol, D., Printing Telegraph Systems, 1925, pp. 84-90.



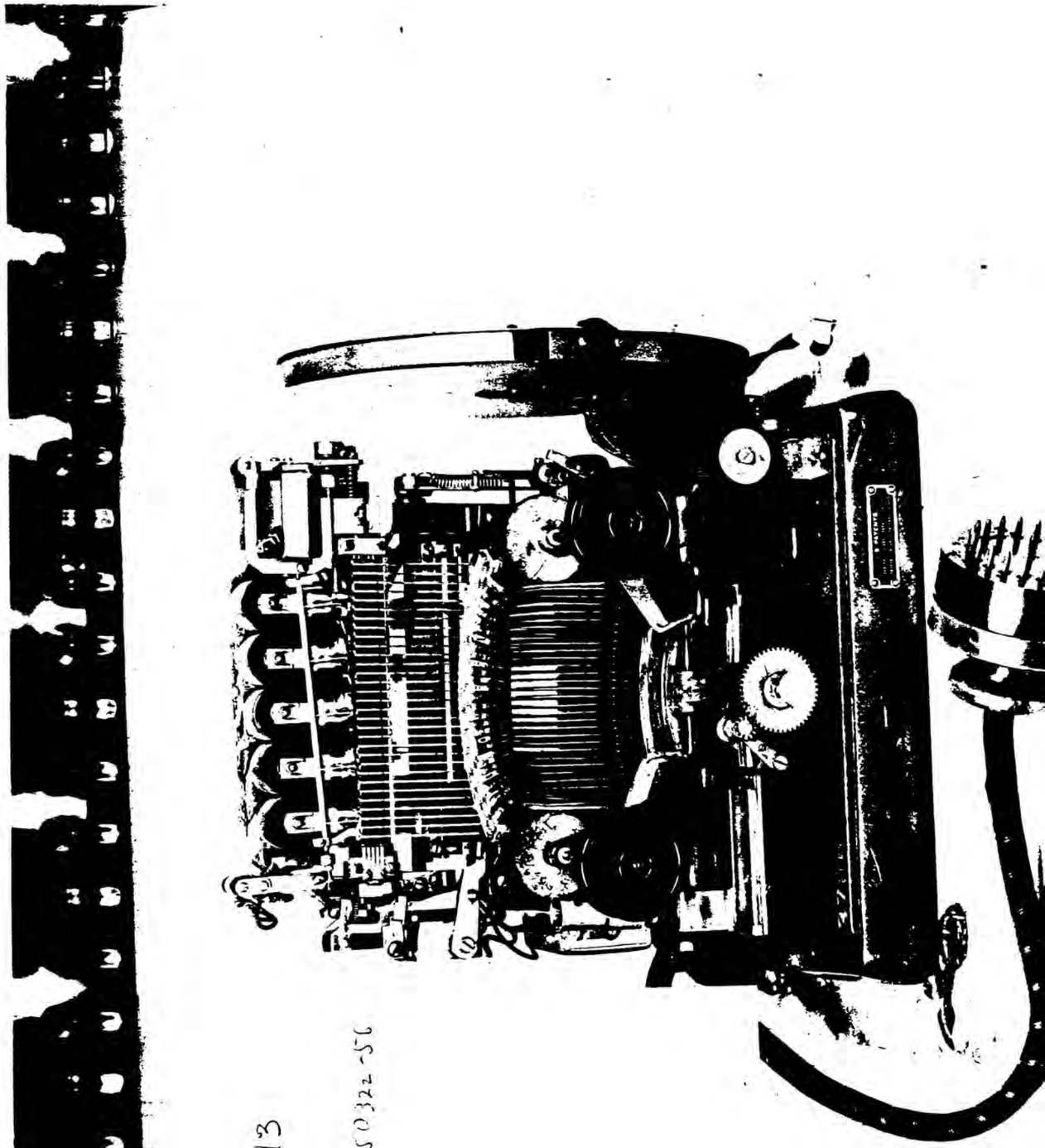
Same as 2B-7

MULTIPLEX PRINTER 21-A

This was a typebar page printer, redesigned to print on tape. Printing was accomplished by using the same selection controls and operating the typebars to print downward on the tape instead of upward against the platen as in the 3A and 3B page printers. A tape gummer to attach the tape to a message blank was also designed. This unit was also made to operate on a seven-level code, using no more or less than three levels for each character.

YEARS PRODUCED & QUANTITY: C. 1920; 1926-1950, 3,878 units sold.
PRIMARY CUSTOMER(S): Western Union Telegraph Company
CLASSIFICATION CODE: 21-A, also 25-A
MUSEUM EQUIPMENT CODE: 2B-16
TECHNICAL BULLETINS & SPECS: NA
PHOTO NO(S): 650622-87,88
PATENT(S):

LIBRARY REFERENCE(S): Kleinschmidt, E. E., Printing Telegraphy... A New Era Begins, 1965, pp. 13 and 33; Nicol, D., Printing Telegraph Systems, 1925, pp. 84-90.



SAME AS 2C-13

PHOTO 650322-5C

SIMPLEX 1A TYPEBAR TAPE PRINTER

A model of the Simplex 1A Typebar Tape Printer featuring a single magnet selector. One of the early typebar printers using permutation code bars, seekers, and operating bails to actuate selected type bars. The model has a motor stop mechanism which responds to a selected code (blank in this case), and which is unlatched when a line signal is received. The unit was originally produced by Kleinschmidt. Production continued at Morkrum-Kleinschmidt. Same unit with multi-magnet selector was known as the Multiplex 21A.

YEARS PRODUCED & QUANTITY: C. 1924 (model)

PRIMARY CUSTOMER(S):

CLASSIFICATION CODE: Simplex 1A

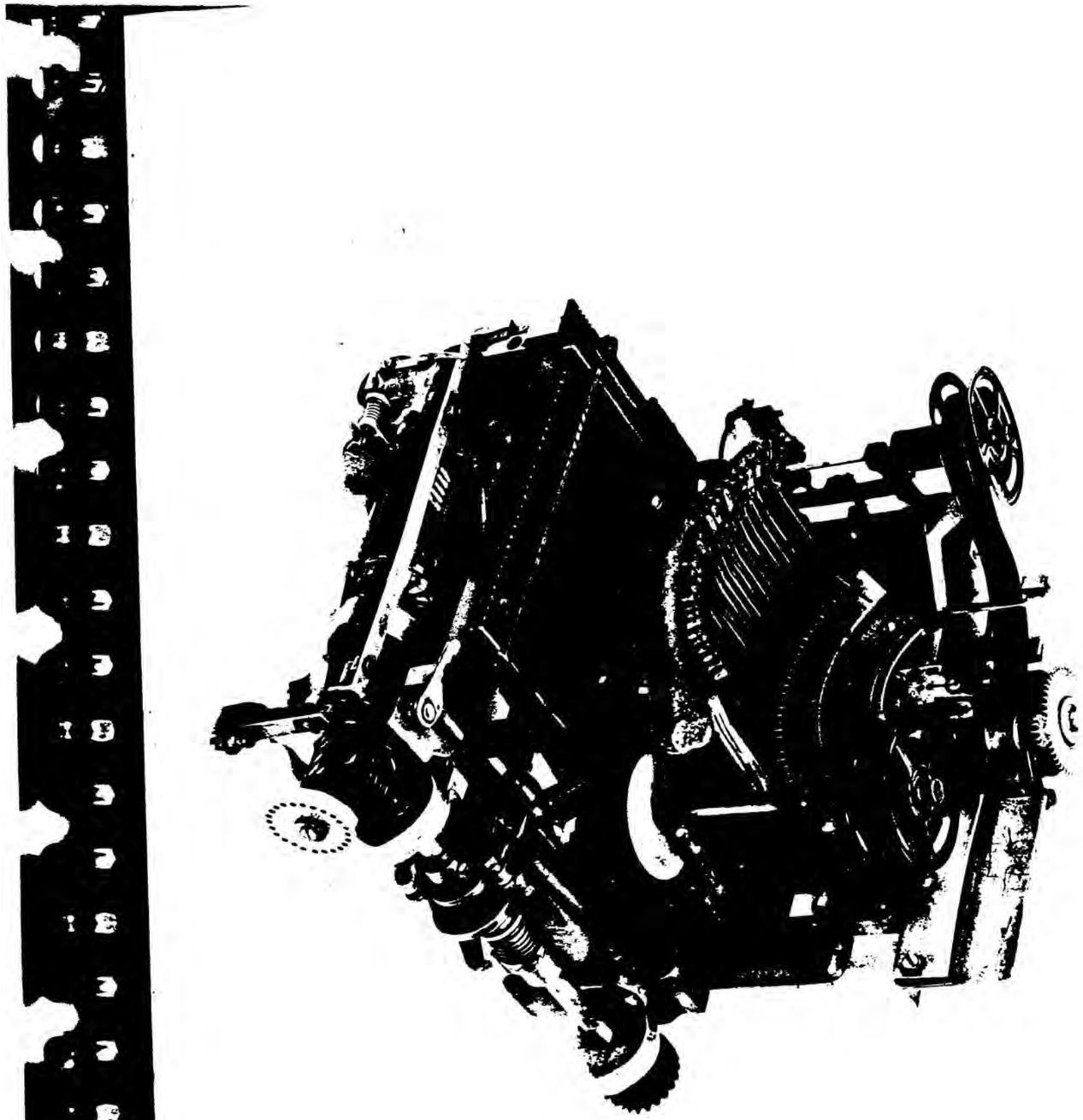
MUSEUM EQUIPMENT CODE: 2B-17

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): 650319-06, 07

PATENT(S):

LIBRARY REFERENCE(S):



SIMPLEX PRINTER 2B

A model of the Simplex Priner 2B which later became the Model 14 Tape Printer.

YEARS PRODUCED & QUANTITY: C. 1924

PRIMARY CUSTOMER(S):

CLASSIFICATION CODE: Simplex 2-B

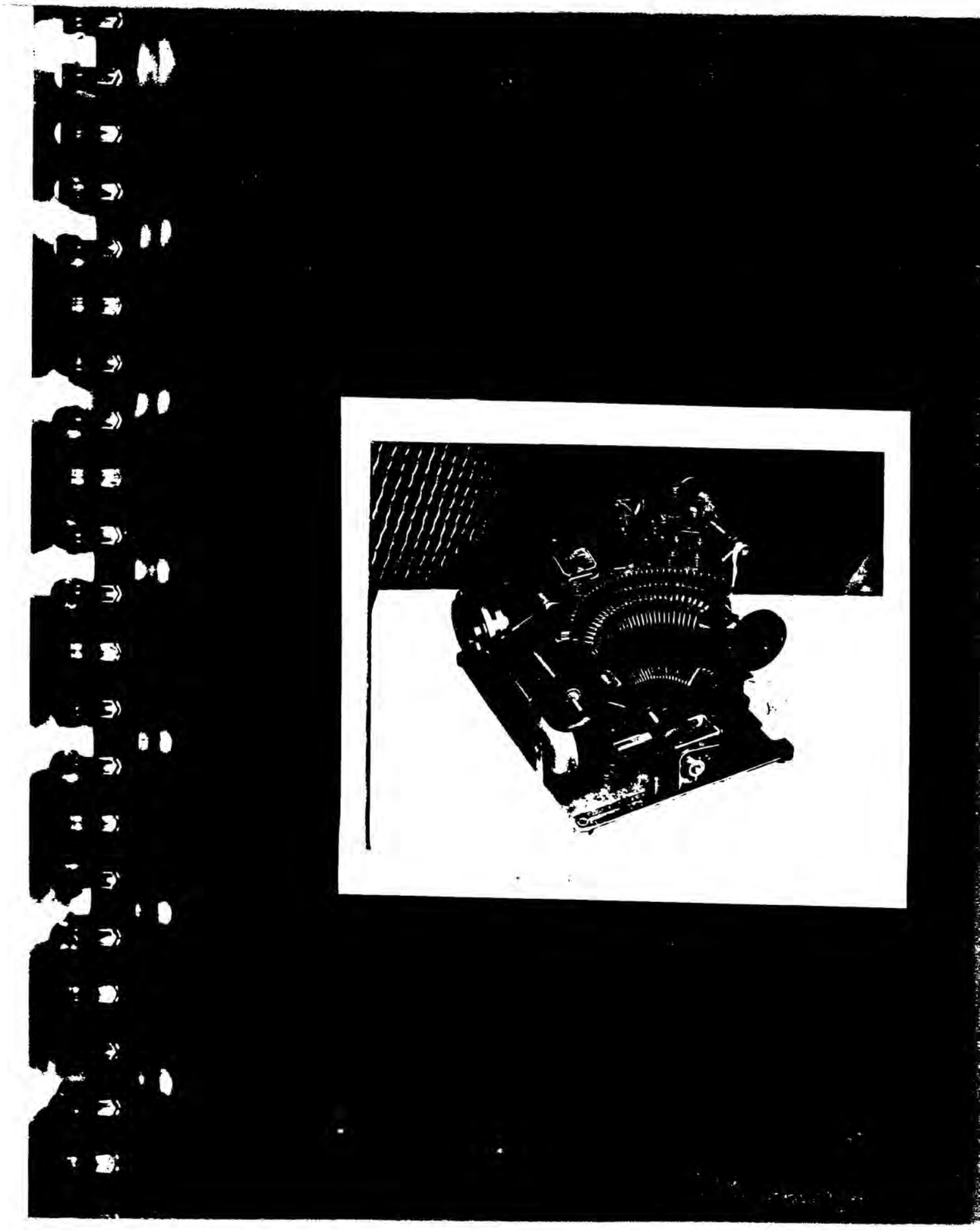
MUSEUM EQUIPMENT CODE: 2B-18

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): Polaroid T015

PATENT(S):

LIBRARY REFERENCE(S):



Donated to Smithsonian Institution

TELESIGN (MODEL 1296-A)

A device that punched layer holes in a wide piece of paper tape. Letters were approximately two inches high.

Sample

YEARS PRODUCED & QUANTITY:

PRIMARY CUSTOMER(S):

CLASSIFICATION CODE: Model 1296-A

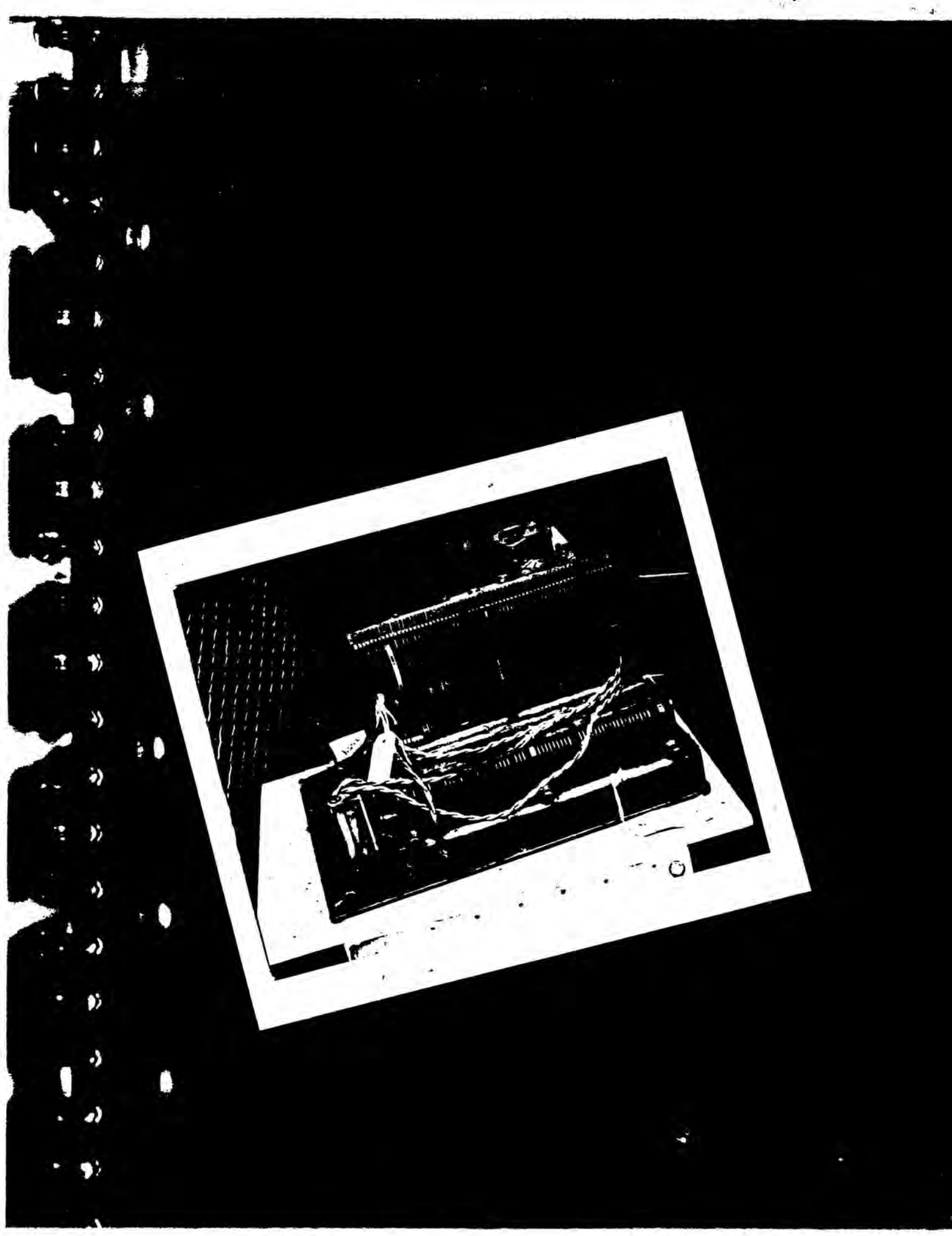
MUSEUM EQUIPMENT CODE: 2B-19

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S):

PATENT(S):

LIBRARY REFERENCE(S):



Donated to Milwaukee Public Museum

MULTIPLEX TAPE PRINTER (M-K)

A multiplex tape printer made for the Western Union Telegraph Company.

YEARS PRODUCED & QUANTITY:

PRIMARY CUSTOMER(S): Western Union

CLASSIFICATION CODE:

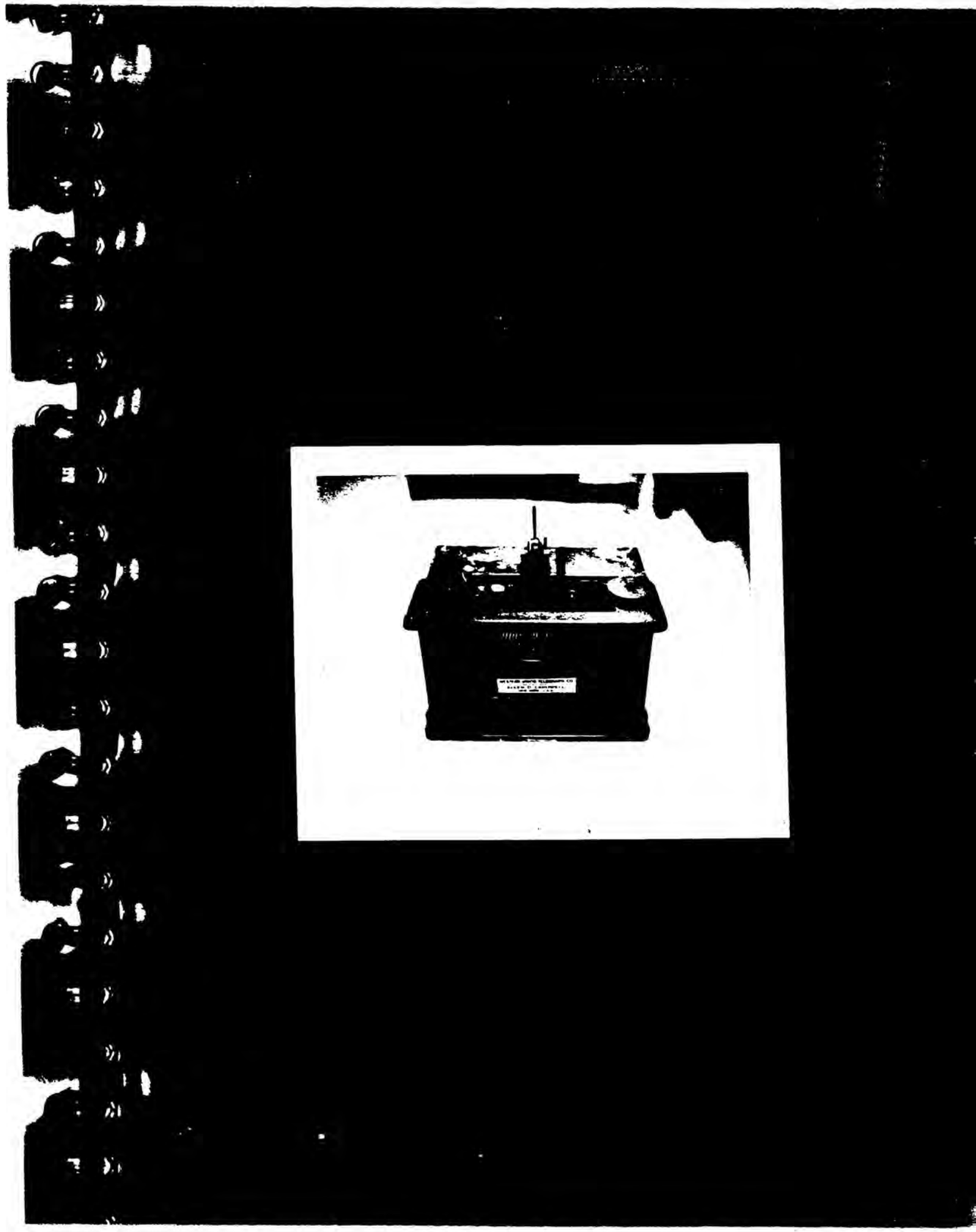
MUSEUM EQUIPMENT CODE: 2B-20

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): Polaroid TU117

PATENT(S):

LIBRARY REFERENCE(S):



MODEL 14 TAPE PRINTER

The demand for printing telegraph equipment was increased in 1925 when the Morkrum-Kleinschmidt Company introduced the Model 14 Tape Printer. The Morkrum Company had been working on the development of this single magnet, type-bar tape printer prior to its merger with Kleinschmidt. Although the typing assembly was almost identical to that employed in the Kleinschmidt 21A, the Model 14 had a radically different selector.

On this instrument, the depression of a key first set up a code combination corresponding to the characters to be printed or the function to be performed, and then engaged a clutch which connected a motor to a mechanism that transmitted the code combination in the form of electrical impulses to all of the machines connected to the sending instrument.

The electrical impulses actuated magnets on all of the machines on the circuit, including the sending instrument, and, through certain mechanisms, selected a particular typebar and caused the proper character to be printed on a narrow tape which was automatically spaced after each character.

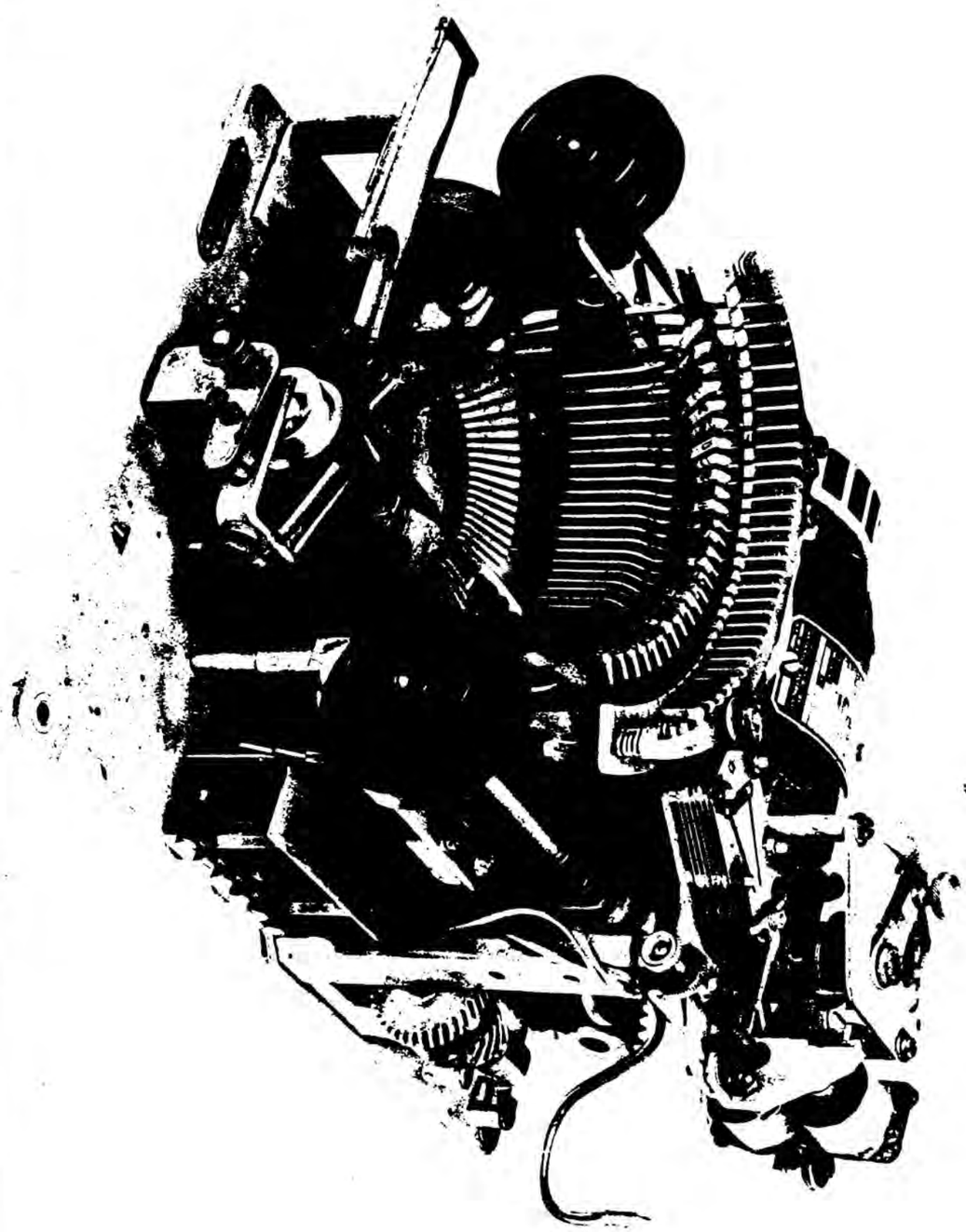
The paper was arranged so that it could be placed in an upper or lower case position with respect to the type pallets, thus making possible the printing of 58 different characters. When the shift combination was transmitted, the paper was placed in position to print upper case characters and the release combination placed it in position to print lower case characters.

YEARS PRODUCED & QUANTITY: 1925-1960 58,552 units
PRIMARY CUSTOMERS: Western Electric and Western Union
CLASSIFICATION CODE: M14 (FP=Tape Printer)
MUSEUM EQUIPMENT CODE: 2C-[redacted]
TECHNICAL BULLETINS & SPECS:

PHOTO NO'S: 390505-75,76,77,78; 650322-61,62; 300214-1; 430826-26; 690505-94, 650324-50

PATENT(S): No. 2,170,316 W. J. Zenner, Printing Telegraph Apparatus, filed 12/31/36, and granted 8/22/39; No. 2,589,132 T. I. Przysiecki, Automatic Shift Control for Printing Telegraph Apparatus, filed 12/1/49, and granted 3/11/52.

LIBRARY REFERENCES: Kleinschmidt, E. E., Printing Telegraphy...A New Era Begins, 1965, pp. 32-26; A. S. Benjamin, "Teletype Printing Telegraph Systems," Telephony, December 9 and 16, 1933, (reprint); Herbert, T. E., Telegraph, 1926, pp. 712-733; McNicol, D., Printing Telegraph Systems, 1925, pp. 78-84.



PNEUMATIC TYPEBAR TAPE PRINTER

Design adaption of a typebar basket for page printing to a tape printer. Circular platen mounted at type bar guide. Type bar strikes directly on platen over which the tape and ribbon is guided.

Purely experimental to explore some of the possibilities of pneumatic printer operation.

YEARS PRODUCED & QUANTITY:

PRIMARY CUSTOMER(S):

CLASSIFICATION CODE:

MUSEUM EQUIPMENT CODE: 2C-2

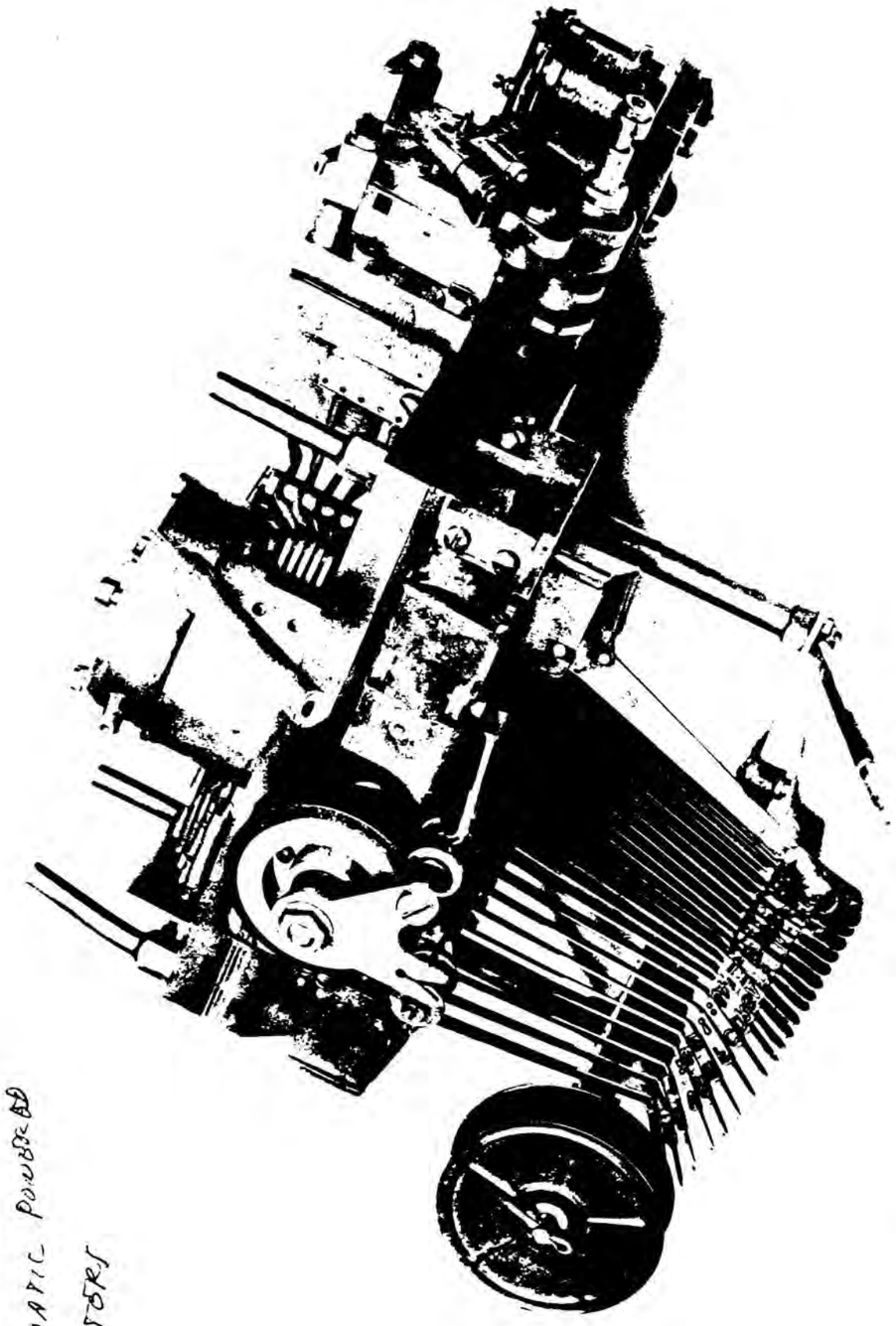
TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): 650319-38,39 341109-2

PATENT(S):

LIBRARY REFERENCE(S):

CREED & OTHER FOREIGN COMPANIES IN ROOF C FIELD PNEUMATIC POWERED PRINTERS



CODE PERMUTATION TAPE PRINTER

No overlap tape printer model - apparently "print on fly".

Unit is not comolete. Apparent operation - seekers associated with each of the code levels (6) seek their resoective permutation discs (1, 2, 4, 8, 16 plus 6th bit disc). When combination setup by rotating permutation discs matches that set up by the selected seekers (seekers are in a fixed position relative to discs) print hammer is actuated to print typewheel character in printing position, and corresponding to selected seekers.

YEARS PRODUCED & QUANTITY: C. 1930

PRIMARY CUSTOMER(S):

CLASSIFICATION CODE:

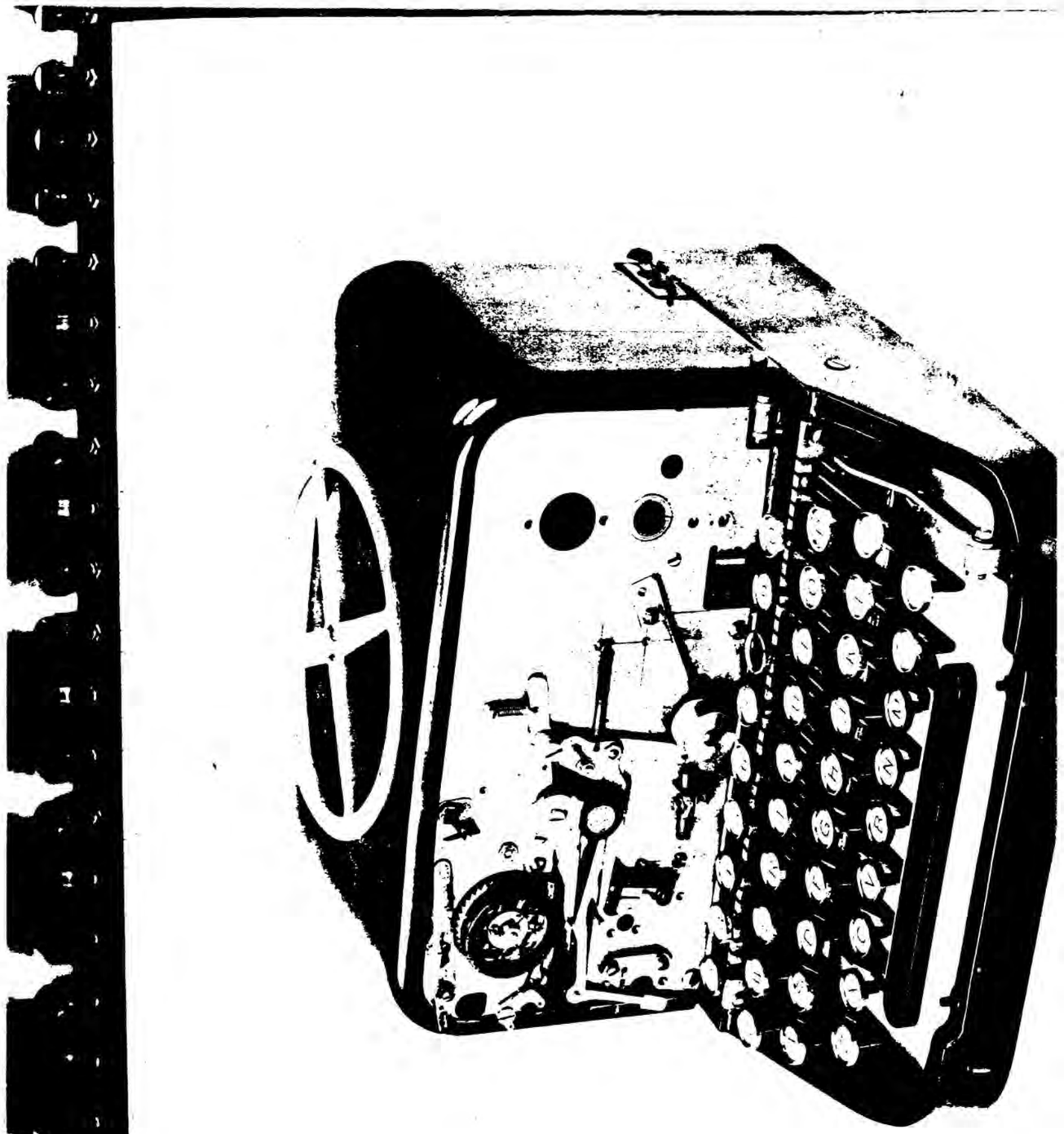
MUSEUM EQUIPMENT CODE: 2C-3

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): 341109-10 650326-57,58

PATENT(S):

LIBRARY REFERENCE(S):



TYPEWHEEL TAPE PRINTER

The machine was referred to as a Minimum Printer. It was an experimental model for evaluating a typewheel positioning and printing. It utilized the method of printing. on the fly.

YEARS PRODUCED & QUANTITY: 1931

PRIMARY CUSTOMER(S):

CLASSIFICATION CODE:

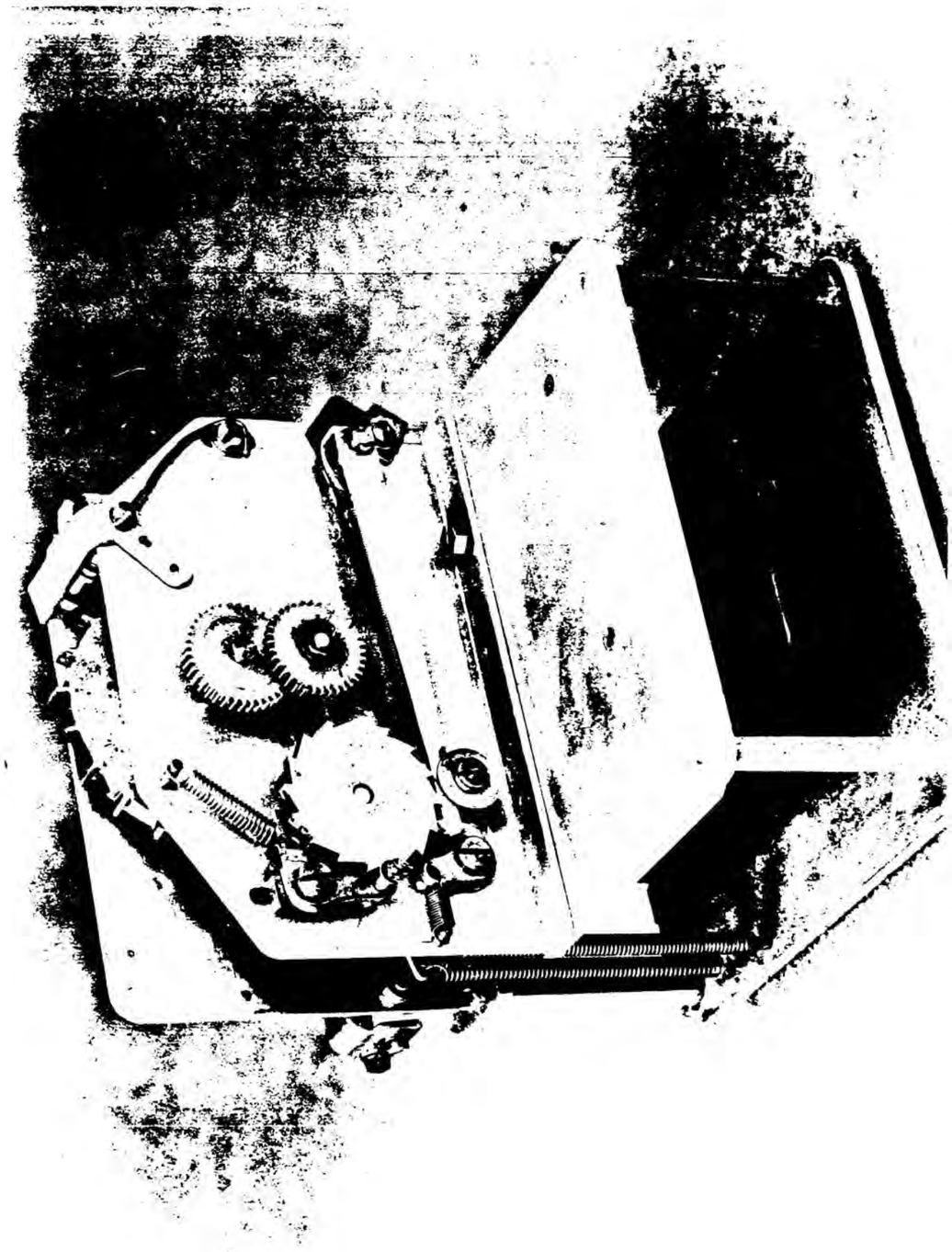
MUSEUM EQUIPMENT CODE: 2C-4

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): 31121-2,3,4 650421-04

PATENT(S):

LIBRARY REFERENCE(S):



Donated to Smithsonian Institution

TYPEWHEEL TAPE PRINTER

The machine was referred to as a Minimum Printer. It was an experimental model for evaluating a typewheel positioning mechanism. The machine had a governor which had to reach a pre-designated speed before permitting typewheel rotation.

YEARS PRODUCED & QUANTITY:

PRIMARY CUSTOMER(S):

CLASSIFICATION CODE:

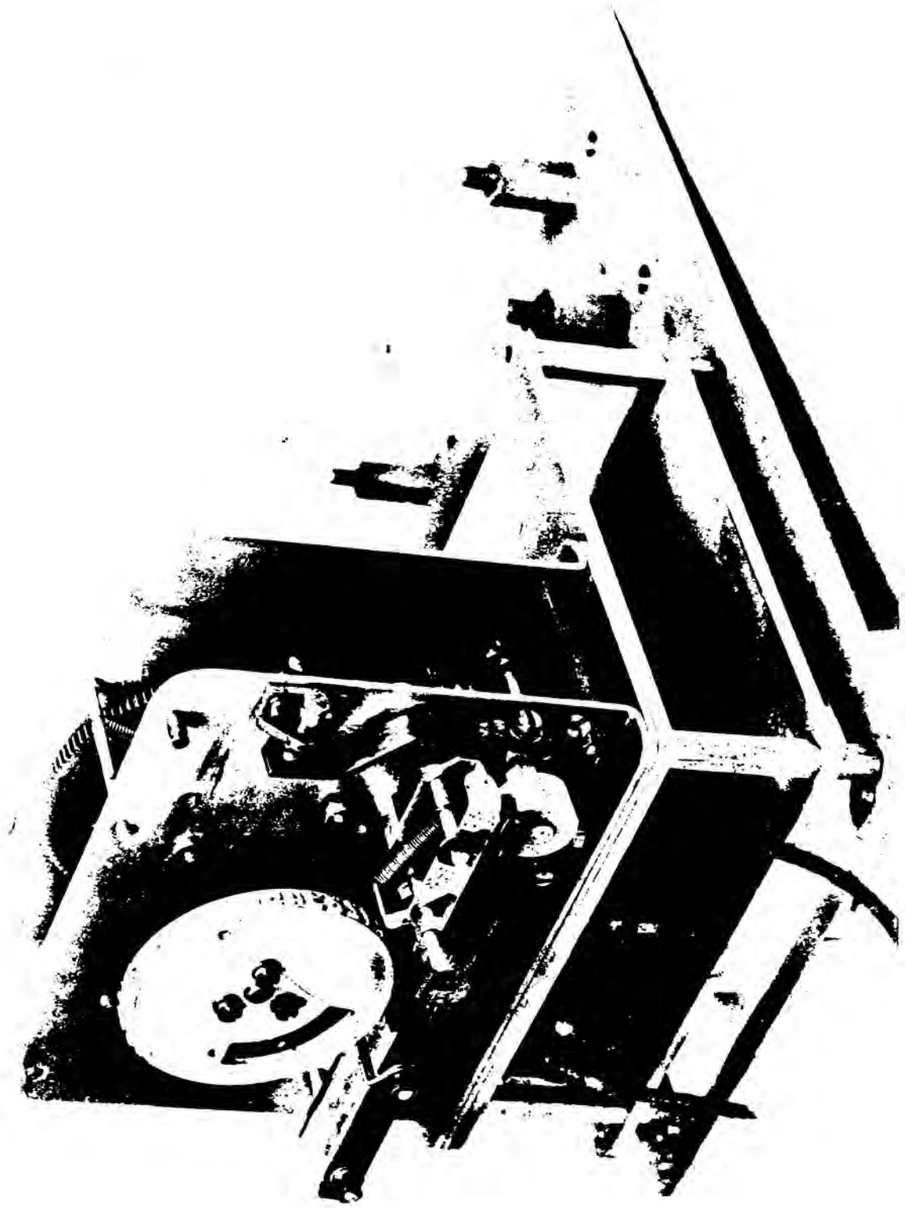
MUSEUM EQUIPMENT CODE: 2C-5

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): 320615-1,2,3 640115-85

PATENT(S):

LIBRARY REFERENCE(S):



TYPEWHEEL TAPE PRINTER

Typewheel printer evaluation.

Referred to as two wire printer. Typewheel stepped in increments of one or six steps under control of two stepping magnets. Third magnet employed for printing, advancing tape and disengaging typewheel from system to permit return to home position under influence of return spring.

Magnets did not have sufficient attractive force to position typewheel properly.

YEARS PRODUCED & QUANTITY: 1932

PRIMARY CUSTOMER(S):

CLASSIFICATION CODE:

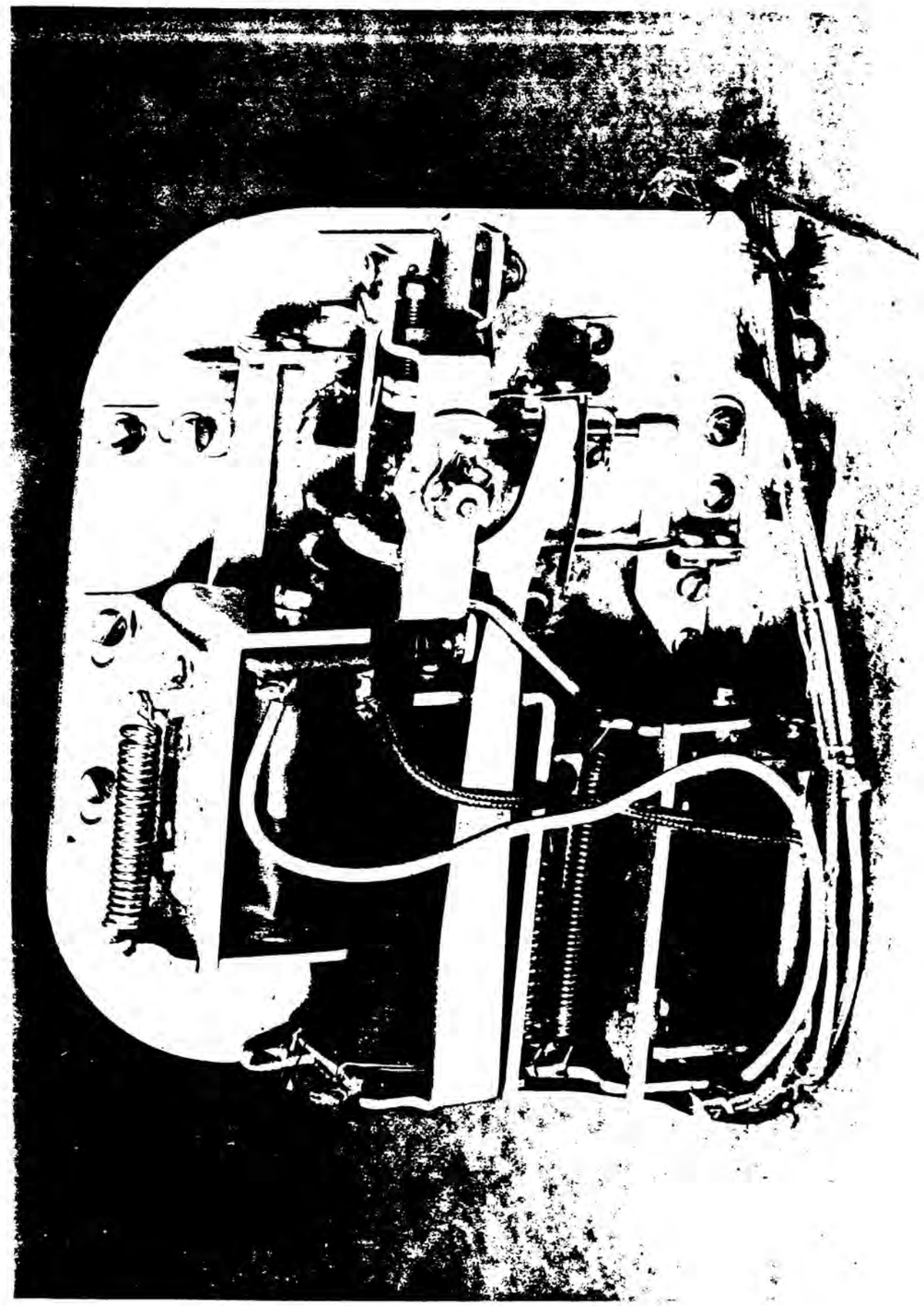
MUSEUM EQUIPMENT CODE: 2C-6

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): 320609-1,2,3 650421-05,06

PATENT(S):

LIBRARY REFERENCE(S):



TYPEWHEEL TAPE PRINTER

Model constructed for evaluation of typewheel positioning mechanism. Basically the same as 2C-6. Increase in magnet sizeover. Magnets were not powerful enough for satisfactory operation.

YEARS PRODUCED & QUANTITY: 1932

PRIMARY CUSTOMER(S):

CLASSIFICATION CODE:

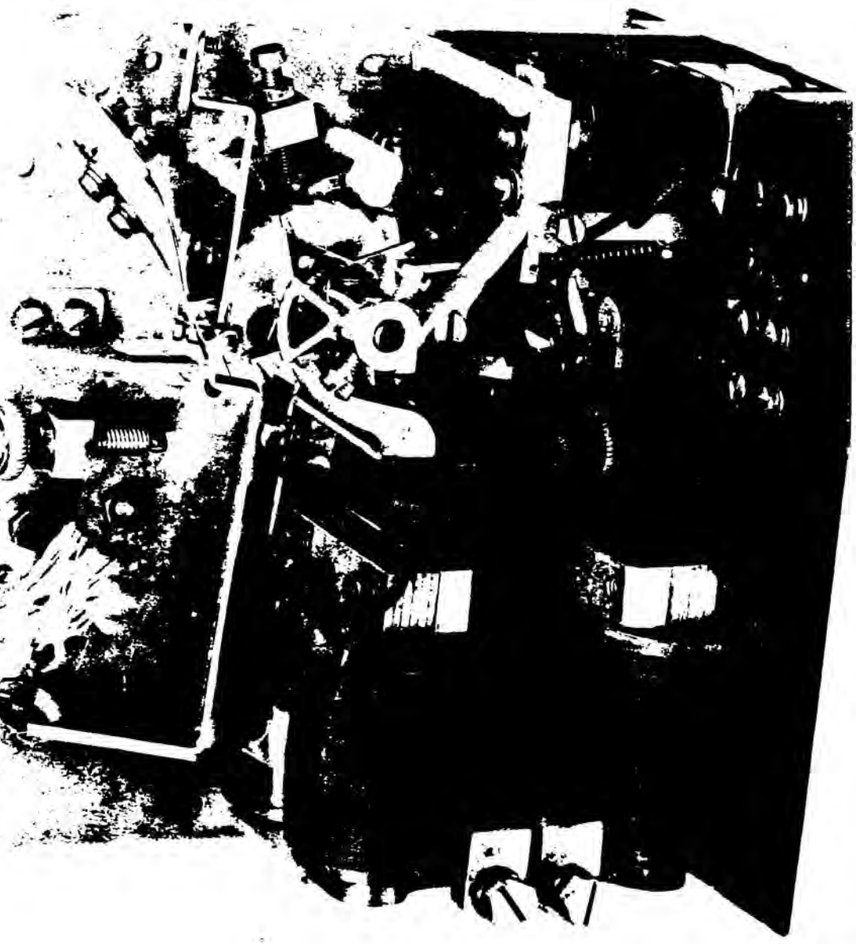
MUSEUM EQUIPMENT CODE: 2C-7

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): 321130-7,8 640115-77,78

PATENT(S):

LIBRARY REFERENCE(S):



STEP-BY-STEP TAPE PRINTER

Test of minimum printer typewheel positioning.

Similar to other two wire magnet driven tape printers except has rotary magnets, producing considerably higher torque, to step the typewheel in the conventional 1 and 6 increment steps. Third magnet advance tape, prints and resets typewheel to home position.

YEARS PRODUCED & QUANTITY: C.1932

PRIMARY CUSTOMER(S):

CLASSIFICATION CODE:

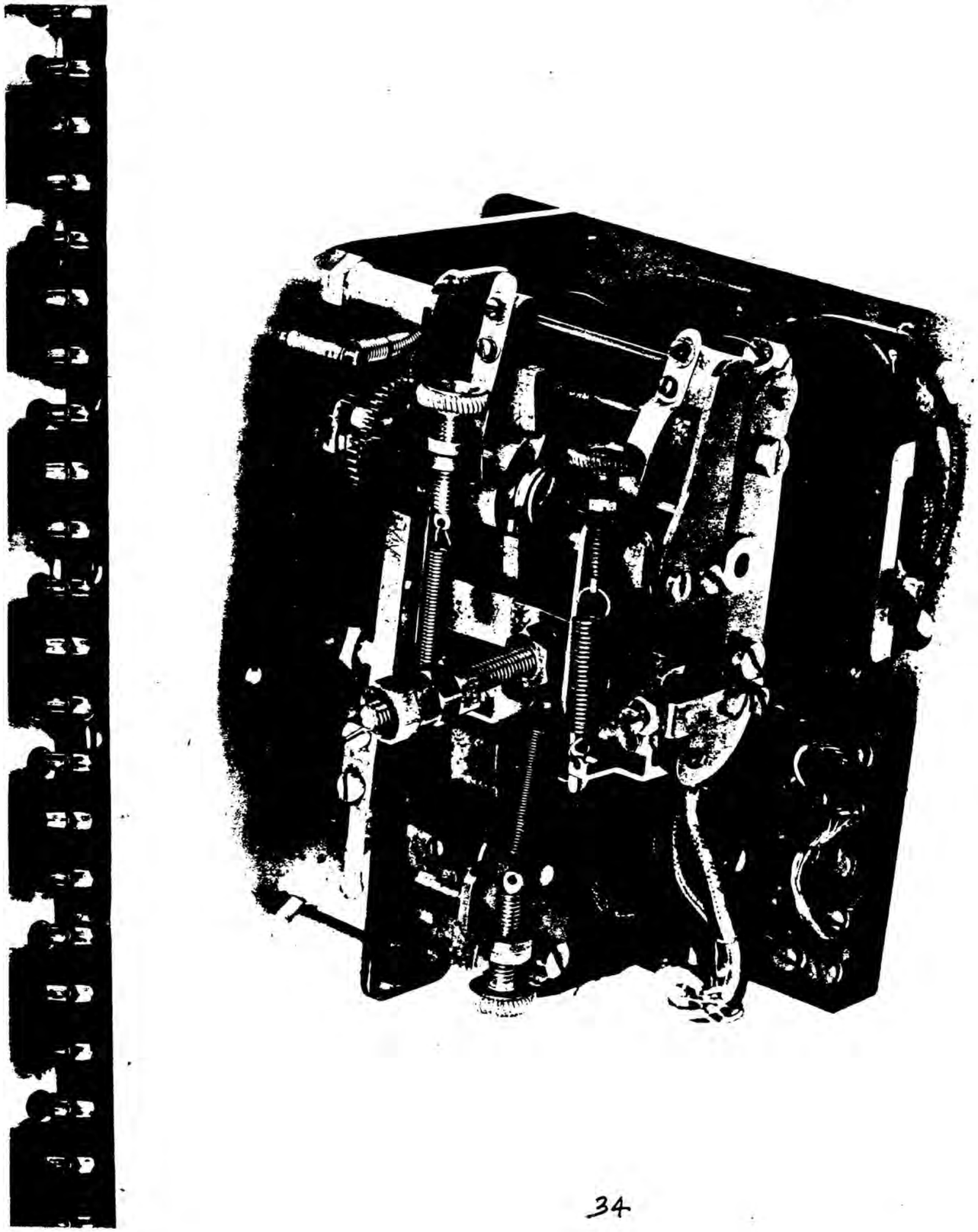
MUSEUM EQUIPMENT CODE: 2C-8

TECHNICAL BULLETINS & SPECS:

PHOTO(S): 320926-1,2,3 650421-7,8

PATENT(S):

LIBRARY REFERENCE(S):



TYPEWHEEL TAPE PRINTER

The machine was referred to as a Minimum Printer. It was an experimental for evaluating a typewheel positioning mechanism. It was a continuation of 2C-4, except that it employed a planetary gear assembly to relate printing and spacing to typewheel positioning. It was evidence of a yieldably driven typewheel.

YEARS PRODUCED & QUANTITY: 1932

PRIMARY CUSTOMER(S):

CLASSIFICATION CODE:

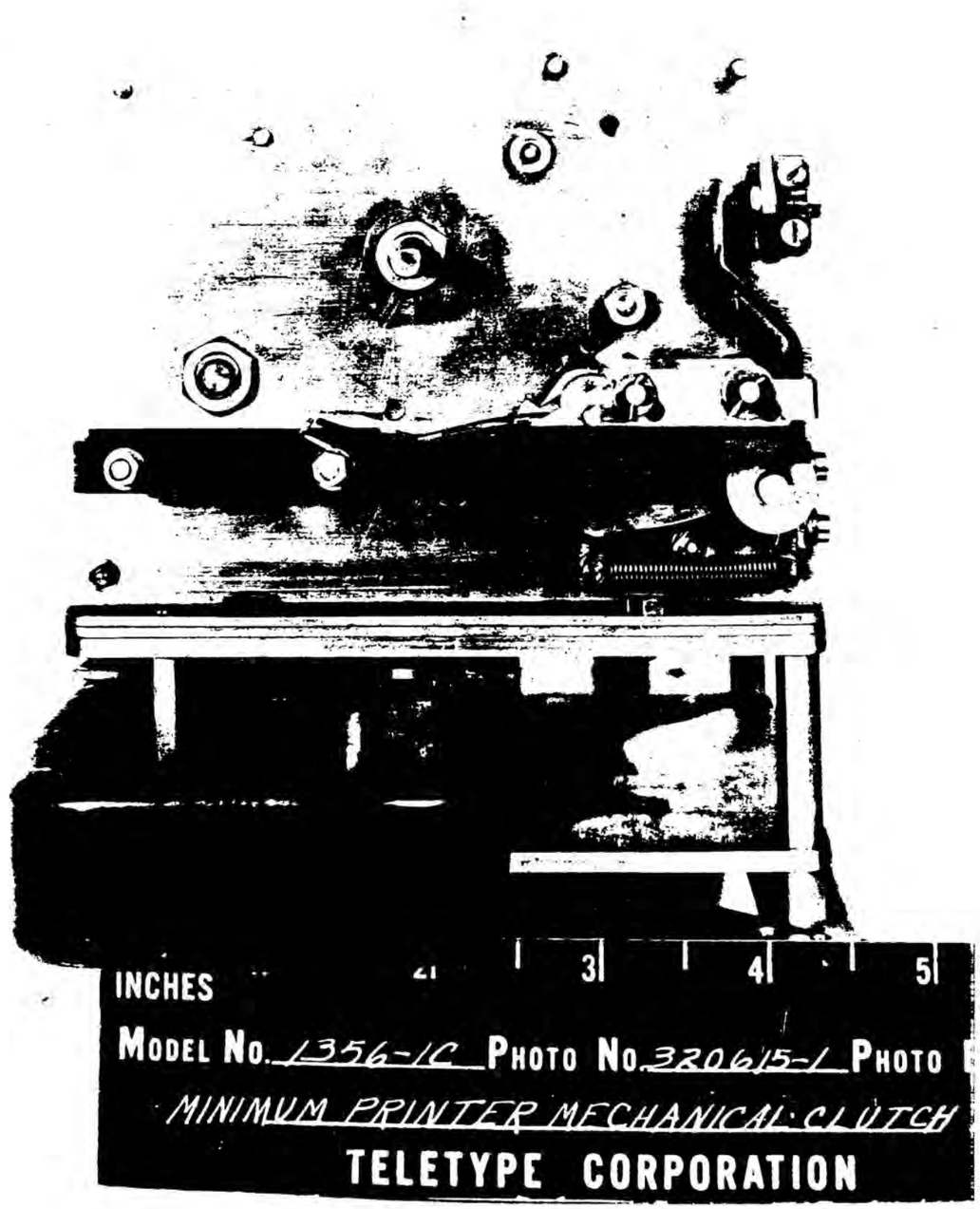
MUSEUM EQUIPMENT CODE: 2C-9

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): 320615-1,2,3

PATENT(S):

LIBRARY REFERENCE(S):



SPRING DRIVEN TAPE PRINTER

Employs clock spring to drive typewheel, instead of control magnets or clutch arrangement. Two control magnets employed - one to select 60° segment of typewheel - other to select one of five positions in each 60° segment. Control magnets merely select position. Spring drives typewheel to stop set-up by code magnets. A power magnet provides for tape advance, printing advance of typewheel to home position, and "winds" spring. Typewheel completes one revolution every cycle - i.e. movement from home position to select position and then continuation of movement to complete revolution to home position. Energy expended by spring is the same each cycle as is the energy applied to spring (by power magnet) each cycle.

YEARS PRODUCED & QUANTITY: 1932

PRIMARY CUSTOMER(S):

CLASSIFICATION CODE:

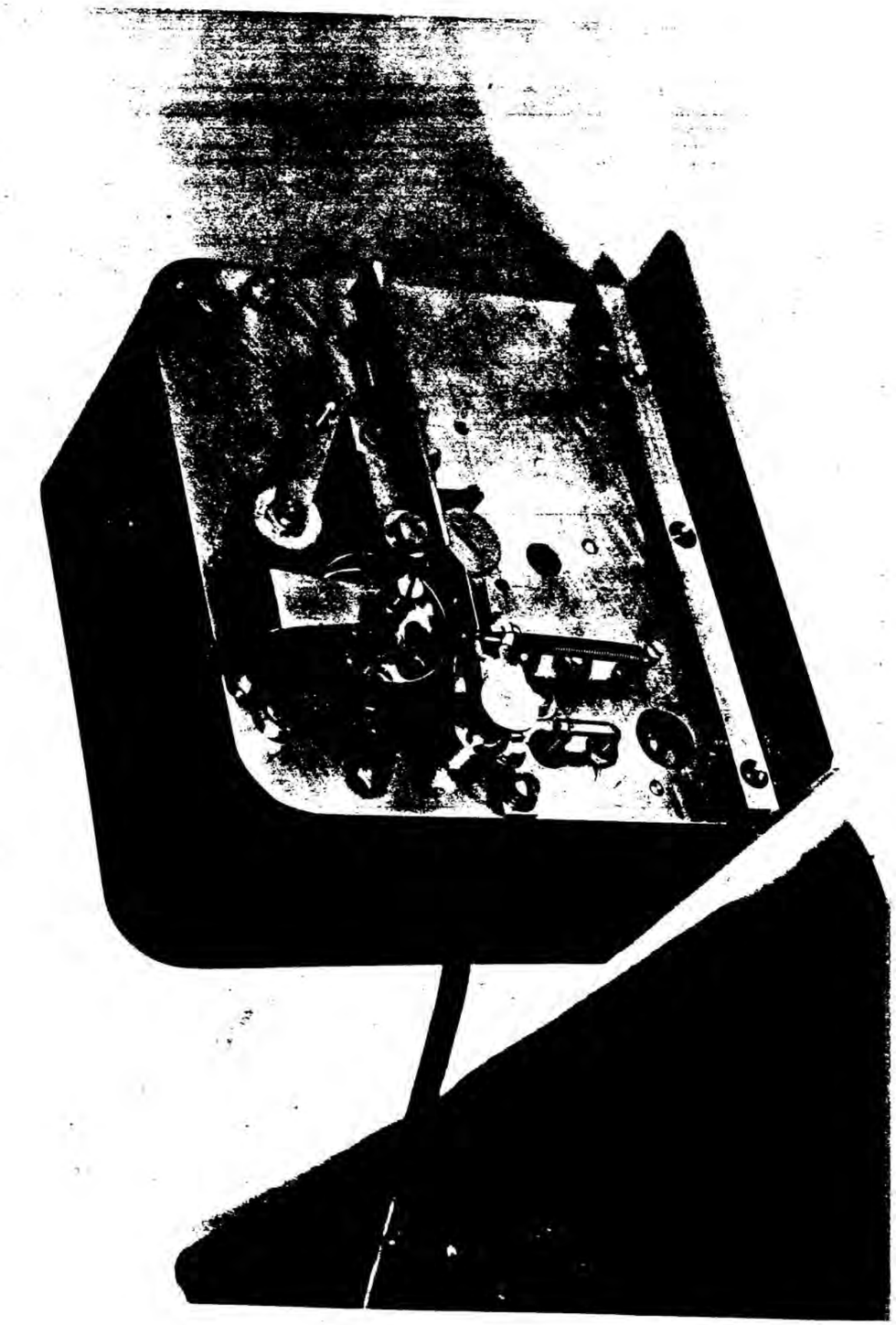
MUSEUM EQUIPMENT CODE: 2C-10

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): 321201-3,4 650421-9,10

PATENT(S):

LIBRARY REFERENCE(S):



TYPEWHEEL TAPE PRINTER

Model constructed for evaluation of typewheel positioning mechanism.

Basically the same as 2C-6 and 2C-7 - larger operating magnets.

Magnets were of sufficient size to obtain satisfactory operation, however, power requirements were too great for practical application.

YEARS PRODUCED & QUANTITY: 1933

PRIMARY CUSTOMER(S):

CLASSIFICATION CODE:

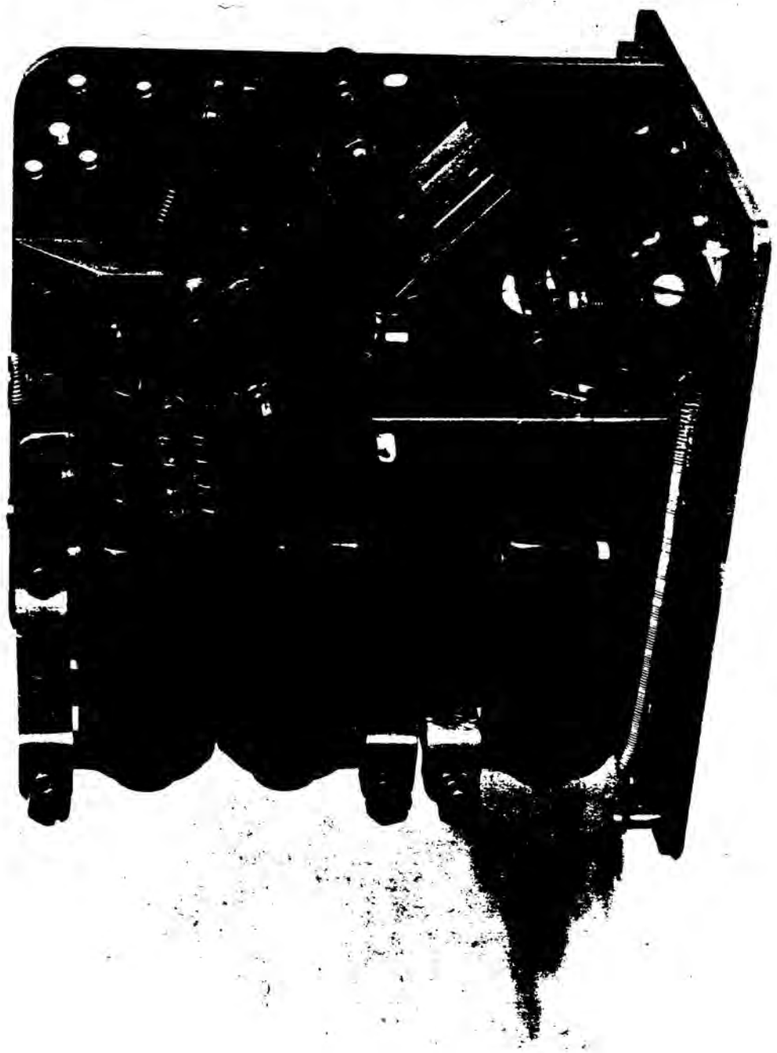
MUSEUM EQUIPMENT CODE: 2C-11

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): 330518-2,3,4,5,6, -

PATENT(S):

LIBRARY REFERENCE(S):



CODE PERMUTATION TAPE PRINTER

The unit prints the code permutation on tape (6 level) and such is not a true tape printer. The resultant tape appears with printed marks rather than with holes.

Tape feeding is continuous while printing wheel is rotating, and is arranged to move in conjunction with the printing wheel which yields a single printed permutation across the tape (as with perforated tape) in a complete revolution of the wheel even though as many as six printing strokes are involved.

YEARS PRODUCED & QUANTITY: 1934

PRIMARY CUSTOMER(S):

CLASSIFICATION CODE:

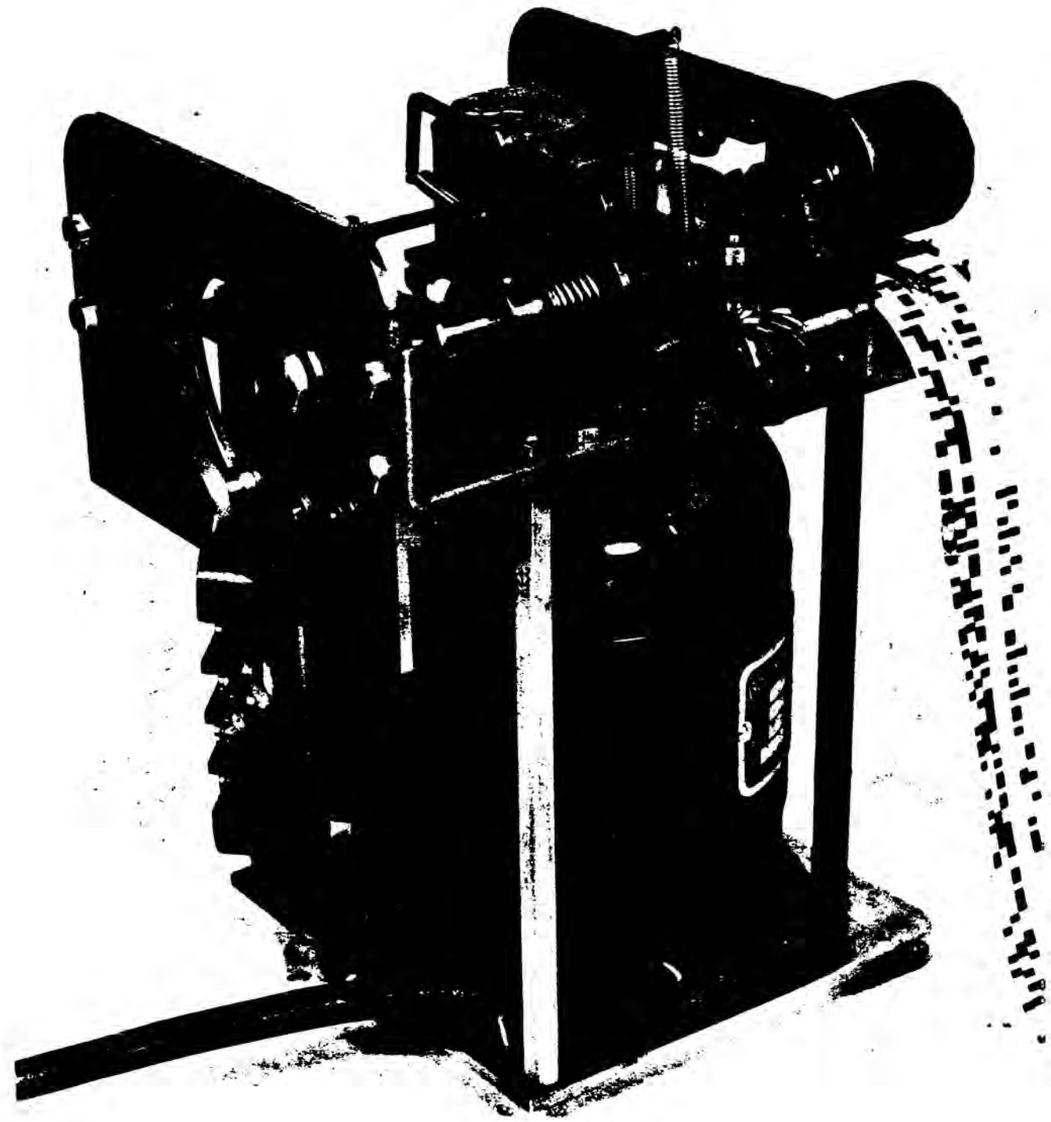
MUSEUM EQUIPMENT CODE: 2C-12

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): 340606-1,2,3,

PATENT(S):

LIBRARY REFERENCE(S):



21A MULTIPLEX TAPE PRINTER

Direct printing on 3/8" gummed tape. Used on RCA Multiplex Radio Channels using 7-Level Error Detection Code. Unit prints a maltese cross and rings a bell whenever an error occurs; that is, a character is received containing more or less than 3 out of 7 marking code pulses.

YEARS PRODUCED & QUANTITY: 1934

PRIMARY CUSTOMER(S): RCA

CLASSIFICATION CODE:

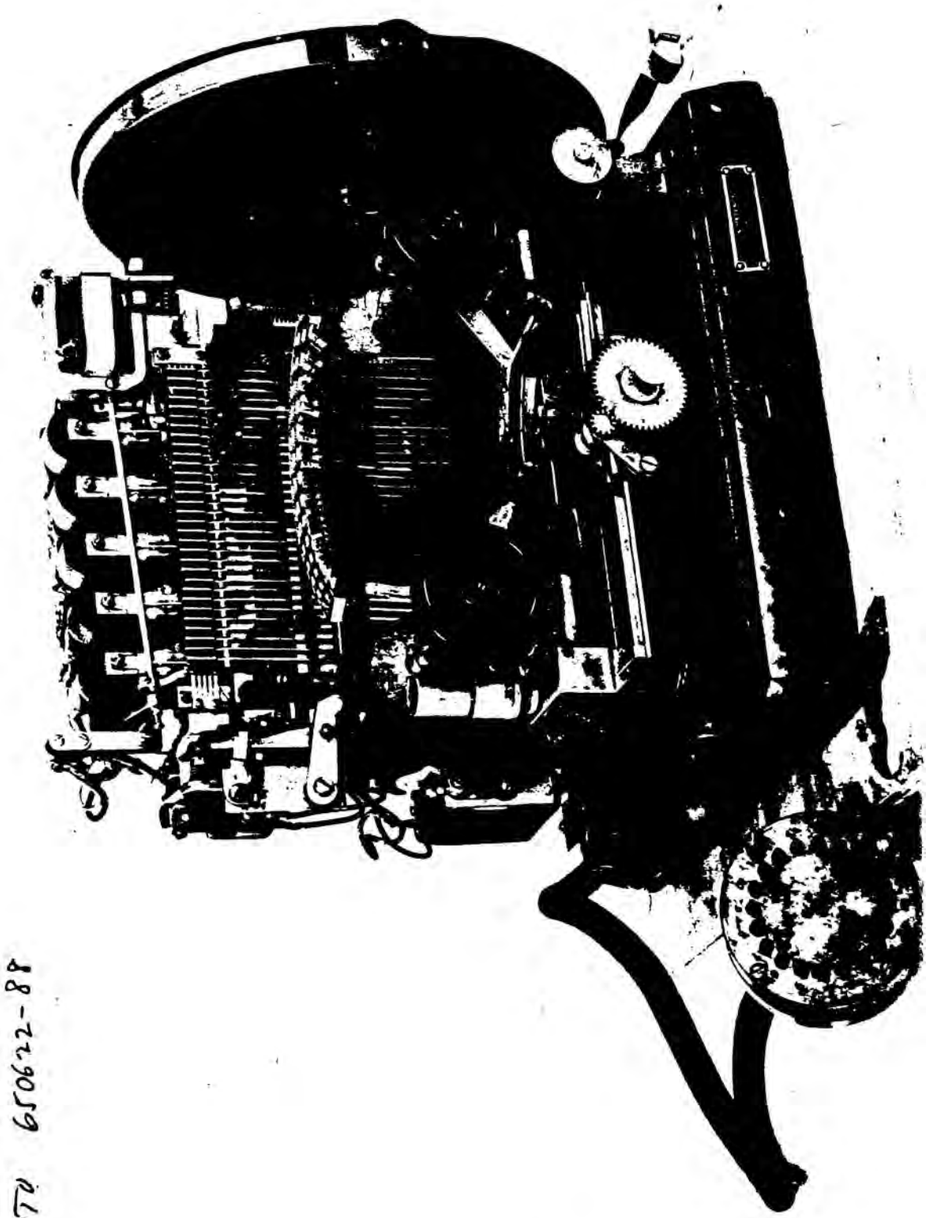
MUSEUM EQUIPMENT CODE: 2C-13

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): 650322-56,57

PATENT(S):

LIBRARY REFERENCE(S):



Smith Ag 28-16

PHOTO 650622-88

MONOPULSE TAPE PRINTER (GE-1)

A tape printer intended to supplement regular teletypewriter communications as an intro-office printer. A low cost unit similar to the tape escapement device described in 2B-9, except for its being a more advanced model and being packaged.

YEARS PRODUCED & QUANTITY: C. 1937

PRIMARY CUSTOMER(S):

CLASSIFICATION CODE:

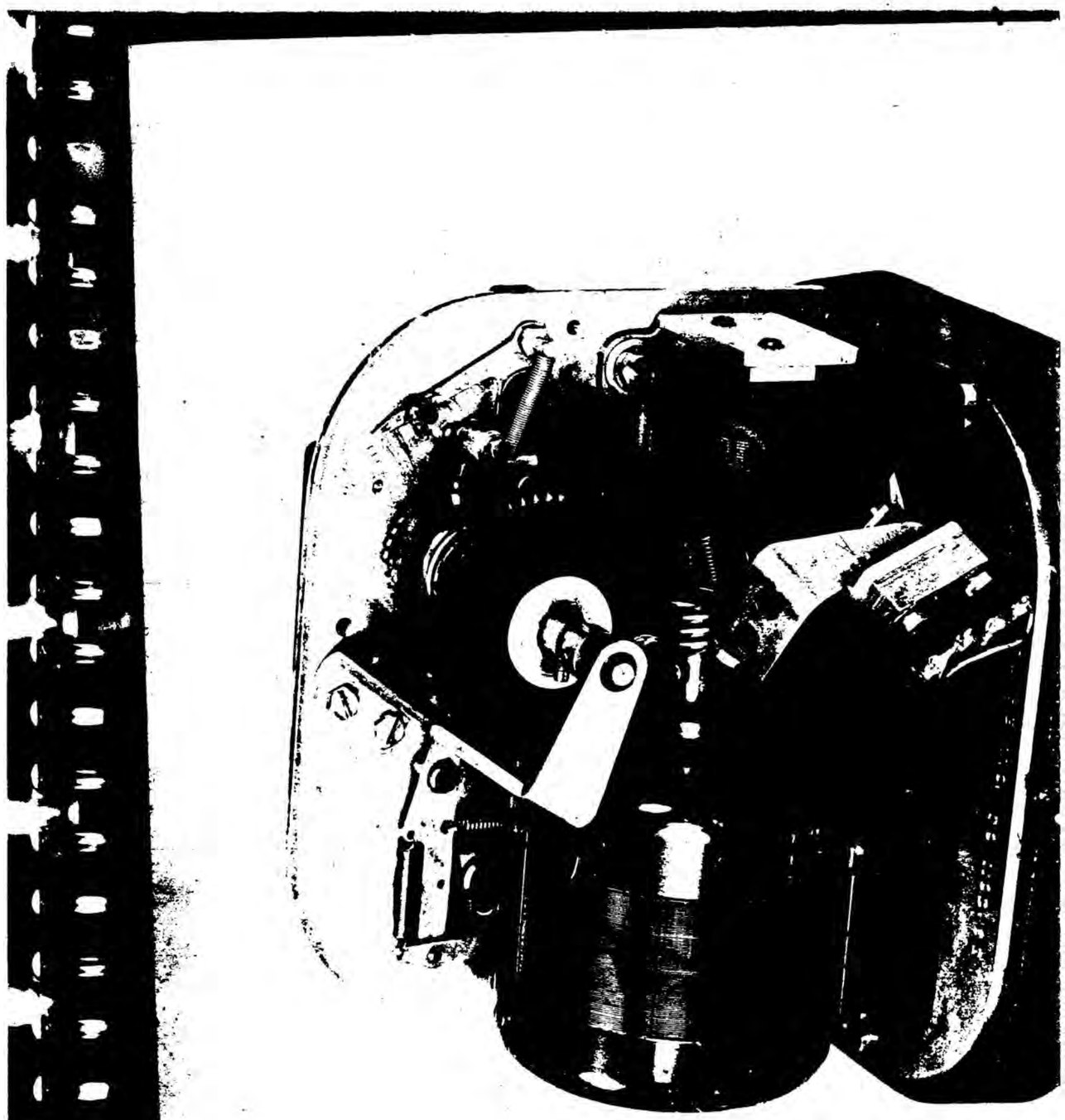
MUSEUM EQUIPMENT CODE: 2C-14

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): 650329-78,79

PATENT(S):

LIBRARY REFERENCE(S):



MONOPULSE TAPE PRINTER (GE-1)

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YEARS PRODUCED & QUANTITY: 1937

PRIMARY CUSTOMER(S):

CLASSIFICATION CODE:

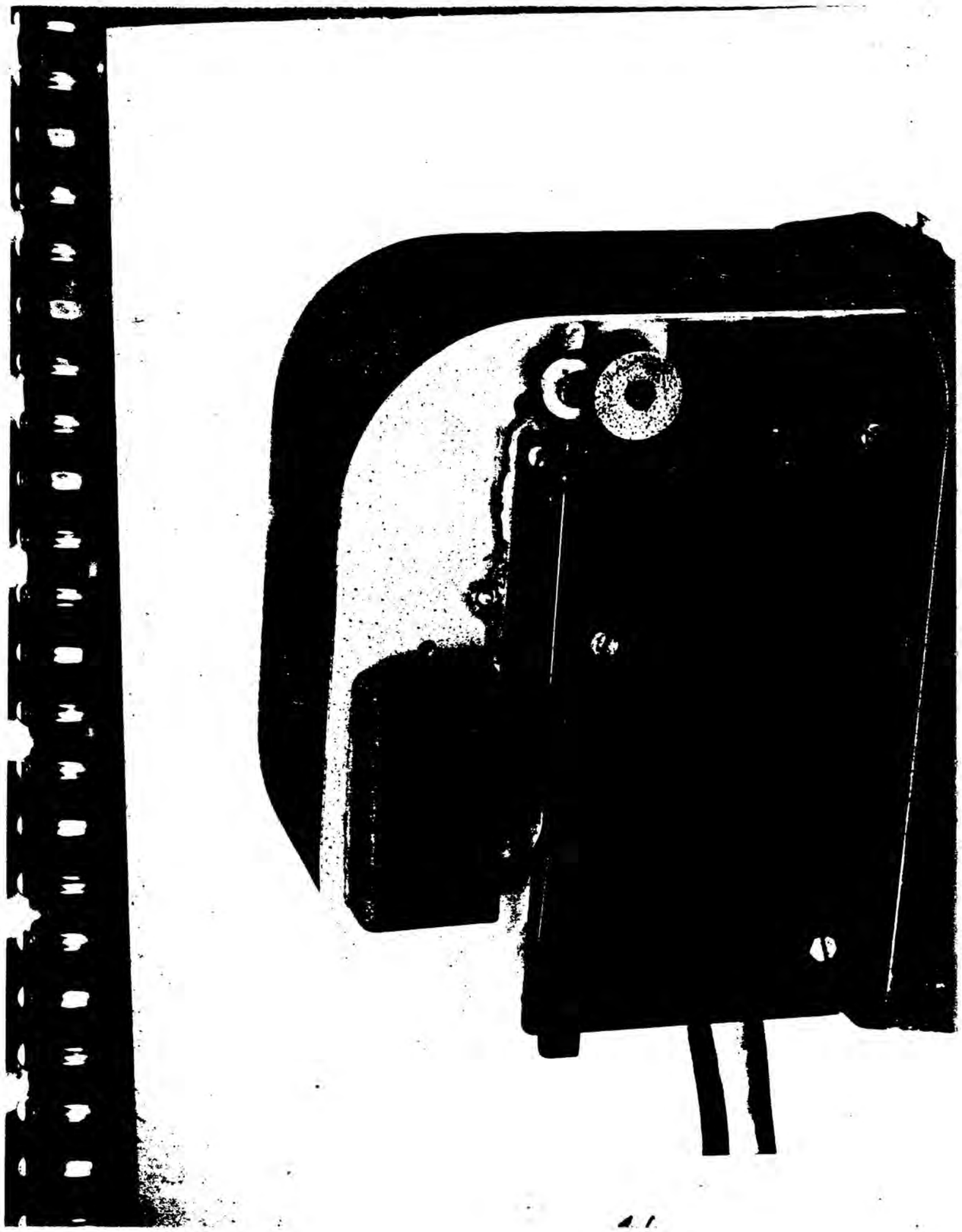
MUSEUM EQUIPMENT CODE: 2C-15

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): 380913-20,21,22 650326-54,55

PATENT(S):

LIBRARY REFERENCE(S):



WALL MOUNTED MONOPULSE TAPE PRINTER

Preproduction model of wall mounted monopulse printer.

Mechanism similar to earlier models but relocated to front of unit to provide space for motor. Width and depth of unit reduced to accommodate wall mounting. Intended as a "leave word" printer on subscribers premises. Tied into telephone line to leave word of call (transmission from monopulse keyboard).

A number of production units were sold for this purpose, however, the development of the wire recorder during this period did much to eliminate the need for the device.

YEARS PRODUCED & QUANTITY: 1938

PRIMARY CUSTOMER(S): Bell

CLASSIFICATION CODE:

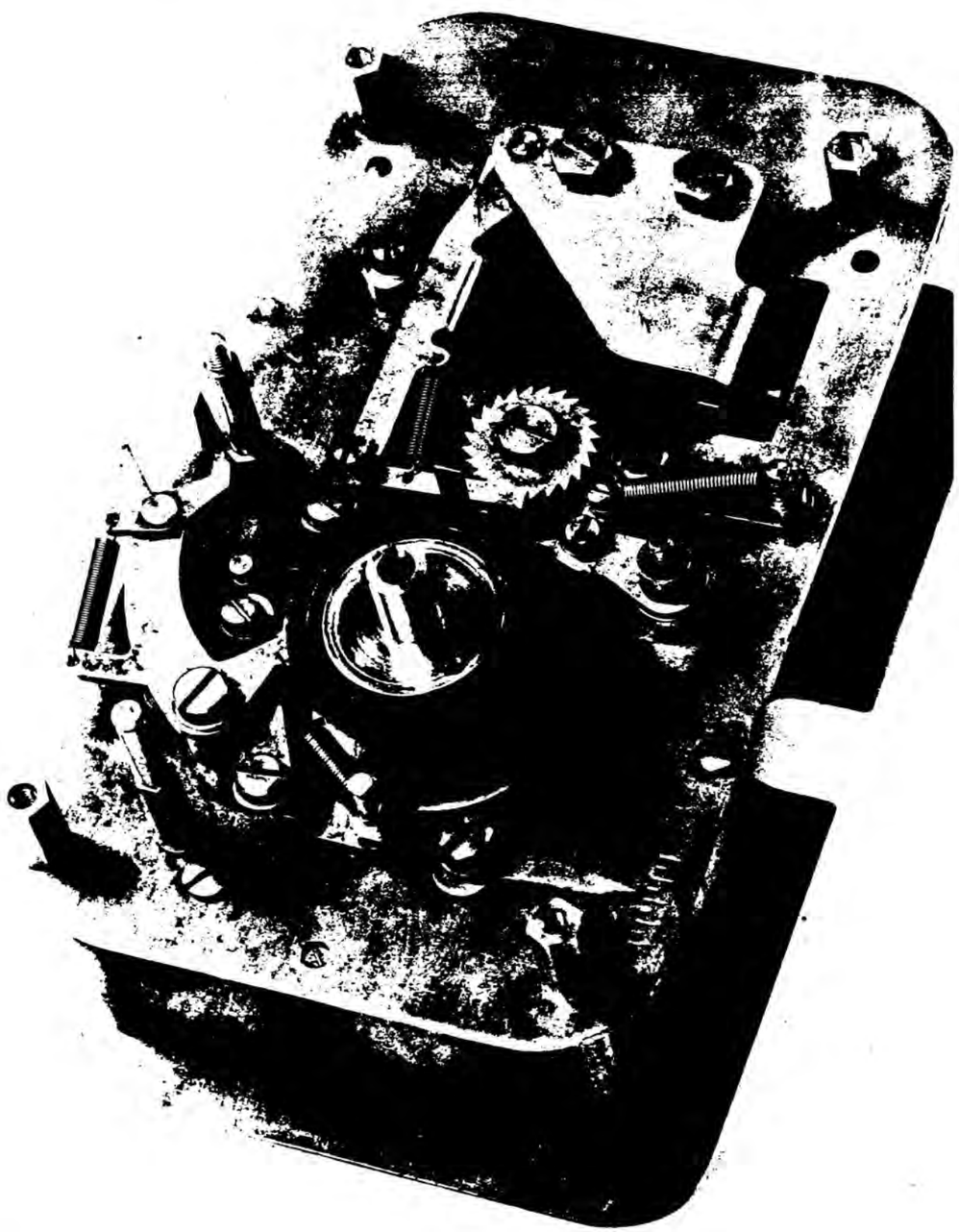
MUSEUM EQUIPMENT CODE: 2C-16

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): 650421-11

PATENT(S):

LIBRARY REFERENCE(S):



ESCAPEMENT DRUM TAPE PRINTER

Experimental model of no overlap typewheel printing mechanism.

A single escapement arm traverses axially, an associated drum (which is the equivalent of a series of wheels having blocking projection corresponding to 16, 8, 4, 2, and 1 typewheel positions respectively). Traversing is accomolished by a barrel type cam on selector shaft which matches the incoming bits with their respective "wheels".

Large inertia of drum limited this device to very low speed operation.

YEARS PRODUCED & QUANTITY: 1938

PRIMARY CUSTOMER(S):

CLASSIFICATION CODE:

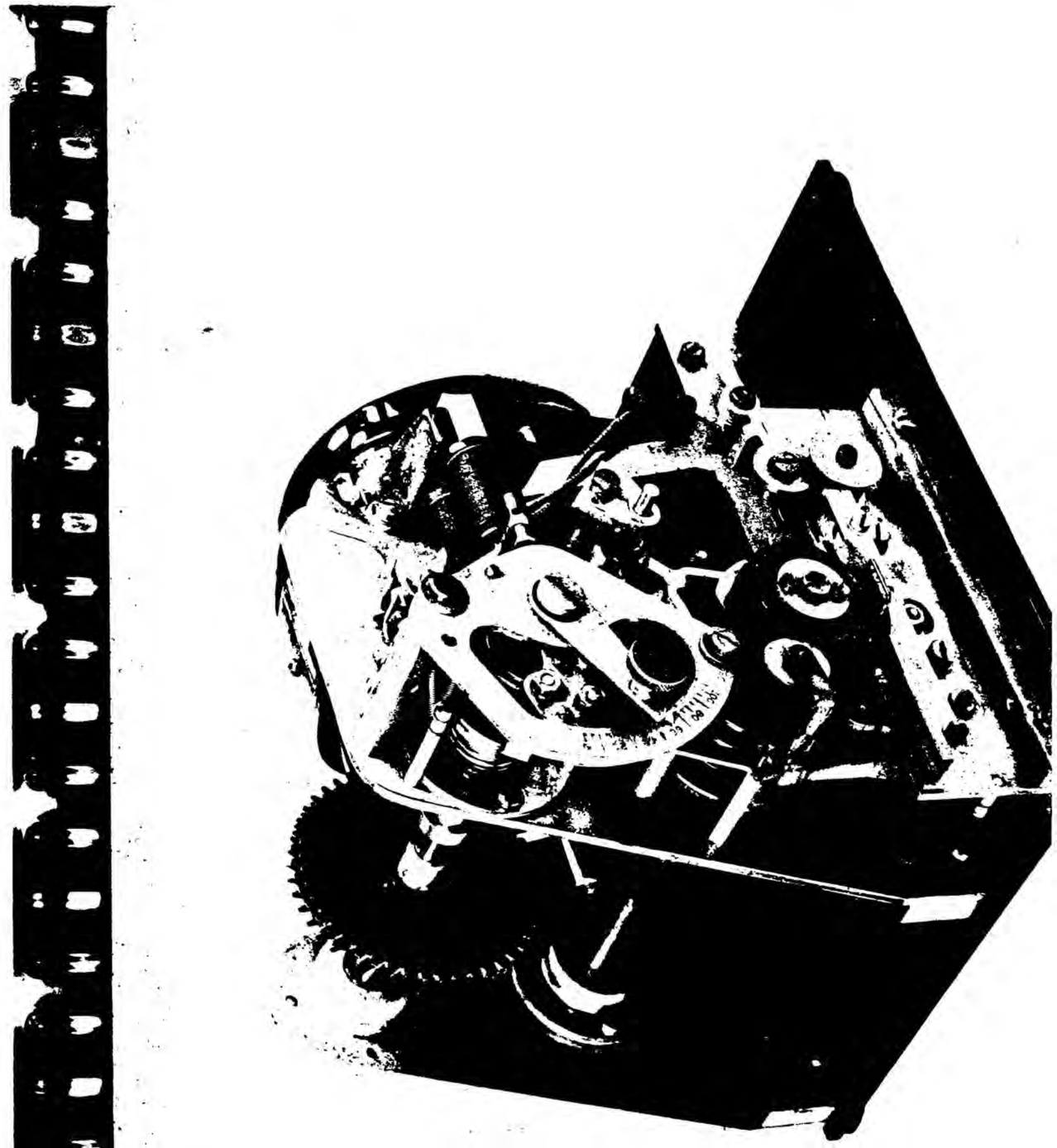
MUSEUM EQUIPMENT CODE: 2C-17

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): 380210-98 650326-60

PATENT(S):

LIBRARY REFERENCE(S):



VIBRATING MOTOR TAPE PRINTER

Utilize the power line frequency to set up an oscillatory drive to make up a printed character.

Typewheel is made up of a total of 14 different elements any of which when selected are printed over the succeding one to fashion the desired printed character. Tape movement is coordinated to align printing position of each element to make up one character. Control magnet starts printing cycle - each power line cycle advances printing wheel one element. Control pulse related to line frequency selects elements of wheel to be printed. 15 wheel position (14 of which have printing elements) at 60 cps would yield a 4 character per second rate, 40 words per minute.

YEARS PRODUCED & QUANTITY:

PRIMARY CUSTOMER(S):

CLASSIFICATION CODE:

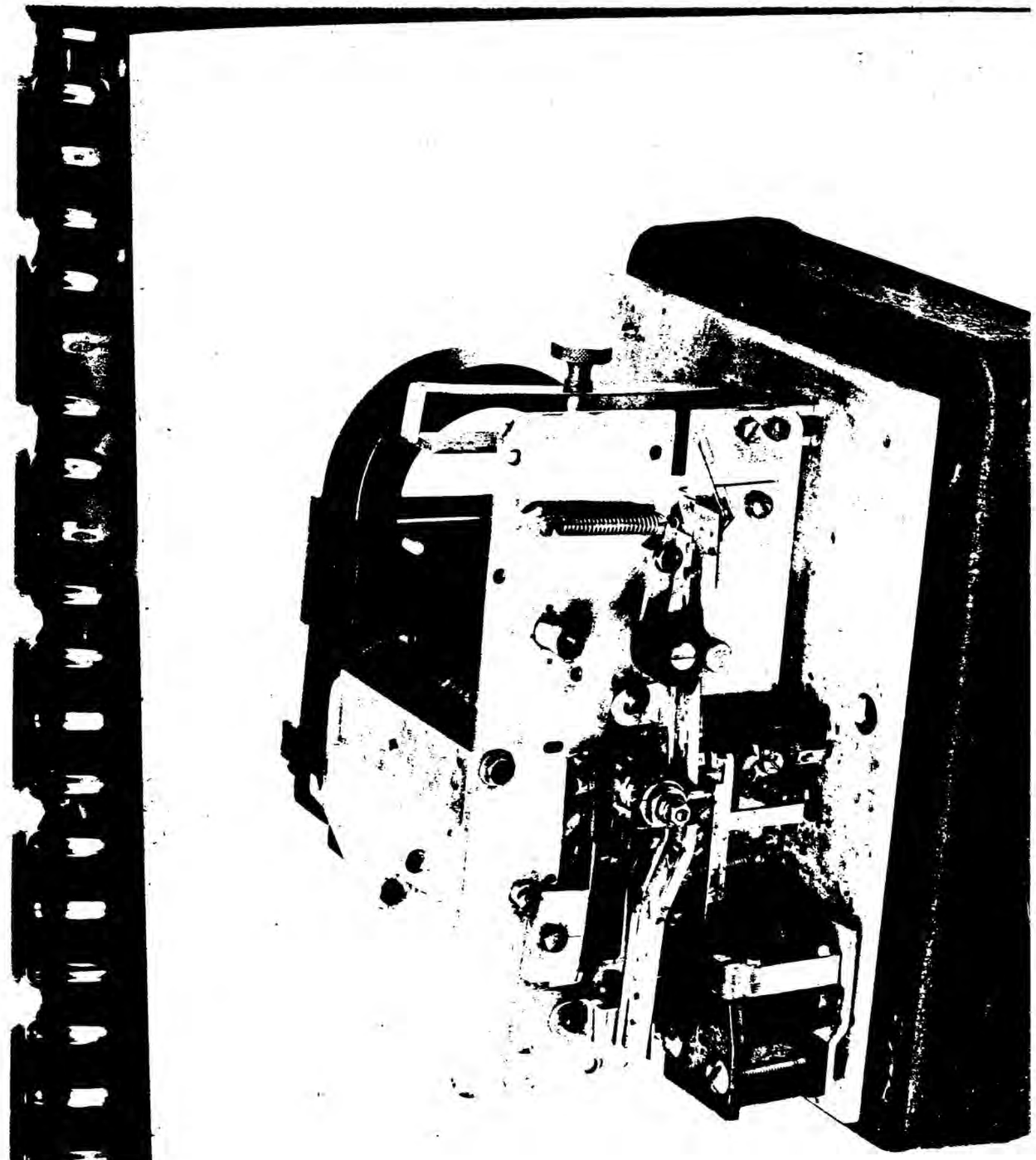
MUSEUM EQUIPMENT CODE: 2C-18

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): 391025-20 650329-84,85

PATENT(S):

LIBRARY REFERENCE(S):



AGGREGATE MOTION TAPE PRINTER

Tape printer for testing experimental aggregate motion typewheel positioning mechanism.

Employs a wedging effect - a series of four wedge positions each additive to the position before it and having progressively greater displacement (1, 2, 4, 8). Typewheel shaft attached to last position by means of pulley, rotates the equivalent of aggregate displacement of wedge members.

Experiments indicated this arrangement produced excessive over throw of the typewheel.

YEARS PRODUCED & QUANTITY: 1939

PRIMARY CUSTOMER(S):

CLASSIFICATION CODE:

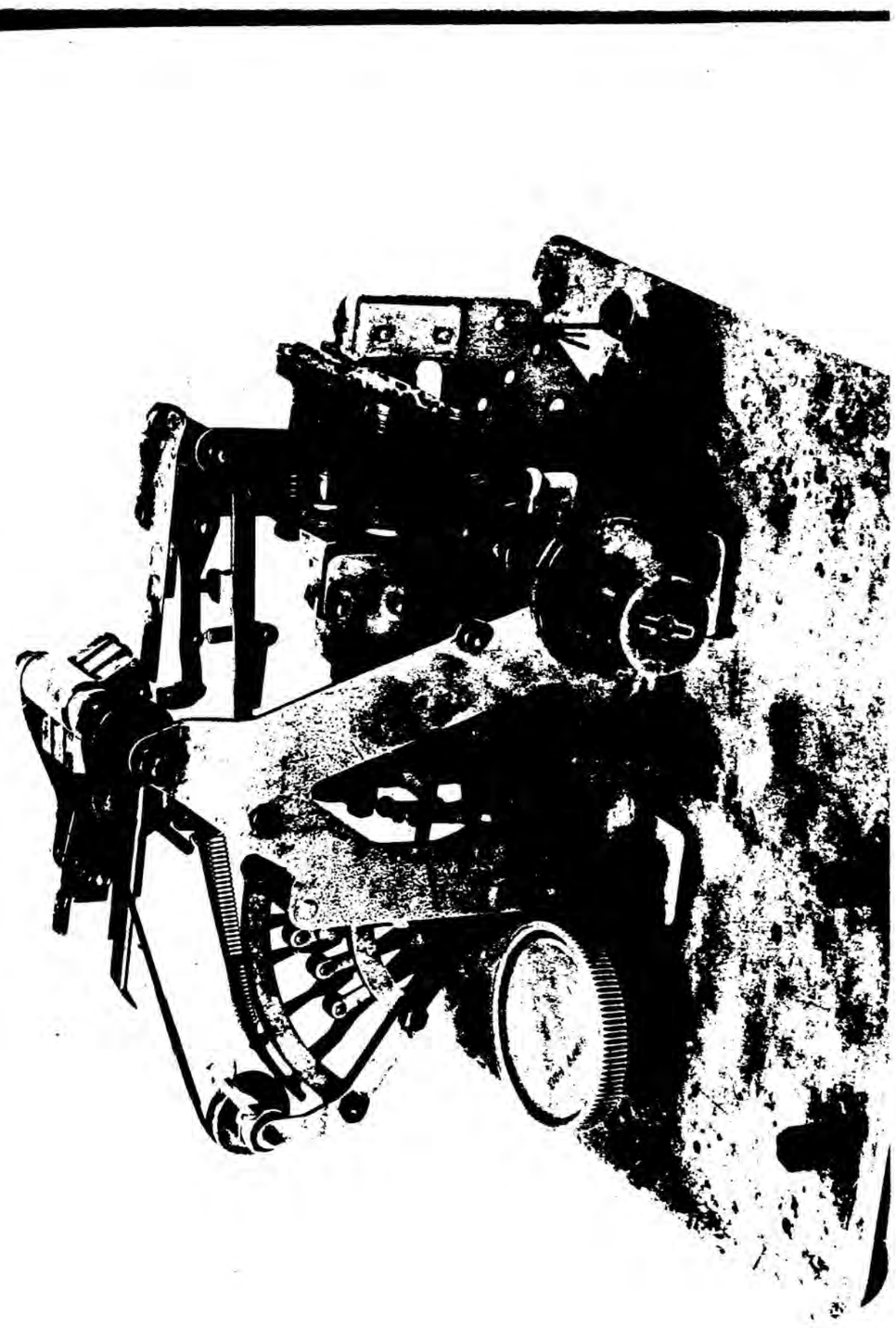
MUSEUM EQUIPMENT CODE: 2C-19

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): 650329-86,87

PATENT(S):

LIBRARY REFERENCE(S):



MONOPULSE TAPE PRINTER

Keyboard layout similar to typewriter. Instead of keys blocking contract operating arm as in the conventional circular keyboard, keys close contact to complete circuits to segment in a commutator arrangement. Rotor motion is equivalent of rotating operating arm in circular unit, and opens circuit until it reaches segment corresponding to selected key. Circuit is again opened after rotor passes segment - however, during this period the typewheel on the receiving machine is continuing on to home position and circuit is again closed before typewheel reaches home position.

YEARS PRODUCED & QUANTITY:

PRIMARY CUSTOMER(S):

CLASSIFICATION CODE:

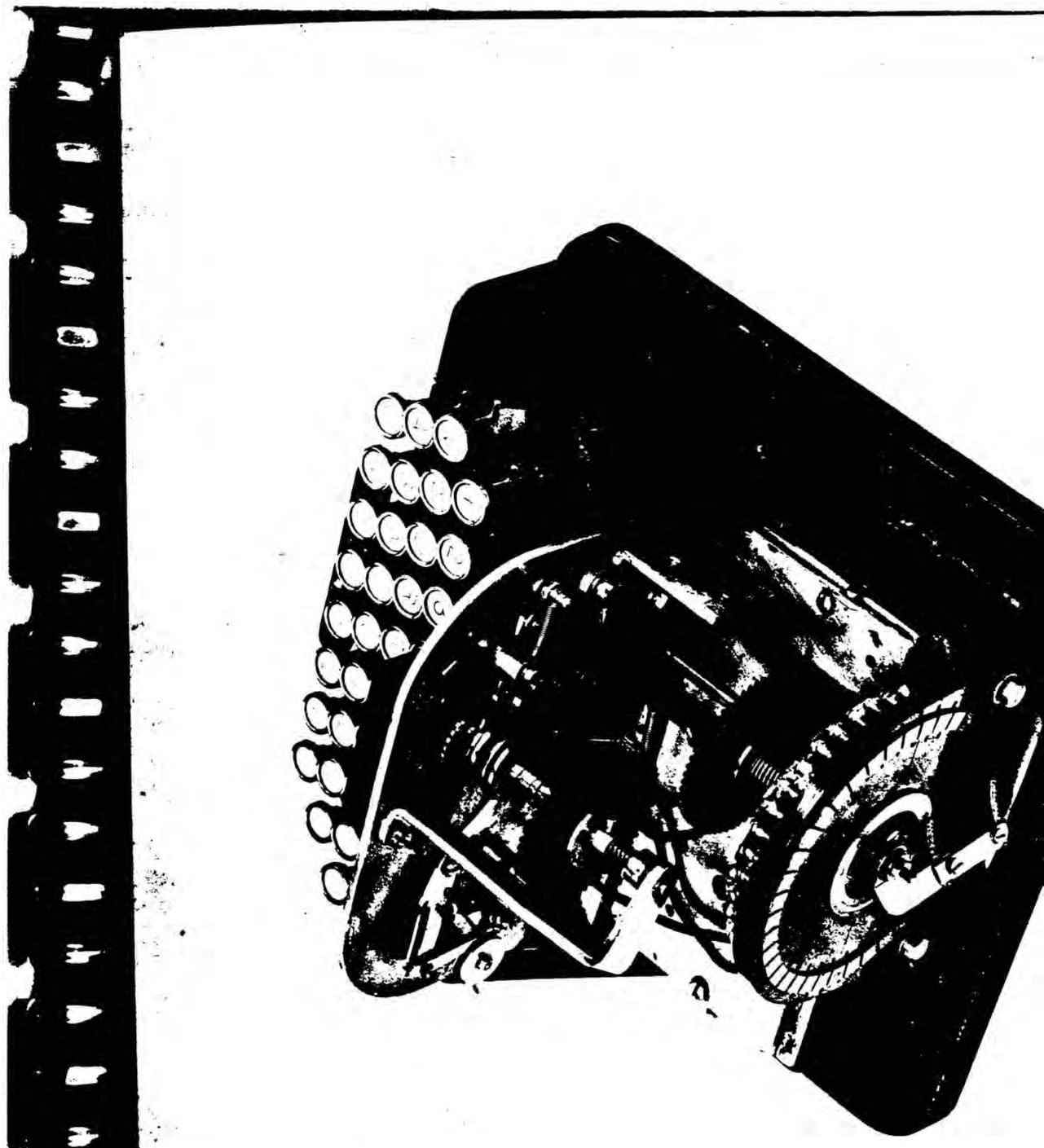
MUSEUM EQUIPMENT CODE: 2C-20

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): 650329-82,83

PATENT(S):

LIBRARY REFERENCE(S):



MODEL 14 TAPE PRINTER

The demand for printing telegraph equipment was increased in 1925 when the Morkrum-Kleinschmidt Company introduced the Model 14 Tape Printer. The Morkrum Company had been working on the development of this single magnet, type-bar tape printer prior to its merger with Kleinschmidt. Although the typing assembly was almost identical to that employed in the Kleinschmidt 21A, the Model 14 had a radically different selector.

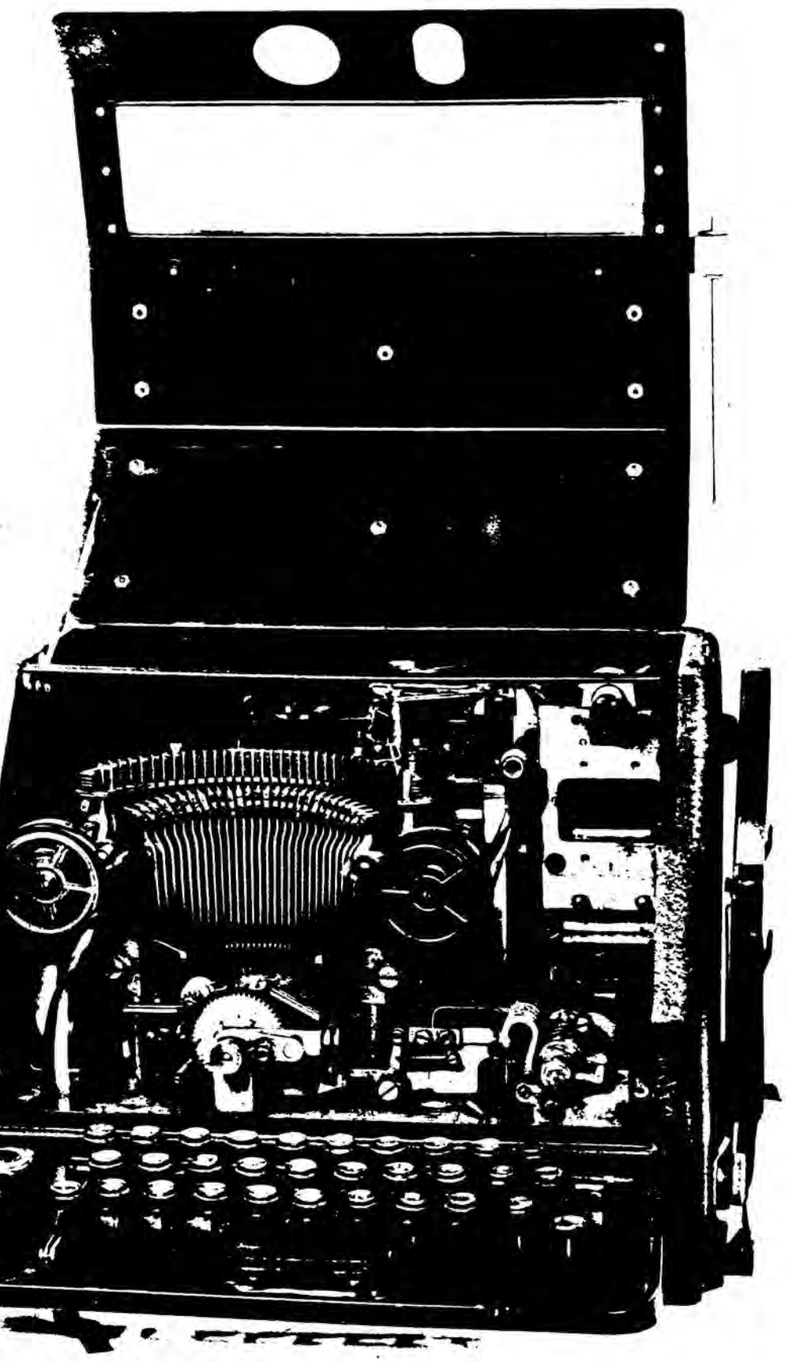
On this instrument, the depression of a key first set up a code combination corresponding to the characters to be printed or the function to be performed, and then engaged a clutch which connected a motor to a mechanism that transmitted the code combination in the form of electrical impulses to all of the machines connected to the sending instrument.

The electrical impulses actuated magnets on all of the machines on the circuit, including the sending instrument, and, through certain mechanisms, selected a particular typebar and caused the proper character to be printed on a narrow tape which was automatically spaced after each character.

The paper was arranged so that it could be placed in an upper or low r cas position with respect to the type pallets, thus making possible the printing of 58 different characters. When the shift combination was transmitted, the paper was placed in position to print upper case characters and the release combination placed it in position to print lower case characters.

YEARS PRODUCED & QUANTITY: 1925-1960 58,552 units
PRIMARY CUSTOMERS: Western Electric and Western Union
CLASSIFICATION CODE: M14 (FP=Tape Printer)
MUSEUM EQUIPMENT CODE: 2C-[redacted]21
TECHNICAL BULLETINS & SPECS:

PHOTO NO'S: 390505-75,76,77,78; 650322-61,62; 300214-1; 430826-26; 690505-94.
PATENT(S): No. 2,170,316 W. J. Zenner, Printing Telegraph Apparatus, filed 12/31/36, and granted 8/22/39; No. 2,589,132 T. I. Przysiecki, Automatic Shift Control for Printing Telegraph Apparatus, filed 12/1/49, and granted 3/11/52.
LIBRARY REFERENCES: Kleinschmidt, E. E., Printing Telegraphy...A New Era Begins, 1965, pp. 32-26; A. S. Benjamin, "Teletype Printing Telegraph Systems," Telephony, December 9 and 16, 1933, (reprint); Herbert, T. E., Telegraph, 1926, pp. 712-733; McNicol, D., Printing Telegraph Systems, 1925, pp. 78-84.



Donated to Chicago Museum of Sci nce and Industry

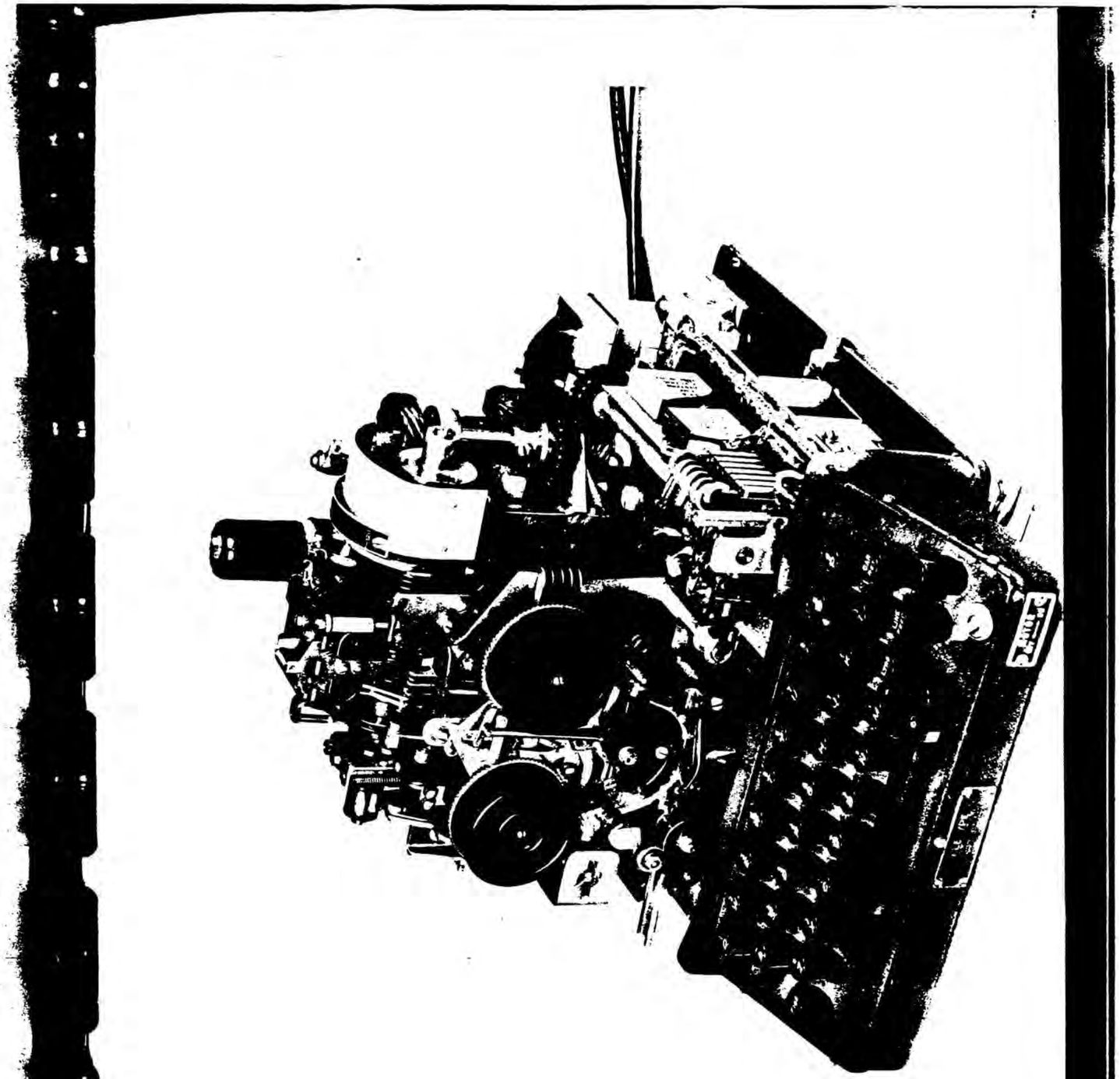
MODEL 31 PRINTER

This portable tape printer was developed for intermittent use for the military. It was also used by Western Union Telegraph Company for reporting sporting events, and by Northern Electric.

Used primarily for aircraft installation, the light weight compact type printer featured a typewheel segment (120°), permissively driven against selected stops for positioning. It had a 400 cycle 26V Dynamator with electric speed control to conform to aircraft power supply.

Another interesting feature of the Model 31 was that it would work with any existing radio - telephone installation capable of providing satisfactory two way voice communication. The system operated very much like a press-to-talk radio telephone network except that instead of spoken words it handled typed messages. No manual operation of a press-to-talk control was required since the radio transmitter was turned on automatically when the first Teletype character was sent. One of these units was mounted in President Truman's aircraft.

YEARS PRODUCED & QUANTITY: 1949-1959 500 units
PRIMARY CUSTOMER(S): Government, and Western Union
CLASSIFICATION CODE: M-31
MUSEUM EQUIPMENT CODE: 2C-■25
TECHNICAL BULLETINS & SPECS: Gen. Desc. 17. D1-1
PHOTO NO'S: 470708-31; 650627-89 and 90; 690505-08
PATENT(S): No. 2,339,313 W. J. Zenner, Printing Telegraph Apparatus, granted 1/18/44.
LIBRARY REFERENCES: R. A. Vanderlippe, "High Flying Teletype," Western Electric Oscillator, October, 1946, pp. 24-26.



TTY Museum code "2C-25" is now at AWA MUseum

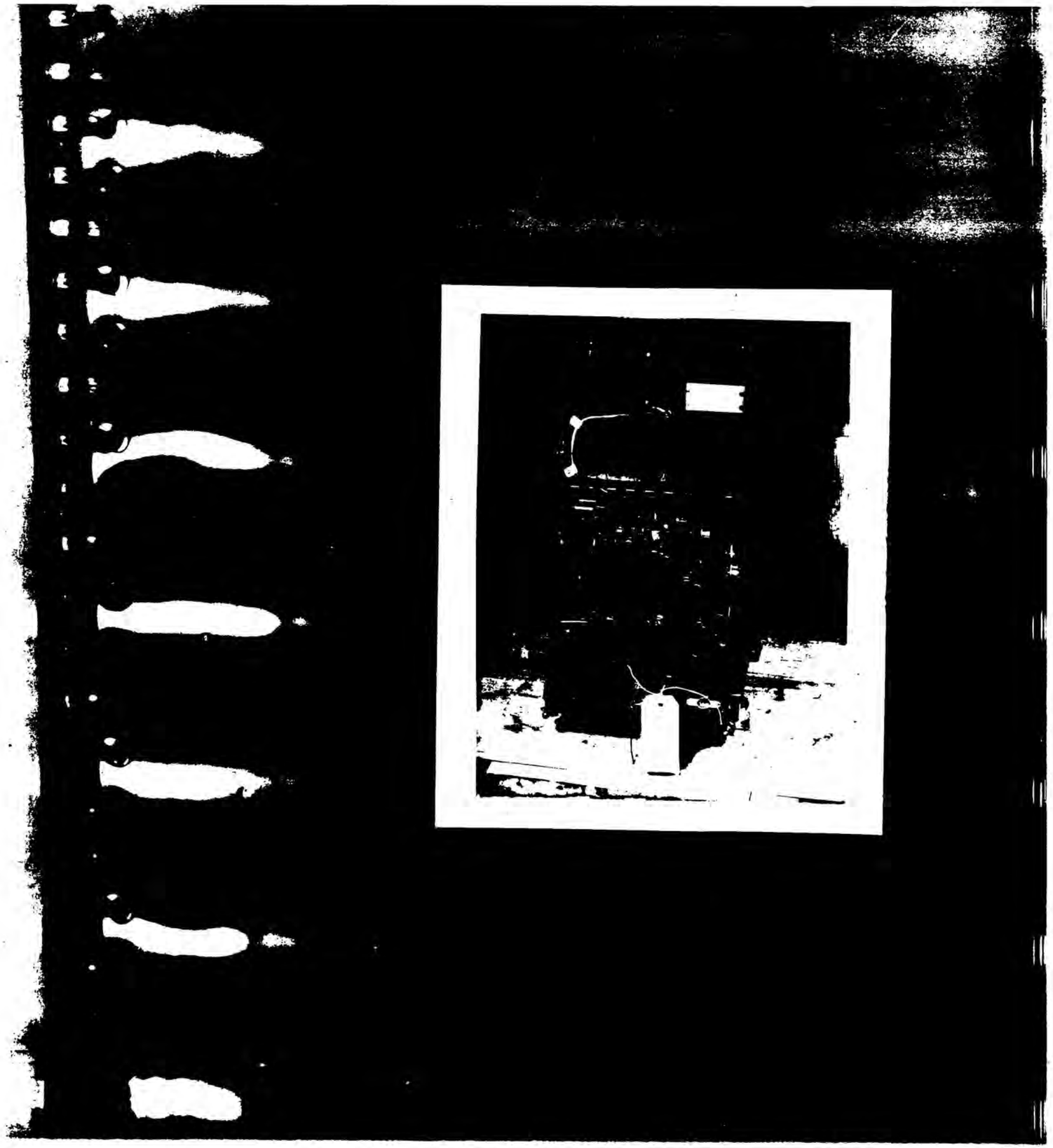
MODEL 31 PRINTER

This portable tape printer was developed for intermittent use for the military. It was also used by Western Union Telegraph Company for reporting sporting events, and by Northern Electric.

Used primarily for aircraft installation, the light weight compact type printer featured a typewheel segment (120°), permissively driven against selected stops for positioning. It had a 400 cycle 26V Dynamator with electric speed control to conform to aircraft power supply.

Another interesting feature of the Model 31 was that it would work with any existing radio - telephone installation capable of providing satisfactory two way voice communication. The system operated very much like a press-to-talk radio telephone network except that instead of spoken words it handled typed messages. No manual operation of a press-to-talk control was required since the radio transmitter was turned on automatically when the first Teletype character was sent. One of these units was mounted in President Truman's aircraft.

YEARS PRODUCED & QUANTITY: 1949-1959 500 units
PRIMARY CUSTOMER(S): Government and Western Union
CLASSIFICATION CODE: M-31
MUSEUM EQUIPMENT CODE: 2C-26
TECHNICAL BULLETINS & SPECS: Gen. Desc. 17. D1-1
PHOTO NO(S): Polaroid T086
PATENT(S): No. 2,339,313 W. J. Zenner, Printing Telegraph Apparatus, granted 1/18/44.
LIBRARY REFERENCE(S): R. A. Vanderlippe, "High Flying Teletype," Western Electric Oscillator, October, 1946, pp. 24-26.



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TECHNICAL BULLETINS & SPECS: Gen. Desc. 17. D1-1
PHOTO NO'S: 470708-31; 650627-89 and 90; 690505-08 ; Orlando T004
PATENT(S): No. 2,339,313 W. J. Zenner, Printing Telegraph Apparatus, granted 1/18/44.
LIBRARY REFERENCES: R. A. Vanderlippe, "High Flying Teletype," Western Electric Oscillator, October, 1946, pp. 24-26.

MODEL 14 TAPE PRINTER (FP)

The demand for printing telegraph equipment was increased in 1925 when the Morkrum-Kleinschmidt Company introduced the Model 14 Tape Printer. The Morkrum Company had been working on the development of this single magnet, type-bar tape printer prior to its merger with Kleinschmidt. Although the typing assembly eas almost identical to that employed in the Kleinschmidt 21A, the Model 14 had a radically different sel ctor.

On this instrument, the depression of a key first set up a code combination corresponding to the characters to be printed or the function to be performed, and then engaged a clutch which connected a motor to a mechanism that transmitted the code combination in the form of electrical impulses to all of the machines connected to the sending instrument.

The lectrical impulses actuated magnets on all of the machines on th circuit, including the sending instrument, and, through certain mechanisms, selected a particular typebar and caused the proper character to be printed.on a narrow tape which was automatically spaced after each character.

The paper was arranged so that it could be placed in an upper or lower case position with respect to the type pallets, thus making possible the printing of 58 different characters. Wh n the shift combination was transmitted, the paper was placed in position to print upper case characters and the release combination placed it in position to print lower case characters.

YEARS PRODUCED & QUANTITY: 1925-1960 58,552 units
PRIMARY CUSTOMER(S): Western Electric and Western Union
CLASSIFICATION CODE: M14 (FP=Tape Printer)
MUSEUM EQUIPMENT CODE: 2C-28
TECHNICAL BULLETINS & SPECS:
PHOTO NO(S): Polaroid TO48
PATENT(S): No. 2,170,316 W. J. Zenner, Printing Telegraph Apparatus, filed 12/31/36, and granted 8/22/39; No. 2,589,132 T. I. Przysiecki, Automatic Shift Control for Printing Telegraph Apparatus, filed 12/1/49, and granted 3/11/52.
LIBRARY REFERENCE(S): Kleinschmidt, E. E., Printing Telegraphy... A New Era Begins, 1965, pp. 32-36; A. S. Benjamin, "Teletype Printing Telegraph Systems" Telphony, December 9 and 16, 1933, (reprint); Herbert, T. E., Telegraph, 1926, pp. 712-733; McNicol, D., Printing Telegraph Systems, 1925, pp. 78-84.

TYPEWHEEL TAPE PRINTER (4-ROW SEG.)

An early model of a 4-row segmented typewheel tape printer. Mechanisms similar to this were used in the Model 31 Tape Printer, and early models of both the 28-Type and 30-Type.

YEARS PRODUCED & QUANTITY:

PRIMARY CUSTOMER(S): None

CLASSIFICATION CODE:

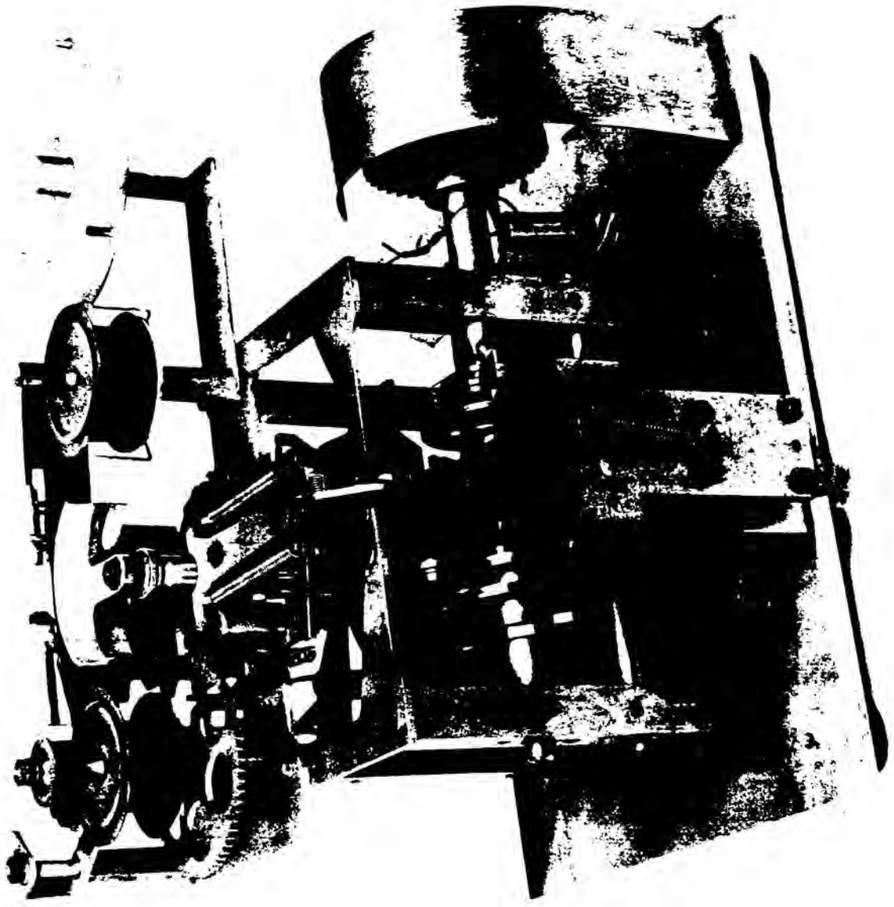
MUSEUM EQUIPMENT CODE: 2C-29

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): 690505-15

PATENT(S):

LIBRARY REFERENCE(S):



14 - TYPE TAPE PRINTER

A model of the 14 - Type Tape Printer. This model appears to follow the Simplex 2-B.

YEARS PRODUCED & QUANTITY:

PRIMARY CUSTOMER(S):

CLASSIFICATION CODE:

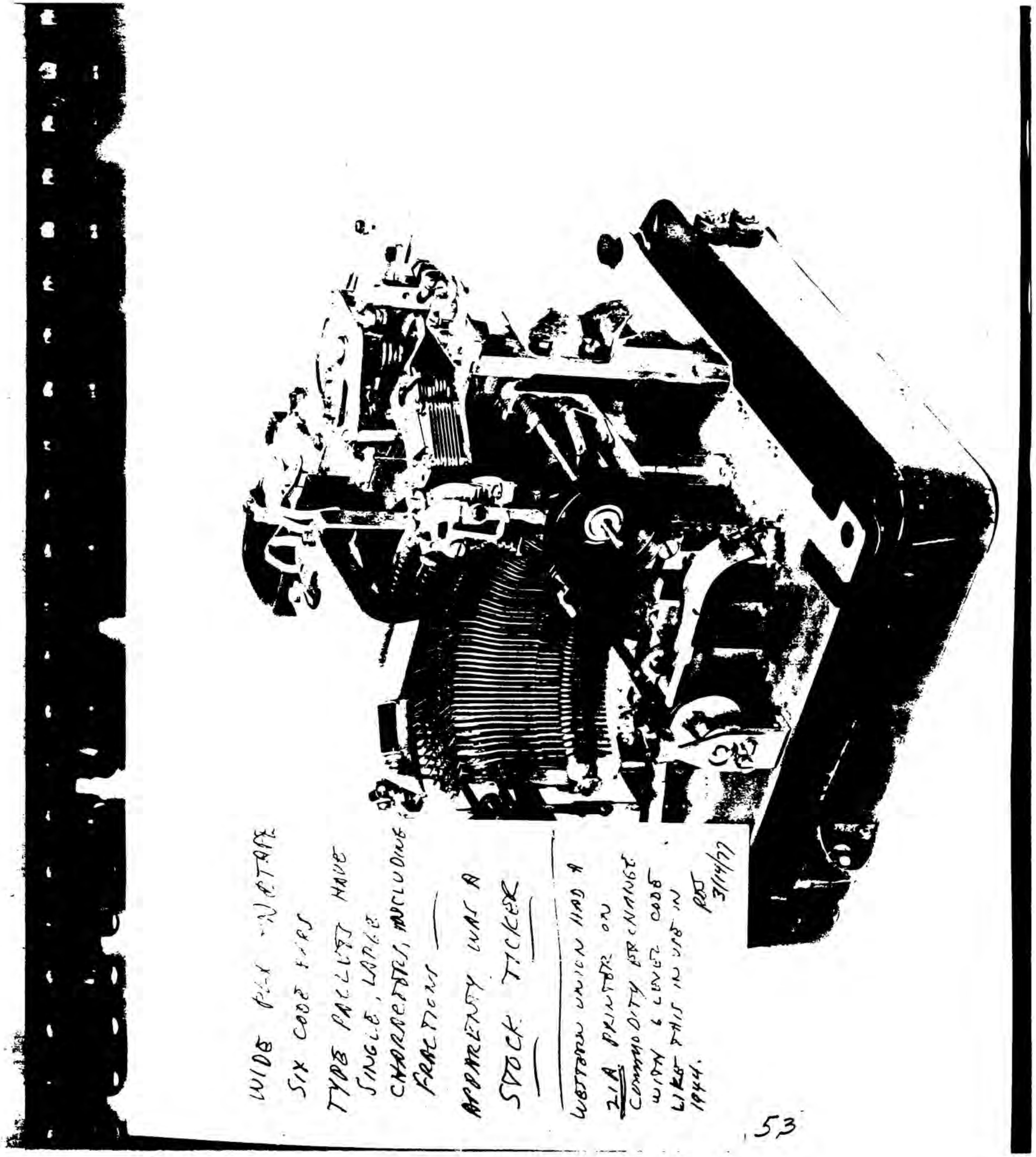
MUSEUM EQUIPMENT CODE: 2C-30

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): 640115-95

PATENT(S):

LIBRARY REFERENCE(S):



MULTIPLE TYPEWHEEL TAPE PRINTER

An early model of a multiple typewheel tape printer without motor.

YEARS PRODUCED & QUANTITY:

PRIMARY CUSTOMER(S):

CLASSIFICATION CODE:

MUSEUM EQUIPMENT CODE: 2C-31

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): Polaroid TU150; similar to 390315-67

PATENT(S):

LIBRARY REFERENCE(S):

TAPE PRINTER (WESTERN UNION)

A tape printer similar in style to a stock ticker for use by Western Union.

YEARS PRODUCED & QUANTITY:

PRIMARY CUSTOMER(S): Western Union

CLASSIFICATION CODE: Serial No. 11888 and 8146

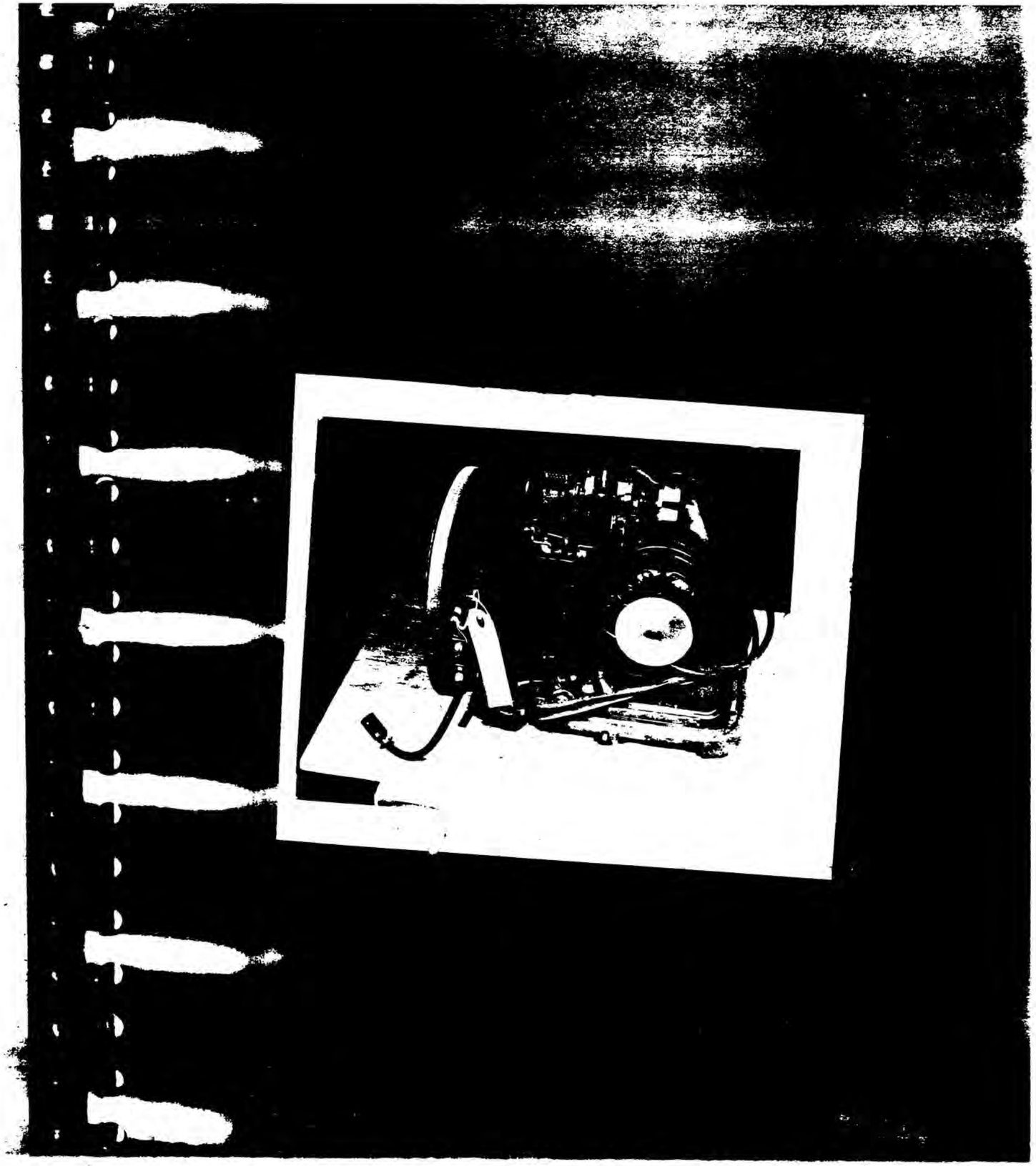
MUSEUM EQUIPMENT CODE: 2C-32

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): Polaroid T084

PATENT(S):

LIBRARY REFERENCE(S):



AGGREGATE MOTION PRINTER

An experimental model of the 31-type tape printer.

YEARS PRODUCED & QUANTITY:

PRIMARY CUSTOMER(S):

CLASSIFICATION CODE:

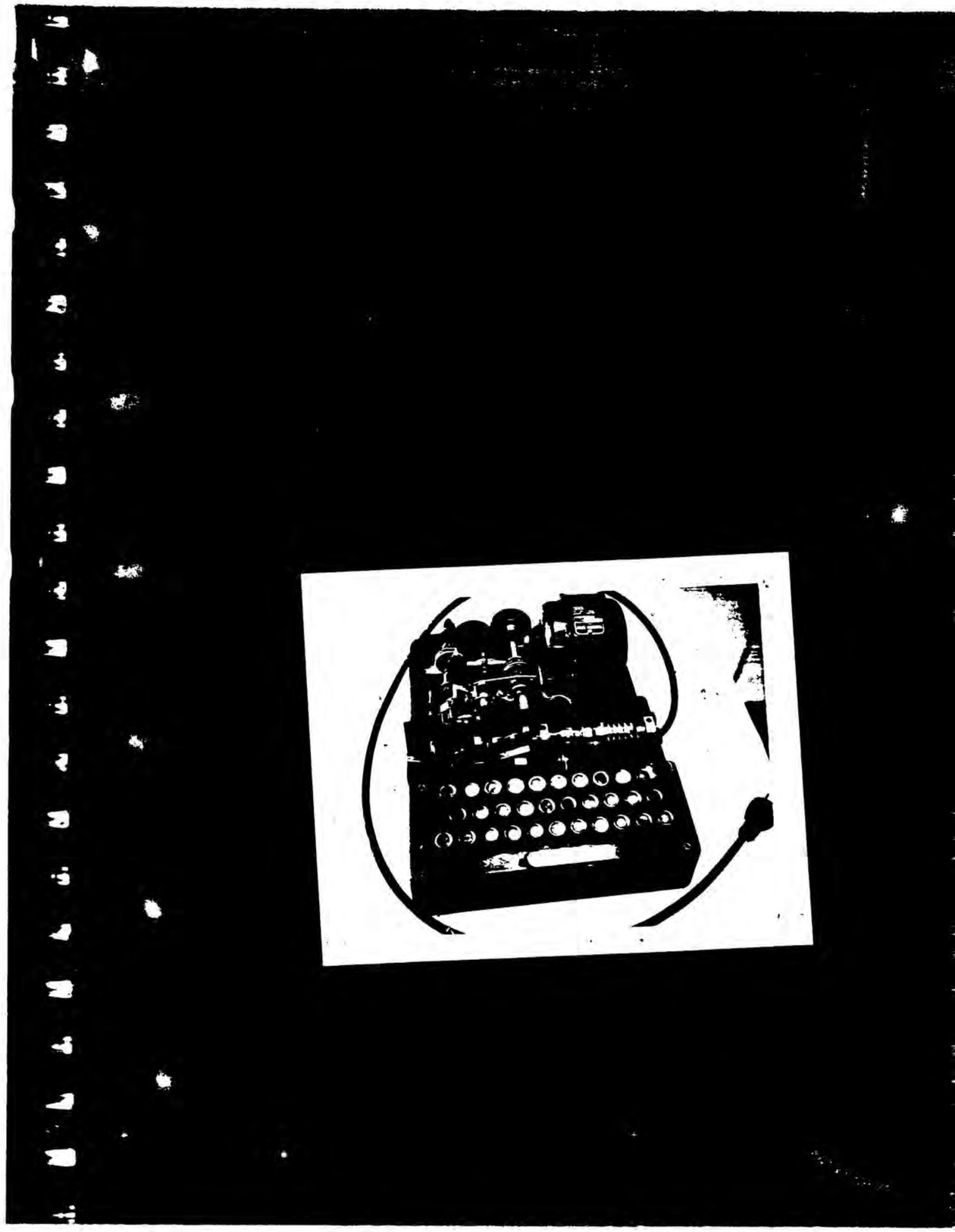
MUSEUM EQUIPMENT CODE: 2C-33

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): Polaroid TU146

PATENT(S):

LIBRARY REFERENCE(S):



TAPE PRINTER

An experimental model of a tape printer that used a 15-type keyboard. It was similar to a tape punch except for the fact that it printed marks on tape rather than perforated holes.

YEARS PRODUCED & QUANTITY: 1930-1940 (no production)

PRIMARY CUSTOMER(S):

CLASSIFICATION CODE:

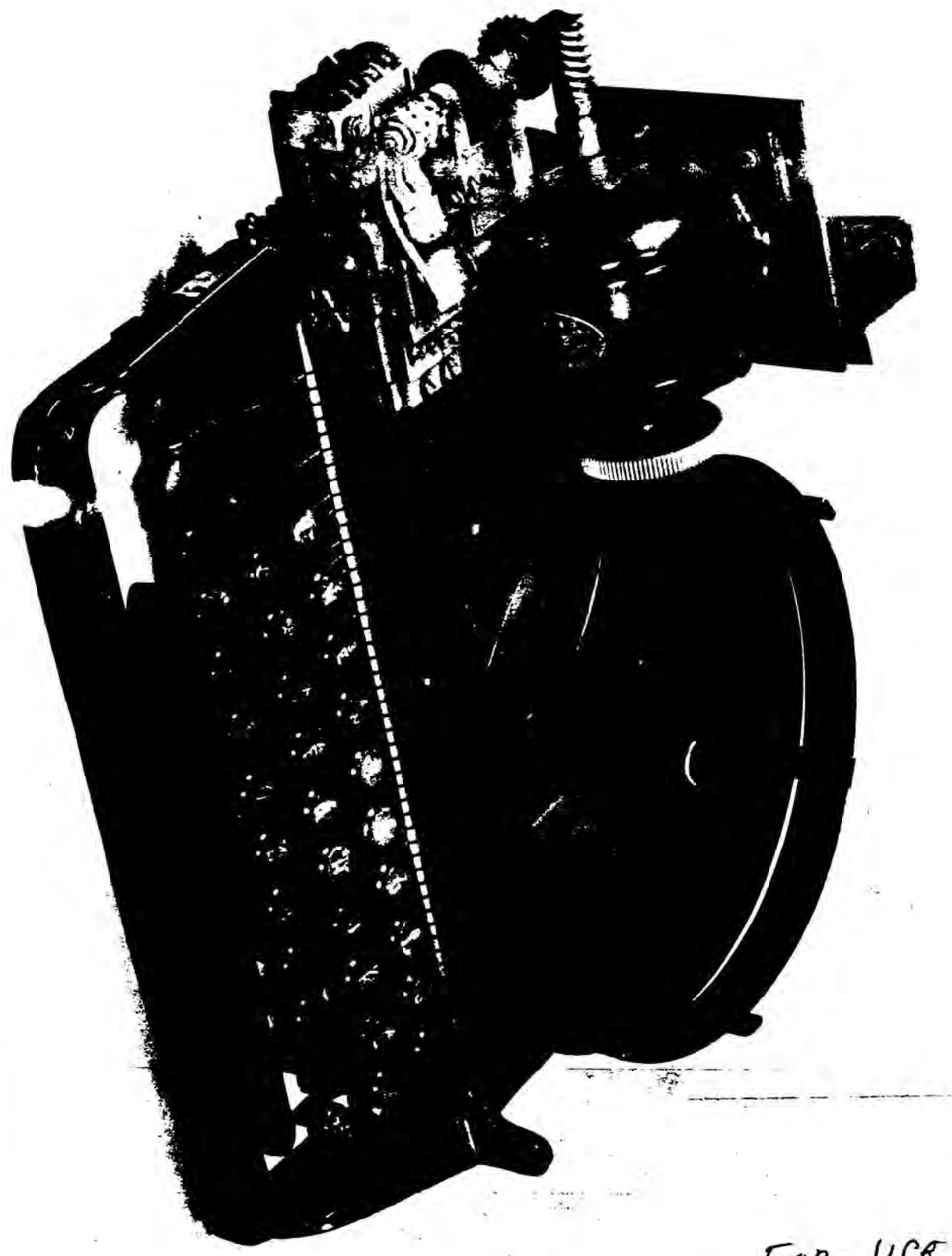
MUSEUM EQUIPMENT CODE: 2C-34

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): 650624-35

PATENT(S):

LIBRARY REFERENCE(S):



650624

FOR USE WITH PHOTO ELECTRIC PRINTED TAPE READERS ??

57

71 TYPE TAPE PRINTER

A 71-type tape printer.

YEARS PRODUCED & QUANTITY:

PRIMARY CUSTOMER(S):

CLASSIFICATION CODE: 71-type

MUSEUM EQUIPMENT CODE: 2C-35

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): Polaroid TC10

PATENT(S):

LIBRARY REFERENCE(S):

TAPE PRINTER

Crypto device.

YEARS PRODUCED & QUANTITY:

PRIMARY CUSTOMER(S): U. S. Government

CLASSIFICATION CODE: X-21, Model C

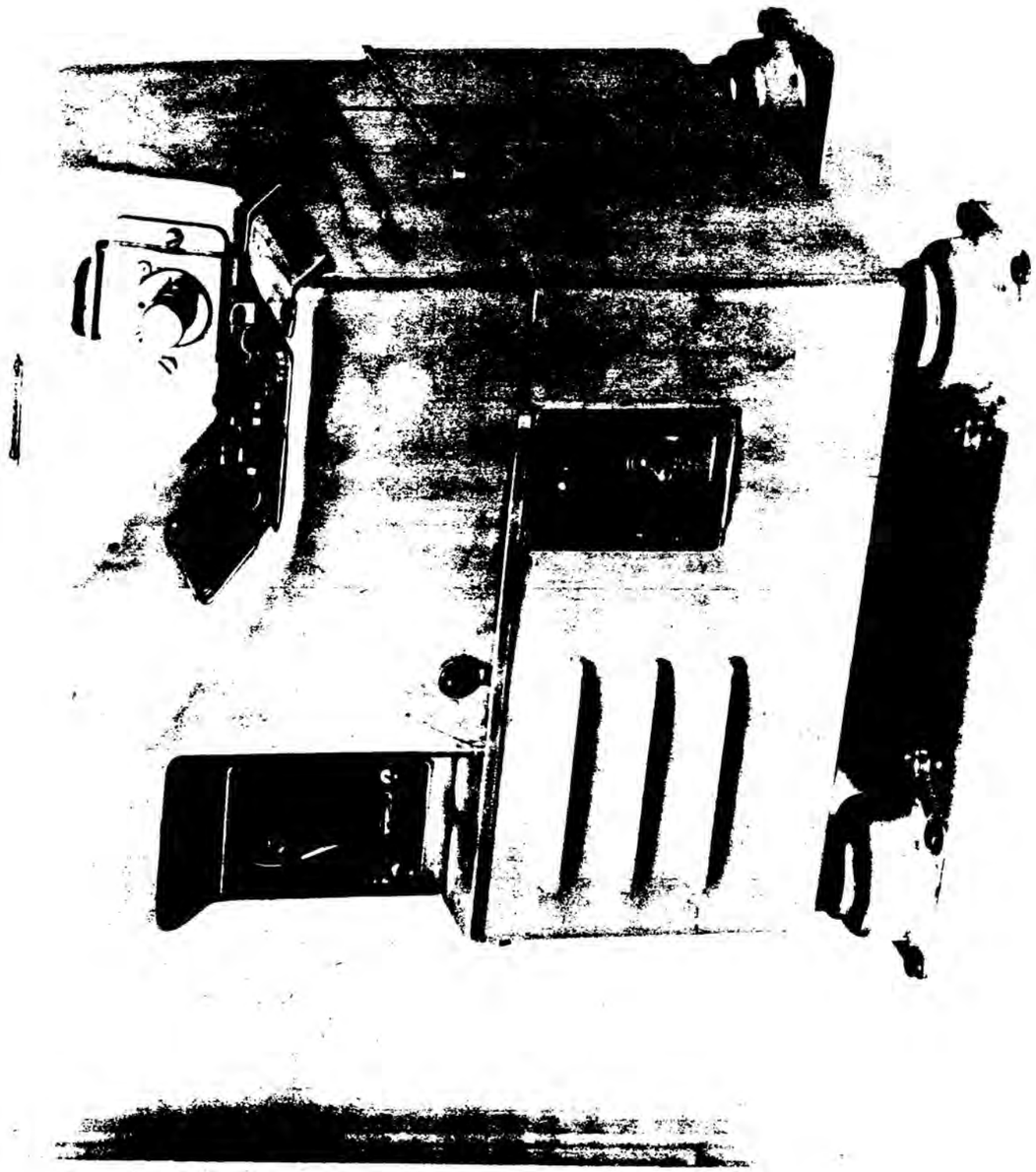
MUSEUM EQUIPMENT CODE: MC-36

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): 710817-42

PATENT(S):

LIBRARY REFERENCE(S):



TAPE PRINTER w/ STEPPING UNIT

Crypto device.

YEARS PRODUCED & QUANTITY: 1955-1956

PRIMARY CUSTOMER(S): U. S. Government

CLASSIFICATION CODE: 71-type

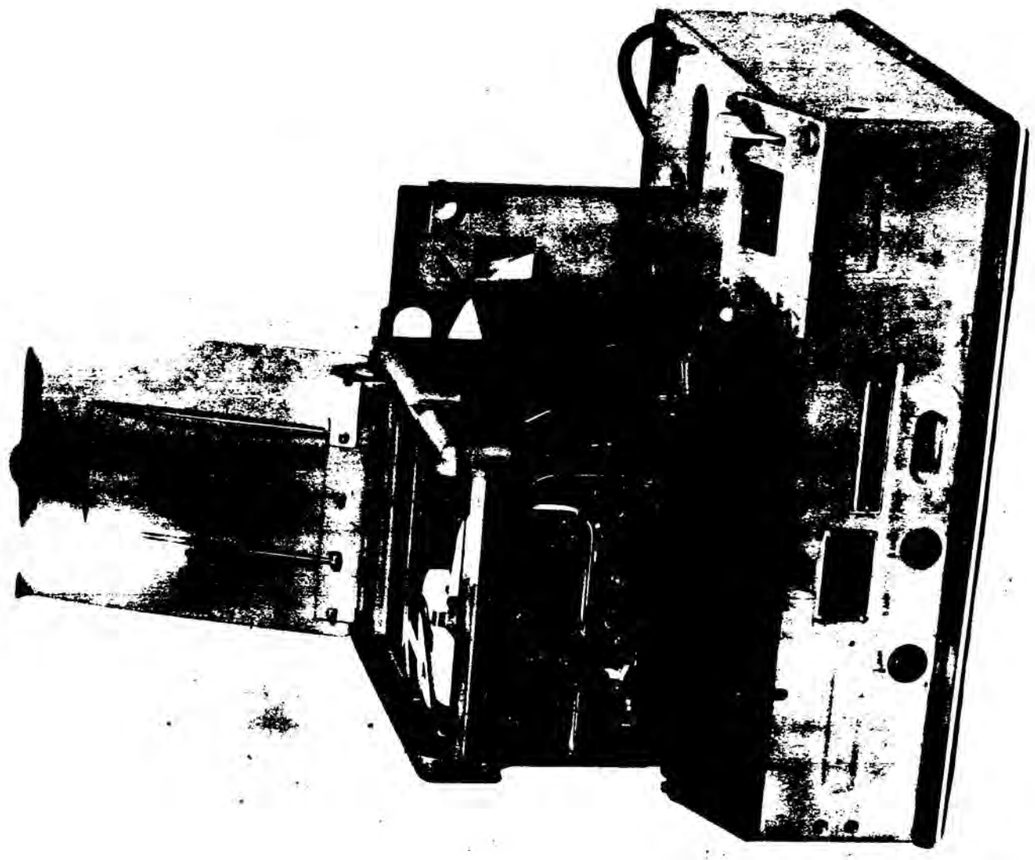
MUSEUM EQUIPMENT CODE: 2C-38

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): 710817-36, -37

PATENT(S):

LIBRARY REFERENCE(S):



TAPE PRINTER

Crypto device.

YEARS PRODUCED & QUANTITY:

PRIMARY CUSTOMER(S): U. S. Government

CLASSIFICATION CODE: 57-type

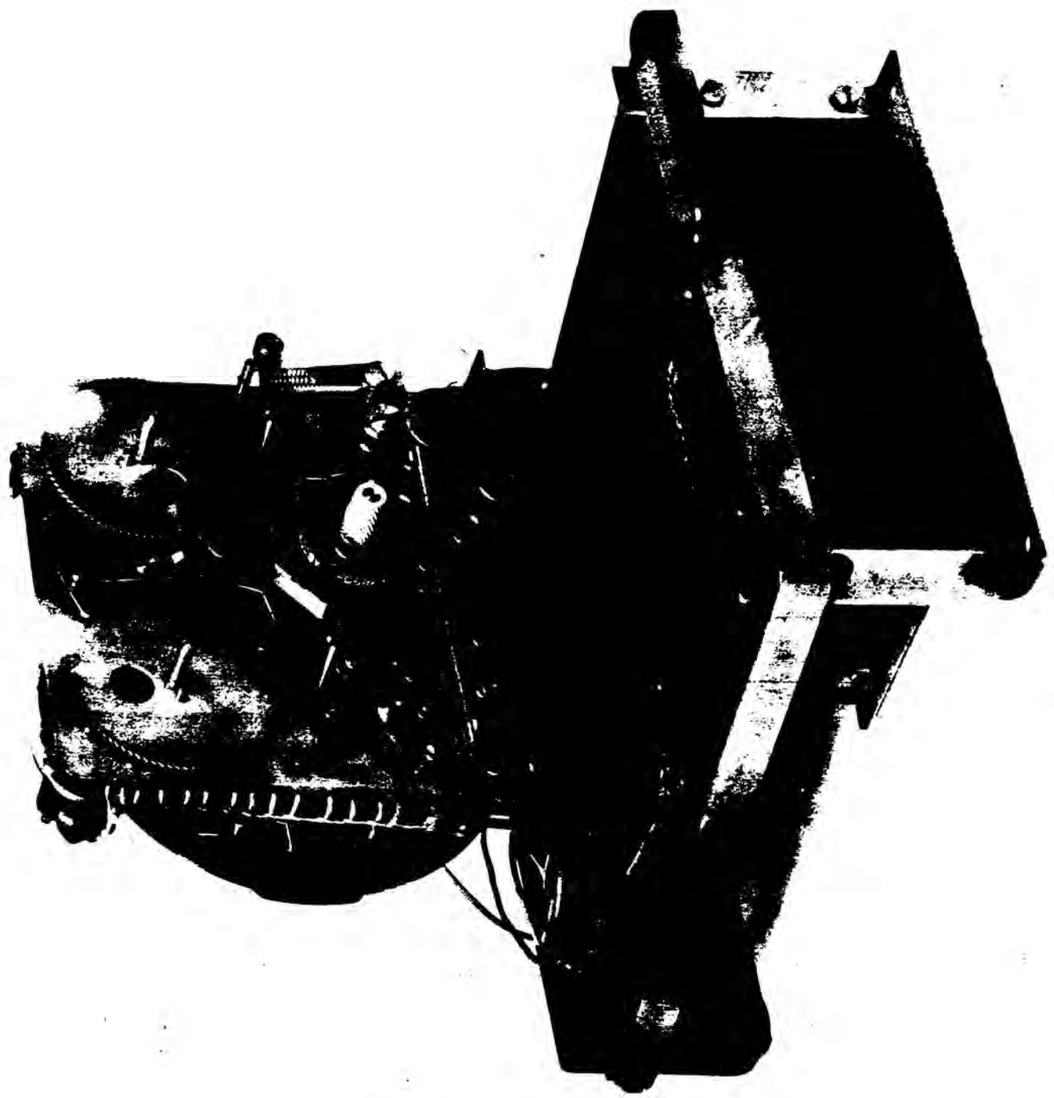
MUSEUM EQUIPMENT CODE: 2C-39

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): 710817-38, 39

PATENT(S):

LIBRARY REFERENCE(S):



TAPE PRINTER

Crypto device.

YEARS PRODUCED & QUANTITY:

PRIMARY CUSTOMER(S): U. S. Government

CLASSIFICATION CODE: 51 type

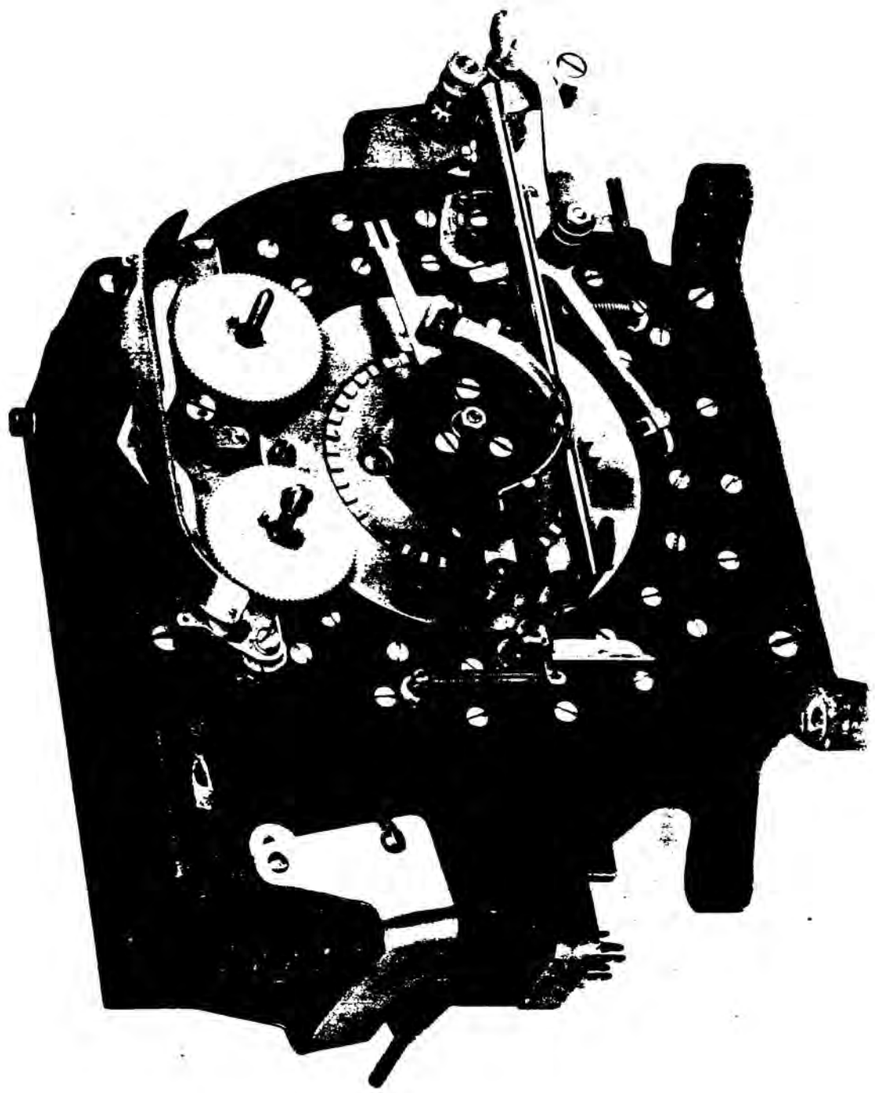
MUSEUM EQUIPMENT CODE: 2C-40

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): 710817-31-32

PATENT(S):

LIBRARY REFERENCE(S):



TAPE PRINTER HEAD w/32-5 TRANSLATOR

YEARS PRODUCED & QUANTITY:

PRIMARY CUSTOMER(S): U. S. Government

CLASSIFICATION CODE: 51 type; crypto device

MUSEUM EQUIPMENT CODE: 2C-41

TECHNICAL BULLETINS & SPECS:

PHOTO NO(S): 710817-41

PATENT(S):

LIBRARY REFERENCE(S):