

Feb. 16, 1926.

1,573,174

W. W. LASKER, JR

RECORD FORMING DEVICE

Filed March 4, 1924

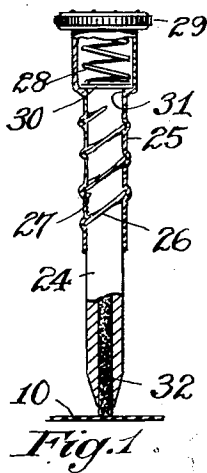


Fig. 1

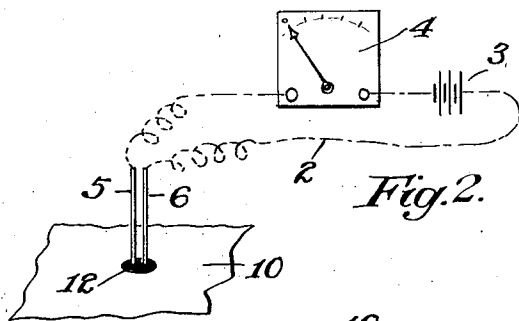


Fig. 2

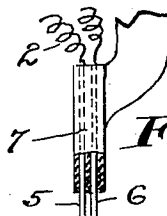


Fig. 5

Fig. 3

YEAR	12	WEEK	Report No	ZONE	DATE	OSKATE	SUD	PLAN	Budget
00	10	00	00000000	A	11	11	11	11	11
11	11	11	11111111	B	22	22	22	22	22
22	22	22	22222222	C	33	33	33	33	33
33	33	33	33333333	D	44	44	44	44	44
44	44	44	44444444	E	55	55	55	55	55
55	55	55	55555555	F	66	66	66	66	66
66	66	66	66666666	G	77	77	77	77	77
77	77	77	77777777	H	88	88	88	88	88
88	88	88	88888888	I	99	99	99	99	99
99	99	99	99999999	J	10	10	10	10	10

Fig. 4

YEAR	12	WEEK	Report No	ZONE	DATE	OSKATE	SUD	PLAN	Budget
00	10	00	00000000	A	11	11	11	11	11
11	11	11	11111111	B	22	22	22	22	22
22	22	22	22222222	C	33	33	33	33	33
33	33	33	33333333	D	44	44	44	44	44
44	44	44	44444444	E	55	55	55	55	55
55	55	55	55555555	F	66	66	66	66	66
66	66	66	66666666	G	77	77	77	77	77
77	77	77	77777777	H	88	88	88	88	88
88	88	88	88888888	I	99	99	99	99	99
99	99	99	99999999	J	10	10	10	10	10

Inventor

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By his Attorney

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1,573,174

UNITED STATES PATENT OFFICE.

WILLIAM W. LASKER, JR., OF BROOKLYN, NEW YORK.

RECORD-FORMING DEVICE.

Application filed March 4, 1924. Serial No. 696,821.

To all whom it may concern:

Be it known that I, WILLIAM W. LASKER, Jr., a citizen of the United States, residing at Brooklyn, in the county of Kings, city and State of New York, have invented a new and useful Improvement in Record-Forming Devices.

This invention has reference to means for compiling statistics, and has for its object to provide an apparatus of this character, in which a coating or deposit of electrical conducting material can be applied to the insulated surface of a card, sheet, document or other article, in such manner that a spot or portion is provided at one or a number of locations on the sheet, that can be afterwards employed to indicate certain data by reason of the relative location of such spot or spots on the card or on a number of cards.

A further object of the invention is to provide means for this purpose that when brought to engage the insulated surface will have a movement thereon to cause the member engaging the surface to suitably impress the mark by causing the substance of the mark to adhere or be deposited on the said surface.

Figure 1 shows the carrier.

Fig. 2 is a diagram of the operating means.

Fig. 3 shows a card of the usual form.

Fig. 4 shows the same card with the spots applied by the device of Fig. 1.

Figure 5 shows a holder for the pair of terminals.

The compiling means comprise essentially four elements, an electrical circuit, a source of current, a work member and a pair of insulated terminals for the circuit, whereby upon bridging the terminals by a conductor the current will flow through the circuit and operate the work member; which may be a suitable indicating, sorting or recording device or mechanism.

As shown, I provide an electrical circuit including a battery 3, an electrical indicator 4, such as a volt-meter; the two being connected to terminals 5 and 6 respectively. When the terminals are bridged or connected by conducting material, the indicator will show this fact by the hand or pointer being deflected. The terminals are preferably mounted on a holder 7, see Fig. 5, and insulated therefrom and from each other, and their free extremities are exposed and arranged adjacent, whereby this member can

be pressed against a suitable conducting member that will bridge these terminals. The wire 2 obviously can be of the usual flexible form.

I further provide means for applying a coating or deposit of electric conducting material to a card or sheet, such as the card shown in Fig. 3. In this art it is usual to provide a series of vertical columns indicated by the digits 0 to 9 and occasionally a column of twelve numbers is used to record the months. In this system it is customary to punch a hole at or adjacent to any one or a plurality of these digits. In my apparatus I apply a coating or deposit of conducting material at these designated places, according to the data to be compiled. In Fig. 4 a coating is applied adjacent the numeral 1, in the first column. In the third column the coating is at 2, also in the sixth column. In the other columns the coating is at 4, 5 and 7, respectively. In this art it is customary to punch a hole at only one place in any column. In the present system the punched cards are placed in an accounting machine that will analyze the card according to the punched holes, and in my invention the card is analyzed according to the location of the spots of conducting material on the card. This is done by applying the terminals 5 and 6 to the spot, as indicated in Fig. 3 where the card 10 has a spot 12 thereon of conducting material that will bridge the terminals to close the circuit and swing the indicator.

In Fig. 1 I show an arrangement in which a tube or holder 24 is slidable in a carrier shell 25. The tube has a screw 26 that engages a threaded portion 27 of the shell. A coil spring 28 is shown between the tube and the cap 29, of the shell that will press the tube 24 downwardly until its head 30 engages a shoulder 31 in the shell. The holder 24 contains a bar 32 of suitable conducting material. When this device is pressed against a card 10, by grasping the shell 25 and pushing it downwardly, upon the carrier engaging the sheet or card and being thereby arrested, downward pressure on the shell will slide it downwardly on the holder 24, and the engaging threads will turn the holder in the carrier. This will turn the conducting material in the bar and facilitate its engagement and adhesion therewith, and will make a deposit on the card as shown in Fig. 4.

It is obvious that a larger number of these holders can be arranged to engage any one of the ten numbers in a column, and any number of them provided to engage any or all of the columns, by mere multiplication of the device set forth. These correspond to the gang of punches in the present machines, that would operate by merely substituting one of these elements for each punch, and actuating them in the same manner as the punches are selected and act in the punching machine well known in this art.

Furthermore, in the compiling machines it is only necessary to provide a number of the terminals and holders as shown in Fig. 2, substitute them for the pins in the pin box of the present compiling machine, and connecting the circuit from each terminal device with a suitable work member, just as in the present machines employing electrical apparatus, each pin that penetrates a hole in a card completes a circuit and operates a work member.

A modification of the invention is to form the card 10 of conducting material or the surface thereof, which might be a metal or a metal foil or paper treated to render it a good conductor. With this arrangement the pencil shown in Fig. 1 would have the bars of a suitable insulating material such as crayon or chalk, whereby a deposit or coating of insulating material is formed on the card or other surface similar to that set forth. With this arrangement a plurality of pairs of terminals brought to engage the surface at the designated portions, would be bridged at all places except where this deposit of insulating material was made on the surface. By this means a suitable indication would be effected, as an indicator connected with each of the pairs would show which one was insulated. By suitable means

a work member could be actuated by connection with the circuits that are thus short circuited and the one not short circuited.

What I claim is:

1. In data compiling means employing an insulated surface member and an electric circuit with terminals and a work member controlled by the circuit, means for applying electric conducting material to said surface in spots or portions, comprising a carrier, a holder for conducting material mounted on the carrier, and means connecting the carrier and holder whereby on the carrier being advanced to engage the holder with the said surface and the carrier thereupon being further advanced, the holder will rotate in the carrier and turn on said surface to effect a deposit or coating of the conducting material on the surface.

2. In data compiling means employing an insulated surface member with an electric circuit with terminals and a work member controlled by the circuit, means for applying electric conducting material to said surface in spots or portions adapted to engage and connect said terminals to close said circuit, comprising a carrier, a spring plunger on the carrier, a screw thread on one of said latter members, a cam groove on the other said member engaged by the said thread to turn the plunger, and a holder for said conducting material on the plunger, whereby the advance of the carrier to press the holder on said surface will cause the holder to turn on said surface to effect a deposit or coating of the conducting material on the surface of sufficient area to engage and connect the said terminals when applied thereto.

Signed at New York city, N. Y., on February 28, 1924.

WILLIAM W. LASKER, JR.