Oct. 11, 1938. C. A. MEISEL 2,132,827

PRINTING PRESS

Filed June 4, 1937 2 Sheets-Sheet 1

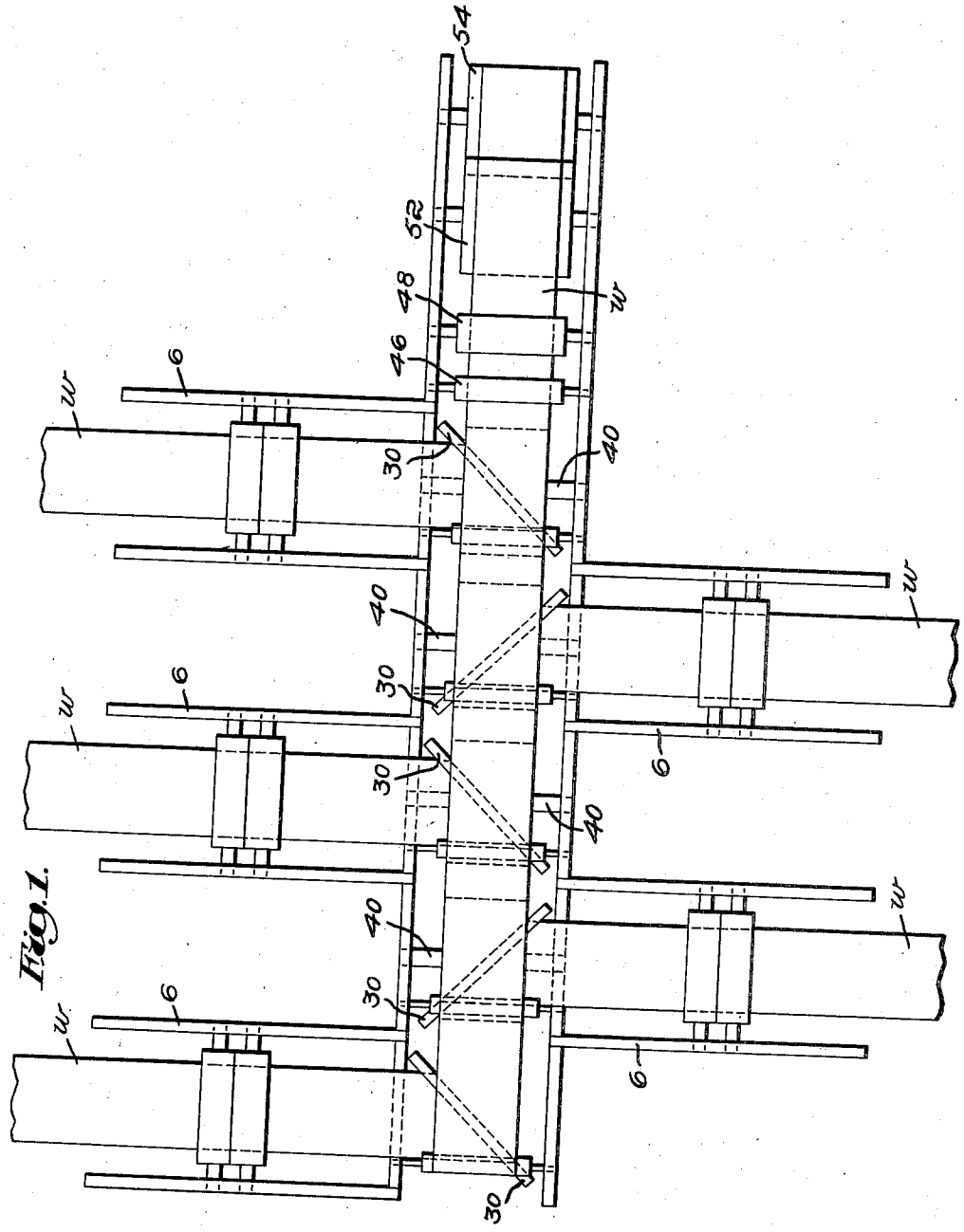


Fig. 1.

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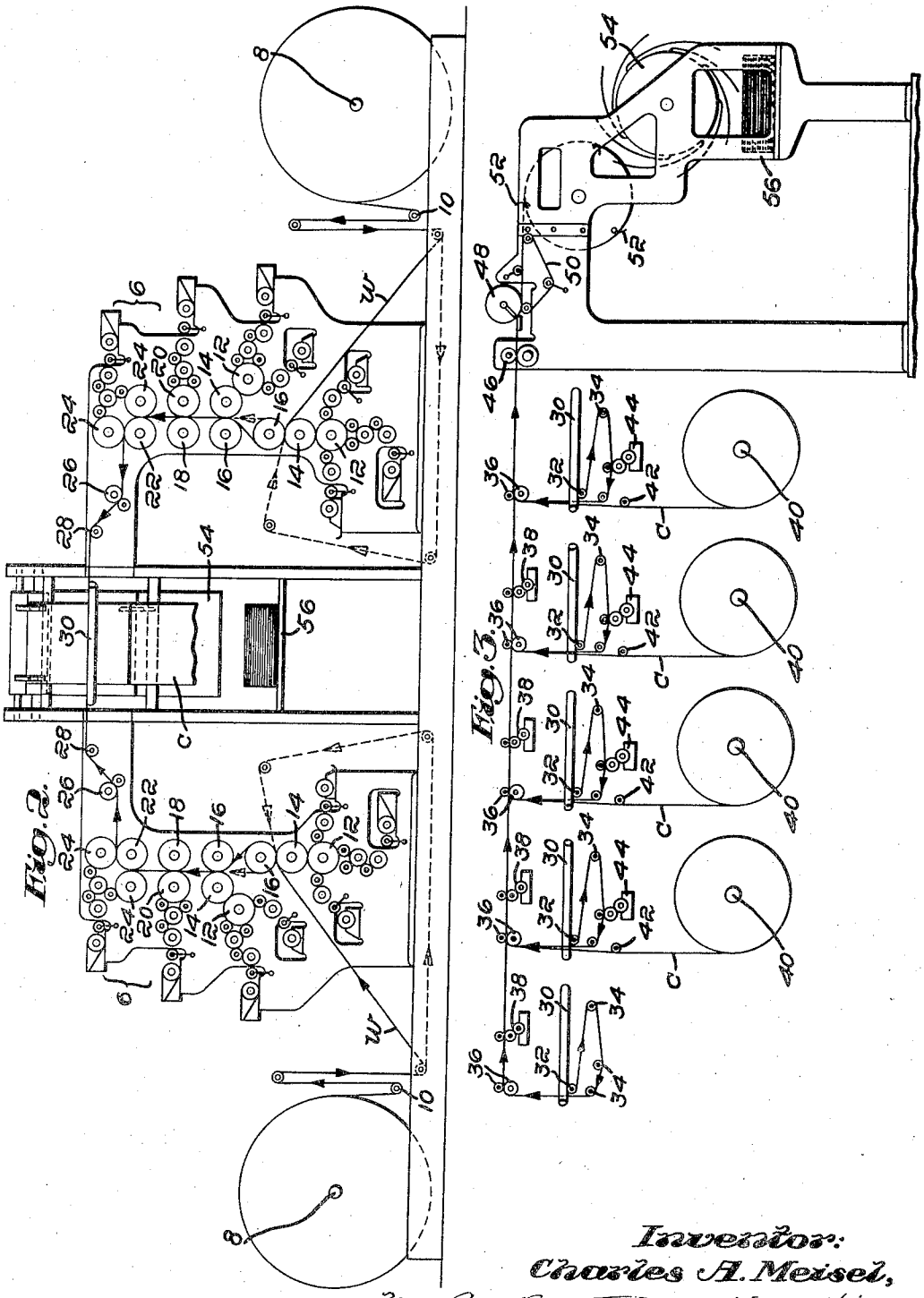


Fig. 2.

Fig. 3.

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PRINTING PRESS

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Application June 4, 1937, Serial No. 146,424

5 Claims. (Cl. 270—18)

This invention relates to printing presses of the type wherein a number of webs are printed and delivered from the press as a unit in superposed relation. Certain presses operating in this manner are known as sales-book presses when utilized to print a series of forms or blanks along the webs, which webs are secured together marginally thereof, usually with interposed carbonized webs, and are then severed transversely to form pads or booklets which are used, as the name implies, as sales books or as typewriter supplies for multiplicate inscription and for like purposes. The press herein shown as an example of my invention is adapted to such a purpose and I will describe it with particular reference to such application. The object of the invention is to provide an improved construction and arrangement of parts in a press whereby a compact, efficiently operating mechanism is attained and wherein all the parts are conveniently accessible for effecting the various services required in preparing for and in carrying out the operations of the machine.

My invention will be well understood by reference to the following description of an illustrative embodiment thereof shown by way of example in the accompanying drawings, wherein:—

Fig. 1 is a diagrammatic plan view of the press;

Fig. 2 is a diagram corresponding roughly to an end view as seen from the left-hand end of Fig. 1; and

Fig. 3 is a diagram corresponding roughly to a longitudinal section of Fig. 1.

It will be understood that all the figures are diagrammatic and many parts have been omitted in one or another instance, particularly frame parts and supporting mechanisms which may be of any desired or suitable construction, as will be obvious to those skilled in the art.

In the embodiment of the invention shown the machine involves five printing units **6** of the rotary web press type and, as best seen in Fig. 1, three of these are disposed on one side of a longitudinal line along which the webs printed in the units are fed to be assembled and delivered from the machine and two on the opposite side. These two sets are suitably spaced from the longitudinal line to accommodate between them the printed webs and adjunctive mechanism to be described. As seen in Fig. 1, the press units **6** are in offset or staggered relation, the two units in the lower side of the figure being disposed in the spaces between the three in the upper side. Hence each unit is accessible at the outer end and at both sides.

Referring now to Fig. 2, the press units **6** herein shown comprise a series of rotary printing couples generally vertically arranged, one above the other, and delivering the web *w* in an elevated position inwardly toward the longitudinal line and in a direction at right angles thereto. The web *w* is led from a supply roll journalled outwardly of the units at **8**, over a dance roll **10** and suitable guide rolls either in the path indicated throughout by full lines or in the path indicated in part by dotted lines accordingly as whether it is desired to make impressions on both sides of the web or to make all impressions upon one side. The web is herein shown as passing through two printing couples of the wet offset type comprising plate cylinders **12**, blanket cylinders **14** and steel cylinders **16** cooperating with the blanket cylinders. The web is then shown as passing through a couple comprising an impression cylinder **18** and imprint cylinder **20** and over an impression cylinder **22** with which cooperate two cylinders **24** which are numbering cylinders. After thus being suitably printed on, the web may be led through a mechanism **26** for perforating it longitudinally and delivered over the guide roll **28** to the center line of the mechanism.

Referring now to Fig. 1, as the web comes from the printing unit **6**, it passes to a turning bar **30** disposed at an angle of 45° across the center line of the machine and about which the web is led to turn it through 90° in a horizontal plane and give it a longitudinal direction. Herein, as seen in Fig. 3, the web is looped about the turning bar **30** by means of a guide roll **32** and is turned by the guide rolls **34** so that the side which is uppermost coming from the press unit **6** is faced downwardly, and it then passes in a generally vertical direction to the feeding rolls **36** which forward it from left to right, viewing Fig. 3, at an elevation above that of the turning bar **30**. This mechanism is duplicated for each of the five webs, and as each of the webs except the one farthest to the right in Fig. 3 passes from the feed rolls **36** a pasting mechanism **38** may apply a stripe of adhesive along the under side thereof so that it is secured to the upper side of the succeeding web coming from the next printing unit in the series.

In the example of the invention shown unprinted webs of carbon paper are interposed between the printed webs referred to. The space along the center line of the machine between

the spaced printing units **6** provides for the mounting of rolled webs of carbonized paper *c* on spindles **40** from which the webs *c* may be led upwardly over guide rolls **42** to join the webs *w* as they pass vertically upwardly to the feeding roll couples **36**, as will be well understood from Fig. 3. To secure these carbon webs *c* in position in alternating relation with the printed webs *w*, each web *w* other than the one at the extreme left in Fig. 3 may, where inverted about the guide rolls **34**, pass over a pasting mechanism **44** serving to apply a stripe of adhesive to a margin thereof by which it may be united to the margin of a web *c*, the adhesive joint being pressed together by the feed rolls **36**, and this compound unit being united with the units of which the webs from other press units **6** form a part by the adhesive supplying devices **38** already described.

The compound web, brought together in the plane of the sets of feed rollers **36** and along the longitudinal center line of the machine and consisting, in the example shown, as it passes the position of the right-hand pair of feed rolls **36** of five printed webs with four interposed unprinted carbon webs, may be drawn along by feed rollers **46** and severed at suitable intervals by a cutting cylinder **48**, the severed sections being delivered by tapes **50** to the grippers **52** by which they are transferred to the delivery creel **54** which deposits them in a pile on the delivery table **56**. This delivery mechanism is disposed at one extremity of the longitudinal center line of the machine beyond the location of the printing units, as clearly seen from Fig. 1.

I am aware that the invention may be embodied in other specific forms without departing from the spirit or essential attributes thereof, and I therefore desire the present embodiment to be considered in all respects as illustrative and not restrictive; reference being had to the appended claims rather than to the foregoing description to indicate the scope of the invention.

I claim:

1. A press comprising a plurality of web press units arranged in spaced and offset relation on opposite sides of a longitudinal line and delivering inwardly in directions transverse to said line, means comprising turning bars in the space between the units for diverting the webs to longitudinal paths, and means for uniting the webs as they are travelling longitudinally.

2. A press comprising a plurality of web press units arranged in spaced and offset relation on opposite sides of a longitudinal line and delivering inwardly in directions transverse to said line, means comprising turning bars in the space between the units for diverting the webs to longitudinal paths, means for uniting the webs as they are travelling longitudinally, and means at an extremity of the longitudinal line of the press beyond the units for severing the webs and delivering the severed sections.

3. A press comprising a plurality of web press units arranged in spaced and offset relation on opposite sides of a longitudinal line, each unit arranged to pass the web therethrough in a generally vertical direction and delivering the same at an elevated position inwardly and transversely to said longitudinal line, means comprising turning bars disposed in the space between the units for diverting the webs to longitudinal paths, supply means for other webs disposed in the space between the units beneath the plane of delivery of said webs from the units, and guiding means for assembling and forwarding in a longitudinal direction the webs from the units and the webs from the supply means.

4. A press comprising a plurality of web press units arranged in spaced and offset relation on opposite sides of a longitudinal line and delivering inwardly in directions transverse to said line, means comprising turning bars in the space between the units for diverting the webs to longitudinal paths, supply means for other webs located in the space between the units, and means for assembling and forwarding in a longitudinal direction the webs from the units and the webs from the supply means.

5. A press comprising a plurality of web press units arranged in spaced and offset relation on opposite sides of a longitudinal line and delivering inwardly in directions transverse to said line, turning bars for diverting the webs to a longitudinal path between the units, guide rolls cooperating therewith for inverting the webs and delivering them to a longitudinal path at different elevation, means for applying adhesive to a downwardly presented face of an inverted web, web supply means in the space between units to deliver another web in face to face relation to said web to which adhesive has been applied as it passes to the said path of different elevation, and adhesive applying means along said path for uniting the webs delivered thereto.

CHARLES A. MEISEL.