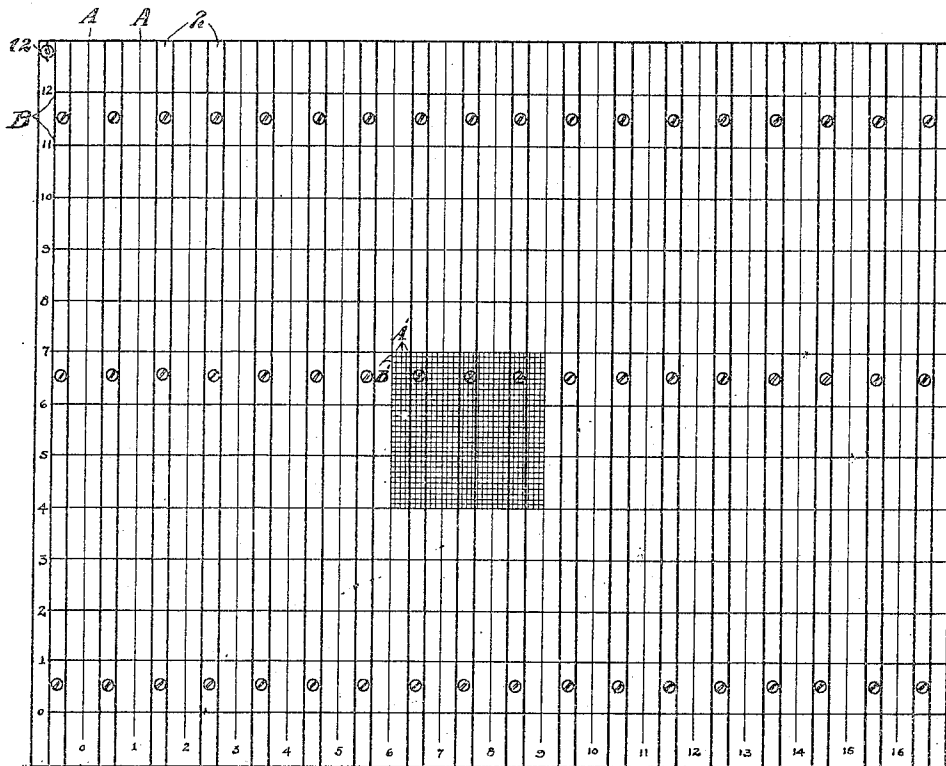
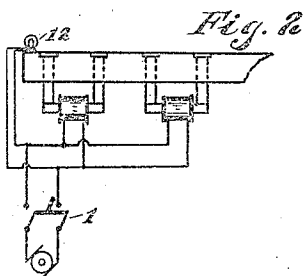


H. C. BOEDICKER.
 PRINTING PLATE DEVICE.
 APPLICATION FILED AUG. 14, 1916.

1,258,982.

Patented Mar. 12, 1918.
 2 SHEETS—SHEET 1.

Fig. 1

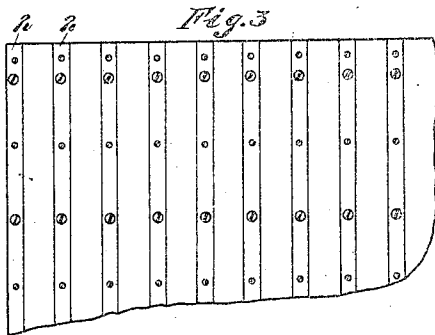
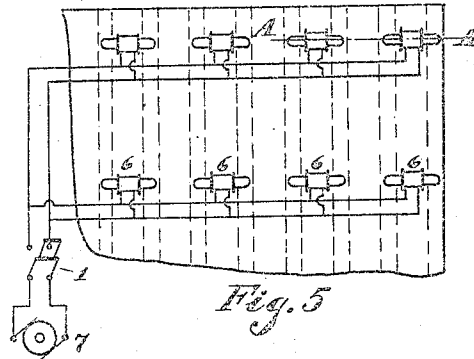
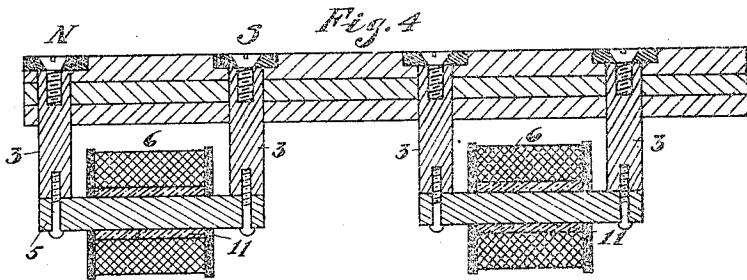
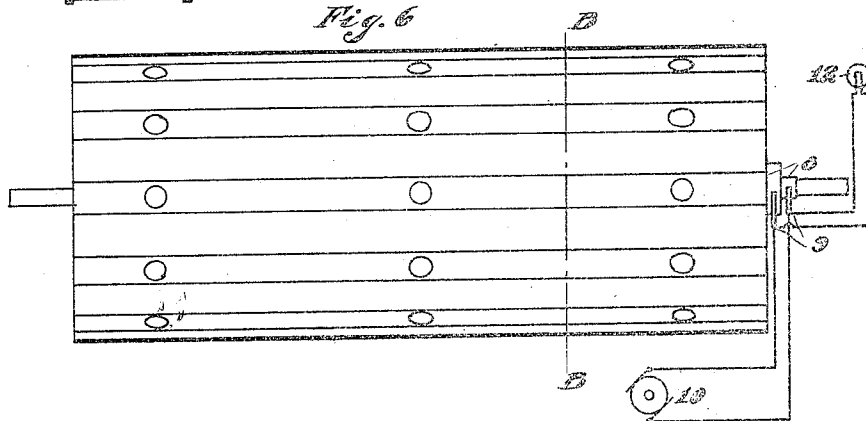
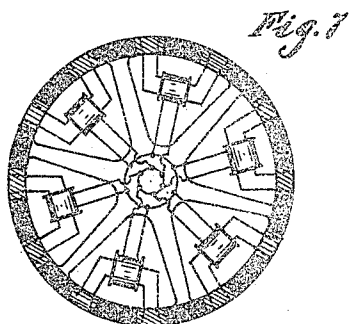


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UNITED STATES PATENT OFFICE.

HERMAN C. BOEDICKER, OF MINNEAPOLIS, MINNESOTA.

PRINTING-PLATE DEVICE.

1,258,982.

Specification of Letters Patent.

Patented Mar. 12, 1918.

Application filed August 14, 1916. Serial No. 114,372.

To all whom it may concern:

Be it known that I, HERMAN C. BOEDICKER, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Printing-Plate Devices, of which the following is a specification.

One object of my invention is to provide means for locating a printing plate and recording its location so that it can at any future time be re-located exactly in its first position.

Another object of my invention is to provide means for holding flexible plates, firmly and evenly, to printing beds or rollers.

With these and incidental objects in view, the invention consists of certain novel features of construction and combination of parts; the essential elements of which are hereinafter described with reference to the drawings which accompany and form a part of this specification.

In the drawings, Figure 1 is a plan view of my improved printing plate holding device showing the locating lines thereon. Fig. 2 is a side elevation of a portion of the plate showing its relation to a portion of a machine for making photo printing plates. Fig. 3 is an enlarged detail of a portion of the board shown in Fig. 1 with the locating lines omitted. Fig. 4 is an enlarged sectional view taken on the line AA, Fig. 5. Fig. 5 is a wiring diagram of the same board. Fig. 6 is a plan view of a rotary press roller showing the manner of leading the electrical current thereto, and Fig. 7 is a sectional view of the roller taken on the line BB, Fig. 6.

The entire magnetic board, Fig. 1, has lines "A" running across the surface in one direction and lines "B" running across the surface in the other direction, these lines being spaced apart one inch, or any other suitable distance.

Lines A' and B' also run over the surface of the board being shown, however, in only a portion of the surface in Fig. 1, it being understood that the finer divisions may cover the entire surface in the same manner.

In setting up the printing plate on my improved machine for making printing plates described in my copending application, Serial #56931, filed October 20th, 1915,

the plate is positioned on the vertical board, the switch 1 turned on, and the plate will be tightly held against the board by the magnetic action hereinafter described and the location of the plate will be recorded in a record book kept for that purpose.

When the plate is moved to the other vertical and horizontal positions as described in my copending application heretofore mentioned, a record of each position is taken so that at any time in the future the plate may be positively located and will check exactly with its original location in the machine.

The printing plate holding device has running across the face thereof strips 2, Fig. 3, preferably of steel. Instead of steel, I may employ soft iron, but the steel strips when sufficiently hard retain sufficient residual magnetism to maintain the plates in position if the current should accidentally be turned off. Magnetically connected with the strips 2, by studs 3, Fig. 4, is the core surrounded by the electromagnetic coil 6 and which, when energized, establishes magnetic poles as indicated by the letters N and S.

A suitable number of coils are thus magnetically bridged across each pair of strips 2 so the entire surface of the board will comprise a series of north and south poles and thus firmly hold to the surface of the poles any magnetic material placed thereon when the switch 1 connecting the coils 6 to a suitable source of electric energy 7, is closed.

If the zinc plate used, as described in my copending application, Serial #56931, is attached by any suitable means to a flexible sheet of soft iron, it is evident the plate will be held in a plane surface by the magnetic action of the strips 2 and thus obviate any possibility of the plate getting out of focus.

In my application, Serial #56931, I utilized in place of the magnetic board a vacuum board but I prefer a magnetic board as it is simple and more positive in action, is more easily handled in a dark room and does away with the glass plate which has a tendency to distort the plate.

In Figs. 6 and 7, I show means of constructing a roller for a rotary press in such manner that my invention is applicable thereto and it is readily seen that the printing plate can, in the same manner, be held

rigidly to a cylindrical surface as well as to a flat surface, and it is, therefore, applicable to all types of printing presses and saves the expense and trouble of setting up plates with the ordinary wooden furniture, or the locking and unlocking of chases.

A signal lamp 12 electrically bridged across the electromagnetic coils, is a positive signal when the coils are actuated, and by becoming dark when the coils receive no current, serve as an indication to the operator that the coils are not active.

For use on flat boards or beds, the lamp is preferably mounted in one corner, and on rotary presses is preferably mounted near the feeding table.

With the roller as shown in Fig. 6, I have suitable collector rings 8 connected by suitable brushes 9 to a source of power 10 and by using coils constructed as shown in Fig. 4, I can employ either alternating or direct current.

The coils 6 shown in Fig. 4 have surrounding the core 5, a copper sleeve 11 which operates in a manner well-known to those skilled in the art and smooths out the magnetic attraction when alternating current is used, so the plate will be held firmly in spite of the fact that during the cycles of alternating current there will be a time when no current is passing through the coils.

While I have described my invention and illustrated it in one particular form, I do not wish myself to be understood as confining myself to this particular construction, as it is evident that my invention may be embodied in various ways and different

constructions within the scope of the following claims.

Claims:

1. In a printing plate device, the combination of a surface for holding the plate thereon, a flexible zinc plate and a flexible magnetic plate joined in intimate contact, and means associated with said surface for electromagnetically holding said magnetic plate and through said magnetic plate, said zinc plate.

2. In a printing plate device, the combination of a board, graduations on said board for locating a plate thereon, a plate comprising an iron flexible sheet and a zinc flexible sheet bound together in intimate surface contact, and electromagnetic means for holding said plate to said board.

3. In a printing plate device, the combination of a surface for holding a plate thereon, graduations on said surface for locating printing plates thereon, a flexible zinc and a flexible magnetic plate joined in intimate contact, and electro-magnetic means associated with said surface for holding thereon said magnetic plate carrying said zinc plate.

4. In a print plate device, the combination of a board for receiving print plates, graduations on said board for locating printing plates thereon, electro-magnetic means for holding magnetic plates to said board, a sensitized flexible sheet and a flexible iron sheet bound to said sensitized sheet in intimate contact.

HERMAN C. BOEDICKER.