Feb. 25, 1936. W. F. BURKE 2,032,047

PRINTING PRESS FOR PRINTING SPOTS OF WAX CARBON ON SHEETS OF PAPER

Filed Oct. 20, 1934

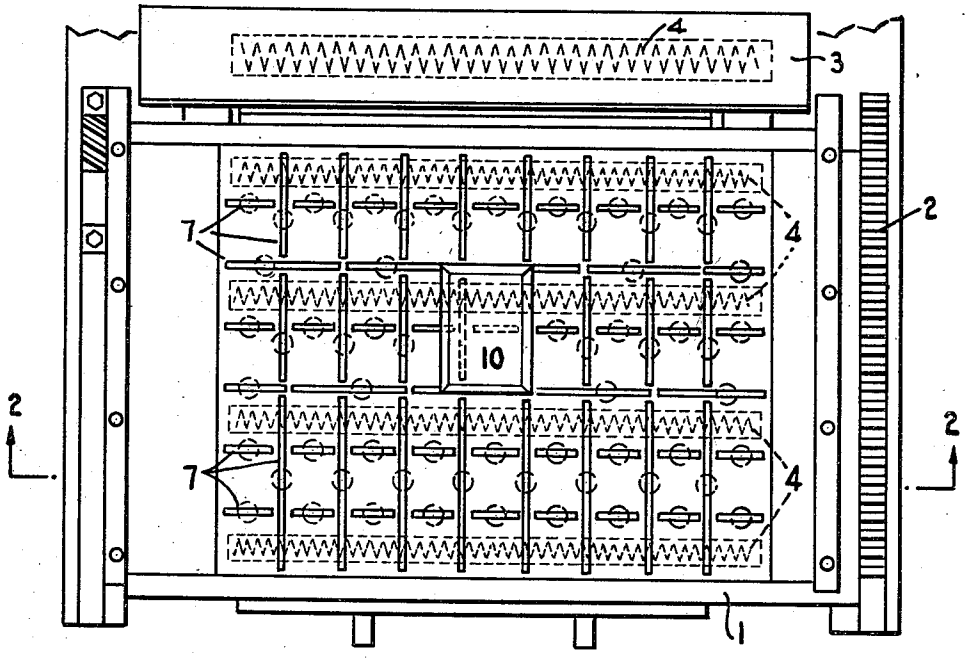


FIG. 1

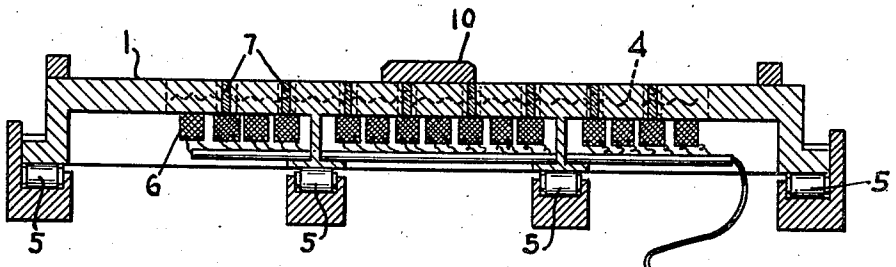
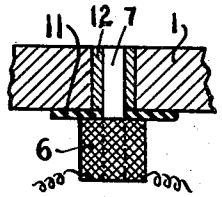
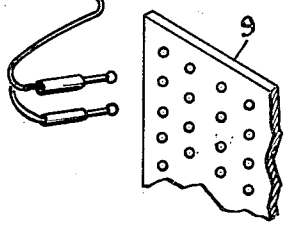


FIG. 2

FIG. 3





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2,032,047

PRINTING PRESS FOR PRINTING SPOTS OF WAX CARBON ON SHEETS OF PAPER

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Application October 20, 1934, Serial No. 749,251

8 Claims. (Cl. 101—382)

My invention relates particularly to that type of press which is described in United States Patent No. 1,860,957, issued to The McBee Company as assignee of the inventor George A. Rutkoskie. The press described in that patent in order to perform its proper function, must be heated and all the parts of it which contact the wax carbon compound must be heated including the type bed and ink plate.

It is well known in the art that the "make up" time is the most expensive part of the printing and Rutkoskie provides a large number of drilled and tapped apertures in the lock-up base to facilitate the mounting of the printing plate but even this arrangement consumes a considerable period of time. Others have attempted to overcome this by means of electro magnets mounted in the type bed and then placing magnetic material in the back of the printing plate so that the magnetism will hold the plate in position. These save some time but require a specially prepared printing plate. It is moreover unsatisfactory because if one were to attempt to use it in a printing press for printing spots of wax carbon on sheets of paper the heat would quickly ruin the insulation of the magnetic coils thus producing a short which would necessarily destroy the usefulness of the device.

My invention has for its principal object to provide for the construction of a type bed, to be used on a press which is to print spots of wax carbon on sheets of paper and consequently is heated, which will have provision for effectually protecting the magnetic coils, from the heat so that the electric magnets may be used in the type bed without the slightest deleterious effect of the heat upon the magnetic coils.

A further object is to provide printing plates, either formed entirely of magnetic metal so no special construction of the plates is required, or a magnetic metal base and a type metal plate.

A further object is to provide for a plurality of magnets so connected that a printing plate or a plurality of them can be securely held at any location on the type bed.

My means of accomplishing the foregoing objects may be more readily understood by having reference to the accompanying drawing, which is hereunto annexed and is a part of this specification, in which—

Fig. 1 is a top or plan view of printing press type bed embodying my invention;

Fig. 2 is a cross section on line 2—2 in Fig. 1; and

Fig. 3 is a fragmentary detail view on an enlarged scale for the sake of clearness.

Similar reference numerals refer to similar parts throughout the entire description.

As shown in the drawing, the type bed 1 is of the standard construction used on a Kelly press, though it will be clear that my invention is not limited to that press but is referred to solely for illustrative purposes. The bed 1 is provided with the usual rack 2 for its reciprocation and has an ink plate 3 adjoining it.

Provision is made for heating the type bed 1 and ink plate 3 by means of electric heating elements 4 mounted in the bed and plate respectively. As my invention does not relate to the heating of these parts, I shall not further describe it. The Rutkoskie patent fully sets forth the means for that purpose.

The bed is shown mounted upon rollers 5 in the usual or customary manner. In the type bed 1 I mount a plurality of electric magnets 6, their cores 7 extending through the type bed 1. These cores are preferably surrounded by a layer of non-magnetic material 12 clearly seen in Fig. 3. The windings 6 are connected by electric conductors to a panel 9 through which any series of magnets may be energized, so as to exert a magnetic pull upon a printing plate 10.

As shown in the drawing, these plates may be made of steel or iron, or any suitable magnetic substance. These plates preferably should have their surfaces plated and polished or they may be formed of non-metallic material afterwards attaching suitably shaped pieces of magnetic substance or they may have an electro deposit thereon of a layer of iron or nickel to render them susceptible to the lines of magnetic force. The cores 7 of the magnets 6, where they are in the type bed 1, are equipped with a suitable heating insulation 11 clearly seen in the detail views and in some cases it may be found desirable in practice to extend this protective covering over the windings also.

Though I have shown a specification of heat insulation, it will be obvious to persons skilled in the art that my invention is not limited to any specific type of insulation but any protective covering which will serve to insulate the magnets 6 from the heat produced by the electric heating elements 4 will be within the scope of my invention.

Preferably the electric conduits are flexible so as to permit the reciprocation of the type bed 1 without interfering with the flow of the current to the magnets.

While I show and describe a specific arrangement for connecting the coils to the panel 9, it will be obvious, to persons skilled in the art, that the invention is not confined to any specific type of apparatus for this purpose, and any suitable or convenient means whereby any desired set of magnets can be cut in as found necessary, will serve equally well as the form illustrated.

Having described my invention what I regard as new and desire to secure by Letters Patent is:

1. In a type bed for printing presses for printing spots of wax carbon on sheets of paper, a plurality of heating elements to heat the bed, a plurality of electric magnets mounted therein, said magnets being spaced from each other, means to supply electric current to said magnets, means to supply said current to any predetermined number of said magnets, and means to protect the winding of said magnets from the heat.

2. In a reciprocating type bed for printing presses for printing spots of wax carbon on sheets of paper, a plurality of heating elements to heat the bed, a plurality of electric magnets mounted therein, said magnets being spaced from each other, means to supply electric current to said magnets, means to supply said current to any predetermined number of said magnets, and means to maintain said current supply continuously during the reciprocation of said type bed and means to insulate said magnets from heat.

3. In a reciprocating type bed for printing presses for printing spots of wax carbon on sheets of paper, a plurality of heating elements to heat the bed, a plurality of electric magnets mounted therein, said magnets being spaced from each other, means to supply electric current to said magnets, means to supply said current to any predetermined number of said magnets, and flexible means to maintain said current supply continuously during the reciprocation of said type bed, and means to protect said magnets from heat.

4. In a reciprocating type bed for printing presses for printing spots of wax carbon on sheets of paper, a plurality of heating elements to heat the bed, a plurality of electric magnets mounted below said type bed, said magnets being spaced from each other, means to supply electric current to said magnets, means to supply said current to any predetermined number of said magnets, and means to maintain said current supply continuously during the reciprocation of said type bed.

5. In a type bed for printing presses for printing spots of wax carbon on sheets of paper, a plurality of heating elements to heat the bed, a plurality of electric magnets mounted therein, said magnets being spaced from each other, the cores of said magnets extending through said type bed and terminating at its surface, flexible electric conductors to convey electric current to said magnets, and means to supply said current to any predetermined number of said magnets.

6. In a reciprocating type bed for printing spots of wax carbon on sheets of paper, a plurality of heating elements to heat the bed, a plurality of electric magnets, the cores of which extend through said type bed to its surface, the windings of said magnets being below said type bed, said cores being spaced from each other, and means to protect said magnets from the heat of the bed.

7. In a reciprocating type bed for printing spots of wax carbon on sheets of paper, a plurality of electric heating elements located in said type bed to heat it, a plurality of electric magnets, the cores of which extend through said type bed to its surface, the windings of said magnets being below said type bed, said cores being spaced from each other, and means to protect the cores of said magnets from the heat of the type bed.

8. In a reciprocating type bed for printing spots of wax carbon on sheets of paper, a plurality of heating elements to heat the bed, a plurality of electric magnets, the cores of which extend through said type bed to its surface, the windings of said magnets being below said type bed, and said cores being spaced from each other.

WILLIAM F. BURKE.