H. J. POSTLEWAITE.

PERFORATING ATTACHMENT FOR PRINTING PRESSES.

APPLICATION FILED JAN. 7, 1918.

1,282,934.

Patented Oct. 29, 1918.

2 SHEETS—SHEET 1.

FIG. 1.

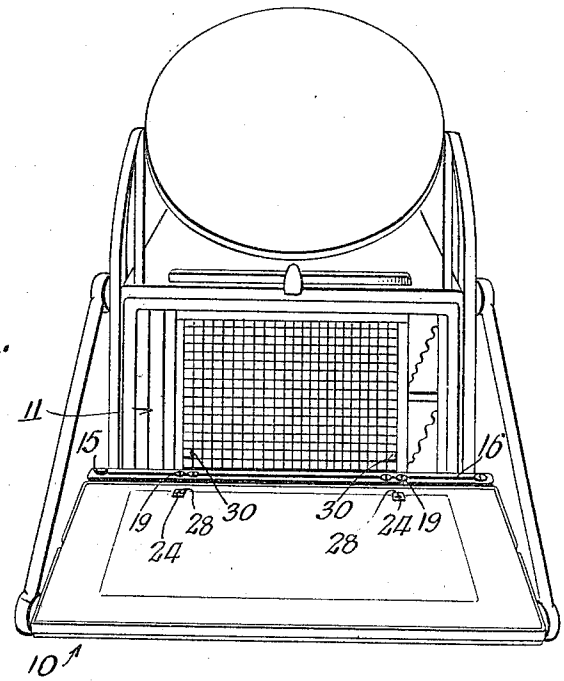
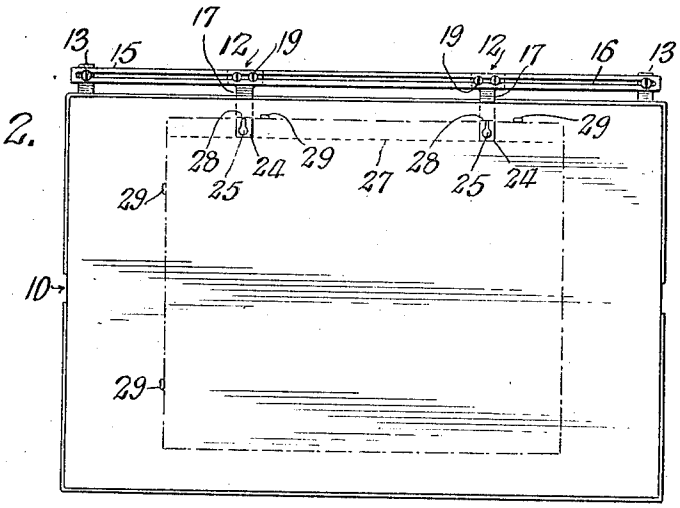


FIG. 2.



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2 SHEETS—SHEET 2.

FIG. 3.

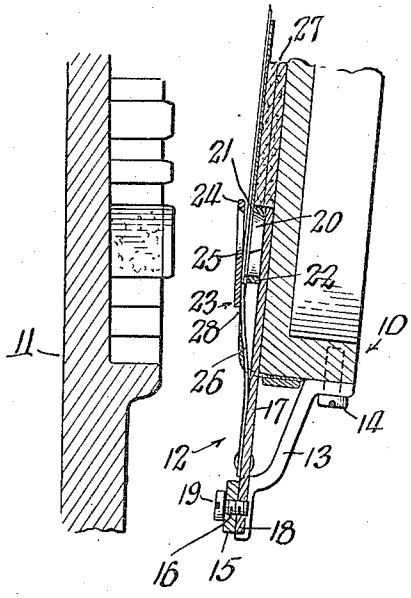


FIG. 4.

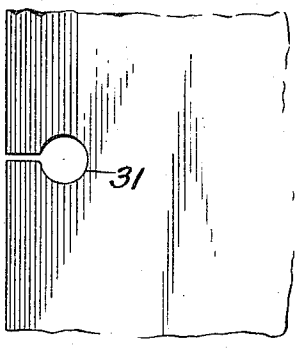
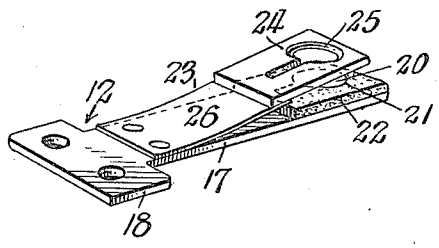


FIG. 5.



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UNITED STATES PATENT OFFICE.

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PERFORATING ATTACHMENT FOR PRINTING-PRESSES.

1,282,934. Specification of Letters Patent. Patented Oct. 29, 1918.

Application filed January 7, 1918. Serial No. 210,623.

To all whom it may concern:

Be it known that I, HOMER J. POSTLEWAITE, a citizen of the United States, and a resident of Hammond, in the county of Lake and State of Indiana, have invented certain new and useful Improvements in Perforating Attachments for Printing-Presses; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in perforating attachments for oscillating-tympan printing presses, and consists of the matters hereinafter described and more particularly pointed out in the appended claims.

The object of the invention is to provide a novel and improved device which may be readily attached to a printing press, so that sheets of paper may be perforated at the same time that they are printed. The device is of especial advantage for use in printing sheets for loose leaf ledgers.

A further object of the invention is to produce a device of the kind such that it may be adjusted to provide the perforations at any desired points in the margin of the sheet to be perforated. The advantages of the invention will appear as I proceed with my specification.

In the drawings:—

Figure 1 is a view in perspective of an oscillating-tympan printing press known as a "Gordon" or "job" press, with my improved perforating attachment applied thereto.

Fig. 2 represents a top plan view of the tympan of the press, with my perforating attachment applied.

Fig. 3 represents, on an enlarged scale, a detail sectional view through the inner or bottom end of the tympan and of the type form holder or chase. Said parts are shown in the position that they sometimes assume as they move toward one another in the operation of the printing press.

Fig. 4 is a fragmentary view of a sheet of paper showing the perforations in the marginal edge thereof after the same has been acted upon by my improved perforating attachment.

Fig. 5 represents a perspective view on a somewhat enlarged scale of the main part of the perforating attachment.

The invention includes a perforating device adapted to be attached to the tympan and an associated block adapted to be "set up" in the type form. This block is designed to actuate the perforating device at the same time that the printing is produced upon the sheet of paper being acted upon.

Referring now in detail to that embodiment of my invention illustrated in the drawings:—10 indicates the tympan of a press of the kind before mentioned, and 11 indicates a type holding form or chase. The parts named coact with each other in the usual, familiar manner, and therefore need no further description. As illustrated, the tympan is rectangular in form.

12 indicates one or more perforating devices adapted to be secured to the tympan in the following manner: 13, 13 indicate brackets which are attached to the inner bottom edge of the tympan near the ends thereof by means of screws 14. The opposite ends of said brackets are bent into the plane of the face of the tympan 10. Connecting the brackets 13, 13 is a bar or rail 15 which has a slot 16 extending throughout the greater part of its length. Adjustably mounted on this bar 15 are one or more of the perforating devices 12. These perforating devices are alike, and therefore a detail description of one will suffice.

The perforating device 12 consists of a plate 17, the head end 18 of which is preferably wider than the body. Said head is provided with threaded holes in which screws 19 engage for attaching it to the under side of the rail 15,—said screws taking through the slot 16 in said rail. At the opposite end of said plate is a cutting head or die 20, constituting the male member of the device. This male member is made, as shown, to form a key-hole slot. It has under cut sides (see Fig. 3) to provide a sharply defined, top cutting edge 21. Surrounding this male cutting member is a compressible pad 22, which is preferably made of rubber but may be made of other suitable material. 23 indicates the female member of the perforating device. This consists of a plate 24 in which is formed an opening 25 (in this case a key-hole slot) to conform to the shape of the male member 20. Said female member 23 is carried by a flat leaf spring 26 which is attached at one end to the plate 17 that carries the male member. The sides of the opening 25 are tapered as shown, to pre-

sent a better cutting edge in the operation of the press.

In attaching the device to the tympan of a press the plate 17 normally engages at its inner end upon the operating surface of the tympan. The usual pad 27 is provided on the tympan. Said pad is covered by the usual draw sheet, which may be attached to the edges of the tympan in any well known manner. The pad 27 is made of a thickness corresponding to the thickness of the bar 17 and the male cutting member 20 of the attachment, so that the top surface of the cutting attachment is in the plane of the top surface of the pad. Openings 28 are provided in the draw sheet through which the plate 24 projects. Paper stops or guides 29 are attached to the draw sheet in the usual way.

The operation of the perforating attachment when used in connection with a printing press is as follows: The sheet of paper to be printed and perforated, is fed or placed upon the tympan with its edges supported upon the stops or guides 29. When in this position, one marginal edge of the paper will be located between the male cutting member and the opening 25 in the female member 23. As the tympan and type chase advance, the one toward the other, in the printing operation and when the type engages the paper sheet to be printed, a block 30 set up in the type chase (there being provided a block of the kind for each perforating device) engages the female member 23 and depresses the same to engage the male member 20. The pressure causes the compressible pad 22 surrounding the male member to yield, thus permitting the cutting edges of the perforating device to coact and to cut a hole 31 in the margin of the paper sheet shown in Fig. 4.

When the tympan and type chase move, the one from the other, the pressure is relieved and the compressible pad 22 expands to assume its normal position and as it does so pushes the blank cut from the marginal edge of the paper from the male member 20. As the printing operation is brought about when the tympan is in approximately a vertical position, the blank or blanks thus cut from the sheet, fall to the floor beneath the press.

It will be manifest from the foregoing description that the presence of the perforating attachment on a printing press will in no way interfere with, or change, the normal operation in feeding the sheets to be printed, to the press, and in printing the same. By reason of the fact that the pad is built up on the tympan to a thickness equal to the height of the top surface of the male member of the perforating device from the surface of the tympan, and the draw sheet is arranged to cover the said male member, which is exposed for cutting purpose by cutting through said draw sheet itself, in the printing of the first sheet, the feeding of the sheets is not obstructed in any manner by the presence of the perforating device on the tympan.

The improved attachment is of particular advantage in printing and perforating sheets designed for use with loose leaf ledgers or other loose leaf books, in printing which, as heretofore, two separate operations were required, namely; first a printing operation, and second, a perforating operation. The advantages of the improvement will be apparent to those familiar with the art.

While in describing my invention I have referred to certain details of mechanical construction and arrangement, it is to be understood that the invention is in no way limited thereto except as may be pointed out in the appended claims.

I claim as my invention:

1. A perforating attachment for printing presses having a tympan, a chase and chase holder, comprising in combination, a supporting rail adapted for attachment to the tympan, a perforating device including male and female cutting members adapted for attachment to said supporting rail, and a block adapted to be set up with the type in the chase to engage the female cutting member of the perforating device when the tympan is brought into printing engagement with the type in the chase.

2. A perforating attachment for printing presses having a tympan, a chase and chase holder, comprising in combination, a supporting rail adapted for attachment to the tympan, a perforating device consisting of a plate adjustably secured to said rail, a male cutting member on said plate, a compressible pad surrounding said cutting member, an associated, depressible, female cutting member mounted on said plate and normally spaced from said male cutting member, and a block adapted to be set up in the chase, to engage the female cutting member of the perforating device when the tympan is brought into printing engagement with the type in said chase.

3. A perforating attachment for printing presses having a tympan, a chase and chase holder, comprising in combination, bracket members adapted to be attached to the edge of the tympan, a rail supported on said brackets, a perforating device consisting of a plate adjustably secured to said rail, a male cutting member on said plate, a compressible pad surrounding the male cutting member, an associated, depressible, female cutting member mounted on said plate and normally spaced from said male cutting member, and a block adapted to be set up with the type in the chase to engage

the female cutting member of the perforating device when the tympan is brought into printing engagement with the type in the chase.

4. A perforating attachment for printing presses having a tympan, a chase and chase holder, comprising in combination, bracket members adapted to be attached to one edge of the tympan, a slotted rail secured to said bracket members, a perforating device consisting of a plate having one end in engagement with one side of said slotted rail, screws extending through the slotted rail and adjustably clamping the plate to said rail, a male cutting member on the other end of said plate, a compressible pad surrounding said male cutting member, a female cutting member associated with said male cutting member, a resilient member securing said female cutting member to said plate in a plane normally spaced from the male cutting member, and a block adapted to be set up with the type in the chase, to engage the female cutting member of the perforating device when the tympan is brought into printing engagement with the type in the chase.

5. A perforating attachment for printing presses having a tympan, a pad, a draw sheet, a chase and chase holder, comprising in combination bracket members adapted to be attached to one edge of the tympan, a rail secured to said brackets, a perforating device consisting of a plate having one end adjustably secured to said rail, the other end of said plate being adapted to engage the face of the tympan beneath the draw sheet, said last mentioned end having a male cutting member surrounded by a compressible pad, the operative face of said male cutting member being arranged in the plane of the surface of said tympan pad, a female cutting member associated with said male cutting member, a resilient member securing said female cutting member to said plate, said female cutting member being normally spaced from the male cutting member and extending through a slit in the draw sheet to be exposed in a position above the draw sheet, and a block adapted to be set up with the type in the chase to engage the female cutting member of the perforating device, when the tympan is brought into printing engagement with the type in the chase.

In testimony that I claim the foregoing as my invention, I affix my signature in the presence of two witnesses, this 4th day of January, A. D. 1918.

HOMER J. POSTLEWAITE.

Witnesses:
CHAS. PAULSRING,
JOHN P. SPURGEON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."