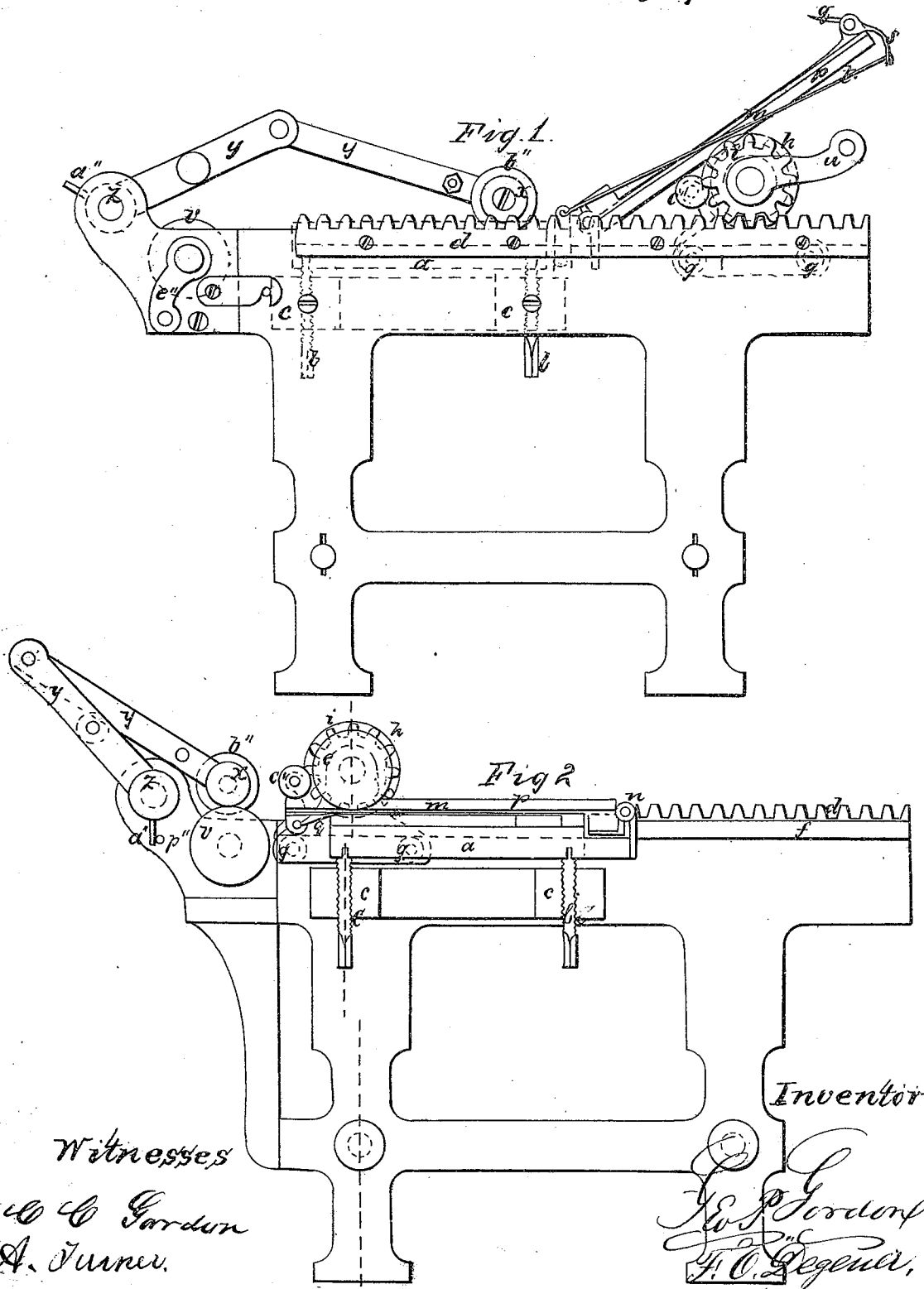


Gordon & Degener. Sheet. 2 Sheets.
Hand Press.

N^o 25008. Patented Aug. 9. 1859.



Inventor

Gordon & Degener:
Hand Press

N^o 25008.

Patented Aug. 9. 1859.

Fig. 4.

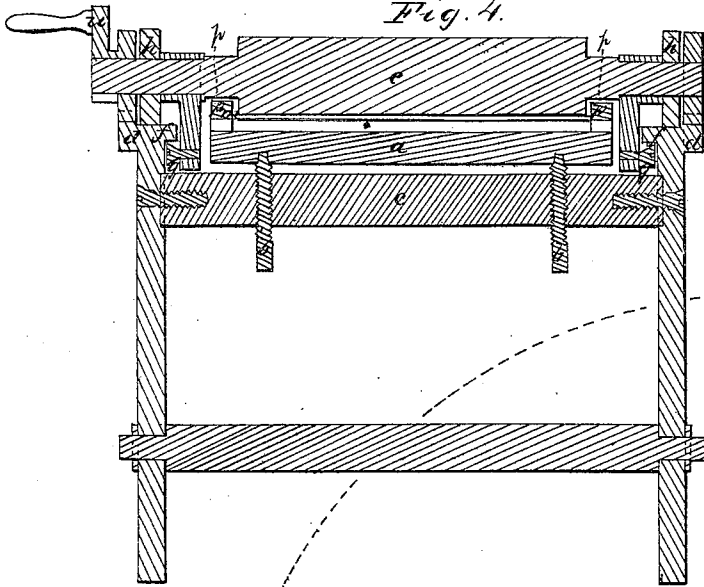


Fig. 3^a

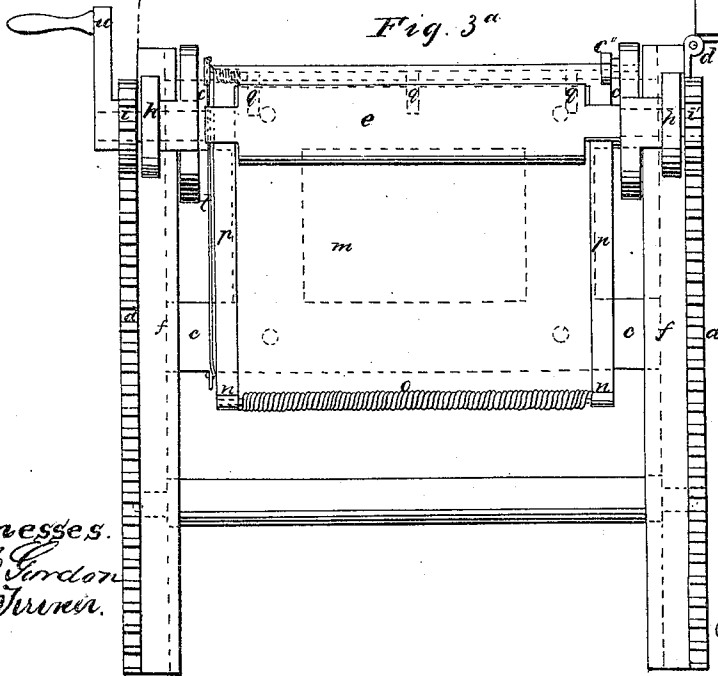
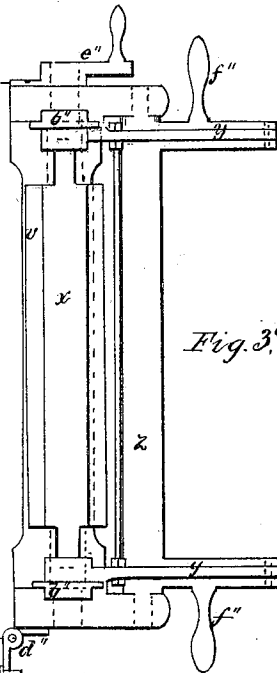


Fig. 3^b



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UNITED STATES PATENT OFFICE.

GEO. P. GORDON AND F. O. DEGENER, OF NEW YORK, N. Y.

PRINTING-PRESS.

Specification of Letters Patent No. 25,008, dated August 9, 1859.

To all whom it may concern:

Be it known that we, GEO. P. GORDON and FREDERICK O. DEGENER, of the city of New York, in the county and State of New York, have invented certain Improvements in the Construction of Printing-Presses; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference thereon, like letters of reference always representing the same parts in all the figures of the drawings.

These drawings so represent the invention that Figure 1, is an elevation of the side of the press where the pressman will be, in order that he may perform those duties which will be explained. Fig. 2, is a sectional elevation of the machine, as it would appear if parted lengthwise in its center; the dotted lines indicating those parts which are hidden from view. Fig. 3^a, is a plane plan of the press; and Fig. 3^b, is a plane plan of the inking apparatus, which is attached or hinged to the press, so that it may be placed in different positions in relation to the press; in Fig. 3^b, the inking apparatus is represented as being swung around from the press Fig. 3^a. Fig. 4, is a cross section of the press, at or near the end of the stationary bed. The sheet of paper will in all the figures be found in red lines.

The nature of our invention is to supply a substitute for the article known as a "hand printing-press," so that instead of taking the impression in the laborious manner heretofore in use, labor is saved, and speed gained; that is, a larger amount of work may be produced with a less quantity of labor than is known to common hand press-work; a cylinder being substituted for the platen, and instead of a reciprocating bed having a motion from one place or position to another, it is simply stationary, except when it is necessary to increase or decrease the amount of pressure.

We provide a bed, which, at the time the impression is being given, is fixed or stationary; this bed is the place upon which the typeform rests, in order that it may be printed from; and will be known as (*a*); its foundation is a part of the frame, and is useful inasmuch as the regulating screws (*b*, *b*,) depend upon this portion of the frame, that they may govern the impression

by elevating the bed to increase impression, or lowering the bed to decrease impression, as occasion may require; this portion of the frame will be known as (*c*) in the drawings.

The frame might appear to be of no material account, but in order to be better understood, it has been found necessary to give or show parts of it. At or near the top of the frame, on both sides, is placed a rack, (*d*) into which are geared pinions placed upon the impression-cylinder-shaft; the racks (*d*) with the other parts of the frame aid in their combination with the controlling ways (*f*) in retaining the impression cylinder (*e*) in its proper lineal relation to the bed. The impression cylinder is further governed by the action of the frictionless rollers (*g*, *g*,) as seen in Fig. 2. These frictionless rollers (*g* *g*) impinge against the under side of the projecting controlling ways (*f*) while the impression is being given, and thus keep the cylinder down to the type during the impression.

Besides the lineal ways, and the racks and pinions, are found on either side (or both sides) of the press frictionless rollers or wheelbearers (*h*, *h*,) which, while traveling with the cog-wheels or pinions (*i*, *i*,) revolve upon the impression-cylinder-shaft, and in combination, act with the rollers (*g*, *g*,). This cylinder, or segment of a cylinder is used to give the impression; it being confined by the pendent- or frictionless-rollers (*g*, *g*,) before referred to, on the one part, and the racks, pinions, and wheelbearers on the other part.

The tympan is best understood in its open position, as in Fig. 1; this tympan is composed of some suitable elastic substance, such as india-rubber or its equivalent, the same being carefully stretched upon the tympan-frame; this will be known as (*m*). Hinges (*n*) are attached to the side of the bed, and upon these the tympan-frame acts.

In order the better to relieve the printed sheet from the form, without the aid of a frisket, or the labor of the pressman, a spring (*o*, Fig. 3^a,) is placed at its side, which causes the tympan automatically to open, or rise as the cylinder retires from the impression it has given.

The tympan-frame in itself has no peculiarity, yet its relations to the other parts make it an indispensable coadjutor; this frame will be seen in Figs. 1, 2, and 3^a more

particularly, where it will be known as (*p*). At the upper end or side of the tympan-frame are the sheetgrippers (*q*), which are connected with the tympan-frame; as here constructed a rod extends from one side of the tympan-frame to the other, upon this rod are placed the grippers and their closing-spring; the grippers are marked as (*q*, in Figs. 1, 2, and 3^a). Movement is given to these grippers through the motion of the tympan-frame by the advancing action of the cylinder. When the tympan is raised to its proper height, the grippers are opened and held in an open position by the arm (*s*) attached to the gripper-rod (*t*), and by a connecting-rod having a fixed fulcrum, so that the sheet to be printed may be placed upon the tympan. The crank (*u*) attached to the impression cylinder by which the cylinder is operated, is shown in Figs. 3^a and 4, and will be more particularly referred to in describing the operation presently to be set forth.

It has been common with hand-presses (as they are called), to use an independent inking machine, but our arrangement combines the inking machine with the press in such a manner that the pressman may himself perform the necessary manipulations to ink the form, distribute the ink, lay the sheet, and when printed, remove it; or he may be aided by a second party, who being on the opposite side of the press, may distribute the ink, ink the form and take away the printed sheets. This inking contrivance is of the simplest character, consisting of a distributor, which may be used at the option of the user, so that any amount of distribution of the ink may be readily obtained. This distributor is seen in Figs. 1, 2, and 3^b, where it is marked (*v*); this distributor or cylinder (*v*) is to be operated by the crank (*w*), when the pressman desires to distribute the ink. The roller that inks the form will be known as (*x*) and in Fig. 1 is shown inking the form, while in Fig. 2 it is shown as receiving the ink, or distributing it upon the distributor (*v*). This roller (*x*), (one or more being used if necessary) is conducted from one position to the other through the agency of the elbow arms (*y, y*), having the shoulder or shaft (*z*) as their controlling point, or fulcrum, yet allowing full opportunity to the elbow arms *y, y* to perform their movements of extending and withdrawing, at the proper time, the ink roller (*x*). A stop (*a''*) is placed upon the shaft (*z*), which stop (*a''*) rests against a pin *p''* on the frame whose office is to prevent the arms *y y* from passing beyond the point where the inking-roller may rest upon the distributing cylinder.

At the end of the inking-roller are guiding wheels, which may be made with or without guiding flanges, (see *b''* in draw-

ings). In front of the impression cylinder may be placed on both sides frictionless rollers as shown (*c''*), (only one roller being shown in the drawings), the duty of these is to close the tympan with the sheet upon the form, in advance of the impression cylinder, and hold it down, so that the impression cylinder in giving the impression shall not produce a slur or mackle.

This press is so contrived that by withdrawal or removal of the inking apparatus Fig. 3^b, the press (bed) will be useful as an imposing-stone, it being convenient to approach it, either to make up or prepare the form for printing, in every relation that may be necessary.

In Figs. 1 and 2 the inking apparatus is shown as attached to, and forming a part of the press; but in Fig. 3^b it is shown substantially separated from the press, Fig. 3^a. The inking apparatus Fig. 3^b is by hinges (*d''*) connected with the press, Fig. 3^a; but this inking machine is independent and may be attached in some other way, or detached when the press is to be used without it. In Fig. 3^b we shall consider the inking apparatus as swinging on the hinge *d''*, and being removed from the position it occupies while being used to ink the form.

We will further state that the sheet of paper (see red line Fig. 1,) is where the pressman has placed it, preparatory to its being placed upon the form, as it appears in Figs. 2 and 4. The dotted red line in Fig. 2 is intended to indicate where the section in elevation Fig. 4 is to be placed, or at which point it is taken; the impression cylinder having once passed over the form and being ready to return to its normal position.

Operation: When the pressman intends to work the press entirely by himself, the operation will be as follows:—he will place the sheet intended to be printed, upon the tympan, as seen at Fig. 1; he then, by turning the crank of the impression cylinder causes it to advance, close the tympan, and thus bring the sheet to the form and give the impression as the cylinder passes and repasses over the elastic tympan; he may then supply such amount of ink to the inking-roller as will be proper; he then distributes the ink in the common way, by the crank (*e''*), being connected with the distributing cylinder; he will next roll his form, using the handle (*f''*) which is attached to one arm (*y*) of the double arms (*y y*), said arms (*y y*) carrying the inking roller (*x*), to pass the inking roller (*x*) over the type. He is thus able to place, or feed, his sheet, give the impression, distribute the ink, and ink his form, all in an easy and convenient manner, thus not necessarily requiring the auxiliary aid of a roller-boy, or have the heavy labor to perform of working an inking machine

by weights, in combination with a weighty reciprocating bed, as in the common hand press.

If this press is to be used on some occasions where increased speed will be valuable, a boy may be placed at the opposite side of the press, who may ink the form, distribute the ink, and remove the printed sheet. In order to take advantage of this benefit, we may change from one side of the press to the other, the crank, so that it may be worked by the assistant, leaving it to the option of the pressman, whether he will have the boy take away the sheet, on the opposite side of the press, or remove it himself.

Claims—

1. We claim combining with the tympan frame the sheet holding and relieving nippers, or grippers, for the purpose of holding the sheet, and for relieving the sheet from the type.

2. We claim the combination of a cylinder or segment of a cylinder with its wheel-bearers, the impression-cylinder-roller-pendants and the racks or gearing.

3. We claim the frictionless roller or its

equivalent in combination with the tympan frame, for the purpose of closing the tympan and properly laying the sheet upon the form in advance of the passage of the impression cylinder or its equivalent.

4. We claim operating the sheet holding and relieving grippers by or through the motion of the tympan.

5. We claim attaching a tympan-frame to an adjustable bed in such a manner that they at all times shall retain their relative position toward each other in the manner described.

6. We claim hanging, hinging or attaching the inking-apparatus to the frame of the press, or to the press, in such a manner that it may be turned, swung, or set aside, so as to allow the workman to get at the form to make any necessary alterations, or to make the form ready, or for the purpose of using the bed as an imposing stone.

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