

Jan. 15, 1929.

1,699,284

F. S. ENGLISH ET AL

SHEET RACK FOR PRESSES

Filed Oct. 5, 1926

3 Sheets-Sheet 1

Fig. 1.

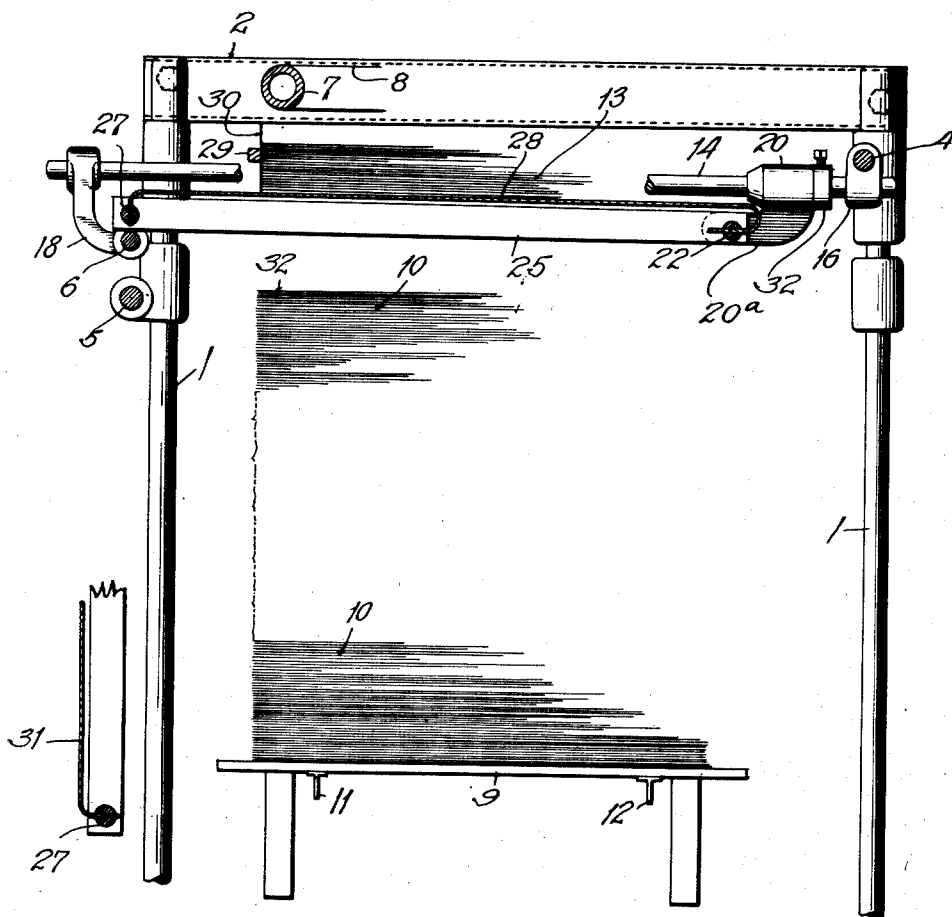
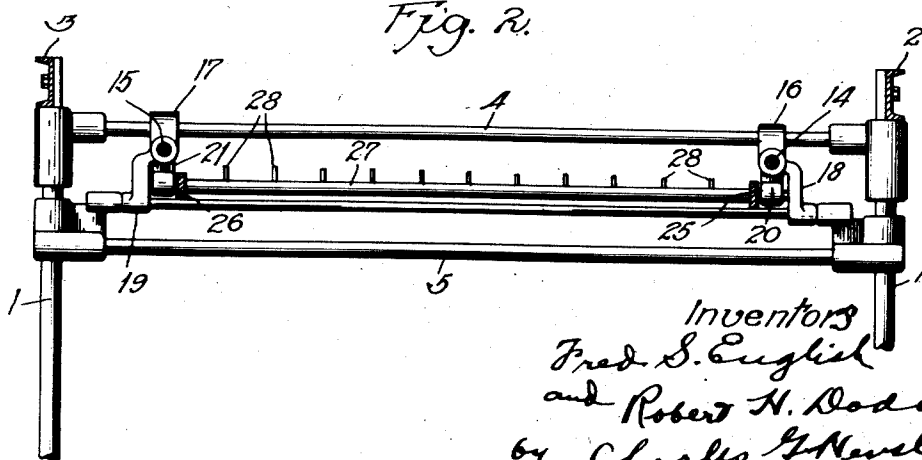


Fig. 2.



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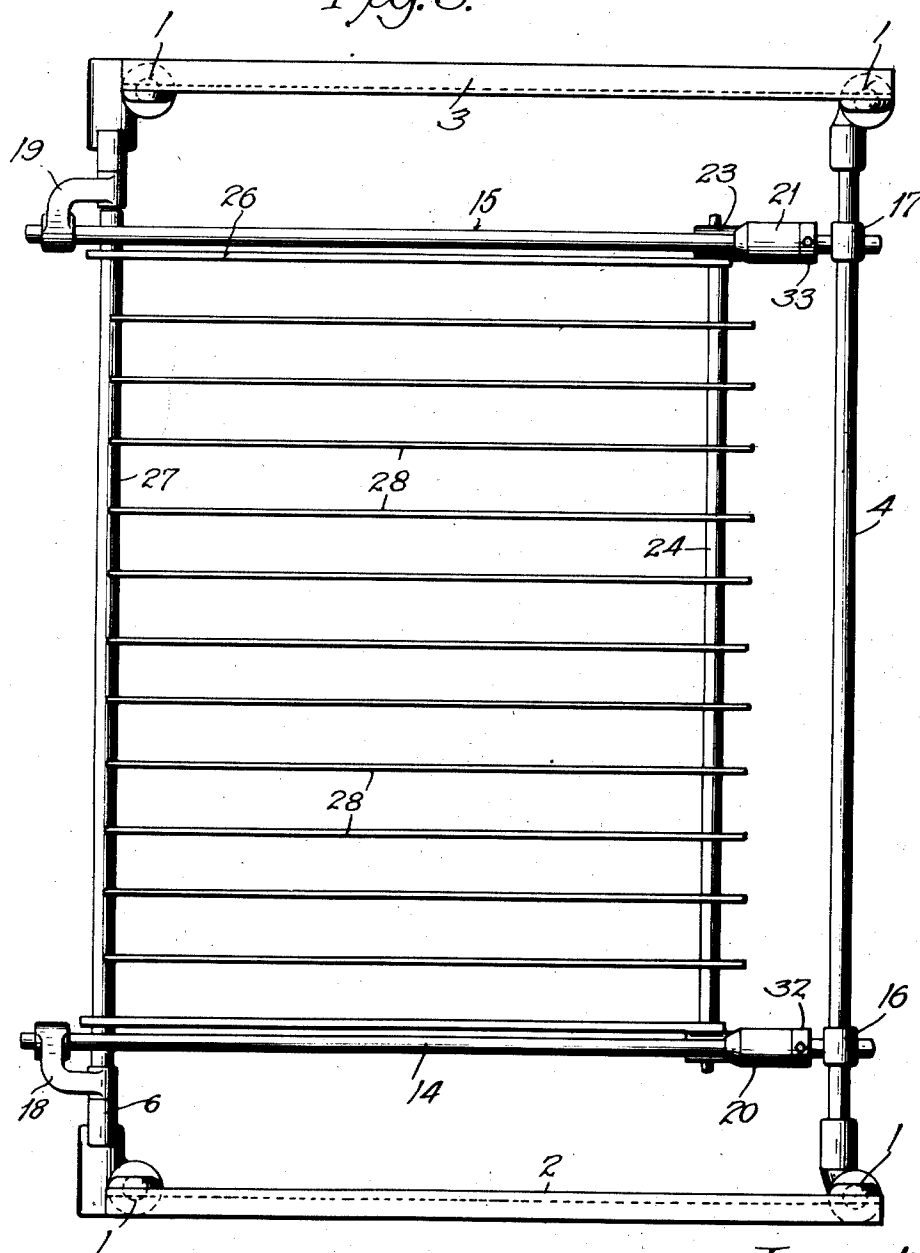
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3 Sheets-Sheet 2

Fig. 3.



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3 Sheets-Sheet 3

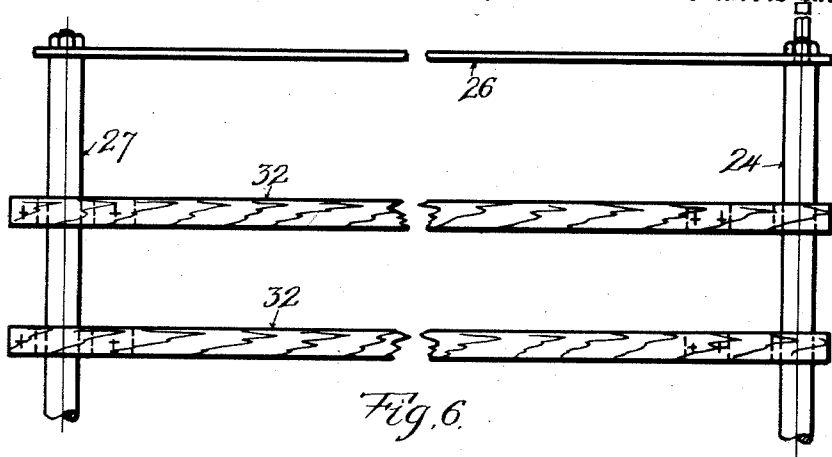


Fig. 6.

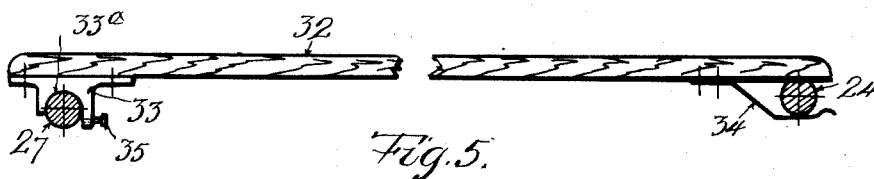


Fig. 5.

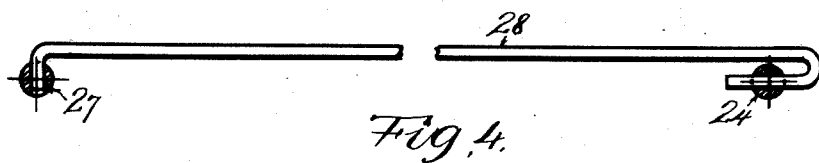


Fig. 4.

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UNITED STATES PATENT OFFICE.

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SHEET RACK FOR PRESSES.

Application filed October 5, 1928. Serial No. 139,614.

Our invention relates to a device for temporarily receiving and holding the sheets delivered from a press while the latter is in operation, and during the period when the large or main stack of sheets is being removed from the press and a new pile table inserted in place. Ordinarily when the pile table of a press has received a stack of sheets to the limit of its capacity the press is stopped while the pile table and stack are being removed and a new table being put into position. As this operation is repeated a number of times each day, especially where thick stock is being handled, there is a loss of time which is overcome by the use of the present invention, so that the press may remain in continuous operation. Our invention is adapted for use in connection with printing presses, cutting and creasing presses, and other forms of machines in which sheets of stock are delivered into a pile. We have chosen to illustrate our invention as applied to a cutting and creasing press having the well known type of Babcock extended delivery table. Our invention includes a simple and inexpensive rack which may be placed into and drawn from position with a minimum of effort and which will hang down out of the way when it is not in use.

In the drawings forming part of this application,

Figure 1 is a sectional view through an extended delivery device to which our invention has been applied and showing the principal parts thereof in side elevation,

Figure 2 is a front elevation of the same,

Figure 3 is a plan view,

Figure 4 is an enlarged side view showing certain sheet supporting members,

Figure 5 is a similar view showing the modified form of sheet supporting members, and

Figure 6 is a plan view of the parts shown in Figure 5.

In the drawings we have shown an extended pile table which is set off at the end of a printing press to receive the sheets as they are individually delivered by the delivery device of the press. We have only shown a portion of the delivery device itself. The delivery carriage carries the sheets individually over the extended pile table.

We have shown the legs 1 which form part of the frame work of the extended delivery

device, there being four such legs shown herein, and they are connected by side bars 2 and 3 in the direction of the length of the frame and by the tie rods 4, 5 and 6, crosswise of the frame, these several parts constituting the rigid frame of the extended delivery device. At 9 we have shown the usual pile table supported on cross bars 11 and 12 which are suspended from the frame of the machine by cables or chains (not shown). Any of the well known devices may be employed for lowering the table 9 gradually as a pile of sheets 10 accumulates thereon so that the top of the stack 10 remains at a definite position below the delivery tapes 8. The stack 10 in Figure 1 has been completed and is ready to be removed from the machine and in this same view we have shown the temporary stack 13 accumulating upon the rack.

There is a pair of horizontal rods 14, 15 arranged at opposite sides of the frame and they are supported at one end by the brackets 16, 17 which are fixed to the frame, and at their forward ends these rods are supported by brackets 18 and 19 which are fixed to the tie rod 6 of the frame structure. There are brackets 20 and 21 slidably mounted on the rods 14 and 15 and each bracket is provided with an arm 20^a which are provided with apertures 22 and 23. There is a cross bar 24 supported at each end by trunnions which fit loosely in the apertures 22 and 23. The rod 24 forms the rear member of the movable rack. At each end of the rod 24 and outside of the path of the sheets there is a pair of arms 25, 26 which form the side members of the movable rack, being pivoted at one end upon the bar 24. At the forward ends the members 25, 26 are connected crosswise of the frame by means of a rod 27 which forms a front member of the movable rack.

In the form of our invention shown in Figures 1 to 3 there are bars 28 each attached at one end to the rod 24 and at their opposite ends to the rod 27, and they are so positioned that their upper surfaces lie in a plane above the tops of the rods 24 and 27 in order to support the sheets above these rods. The front end of the movable rack rests slidably upon the tie rod 6 of the frame, whereas the rear end of the rack is slidably supported by the brackets 20 and 21 from the side rods 14 and 15.

There is a cross bar 29 fixed on each end of the frame and it carries a series of front stops 30 against which the leading edge of the sheet strikes as the sheet falls from the delivery carriage. If desired, other stops for the rear and side edges of the sheets may be provided in accordance with common practice. The stops 30 perform the additional function of holding the temporary stack while the movable rack is being withdrawn.

Operation.

When the pile table 9 has received thereon a complete stack of sheets 10 the table is lowered until the top 32 of the stack is below the path of the movable rack. The rack will be in the position shown at 31 in Figure 1. The operator will now grasp the rod 27 and swing the rack in the arc of a circle with the rod 24 as the axis, it being understood that the brackets 20, 21 are at this time at the forward end of the rods 14, 15. When the rack has been lifted into a horizontal position it is pushed rearwardly under the delivery device and between the sheets as they are falling therefrom. The rack will be pushed rearwardly until it comes to the position shown in Figure 3 and it will remain in this position while the operator is removing the pile table 9 with its stack of sheets 10 and until a new pile table has been placed into position. While the pile table is being removed and replaced the sheets will deliver from the tapes 8 upon the several bars 28 forming a temporary stack 13. When the new pile table has been placed into position the operator may grasp the rod 27 and draw the movable rack forwardly; and as this takes place the forward edge of the temporary stack 13 will be held by the stops 30 and as the bars 28 slide out from under the temporary stack 13 the latter will fall upon the new pile table 9 positioned just below the temporary rack. When the rack moves forwardly the brackets 20 and 21 will come up against the stationary brackets 18 and 19 whereupon the rack may be allowed to swing downwardly into the position 31. It is desirable that the rear end of the pile of sheets on the rack should extend behind the rod 24, that is, to the right of this rod in Figure 3, in order that the sheets will not sag between the rods 28 and thus permit the rod 24 to engage the sagged portion at the end of the stack as this would interfere with the removal of the rack. The front edges of the sheets as they deliver upon the rack, will stop at the same place against the front stop 30, but the sheets delivered are not always of the same length. We have shown collars 32 and 33 which are adjustably mounted on the rods 14 and 15 for limiting the sliding movement of the rack. If the sheets to be delivered are less than the maxi-

imum size, these stops 32, 33 will be adjusted to some position to the left in Figure 3, so that when the rack is moved into receiving position it will stop against these members 32, 33 and the rear end of the rack will be positioned according to the rear ends of the sheets which are delivered upon the rack.

It is sometimes desirable to adjust the sheet supporting rods crosswise of the rack, and it is sometimes desirable to increase or decrease the number of these bars and in Figures 5 and 6 we have shown bars which may be adjusted in position or be detached from the rack. In these views the bars 32 perform the same function as the bars 28 in the previous form. At one end each bar 32 has attached to it a bracket 33 provided with a socket 33^a to receive the bar 27 and the set screw 35 is adapted to be tightened against the bar 27 after the bar 32 has been placed in the desired position. At the other end of the bar 32 there is a spring clip 34 which is adapted to engage under the bar 24. By loosening the set screw 35 the bar 32 may be adjusted in position lengthwise of the bars 27 and 24 or some of the bars 32 may be removed or additional ones added according to the requirements of the stock which is to be delivered upon the rack and according to the width of the stock.

Having described our invention, what we claim is:

1. The combination with an extended delivery table for presses including a frame, a lowering pile table thereon, and means for temporarily receiving the sheets above said table, comprising a rack slidably mounted on said frame to be moved into position over said table, said rack being pivotally supported whereby it may be swung into a vertical position adjacent said frame.

2. The combination with an extended delivery table for presses including a frame, a lowering pile table thereon, and means for temporarily receiving the sheets above said table, comprising a rack slidably and pivotally mounted on said frame, and including cross bars, longitudinal members extending between said cross bars and rising above the top surfaces thereof to receive the sheets thereon.

3. The combination with an extended delivery table for presses including a frame, a lowering pile table thereon, guide rods on said frame, sliding members traveling on said rods, and a rack pivotally connected to said sliding members and adapted to be moved into position over said table and to be swung down adjacent said frame.

4. The combination with an extended delivery table for presses including a frame, a lowering pile table thereon, guide rods on said frame, a sheet rack adapted to be slid into and out of position over said table, said rack having cross bars and a plurality

of longitudinal sheet supporting members mounted for lateral adjustment on said cross bars. 35

5 5. The combination with an extended delivery table for presses including a frame, a lowering pile table thereon, guide rods on said frame, a sheet rack adapted to be slid into and out of position over said table, said rack having cross bars and a plurality of detachable longitudinal sheet supporting members mounted for lateral adjustment on said cross bars. 40

9. The combination with a delivery for presses including a pile table, a sheet rack adapted to be moved into and out of position over said table, said rack having cross bars and a plurality of longitudinal sheet supporting members mounted for lateral adjustment on said cross bars. 45

10 6. The combination with a delivery for presses including a frame, a pile table, guide rods, sliding members traveling on said rods and a rack pivotally connected to said sliding members and adapted to be moved into position over said table and to be swung down adjacent said frame 50

10. The combination with a delivery for presses including a pile table, a sheet rack adapted to be moved into and out of position over said table, said rack having cross bars and a plurality of detachable longitudinal sheet supporting members mounted for lateral adjustment on said cross bars. 50

20 7. The combination with a delivery for presses including a frame, a pile table, guide rods, sliding members traveling on said rods, and a rack pivotally connected to said sliding members and adapted to be moved into position over said table and to be swung down adjacent said frame, and adjustable stops on said guide rods for limiting the movement of said rack. 55

11. The combination with an extended delivery table for presses, including a frame, a lowering pile table thereon, guide rods on said frame, a sheet rack for receiving the sheets above said table, comprising a rack having means slidable on said rods and a pivotal connection between said sliding means, and said rack, whereby the latter may be moved into a horizontal sheet receiving position, or be swung into a vertical position adjacent said frame, and adjustable stops on said rods for limiting the longitudinal sliding of said rack. 60

30 8. The combination with a delivery for presses including a pile table, guide rods, sliding members traveling on said rods and a rack pivotally connected to said sliding members and adapted to be moved into position over said table, and adjustable stops

Signed at the city of New London, county of New London, State of Connecticut, this 28th day of Sept., 1926. 65

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ROBERT H. DODDS.