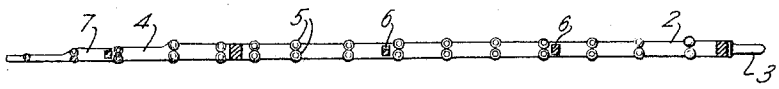
Feb. 7, 1967 A. BREUNIG 3,302,947

STACKING TABLE FOR CONTINUOUSLY OPERATING SHEET FEEDERS

Filed March 3, 1965 4 Sheets-Sheet 1

FIG. 2



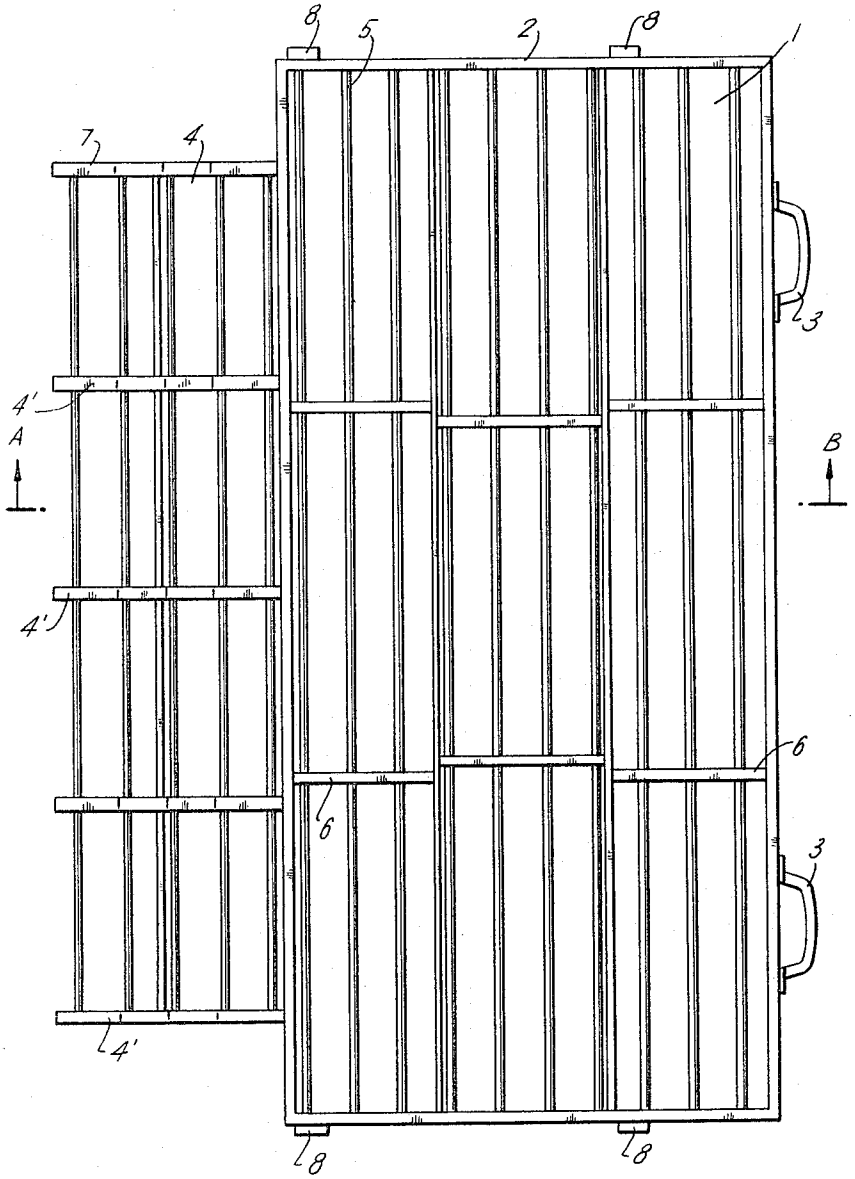




FIG. 1

STACKING TABLE FOR CONTINUOUSLY OPERATING SHEET FEEDERS

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FIG. 3

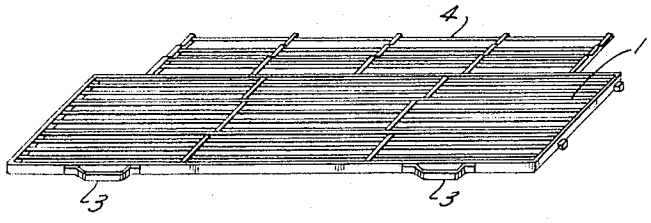



FIG. 4

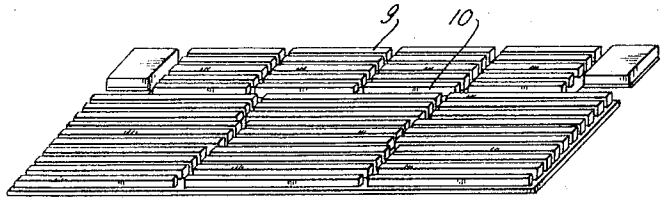



FIG. 5

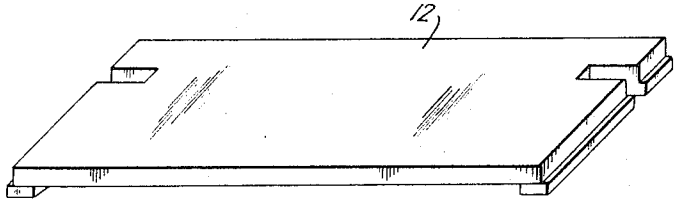
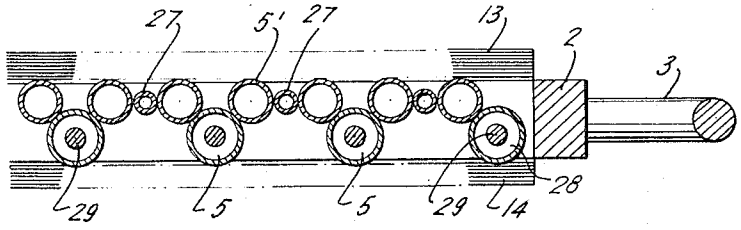



FIG. 19



STACKING TABLE FOR CONTINUOUSLY OPERATING SHEET FEEDERS

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FIG. 6

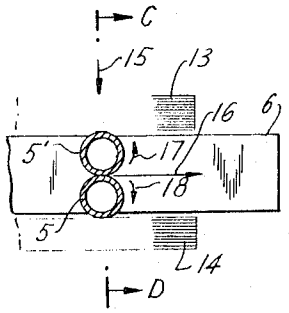



FIG. 7

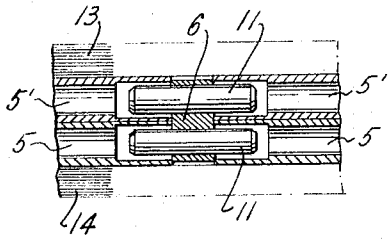



FIG. 8

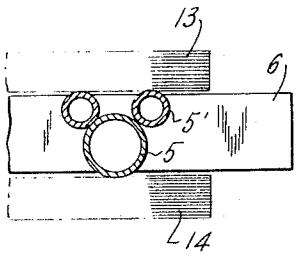



FIG. 17

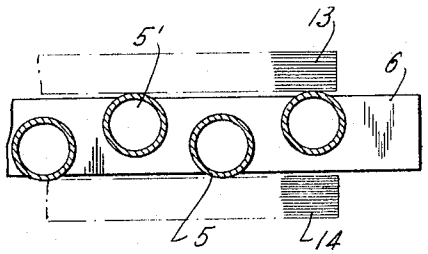
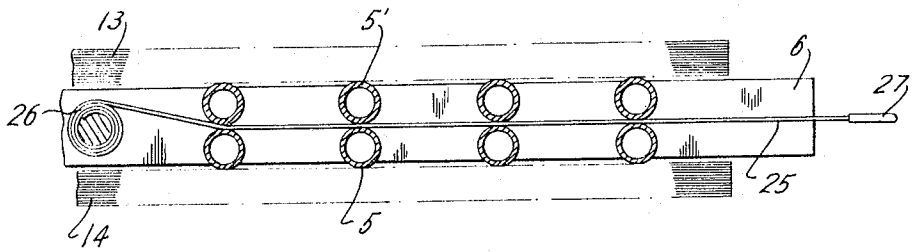



FIG. 18



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STACKING TABLE FOR CONTINUOUSLY OPERATING SHEET FEEDERS

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FIG. 9

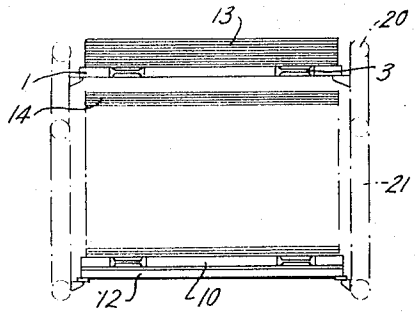



FIG. 10

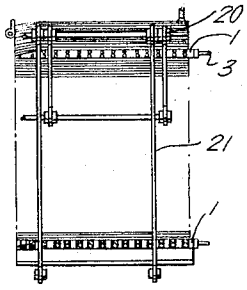
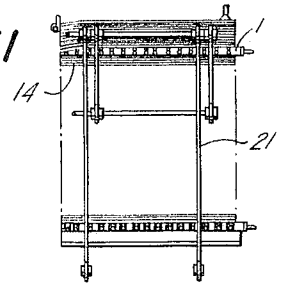



FIG. 11



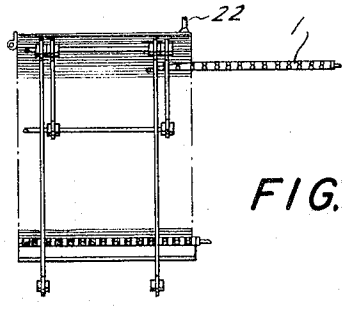
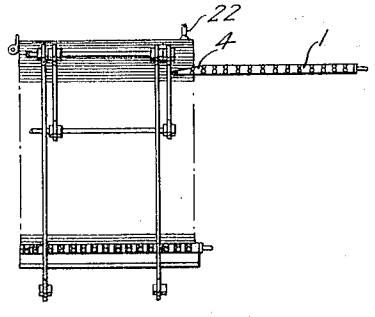




FIG. 12

FIG. 13



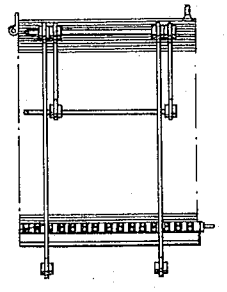
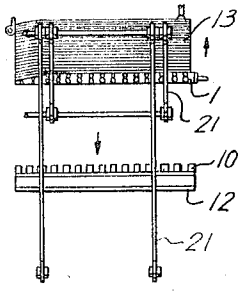



FIG. 14

FIG. 15



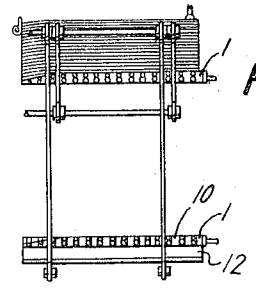




FIG. 16

United States Patent Office

3,302,947
Patented Feb. 7, 1967



3,302,947

# STACKING TABLE FOR CONTINUOUSLY OPERATING SHEET FEEDERS

Anton Breunig, Heidelberg, Germany, assignor to Schnellpressenfabrik Aktiengesellschaft Heidelberg, Heidelberg, Germany, a corporation of Germany

Filed Mar. 3, 1965, Ser. No. 436,837
Claims priority, application Germany, Mar. 6, 1964, Sch 34,761
11 Claims. (Cl. 271—62)

My invention relates to stacking tables for continuously operating sheet feeders as employed with printing presses. More particularly, the invention concerns an auxiliary pallet device which serves to support a residual stack of sheets while a new stack is being added and is equipped with rolling bodies to permit shifting the auxiliary pallet beneath the residual stack without displacing the sheets.

Devices for temporarily supporting the residual stack of paper sheets in continuously operating sheet feeders for printing presses have become known in a variety of designs. Among these are auxiliary table structures or pallet gratings composed of tubular rods and equipped with means for blowing compressed air from the interior of the rods toward the stack to produce an air cushion between the surfaces of the pallet and the residual stack.

These devices have the disadvantage that when the pallet structure is being pulled from, or shoved beneath, the residual stack, the current of blowing air must be maintained continuously if the air cushion is to have the desired effect. The air current then entrains any paper dust or lint adhering to the sheets and drives it toward the inking mechanisms of the printing press, thus affecting the imprints being produced. This type of auxiliary stacking table also requires a costly compressor assembly with hose connections for the supply of air to the tubular rods, which involves a considerable amount of equipment at localities where space is at a premium.

Another known pallet device for supporting a residual stack comprises a laterally guided frame with revolvable rollers which are joined with driving members meshing with racks or chains near the lateral guideways of the auxiliary stacking pallet. When the auxiliary pallet is being pulled out, the rollers are driven to roll on the bottom side of the residual stack without imposing a shoving force upon the sheets.

A shortcoming of this device resides particularly in the need for spacious lateral guide structures. Furthermore, the main stack supplied cannot be sufficiently moved up against the auxiliary stacking pallet. Hence the portion of the residual stack, from beneath which the pallet has already been pulled out, will drop down such a large distance as to interfere with the proper feeding of the sheets from the stack. That is, the operation of the sheet feeder nozzles is temporarily interrupted at the moment when the rear end of the auxiliary table leaves the residual stack thus defeating the main purpose of an auxiliary stacking table.

It is an object of my invention to eliminate the above-mentioned deficiencies of the known devices and to afford a residual stack to be temporarily held and laid upon a newly supplied main stack of sheets, without the occurrence of stoppage, particularly at the suction nozzles of the sheet feeder, and with the aid of comparatively simple structural means.

To this end, and in accordance with a feature of my invention, the auxiliary stacking table is provided with a pallet-type frame structure in the form of a grating in which two groups of rolling bodies are rotatably journalled, the rollers of one group protruding beyond the upper side of the frame structure, and the rollers of the other group protruding beyond the bottom side of the frame structure.



Such a pallet device does away with the need for lateral guide means, because a newly supplied main stack can be lifted against the bottom side of the auxiliary stacking pallet. The rolling bodies of the two groups are preferably designed as cylindrical rollers and are horizontally spaced from each other in the frame of the auxiliary stacking table. By virtue of such an arrangement, the height of the stacking pallet can be kept very slight because a roller of one group is located between two rollers of the other group.

Applicable as rollers are round rods or tubes of small diameter. The roller bodies may also be designed as balls which protrude from the top and bottom sides of the auxiliary stacking pallet in the above-mentioned manner.

According to another feature of the invention, the rollers of the two groups are mounted closely together so that one roller of one group touches one or two rollers of the other group. The rollers of one group may have a diameter different from those of the other group. It is preferable if at least the larger rollers are journalled in ball bearings. The rollers of the other group, having a smaller diameter, may be journalled in glide bearings with relatively large clearance, so that these smaller rollers are supported by the larger rollers when under load. The rollers of smaller diameter are then additionally driven by the readily rotatable rollers of larger diameter.

According to a preferred embodiment of the invention, the rollers are arranged in pairs, one roller vertically above the other and in contact therewith. When these rollers are loaded by the residual stack, and the auxiliary stacking pallet is being pulled out, the vertically arranged rollers roll upon each other. This results in a smaller amount of friction than if the bearings of the rollers, for example, glide bearings, must carry the weight of the residual stack. Furthermore, with this arrangement of the rollers their diameters can be kept very small because the rollers, preferably consisting of round rods, in this case, are located one upon the other and directly assume the load of the residual stack without being subjected to bending stresses, and the bearing localities in the pallet frame structure remain almost free of appreciable loading. Aside from glide bearings with large clearance, ball bearings and needle bearings are likewise applicable for journalling the rollers.

When the sheets consist of very thin paper, for example onion-skin or tissue paper, or when the sheet surfaces are very smooth, it is preferable to provide a thin tape or web member between the mutually contacting rollers of the two groups, and to aditionally drive the rollers by means of the tape or web member when the auxiliary stack is being pulled out. The driving web may be partially accommodated on a spring-biased dowel rod located in the auxiliary stacking table, this rod being similar to those used for roller blinds.

For completely eliminating damage to sensitive sheets the auxiliary stacking table may be provided with a driving device, such as a chain drive for rotating all or only some of the rollers so that they will roll on the lowermost sheet of the residual stack and on the top sheet of the main stack, without exerting force upon the sheets in the planes of the respective sheets. The driving device may be actuated by a motor or manually, for example with the aid of a crank mounted on the frame of the auxiliary stacking pallet at the front thereof.

According to another feature of my invention, the auxiliary stacking pallet is provided with a grid-shaped frame which is located on the side where the stack ultimately leaves the pallet and which tapers in steps toward the transverse rear edge. Such a grid-shaped frame portion permits the pallet to be pulled out from beneath the residual stack in graduated steps, while preventing

the surface of the residual stack from dropping each time beneath the suction nozzles of the sheet feeder device to such an extent that feed stoppage may occur.

To relieve the auxiliary stacking pallet of the weight of the main stack until the pallet is required to function, and to facilitate having the main stack laid down smoothly, a protective frame is preferably placed on top of the main stacking table, and the auxiliary stacking pallet is placed into the protective frame, the height of the frame being slightly larger than the height of the pallet.

The above-mentioned and more specific objects, advantages and features of my invention, said features being set forth with particularity in the claims annexed hereto, will be apparent from, and will be described in, the following with reference to embodiments of stacking tables according to the invention illustrated by way of example on the accompanying drawings.

FIG. 1 is a plan view of an auxiliary stacking pallet according to the invention.

FIG. 2 is a cross section through the pallet along the line A–B in FIG. 1.

FIG. 3 is a perspective view of the pallet according to FIGS. 1 and 2.

FIG. 4 is a perspective view of a protective frame.

FIG. 5 is a perspective view of a main stacking table.

FIG. 6 shows schematically and in section a portion of the auxiliary stacking pallet according to FIGS. 1 and 2.

FIG. 7 is a section along the line C–D in FIG. 6.

FIG. 8 shows schematically another embodiment relating to the arrangement of rollers in an auxiliary stacking pallet otherwise corresponding to FIGS. 1 to 3.

FIGS. 9 through 16 are explanatory, illustrating a stacking table with auxiliary stacking pallets according to the invention in different stages of operation.

FIG. 17 illustrates a different arrangement of the rollers in an auxiliary stacking pallet according to the invention.

FIG. 18 illustrates in section still another embodiment of an auxiliary stacking pallet whose rollers may be additionally driven.

FIG. 19 shows in section still another modification of an auxiliary stacking pallet according to the invention.

The auxiliary stacking pallet 1 illustrated in FIGS. 1, 2 and 3 is essentially formed by a grating whose frame structure 2 carries two handles 3 by means of which the auxiliary table can be pulled out of a stack of sheets. Another portion 4 of the pallet, also designed as a lattice or grid structure is joined with the main frame on the transverse side remote from the handles. The stringers 4′ of the frame portion 4, extending in the longitudinal direction of the auxiliary stacking table, decrease in height stepwise toward the extreme rear edge of the entire structure. The transverse width of the frame portion 4 is shorter on both sides than the width of the main frame 2 to leave respective spaces for accommodating the components of the stack lifting mechanism.

Rollers 5 are mounted within the grid-shaped frame structure 2 as well as in the frame portion 4 and are uniformly spaced from each other, having respective axes of rotation extend transverse to the longitudinal or pulling direction of the pallet. The rollers are arranged in pairs, the two rollers of each pair being located one above the other. The rollers are mounted in glide bearings, for example the bearings according to FIG. 7 described hereinafter, which provide sufficient clearance to permit the two rollers of each pair to abut against each other. Each roller slightly protrudes beyond the top surface or the bottom surface of the frame structure (FIG. 6). The residual stack laid upon the auxiliary stacking pallet would thus be carried only by the rollers but would not touch the stringers 6, 4′ of the frame structure. The transverse members and longitudinal stringer bars 6, which reinforce the frame structure and serve to provide for proper mounting of the roller bearings, have a somewhat smaller height than corresponds to the sum of the diameters of the two rollers. The external portions of the frame structure 2, not located within the region of the stack, may have a somewhat greater height.

FIGS. 6 and 7 show how the rollers are journalled in the frame structure. The longitudinal stringer bars 6 have bores through which respective journal pins 11 are driven so as to be rigidly seated in the bars 6. The rollers 5 and 5′ consist of tubular pieces whose ends are internally widened and rotatably seated on one of the pins 11. The rollers are thus arranged in a series transverse to the longitudinal direction of the pallet. If desired, the rollers in the individual grating area are so journalled that the rollers in each adjacent area are staggered by one-half division. This provides a better support for the residual stack.

The diameters of the rollers in the additional frame portion 4 decrease stepwise in accordance with the decrease in height of the lateral frame members 7 (FIG. 2). Instead of providing pairs of rollers in the tapering frame portion 4, this frame portion may also contain only rollers of the one group which protrude upwardly over the frame structure, or only rollers of the other group which protrude downwardly. Of course, in this case too, the diameters of the rollers must decrease in accordance with the graduated decrease in height of the lateral frame members 7.

Each longitudinal side of the frame 2 has two mutually spaced trunnions 8 (FIG. 1) by means of which the pallet can be lifted with the aid of an auxiliary lifting mechanism of known type. Sufficient space is left between the individual roller pairs 5, 5′ (FIG. 6) to permit the supporting ledges 9 of a protective frame 10 (FIG. 4) to pass through in the upward direction. The protective frame 10 may be placed upon the main stacking table 12 (FIG. 5) and is so designed that the auxiliary stacking table (FIG. 3) can be fully embedded therein. The height of the supporting ledges 9 is such that they carry the laid-down main stack without the lowermost sheet of the stack touching the pallet 1 sunken into the protective frame 10. If desired, the supporting ledges 9 may be fastened directly to the top of the stacking table 12, thus eliminating a separate protective frame.

FIG. 6 shows one of the roller pairs 5, 5′ of the auxiliary stacking pallet according to FIGS. 1 to 3 in approximately natural size. The upper roller 5 protrudes slightly above the stringer 6 and carries the residual stack 13. The lower roller 5′ protrudes downwardly beyond the stringer 6 by the same slight amount and is supported on the main stack 14. As mentioned, the two rollers are designed as tubes or round rods. The journal means of these members, such as the pin bearings 11 according to FIG. 7, have a large amount of clearance so that, in the loaded condition shown in FIG. 6, the rollers are in pressure contact with each other and relieve the journal pins 11 of the weight of the residual stack, this weight being schematically represented by an arrow 15 in FIG. 6. When the auxiliary stacking pallet 1 is being pulled out in the direction of the arrow 16, the two rollers 5 and 5′ rotate in the directions of the respective arrows 17 and 18 while rolling upon each other. During this operation, a relatively slight frictional resistance comes into play. Experience has shown that the sum of the frictional forces of all of the rollers in the auxiliary stacking pallet is lower than the force required for shifting the uppermost sheet of the main stack 14 or for shifting the lowermost sheet of the residual stack 13.

In the modified embodiment shown in FIG. 8, each of the above-mentioned pairs of rollers is substituted by a group of three rollers comprising a larger roller 5, preferably journalled in ball bearings, and two smaller rollers 5′ which are supported on the larger roller. The smaller rollers 5′ are journalled by means of glide bearings of relatively large clearance. If desired, the smaller rollers

5' may be additionally driven by means of the more easily rotatable larger roller 5.

The operation of the devices so far described is as follows.

FIGS. 9 and 10 show a main stack and a residual stack by a lateral view and front view respectively, in conjunction with a stacking pallet and other devices described presently. An auxiliary lifting mechanism 20 has just engaged the auxiliary pallet 1. The sheets from the residual stack 13 are being fed off the top to a printing press. A new main stack 14 has already been placed upon the main stacking table 12. Placed on top of table 12, beneath the bottom sheet of the main stack 14 is the protective frame 10 into which a second auxiliary stacking pallet 1 is placed so as to be fully contained inside the protective frame, this being apparent from FIG. 10.

In FIG. 11, the main stack 14 is lifted by the stack lifting mechanism 21 until the rollers 5' (FIGS. 6, 7) of the upper auxiliary pallet 1 become seated upon the top sheet of the main stack 14. Now the auxiliary lifting mechanism 20 can be lowered down to the starting position because the main lifting mechanism will take care of further raising the combined stacks. This takes place without interrupting the production of the machine being supplied with the sheets. The subsequent pulling of the upper auxiliary pallet 1 out of the stack also occurs without interruption in production. This will be explained presently.

FIG. 12 shows a stage at which the upper auxiliary table 1 has been pulled out by hand from beneath the residual stack up to the point where its tapering rear portion 4 (FIGS. 1, 2) commences. At this moment, the major portion of the residual stack is already combined with the main stack. Only within the range of the suction nozzles 22 which form part of the sheet feeder device, is the upper sheet of the supply main stack 14 still separated from the lower sheet of the residual stack 13. The stepwise tapering of the pallet portion 4 permits the pallet 1 to be further pulled out in respective steps without permitting the upper sheet of the residual stack to drop in the active region of the suction nozzles 22 to such an extent that a "stopper" may occur. This is because upon each stepwise pulling movement of the auxiliary table 1, the stack lifting operation becomes effective. Each step of the tapering frame portion 4 is not higher than one-half the height of the suction range of the nozzles 22.

FIG. 13 shows the position of the auxiliary stacking pallet at which two steps of the rear portion 4 are outside of the stack. According to FIG. 14, the rear end of the pallet is fully pulled out so that the residual stack 13 is entirely combined with the main stack 14.

In FIG. 15, the stack according to FIG. 14 has been consumed to such an extent that the auxiliary lifting mechanism 20, acting upon the frame of the upper auxiliary pallet 1, takes care of further raising the residual stack 13. Now the stacking table 12 with the protective frame 10 placed upon it, is lowered by the stack lifting mechanism 21. When the stacking table 12 has reached the lowermost position shown in FIG. 16, a new auxiliary stacking pallet is placed into the protective frame 10. A new main stack can now be piled upon the protective frame, while the residual stack is being further consumed. The above-described replenishing operating is then repeated.

With the aid of such a simple device, therefore, the output and efficiency of the feeder and consequently of the printing machinery being served can be greatly increasde because no stoppage intervals are required for replenishment of the stacks.

The invention is not limited to the illustrated embodiment so far described. For example, the rollers may be journalled in the grid structure of the auxiliary support without touching each other. An embodiment of this type is illustrated in FIG. 17. The lower rollers 5 are horizontally staggered with respect to the upper rollers 5'. This arrangement of the rollers has the advantage that the rollers can be given a relatively large diameter which permits the use of roller bearings or needle bearings. Furthermore, with a given number of rollers the sheets in the remnant stack, as well as in the main stack, are engaged more gently if the diameter of the rollers in the auxiliary pallet is larger.

Since some kinds of paper, for example tissue paper, are particularly sensitive or slick, it is in some cases preferable to additionally drive the rollers. An embodiment of this type is shown in FIG. 18. The rollers 5 and 5' are arranged one above the other as described above with reference to FIGS. 6 and 7. A thin but strong tape or web member 25 extends between the two rollers of each pair in frictional engagement with both. One end of the driving member 25 is rolled onto a dowel rod 26 which is spring-biased in roller-blind fashion so as to tend to keep the web member 25 rolled up. The other end of the member 25 is provided with a handle 27 at the front of the auxiliary stacking pallet beside the above-mentioned handles 3 (FIGS. 1, 2). As the pallet is being pulled out, the attendant may pull the handle 27 and thereby drive the roller pairs 5, 5' by means of the web member 25 so that no appreciable shoving force is exerted upon the adjacent sheets of the two stacks 13 and 14. Upon removal of the auxiliary pallet, the dowel roller 26 returns the member 25 to its original position as soon as the handle 27 is released by the attendant.

As explained, the rolling friction between the rollers and the stacks occurring when the auxiliary stacking pallet is being pulled out, is sufficiently slight to prevent displacement of the bottom sheet in the remnant stack or of the top sheet in the main stack. This is ideally the case if the rollers are arranged in pairs and the two rollers of each pair abut against each other during operation. However, if due to inaccuracies of manufacture, the rollers of such a pair are not precisely located vertically above one another, or if the upper roller is located laterally of the lower roller as shown in FIG. 17, a lateral force component will occur at least in the upper roller. This may cause an undesired increase in bearing friction.

However, according to another feature of the invention, such bearing friction can be avoided by providing an abutment roller between each two sheet-engaging rollers located at the same height, the abutment roller being in bracing engagement with the two adjacent rollers. The abutment roller is preferably given a smaller diameter than the adjacent rollers to prevent it from touching the sheets of the stack. This is necessary because the abutment roller rotates in a direction opposed to that of the sheet engaging rollers and hence may cause displacement of the sheets if permitted to touch them.

According to a preferred embodiment of the just-mentioned type, two upper rollers protruding beyond the top surface of the auxiliary stacking pallet are supported on an intermediate lower roller protruding from the bottom side of the pallet, the upper rollers being located on different sides respectively of the lower roller and braced by respective abutment rollers located on the sides away from the lower roller.

This device is particularly advantageous if the upper stack-supporting rollers are arranged at an angle of about 45° with respect to a vertical plane passing through the axis of the lower sheet-engaging roller, and if all three mutually engaging rollers are journalled in pin bearings with large clearance. With such a design of the roller arment, virtually no fricton occurs in the bearings when the rollers are under load, especially if the abutment rollers, too, are journalled with clearance to permit all of the rollers to adjust themselves relative to one another.

The embodiment illustrated in FIG. 1 incorporates the above-mentioned improvement features.

Similar to FIGS. 6, 7 and 8, the illustration in FIG. 19 shows a few sheets of a residual stack 13 supported on the grid-like structure of the auxiliary stacking pallet which in turn rests upon the top of the main stack 14 of which only a few sheets are represented. The auxiliary pallet comprises the above-described frame structure 2 with handles 3, and has lower supporting rollers 5 and upper supporting rollers 5' journalled in the same manner as in the embodiment of FIG. 8. Located between each group of three rollers is an abutment roller 27.

The lower supporting rollers 5 have a larger diameter than the other rollers and protrude slightly below the bottom side of the frame 2 to rest upon the top sheet of the main stack 14. The two supporting rollers 5' abutting against a single lower supporting roller 5 have a somewhat smaller diameter than the roller 5 and protrude upwardly to a slight extent above the top surface of the frame 2 in order to carry the residual stack 13.

The two upper rollers 5' of each group are arranged at an angle of 45° laterally of the appertaining lower roller 5. Each of the upper rollers 5' abuts against one of the abutment rollers 27 on the side remote from the appertaining lower roller 5. It will be seen that each group of three rollers is separated by an abutment roller 27 from the next adjacent group.

All of the rollers are loosely journalled on pins, such as exemplified in FIG. 7 so that when the rollers are placed under load, they are capable of adjusting themselves without exerting pressure upon the bearing pins. Only the last roller of the entire roller train, for example the lower roller denoted by 28, is preferably journalled with a smaller amount of clearance, such as by means of ball or needle bearings. For increasing the stability of the auxiliary stacking pallet, bracing or tensioning rods 29 may extend through the rollers, at least through the large rollers 5, as shown in FIG. 19. The axes of the abutment rollers 27 preferably extend in the same horizontal plane as the axes of the upper supporting rollers 5'.

Due to the fact that the abutment rollers 27 have a smaller diameter than the upper supporting rollers 5' and hence do not protrude beyond the top plane of the frame structure 2, they cannot come into engagement with the residual stack 13. Hence any detrimental effect due to the reverse rotation of the abutment rollers is avoided. On the other hand, the abutment rollers reliably eliminate the occurrence of appreciable friction in the bearings so that the requirements with respect to manufacturing accuracy or production tolerances are greatly reduced. As regards use and operation of the auxiliary stacking pallet according to FIG. 19, reference may be had to the foregoing description in conjunction with FIGS. 9 through 16.

To those skilled in the art it will be obvious from a study of this disclosure that my invention permits of various modifications and may be given embodiments other than those illustrated and described herein, without departing from the essential features of my invention and within the scope of the claims annexed hereto.

I claim:

1. In a sheet stacking device for joining a residual stack from below with a new stack to permit continuous feeding of sheets from the top, the combination of an auxiliary stacking pallet insertable between the two stacks prior to joining them and horizontally withdrawable therefrom for combining both stacks, said pallet comprising a grid-like frame structure having a main portion and a tail-end portion tapering in height from said main portion toward the rear edge of the structure, an upper group and a lower group of rollers journalled in said frame structure with their respective axes perpendicular to the longitudinal direction of withdrawal, said rollers of each group being distributed over substantially the entire transverse width of said frame structure and following each other in mutually spaced relation along said longitudinal direction, the rollers of said upper group protruding upwardly from said frame structure for supporting the residual stack, the rollers of said lower group protruding downwardly from said frame structure to support it on the new stack, said rollers in said tail-end portions having a smaller diameter than elsewhere in said frame structure to correspond to the decrease in height, said rollers of the upper group being engageable with said rollers of the lower group, and the rollers of at least one group having bearings with radial clearance, whereby the rollers of each group are abuttable against the rollers of the other group when in operation.

2. In a stacking pallet according to claim 1, the rollers of the upper group being horizontally staggered relative to the rollers of the lower group.

3. In a stacking pallet according to claim 1, the rollers of the two groups having different respective diameters.

4. A stacking pallet according to claim 1, comprising drive means mounted on said frame structure and in driving connection with at least some of said rollers for rotating them during withdraw of the pallet.

5. A stacking pallet according to claim 1, comprising a web member extending between the upper-group rollers and the lower-group rollers in frictional contact with both, and means for pulling said web member to drive said rollers of both groups during withdrawal of the pallet.

6. A stacking pallet according to claim 1, comprising glide bearings mounted on said frame structure, said rollers being journalled in said bearings and having radial clearance in said bearings.

7. A stacking pallet according to claim 1, comprising an abutment roller journalled on said frame between two horizontally adjacent rollers of one of said groups, said two latter rollers being in abutting engagement with said abutment roller, and said abutment roller being spaced from the planes of stack engagement defined by said rollers of said two groups.

8. In a stacking pallet according to claim 7, said stacking roller having a smaller diameter than said abutting rollers.

9. In a sheet stacking device for joining a residual stack from below with a new stack to permit continuous feeding of sheets from the top, the combination of an auxiliary stacking pallet insertable between the two stacks prior to joining them and horizontally withdrawable therefrom for combining both stacks, said pallet comprising a grid-like frame structure, an upper group and a lower group of rollers journalled in said frame structure with their respective axes perpendicular to the longitudinal direction of withdrawal, said rollers of each group being distributed over substantially the entire transverse width of said frame structure and following each other in mutually spaced relation along said longitudinal direction, the rollers of said upper group protruding upwardly from said frame structure for supporting the residual stack, and the rollers of said lower group protruding downwardly from said frame structure to support it on the new stack, each two rollers of the upper group being engageable with one roller of the lower group at opposite sides of said one roller, and respective abutment rollers extending parallel to said upper rollers and being in engagement therewith at the respective sides away from said lower-group roller for bracing said two upper-group rollers, said abutment rollers being spaced from the plane of stack engagement defined by said upper-group rollers.

10. A stacking pallet according to claim 9, said abutment rollers and said upper-group rollers having respective axes in a common horizontal plane, and said abutment rollers having a smaller diameter than said upper-group rollers.

11. In a sheet stacking device for joining a residual stack from below with a new stack to permit continuous feeding of sheets from the top, the combination of an auxiliary stacking pallet insertable between the two stacks prior to joining them and horizontally withdrawable therefrom for combining both stacks, said pallet comprising a grid-like frame structure, an upper group and a lower

group of rollers journalled in said frame structure with their respective axes perpendicular to the longitudinal direction of withdrawal, said rollers of each group being distributed over substantially the entire transverse width of said frame structure and following each other in mutually spaced relation along said longitudinal direction, the rollers of said upper group protruding upwardly from said frame structure for supporting the residual stack, and the rollers of said lower group protruding downwardly from said frame structure to support it on the new stack, and a stack-support structure having upwardly protruding ledges, said pallet being insertable from above into said support structure and having interstices between said rollers to permit said respective ledges



to protrude upwardly beyond the upper-group rollers when said pallet is inserted into said support structure.

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