

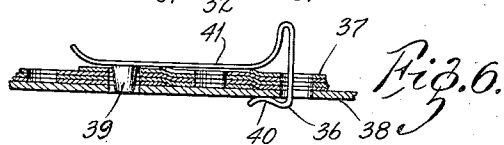
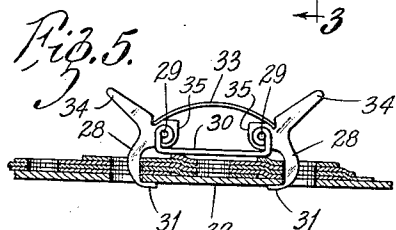
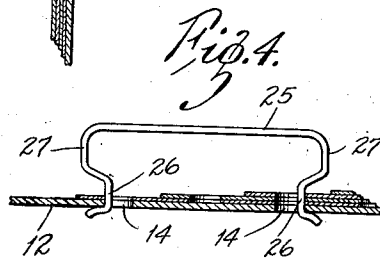
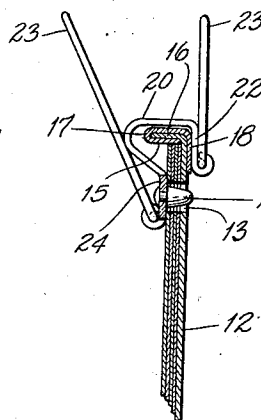
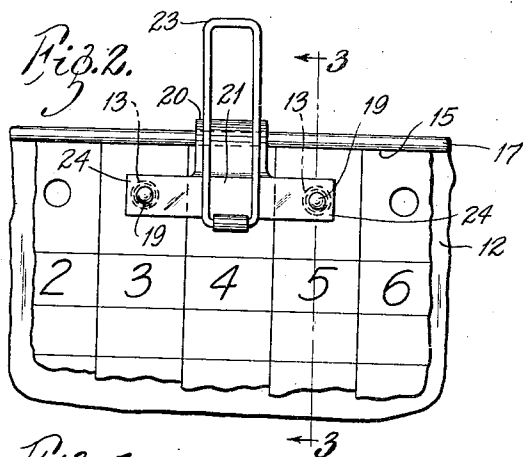
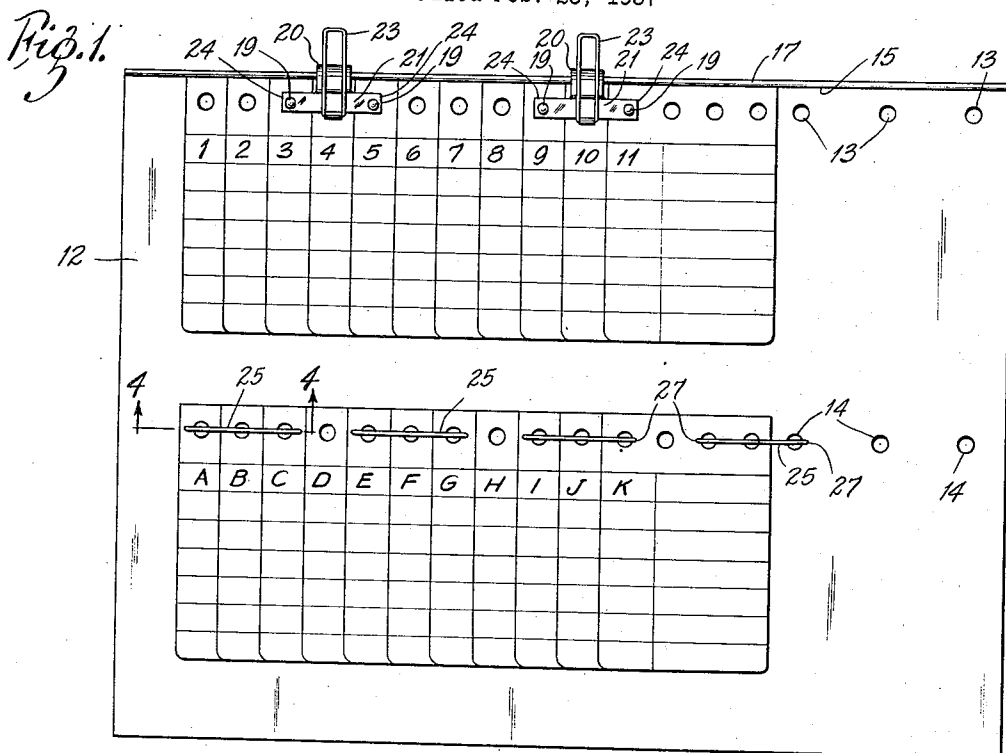
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DEVICE FOR HOLDING PERFORATED RECORDS IN SHINGLED RELATIONSHIP

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DEVICE FOR HOLDING PERFORATED RECORDS IN SHINGLED RELATIONSHIP

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13 Claims. (Cl. 231—44)

This invention relates to devices for holding perforated records in shingled relationship. Briefly stated, the device herein described is adapted to hold a very large number of overlapped record sheets, or strips, so arranged that a margin of each sheet is exposed. An arrangement of sheets in this manner is said to be "shingled" because in some respects it corresponds to the arrangement of shingles on a roof, a margin of each sheet being exposed. These exposed margins usually contain information identifying the subjects of the respective sheets, as well as some more specific detailed information, which can be read at a glance, without disturbing the group of sheets. For example, in keeping pay-roll records, each sheet may have blank spaces for entries concerning the time of the employee, the amounts earned, and the kinds of different work on which he was engaged; while the exposed margin may show the name of the employee, and the totals of various items. Devices of this type are quite old, particularly in handling very large numbers of records, such as the pay rolls for numerous employees, and other work wherein a multiplicity of record sheets, or strips, is used.

In view of the extremely large number of sheets to be handled, an object is to reduce the time and labor involved in properly arranging the sheets in the holder, so as to expose a predetermined marginal portion of each sheet. Another object is to permit free removal and replacement of any selected sheet, without disturbing the remaining sheets. A further object is to readily close the marginal space that may be left by a permanent removal of any selected sheet.

The old devices of this kind are quite expensive, and they require a substantial amount of time in arranging the lapped sheets to properly expose the marginal portion of each sheet.

For example, one of the popular devices now on the market involves the use of perforated record sheets, in combination with a device having a long row of upstanding pins to receive the perforations. Each record sheet has a row of perforations at one of its margins, and the sheets are assembled by hand on the row of pins, or pegs, which extend upwardly from a board known as a "peg board". In using the old "peg board" time is required in carefully observing the pegs, or pins, to see that each perforation in the sheet receives one of the pegs, and at the same time arranging the sheets to expose the predetermined marginal portions. Furthermore, the old peg board is merely a temporary holder for alining the sheets, and is so large and heavy that it cannot be conveniently placed in a small filing space with numerous other holding devices of the same kind.

Another old type of the holders for shingled sheets is a "clip board" comprising a row of nu-

merous spring-actuated clips pivotally mounted on a heavy board to receive imperforate sheets. This old "clip board" eliminates the trouble of arranging perforated sheets on a row of pins or pegs, but it is a rather cumbersome, heavy structure having the complex and expensive collection of clips. It is intended for temporary use in producing the shingled arrangement of sheets, and in using the record sheets during relatively brief periods while the sheets are in active service, but is not intended for use as part of a permanent file, and it is so heavy and cumbersome that it cannot be conveniently filed with numerous similar holding devices.

In using devices for alining and securing shingled sheets, it is often necessary to employ a large number of the devices, and it is, of course, desirable to have them available for frequent reference to the different subjects covered by the numerous sheets in the several devices. Therefore, one of the several objects of the present invention is to produce a simple device of this kind adapted to be filed with the shingled record sheets in a very small space, either in an active file for frequent reference, or in a permanent file. If desired, the entire device including the numerous shingled record sheets can be readily filed as a single page in a loose-leaf binder.

Another object is to provide a simple means for uniting or securing the mass of record sheets after they have been properly assembled in the shingled relationship. I have referred to the prior use of perforated record sheets, wherein the sole function of the perforations is to aid in assembling the sheets. I will hereinafter show how these perforations can be used to receive simple attaching members which extend through the perforations to selectively secure groups of the shingled sheets. The attaching members are thus interlocked with the perforated sheets to positively prevent accidental displacement, and while a single attaching device could extend through all of the perforations in the sheets, this is not necessary, as a few attaching members inserted through readily selected perforations will secure all of the sheets, and, if desired, these attaching members can be removably independently of each other, so as to successively secure the sheets as the assembling progresses, and to thereafter release and permit removal of any selected sheet without materially disturbing the remaining sheets.

To illustrate a desirable form of the invention, I will hereafter describe a backing member having perforations which register with perforations in the record sheets, and attaching means including fastening members extending through perforations in said record sheets and also through perforations in the backing member, so as to unite the shingled record sheets and at the same

time positively secure them to the perforated backing member.

To accomplish this result, the perforations in the backing member register with perforations in the sheets, but a relatively small number of perforations may be formed in the backing member. This backing member may be a simple sheet of thin flexible material, such as paper, but if the perforations therein are separated far enough, they will not unduly weaken the simple backing member.

Furthermore, it is not necessary to locate attaching devices in all of the perforations in the backing member, and since the unused perforations therein register with perforations in the shingled sheets, it will be observed that these "unused" perforations are adapted to receive the attaching devices of a loose leaf binder, so the entire device, including the perforated backing member and the numerous shingled sheets attached thereto can be readily filed for reference, as a single page in a binder.

With the foregoing and other objects in view, the invention comprises the novel construction, combination and arrangement of parts hereinafter more specifically described and shown in the accompanying drawing, which illustrates one form of the invention. However, it is to be understood that the invention comprehends changes, variations and modifications within the scope of the claims hereunto appended.

Fig. 1 is a top view of a device embodying features of this invention, showing two sets of perforated record sheets arranged on a perforated backing member, and attaching devices extending through registering perforations in said record sheets and backing member.

Fig. 2 is a fragmentary top view on a larger scale, showing one of the attaching devices.

Fig. 3 is a section on the line 3—3 in Fig. 2, showing one of the projections extending through and interlocked with the record sheets and backing member.

Fig. 4 is a section taken approximately on the line 4—4 in Fig. 1, but drawn to a larger scale, showing a simple means for attaching the perforated sheets to the perforated backing member.

Fig. 5 is a view similar to Fig. 4, illustrating another form of the attaching device.

Fig. 6 is a similar view illustrating an attaching device in the form of a simple spring clamp interlocked with the perforated record sheets and backing member.

As a general illustration of the subject, the upper portion of Fig. 1 shows a series of perforated record sheets numbered 1 to 11 inclusive, each number being at the top of a column at a side marginal portion of a sheet, and the several sheets being lapped to produce an arrangement of shingled sheets wherein the series of marginal columns is exposed. These exposed margins are adapted to receive entries relating to the subjects of the various record sheets. A similar arrangement of sheets designated A to K inclusive, appears at the lower portion of Fig. 1. In actual practice, an extremely large number of sheets can be arranged in this manner, but the subject is illustrated by the relatively few sheets shown in Fig. 1.

The record sheets are supported on a backing member 12 having parallel rows of perforations 13 and 14 located in the different sheet-receiving areas, and spaced in accordance with perforations in the record sheets, so that perforations in the sheets will register with the perforations in the

backing member. As will be hereinafter described, the shingled sheets are secured to each other and also to the backing member by means of attaching devices which extend through registering perforations in said sheets and backing member.

Any suitable means may be employed to aid in forming the shingled arrangement of sheets. For example, as shown at the top of Fig. 1, a marginal portion of the backing member 12 is provided with a straight abutment 15 located adjacent to and parallel with the row of perforations 13 in said backing member. The backing member may be a flexible sheet of paper reinforced by the alining means as shown most clearly at the upper portion of Fig. 3. This flexible backing sheet has an extended marginal portion 16 embraced by and frictionally clamped within a folded portion of a strip of metal 17. Another portion 18 of said metal strip (Fig. 3) is located at the back of and frictionally engaged with the flexible backing sheet 12. When the device is in service, the folded portion of the strip of metal, including the straight alining abutment 15, extends upwardly from the backing sheet. The metallic strip performs the double function of providing a straight, rigid alining abutment, and at the same time reinforcing the simple flexible backing sheet at a marginal portion where strength and rigidity is desired.

In assembling the sheets, the desired alinement can be easily and quickly obtained by merely forcing the straight upper edges of the sheets onto the straight abutment 15, and the shingled arrangement is produced by lapping the sheets to expose the marginal column of each sheet. After this arrangement has been approximately obtained, the pointed end of a lead pencil, or other tapering member, can be inserted through a few of the approximately alined perforations, with the result of accurately alining all of the perforations. All of the sheets in the series are thus accurately located in the predetermined shingled relationship. It will be observed that the advantage of quickly obtaining this high degree of accuracy is due partly to the perforations in the backing member which are open to receive the tapering end of a pencil, or the like. A further advantage is gained by the straight alining abutment 15 arranged parallel with the adjacent row of perforations 13 in the backing member. This arrangement of the straight abutment 15 and the perforations 13 corresponds to conditions in the record sheets, each sheet being provided with a straight upper edge parallel with an adjacent row of perforations. Therefore, when the straight upper edge of a sheet engages the straight alining abutment 15, the row of perforations in the sheet will be alined with and parallel to the row of perforations 13 in the backing member.

After the desired shingled arrangement has been obtained, the sheets may be united and secured to the backing member by means of any suitable attaching devices which extend through a few of the registering perforations in said sheets and backing member.

For example, the upper portions of Figures 1, 2 and 3 show yieldable clamping devices having projections 19 which extend through and interlock with the record sheets and backing member, so as to positively prevent accidental displacement of the alined shingled sheets. Each of these clamping devices comprises an approximately U-shaped spring 20 embracing the upper

marginal portion of the backing member and having a clamping member 21 at the top of the sheets, a clamping member 22 at the bottom or rear face of the backing member (Fig. 3), and handles 23 pivoted to said clamping members 21 and 22. The free ends of these handles may be forced toward each other to release the clamping device. The clamping member 21 is provided with extensions 24 to form an elongated friction member which lies at a right angle to the exposed margins of the shingled sheets, so as to press downwardly upon a series of the sheets. The interlocking projections 19 extend from this elongated friction member and pass through registering perforations in the sheets and backing member, as shown most clearly in Fig. 3.

These removable attaching devices can be very readily released and adjusted longitudinally of the row of perforations at the upper portion of Fig. 1, so as to secure selected groups of sheets. To remove any one of the sheets without disturbing the remaining sheets, the attaching devices may be adjusted to secure all of the sheets at opposite sides of a selected sheet, thereby releasing said selected sheet and allowing it to be pulled from the secured groups of sheets.

Fig. 4 is an enlarged view of one of the attaching devices which secure the shingled sheets at the lower portion of Fig. 1. This device comprises a spring 25 made of a single piece of wire having approximately U-shaped hooks 26 at its ends extending through registering perforations in the sheets and backing member, and embracing portions of the sheets and backing member at points adjacent to said perforations. To release this device, the legs 27 (Fig. 4) are forced toward each other, and the hooks 26 are then withdrawn from the perforations. Several of these simple attaching devices may be arranged at intervals along the perforated sheets to secure all of the shingled sheets to the perforated backing member.

Fig. 5 illustrates another form of the invention wherein approximately U-shaped hooks are employed to secure the sheets. Each of these hooks 28 is pivoted at 29 to a clamping bar 30 which rests upon the top of the record sheets. The lower end portions 31 of said hooks engage the bottom face of the backing member 32 to cooperate with the bar 30 in clamping the record sheets onto the backing member. A spring 33 is located between the pivoted hooks 28 to provide the desired clamping pressure. These hooks are provided with extended operating members 34 which may be readily forced toward each other to release the pivoted clamping hooks. This releasing movement is limited by stop members 35 on the hooks adapted to engage the top face of the clamping bar 30 when the lower end portions 31 of the hooks shown in Fig. 5 have been shifted to vertical positions. At this time, the distance from center to center of the then vertical portions 31 of the hooks conforms approximately to the distance from center to center of registering perforations from which the hooks are to be withdrawn. Therefore, whenever the operating members 34 are forced toward each other as far as they will go, the then vertical portions 31 of the hooks can be very readily inserted into or removed from the perforations.

Fig. 6 illustrates a desirable form of the clamping device in the form of a spring including a hook 36 extending through registering perforations in the record sheets 37 and backing member 38, and an interlocking projection 39 extending

into another set of registering perforations. The lower clamping member 40 of this device presses upwardly on the bottom of the backing member, while the upper clamping member 41 presses downwardly upon the top of the record sheets, so as to clamp the sheets onto the perforated backing member. To remove this clamping device, the interlocking projection 39 is withdrawn from one series of registering perforations to unlock the device, and the hook 36 can then be removed from the other series of registering perforations.

These simple clamping devices can be readily inserted into and removed from perforations in the record sheets and backing member. They can be adjusted to secure selected groups of sheets, and when in service they embrace and firmly clamp portions of the sheets and backing member adjacent to the selected perforations.

The device as a whole is adapted to be filed in a relatively small space, and since the attaching devices do not extend into all of the perforations in the record sheets and backing member, it will be observed that open perforations at the upper marginal portion of the device are adapted to receive the attaching devices of a loose-leaf binder. Therefore, when a number of the record sheet holders are to be filed in a binder, it is not necessary to provide additional perforations, or the like, for the binder. However, if desired, such additional attaching means may be employed, or a large number of the record holding devices herein shown, with the shingled records carried thereby, can be readily filed in a small space, without using a binder to unite them.

I claim:

1. In a device for alining and securing perforated record sheets in a shingled relationship to expose marginal portions of the sheets, a backing member having a series of perforations registering with perforations in said sheets, an alining device extending from said backing member to receive the perforated sheets, and means for clamping the alined sheets onto the perforated backing member said clamping means being provided with members extending into perforations in said sheets and backing member.

2. In a device for alining and securing perforated record sheets in a shingled relationship to expose marginal portions of the sheets, a backing member having a series of perforations registering with perforations in said sheets, an alining device for the perforated sheets, and means for clamping the alined sheets onto the perforated backing member, said clamping means being provided with members extending into perforations in said sheets and backing member, said alining device being extended from the backing member in a line parallel with the series of perforations in said backing member.

3. In a device for alining and securing perforated record sheets in a shingled relationship to expose marginal portions of the sheets, a backing member having a series of perforations registering with perforations in said sheets, an alining device for the perforated sheets, and means for clamping the alined sheets onto the perforated backing member, said clamping means being provided with members extending into perforations in said sheets and backing member, said alining device comprising a straight abutment extending from said backing member to receive edges of said perforated sheets, and said straight abutment being parallel with the series of perforations in said backing member.

4. In a device for alining and securing perforated record sheets in a shingled relationship to expose marginal portions of the sheets, a backing member having a series of perforations registering with perforations in said sheets, said backing member being provided with an alining device for the perforated sheets, and attaching members extending into perforations in said record sheets and backing member so as to unite the shingled sheets with the perforated backing member.

5. In a device for alining and securing perforated record sheets in a shingled relationship to expose marginal portions of the sheets, a backing member having a series of perforations registering with perforations in said sheets, and means for attaching the shingled sheets to the perforated backing member, said means comprising a yieldable device extending through registering perforations in said sheets and backing member, so as to detachably secure the shingled sheets to said perforated backing member, said yieldable device being provided with a member located beneath said backing member and a member extending over said backing member to engage the top of a group of the shingled sheets.

6. In a device for alining and securing perforated record sheets in a shingled relationship to expose marginal portions of the sheets, a backing member having a series of perforations registering with perforations in said sheets, and means for attaching the shingled sheets to the perforated backing member, said attaching means comprising a yieldable device extending through registering perforations in said sheets and backing member and embracing portions of said sheets and backing member, the embracing elements of said yieldable device including a member below said backing member and a member extending over said backing member to engage the top of a group of the shingled sheets.

7. In a device for alining and securing perforated record sheets in a shingled relationship to expose marginal portions of the sheets, a backing member having a series of perforations registering with perforations in said sheets, and means for attaching the shingled sheets to the perforated backing member, said attaching means comprising an approximately U-shaped clamping device extending through registering perforations in said sheets and backing member to detachably clamp selected groups of the shingled sheets onto said perforated backing member, said clamping device including a clamping member below said backing member and a clamping member extending over said backing member to engage the top of a group of the shingled sheets.

8. In a device for alining and securing perforated record sheets in a shingled relationship to expose marginal portions of the sheets, a backing member having a straight alining abutment engaged by edges of the shingled sheets, said backing member being apertured in a line parallel with said alining abutment, and attaching members extending through perforations in said sheets and into the apertured portion of said backing member to secure the alined sheets in said shingled relationship.

9. In a device for alining and securing perforated record sheets in a shingled relationship to expose marginal portions of the sheets, a backing member having a straight alining abutment engaged by edges of the shingled sheets, said

backing member being apertured in a line parallel with said alining abutment, and attaching members extending through perforations in said sheets and into the apertured portion of said backing member to secure the alined perforated sheets in said shingled relationship, said attaching members being adjustable along the alined row of perforations to detachably secure selected groups of the shingled sheets.

10. In a device for alining and securing perforated record sheets in a shingled relationship to expose marginal portions of the sheets, a backing member having a straight alining abutment engaged by edges of the shingled sheets, said backing member being apertured in a line parallel with said alining abutment, and clamping means having approximately U-shaped members extending into the apertured portion of said backing member and through selected perforations in the alined sheets and embracing portions of the shingled sheets, so as to detachably secure selected groups of said shingled sheets.

11. In a device for alining and securing perforated record sheets in a shingled relationship to expose marginal portions of the sheets, a backing member having a series of perforations registering with perforations in said sheets, said backing member being provided with an alining device being parallel with said series of perforations, and means for clamping the alined sheets onto the perforated backing member, said clamping means comprising a yieldable device having an approximately U-shaped portion extending through registering perforations in said sheets and backing member, so as to embrace and clamp portions of the sheets and backing member adjacent to the last mentioned perforations.

12. In a device for alining and securing perforated record sheets in a shingled relationship to expose marginal portions of the sheets, a backing member having a series of perforations registering with perforations in said sheets, said backing member being provided with an alining device for the perforated sheets, said alining device being parallel with said series of perforations, and means for clamping the alined sheets onto the perforated backing member, said clamping means comprising a yieldable device having clamping members which embrace the perforated marginal portions of said sheets and backing member, and an interlocking projection extending from one of said clamping members and passing through registering perforations in said sheets and backing member so as to interlock with a selected group of the shingled sheets and also with the perforated backing member.

13. In a device for alining and securing shingled record sheets having exposed marginal portions, a flexible backing sheet provided with alining means adapted to be engaged by edges of the shingled record sheets, said alining means comprising a strip of sheet metal united with and extending upwardly from said flexible backing member to provide a straight and rigid alining abutment, a marginal portion of said flexible backing sheet being turned upwardly and frictionally clamped between the extended portions of said strip of sheet metal, another portion of said strip of sheet metal being located below and frictionally engaged with said flexible backing sheet, and attaching means to secure the alined record sheets to said flexible backing sheet.

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