Oct. 24, 1933. J. J. RUTTEN 1,931,739

CLIP FOR SECTIONAL SILOS

Filed April 29, 1932

Fig. 1

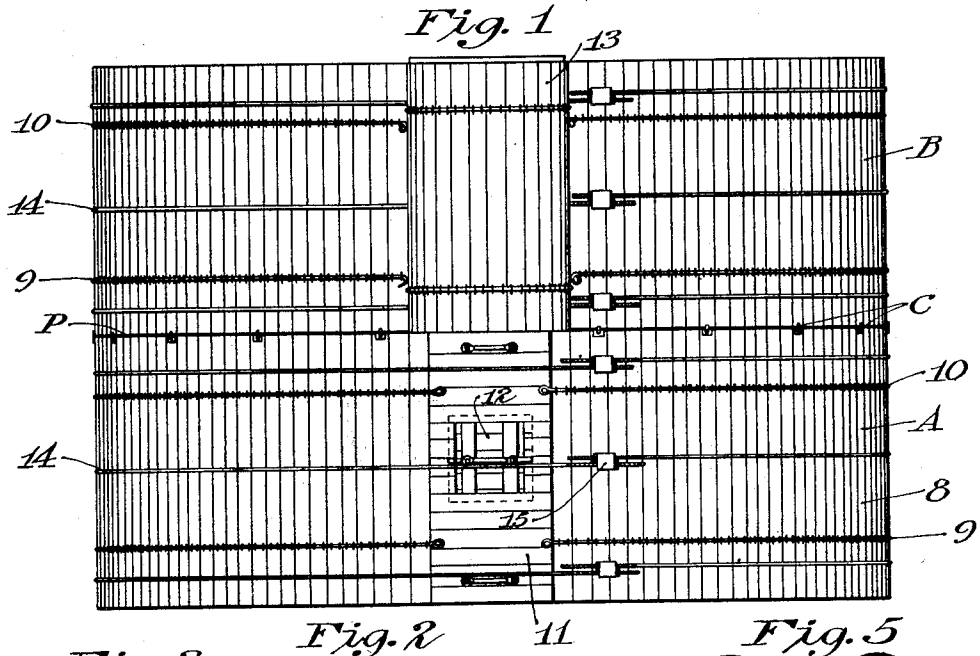



Fig. 2

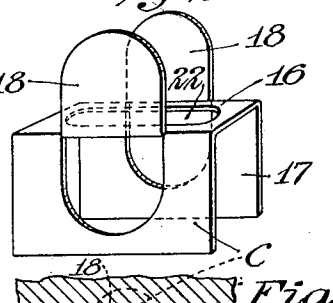



Fig. 3

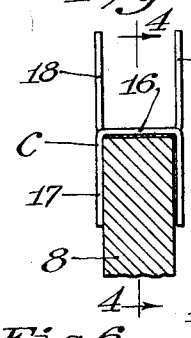



Fig. 5

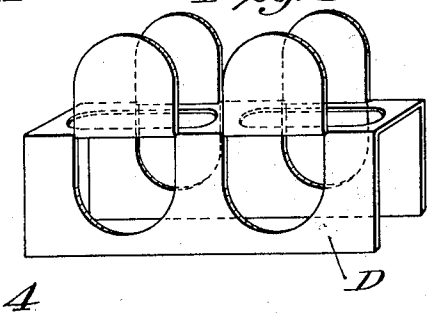



Fig. 4

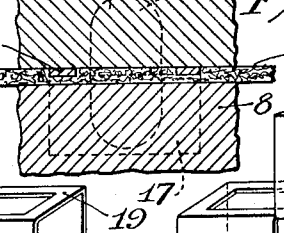



Fig. 6

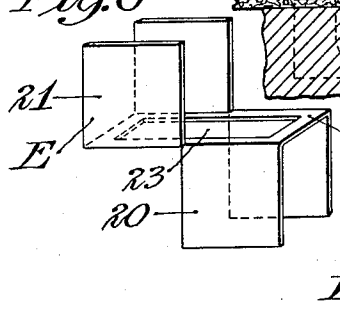



Fig. 8

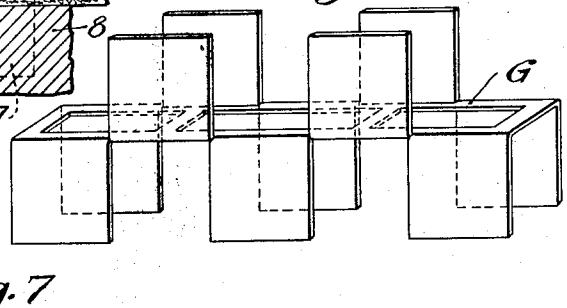
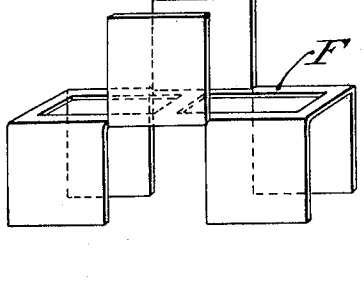



Fig. 7




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# UNITED STATES PATENT OFFICE

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## CLIP FOR SECTIONAL SILOS

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Application April 29, 1932. Serial No. 608,235

1 Claim. (Cl. 20—1.4)

It is the object of this invention to provide a novel and improved sectional silo clip for holding the sections of a sectional silo together with one section resting upon another section.

Although this clip is adapted for use in connection with sectional silos of different types, it is particularly adapted for use in connection with the particular sectional silo disclosed in the United States application for patent, filed in the name of Peter Rutten, Serial Number 539,812 on May 25, 1931, entitled "Portable silo or the like", and which became Patent No. 1,904,932, April 18, 1933.

The objects and advantages of the present invention will more fully appear from the following description, made in connection with the accompanying drawing, wherein like reference characters refer to the same or similar parts throughout the various views, and in which,

Fig. 1 is a view in front elevation showing two sections of a sectional silo, the sections of which are interconnected and held together by means of clips embodying the present invention;

Fig. 2 is a perspective view illustrating a preferred type of clip that may be used;

Fig. 3 is a view in end elevation of the clip shown in Fig. 2, as applied to one section of a silo;

Fig. 4 is a vertical section taken on the line 4—4 of Fig. 3, as indicated by the arrows; and

Fig. 5, Fig. 6, Fig. 7 and Fig. 8 are perspective views of other types of clips embodying the invention that may be substituted for the preferred type of clip, shown in Figs. 1, 2, 3 and 4.

Referring to the drawing, there is illustrated in Fig. 1, two sections A and B of a sectional silo embodying the invention of Peter Rutten above identified. Each section A and B comprises an elongated flexible strip constructed somewhat in the manner of flexible snow fencing material and including a multiplicity of parallel staves or slats 8, each secured by means of staples 9 or other suitable attachment means to encircling wires 10. The ends of these elongated strips are connected to the sides of door panels 11 within which doors 12 are mounted. Chute sections 13 may be applied to the sections A and B if desired, as the section 13 is illustrated as being applied to the section B. The sections A and B will be laid out to take substantially circular or ring-shape as illustrated and, if desired, encircling rods 14 connected at their ends to blocks 15 may be used for strengthening and bracing the sections A and B. In erecting silos of the type illustrated, it is customary to first set up the lower section A whereupon in accordance with the invention, a strip of padding P, such as felt, is applied on the upper edge of the lower section A and one or more upper sections B are positioned above the lower section A and the lower edge of each upper section, such as the section B, is applied to rest on the padding P lying on the upper edge of the section immediately below the same, i. e. the section B is supported on the section A, and if a third section were added, this section would be supported on the section B. To interconnect and retain the sections of the silo together, clips such as the clips C may be used.

Each clip C, as best illustrated in Figs. 2 and 3, includes a central web 16 within which an elongated opening 22 is formed, a pair of parallel down turned, spaced flanges 17 joining the edges of the web 16, and a pair of upturned, parallel spaced flanges 18 struck from the flanges 17 and joining the edges of the web 16. To conserve material and at the same time to give the down-turned flanges 17 sufficient strength, the flanges 18 are rounded at their upper ends. The spacing between the two flanges 17 and the two flanges 18 is just sufficient to permit reception of the staves 8 of the sections of the silo and the padding P between the same.

After the lower section A of the silo has been erected and the padding P is applied to the upper edge of the same, a plurality of the clips C are applied to the upper edge of the lower section A so that the upper ends of certain of the staves of the lower sections together with portions of padding P will be received between the flanges 17. The web 16 of each clip is forced well down into the padding P and due to the resilient nature of the padding and the provision of the opening 22, the padding will bulge up through the opening 22 and at the edges of web 16 so that the thickness of the padding at the point where the clip is embedded therein will be no greater than the thickness of the padding at other points, as illustrated in Fig. 4. The upper section B will then be erected on the lower section A to rest on the padding P and certain staves of the upper section adjacent their lower ends will be disposed between the flanges 18 of the clips. The flanges 17 and 18 will prevent lateral movement of one section relative to the other section and thus the sections of the silo will retain their position without further securing of one section to another. The padding P within which the webs 16 of the clips are embedded causes a tight joint to be made between the different silo sections. The clips may be readily slipped in position during erection of the silo and when the silo is being taken down,

no difficulty is experienced in removing one section from the other by reason of the use of the clips C.

In Fig. 5, a second type of clip D is illustrated, which can be substituted for the clip C if desired. Thec lip D is very similar to the clip C with the exception that it is longer than the clip C and instead of having only one pair of upturned flanges, and one opening in the central web, the clip D is provided with two pair of upturned flanges and two openings in the central web.

In Fig. 6, a still different type of clip E is shown which also may be used in place of the clip C. This clip E includes a central web 19 having an opening 23 therein, a pair of spaced parallel rectangular downturned flanges 20 joining the edges of web 19 adjacent one end of the same and a pair of spaced parallel upturned flanges 21 joining the edges of the web 19 adjacent the other end of the same.

In Fig. 7, another slightly different type of clip F is shown, and this clip is similar to the clip E with the exception that two pair of longitudinally spaced downturned flanges are provided and one pair of upturned flanges are provided longitudinally intermediate the downturned flanges, while two openings are provided in the central web of the clip.

In Fig. 8, yet another type of clip G is shown. This clip is considerably longer than the other clips illustrated, but it is generally similar in construction to the clips E and F. The clip G includes a plurality of pairs of downturned flanges spaced longitudinally from each other and a number of pairs of upturned flanges spaced longitudinally from each other. The central web of clip G is provided with a plurality of openings.

The various clips D, E, F and G will be used in the same manner as the clip C previously described.

It will be seen that an exceedingly simple and inexpensive clip has been provided for securing together and holding together sections of a sectional silo.

It will, of course, be understood that various changes may be made in the form, details, arrangement and proportions of the clip without departure from the scope of the present invention, and it will also be understood that the clip may be used in connection with various types of sectional silos and other kindred sectional structures. The invention consists in the matter shown and described and set forth in the appended claim.

What is claimed is:—

A sectional silo comprising an upper circular section, a lower circular section, a strip of padding overlying the upper edge of the lower section and upon which the lower edge of the upper section rests, and a plurality of clips for securing said upper and lower sections together, each clip including a central web interposed transversely between said sections and apertured to receive the strip of padding material to permit embedment of the web therein without increasing the thickness of the strip of padding material, each clip also including down-turned flanges spaced from each other, joining the edges of said web and embracing said strip of padding material and said lower section, and upturned flanges spaced from each other joining the edges of said web and embracing said upper section.

JOSEPH J. RUTTEN.