

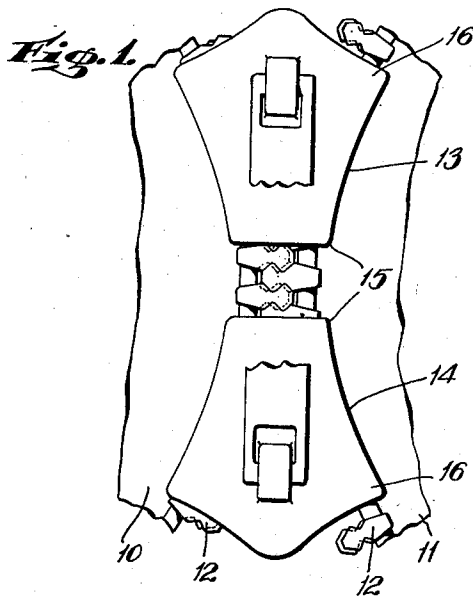
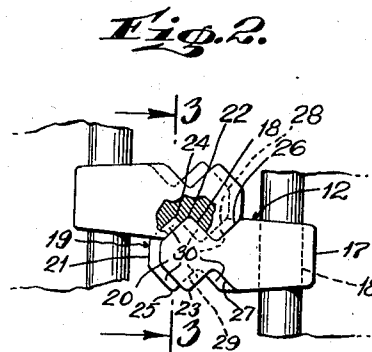
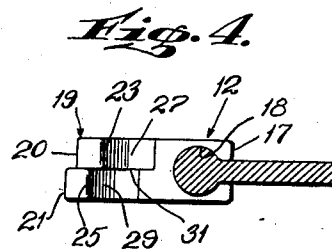
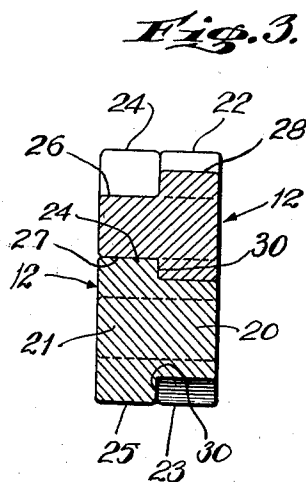
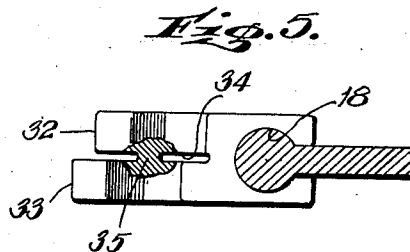
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2,355,996

OFFSET DOUBLE ACTING SCOOP

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OFFSET DOUBLE-ACTING SCOOP

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14 Claims. (Cl. 24—205)

This invention relates to separable fasteners employing stringers having scoops arranged along one edge thereof for coupling the stringers together. More particularly the invention relates to a scoop construction of the double acting type wherein the coupling portions of the scoops have laterally offset coupling elements producing on the resulting coupled stringers a better seal between adjacent links and additional strength in resisting stress or strains to which the coupled

stringers may be subjected. The novel features of the invention will be best understood from the following description when taken together with the accompanying drawing, in which certain embodiments of the invention are disclosed, and in which the separate parts are designated by suitable reference characters in each of the views, and in which:

Fig. 1 is a plan view of a part of two stringers, illustrating two sliders thereon and showing my improved scoop construction.

Fig. 2 is a face view of two scoops showing a part of the scoop of one stringer in section.

Fig. 3 is an enlarged section on the line 3—3 of Fig. 2 with both scoops in Fig. 2 shown in full.

Fig. 4 is an edge view of one of the scoops, and Fig. 5 is a view similar to Fig. 4, showing a modification.

In referring to double action scoops for separable fasteners of the kind under consideration, reference is made to scoops of the type and kind facilitating coupling and uncoupling by sliders arranged in either of two possible positions on the stringers and movable thereon to couple and uncouple the same. This type of scoop construction materially simplifies the production of stringers of the kind under consideration, and in addition to the use of single sliders of coupling and uncoupling the stringers, the double action scoop structure also permits of the use of two sliders movable on a pair of stringers.

In Fig. 1 of the drawing, 10 and 11 illustrate a small portion of two separable fastener stringers, and 12 represents the scoops spaced along one edge of each stringer. At 13 and 14 is indicated two sliders movable along the stringers 10 and 11 in coupling and uncoupling the scoops 12. In the present illustration, the sliders 13, 14, have their narrow ends 15 directed toward each other, and their wide diverging channel ends 16 arranged in opposite directions. In other uses, the wide ends 16 are arranged adjacent on the stringers.

Each scoop 12 comprises a mounting end portion 17, apertured as seen at 18 to receive the beaded edge of the stringer tapes in the cus-

tomary manner, and at 19 is shown the coupling end portion of the scoop having, as clearly seen in Figs. 2 and 4 offset coupling sections 20 and 21.

Upper and lower edges of the section 20 have at the outer end portions, tooth like projections 22 and 23, and corresponding ends of the section 21 have at upper and lower edges similar projections 24 and 25, the latter being offset with respect to the projections 22, 23, as clearly seen in Fig. 2 of the drawing.

The edges of the sections 20, 21 inwardly of the projections 22—25 have substantially V-shaped notches 26, 27, and 28, 29 respectively. The notches 26 and 27 of the scoop of one stringer are adapted to receive the projections 25, 24 of the scoops of an opposed stringer, whereas the notches 28 and 29 are adapted to receive the projections 23, 22 of said last mentioned scoops.

As all scoops are of the same construction, the brief description of one will apply to all.

When the scoops of opposed stringers are coupled together, the angular sections identified by the reference numeral 30 in Fig. 2 of the drawing overlap in forming means keying the coupled scoops against transverse separation, that is to say, when subjected to a strain on the flat side surfaces of the scoops. These overlapped portions produce on the resulting fastener a more perfect seal between the coupled stringers than is usually customary. Further, this overlapping of the wall sections 30 produces a stronger coupling engagement between the scoops than is usually experienced.

In the construction shown in Figs. 1 to 4 inclusive, the sections 20, 21 are separated along a common line 31, note Fig. 4 of the drawing. In Fig. 5 is shown a slight modification wherein coupling sections 32, 33 similar to the sections 20, 21 are separated by a narrow slot or aperture 34. At a predetermined point between the opposed surfaces of the slot 34, the sections 32, 33 are joined by a transverse pin portion 35, which is arranged within the outer boundary walls of both sections 32, 33.

In forming the scoops by die casting machines, the slots or apertures 34 will be formed by the use of suitable core members, as will also the pin portions 35. In such cases, these pin portions will unite the sections 32, 33.

By spacing the sections 32, 33 one from the other, coupling of the scoops of opposed stringers is facilitated, particularly from the standpoint of aligning the scoops. On the other hand, this spacing will also provide in the resulting fastener a greater flexibility between the coupled scoops,

permitting freer bending of the fastener than would be the case where surfaces as at 31 are in common abutting alignment.

The scoops as disclosed have mounting end portions engaging the tape or other support and coupling end portions. The coupling end portions may be said to be divided into offset sides, each side terminating at its outer end in a substantially hexagon head inwardly of which opposed edges of the coupling end portion have V-shaped recesses and the heads and recesses of each section being in staggered relationship, due to the offset arrangement of said sections. The coupling end portion of the scoops may also be said to have two projections and two recesses at each opposed edge thereof, with the projections and recesses on each edge offset with respect to each other.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In separable fasteners employing stringers, said stringers having scoops spaced along one edge thereof, each scoop having a mounting end portion engaging the tape of the stringer, a coupling end portion projecting beyond the tape edge, said coupling end portion being divided into offset side coupling sections, both sections having at each opposed edge thereof aligned projections and recesses, and the projections and recesses of one section being offset longitudinally with respect to those of the companion section.

2. In separable fasteners employing stringers, said stringers having scoops spaced along one edge thereof, each scoop having a mounting end portion engaging the tape of the stringer, a coupling end portion projecting beyond the tape edge, said coupling end portion being divided into offset side coupling sections, both sections having at each opposed edge thereof aligned projections and recesses, the projections and recesses of one section being offset longitudinally with respect to those of the companion section, and said sections being spaced apart centrally and longitudinally of the scoop.

3. In separable fasteners employing stringers, said stringers having scoops spaced along one edge thereof, each scoop having a mounting end portion engaging the tape of the stringer, a coupling end portion projecting beyond the tape edge, said coupling end portion being divided into offset side coupling sections, both sections having at each opposed edge thereof aligned projections and recesses, the projections and recesses of one section being offset longitudinally with respect to those of the companion section, said sections being spaced apart centrally and longitudinally of the scoop, and means joining the spaced sections within boundary walls thereof.

4. In separable fasteners employing stringers, said stringers having scoops spaced along one edge thereof, each scoop having a mounting end portion engaging the tape of the stringer, a coupling end portion projecting beyond the tape edge, said coupling end portion being divided into offset side coupling sections, both sections having at each opposed edge thereof aligned projections and recesses, the projections and recesses of one section being offset longitudinally with respect to those of the companion section, and the height of the projections and depth of the recesses being substantially common on both sections.

5. A scoop for separable fastener stringers, said scoop comprising an elongated body having a U-shaped mounting end and a coupling end, said

coupling end being divided into independent side coupling sections of substantially the same thickness, each section terminating at its end in a substantially hexagon shaped head, forming on opposed edges of the section inwardly of said head V-shaped recesses, and the head and recesses of one section being offset longitudinally of the scoop with respect to those of the other section.

6. A scoop for separable fastener stringers, said scoop comprising an elongated body having a U-shaped mounting end and a coupling end, said coupling end being divided into independent side coupling sections of substantially the same thickness, each section terminating at its end in a substantially hexagon shaped head, forming on opposed edges of the section inwardly of said head V-shaped recesses, the head and recesses of one section being offset longitudinally of the scoop with respect to those of the other section, and said sections being spaced apart centrally of the scoop.

7. A scoop for separable fastener stringers, said scoop comprising an elongated body having a U-shaped mounting end and a coupling end, said coupling end being divided into independent side coupling sections of substantially the same thickness, each section terminating at its end in a substantially hexagon shaped head, forming on opposed edges of the section inwardly of said head V-shaped recesses, the head and recesses of one section being offset longitudinally of the scoop with respect to those of the other section, said sections being spaced apart centrally of the scoop, and a member joining the spaced sections within peripheral edges thereof.

8. A scoop for separable fastener stringers, said scoop comprising an elongated body having a mounting end and a coupling end, the coupling end having male and female coupling portions, and the coupling end having a split longitudinally thereof, terminating short of said mounting end and dividing the coupling end into independent coupling portions.

9. A scoop for separable fastener stringers, said scoop comprising an elongated coupling body having a mounting end and a coupling end, the coupling end being divided centrally and longitudinally to a point short of the mounting end into independent coupling portions, and each coupling portion having male and female couplings.

10. A scoop for separable fastener stringers, said scoop comprising an elongated coupling body having a mounting end and a coupling end, the coupling end being divided centrally and longitudinally to a point short of the mounting end into independent coupling portions, and each coupling portion having male and female couplings arranged at opposed edges thereof.

11. A scoop for separable fastener stringers, said scoop comprising a body having a mounting end and a coupling end, the coupling end being divided into longitudinally extending coupling side portions, each coupling side portion having on upper and lower edges aligned projections inwardly of which are aligned recesses, and parts of the projections of one coupling side overlapping the recesses of the other coupling side.

12. A scoop for separable fastener stringers, said scoop comprising a body having a mounting end and a coupling end, the coupling end being divided into longitudinally extending coupling side portions, each coupling side portion having on upper and lower edges aligned projections inwardly of which are aligned recesses, parts of the

projections of one coupling side overlapping the recesses of the other coupling side, and adjacent surfaces of opposed coupling sides being spaced apart at boundary edge portions of said sides.

13. In separable fasteners employing stringers, said stringers having scoops spaced along one edge thereof, each scoop having a mounting end portion engaging the tape of the stringer, a coupling end portion projecting beyond the tape edge, said coupling end portion being divided into offset side coupling sections, both sections having at each opposed edge thereof aligned projections and recesses, the projections and recesses of one section being offset longitudinally with respect to those of the companion section, and the offsetting of the projections and recesses on the side sections of the scoops providing in the resulting interlocked

scoops of said stringers and overlapping of the coupling intersections between the scoops to substantially seal the space occupied by the interengaged coupling portions of the scoops of the stringers.

14. A scoop for separable fastener stringers, said scoop comprising a body having a mounting end and a coupling end, the coupling end being divided into longitudinally extending coupling sides, each coupling side having on upper and lower edges aligned projections inwardly of which are aligned recesses, each coupling side including a body part of a width substantially common to the width of said aligned projections, and said body parts and projections of one coupling side overlapping the recesses of the other coupling side.

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