July 20, 1926. 1,593,226

F. T. STUART

LOCKING MECHANISM FOR BAG FRAMES

Filed Nov. 10, 1925 2 Sheets-Sheet 1

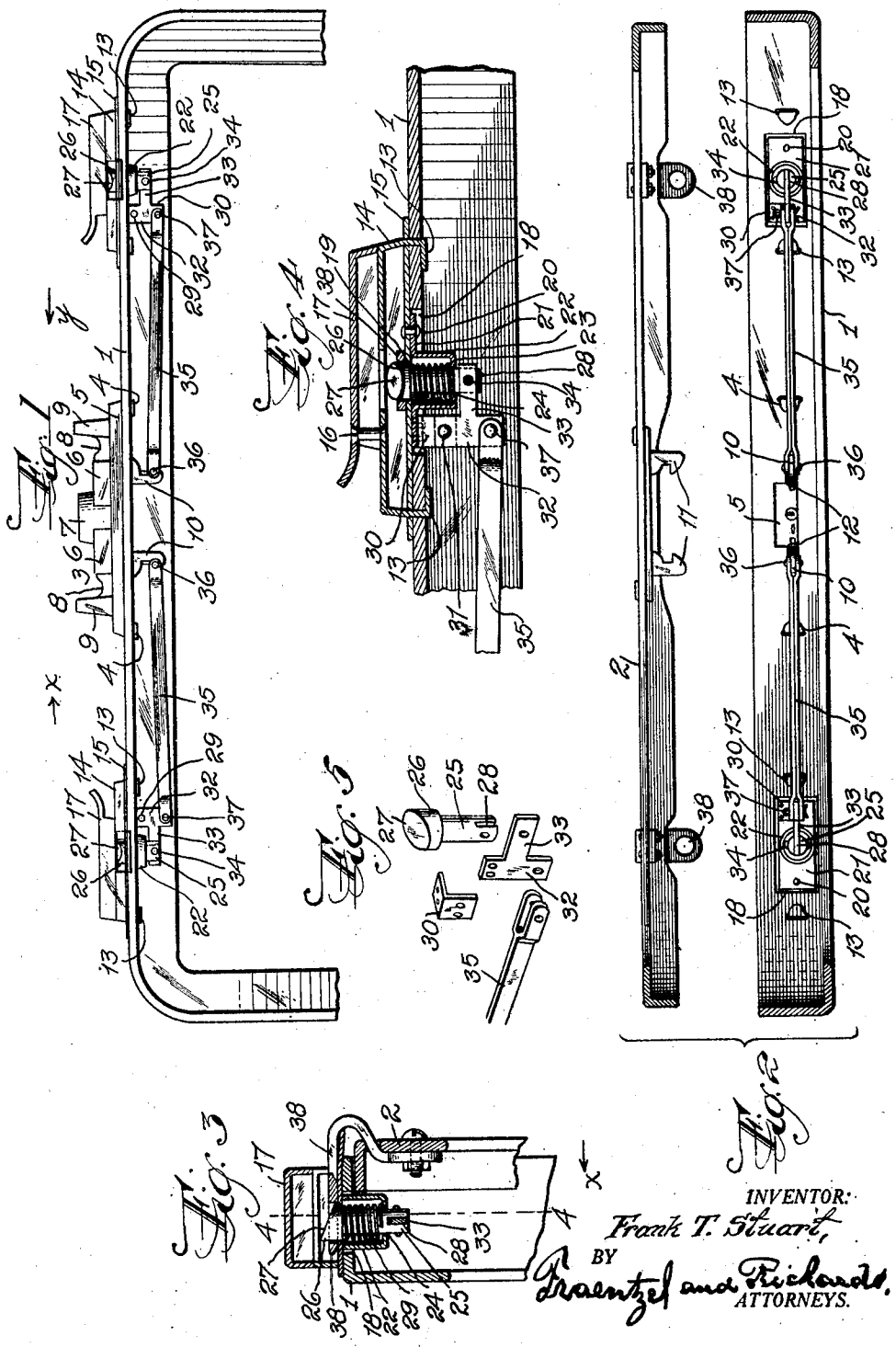


Fig. 1

Fig. 4

Fig. 5

Fig. 2

Fig. 3

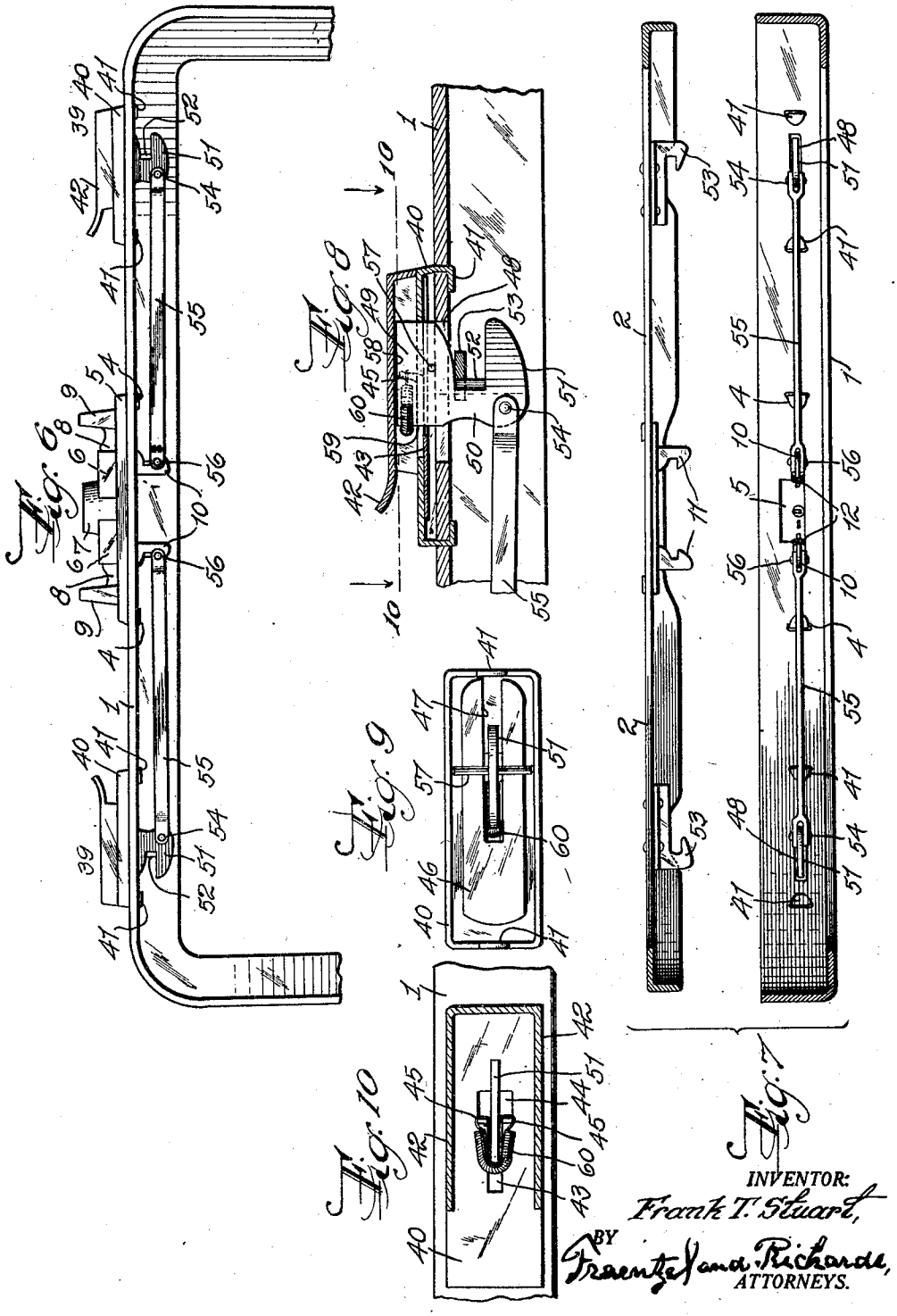
INVENTOR:
Frank T. Stuart,
BY
Fraentzel and Richards,
ATTORNEYS.

July 20, 1926. 1,593,226

F. T. STUART

LOCKING MECHANISM FOR BAG FRAMES

Filed Nov. 10, 1925 2 Sheets-Sheet 2



INVENTOR:
Frank T. Stuart,
BY
Fraentz and Richards,
ATTORNEYS.

Patented July 20, 1926. 1,593,226

UNITED STATES PATENT OFFICE.

FRANK T. STUART, OF MAPLEWOOD, NEW JERSEY, ASSIGNOR TO THE R. NEUMANN HARDWARE CO., A CORPORATION OF NEW JERSEY.

LOCKING MECHANISM FOR BAG FRAMES.

Application filed November 10, 1925. Serial No. 68,099.

This invention relates, generally, to improvements in bag-frames; and, the present invention has reference, more particularly, to fastening and locking mechanism of the type employed for effecting the retention of the hinged bag frame-sections in their closed relation by simultaneously producing the locked engagement of the respective bag-frame fixtures, such as the lock and the several latch elements or end fasteners.

The present invention, therefore, has for its principal object to provide a simple, as well as an effectively operating and a conveniently manipulated mechanism of a character for simultaneously effecting the operation of the frame-lock and the latch elements or end-fasteners for maintaining the frame-sections in their closed relation, and to be readily manipulated for expeditiously opening the hinged members of the bag-frame.

The invention has for a further object to provide a fastening mechanism for bag-frames, combining with the usual hinged frame-sections, a novel and positively acting hasp-engaging means, actuated by an arrangement of connecting slides or bars, which are actuated simultaneously with the operation of the bag-lock mechanism, to disengage the hasp-engaging means from their normal holding or locked engagement with an arrangement of auxiliary hasps or latch-members.

Other objects of the present invention not at this time more particularly enumerated will be more fully understood from the following detailed description of the present invention.

With the various objects of the present invention in view, the said invention consists, primarily, in the novel bag-frame fastening and locking means hereinafter more fully set forth; and, the invention consists, furthermore, in the novel arrangements and combinations of the several devices and parts, as well as in the details of the construction of the said parts, all of which, will be described in detail in the following specification, and then finally embodied in the clauses of the claims, which are appended to and which form an essential part of the said specification.

The invention is illustrated in the accompanying drawings, in which:—

Figure 1 is an elevation, showing the inner portions of one of the frame-sections of a bag-frame, and illustrating further, in elevation, an arrangement of various devices and parts of a fastening or locking mechanism embodying the principles of the present invention; and Figure 2 is a horizontal sectional representation of the two bag-frame sections, looking toward the upper inner portions of the same, with the various devices and parts of the fastening mechanism shown in plan view.

Figure 3 is a transverse vertical sectional representation on an enlarged scale, of fragmentary portions of the frame-sections in their closed relation, with certain parts of the mechanism connected with one of the frame-sections in retaining engagement with a hasp or latch-member of the other frame-section; and Figure 4 is a longitudinal vertical sectional representation, taken on line 4—4 in said Figure 3, looking in the direction of the arrow x. Figure 5 is a view, showing in perspective and collectively, several of the members of the retaining or locking means represented in said Figures 3 and 4.

Figures 6 and 7 are views similar to Figures 1 and 2, respectively, illustrating the frame-sections provided with a modified construction of fastening or locking mechanism.

Figure 8 is a longitudinal vertical sectional representation, said view being made on an enlarged scale; Figure 9 is a bottom view of the mechanism represented in Figure 8, but shown detached from the frame-section; and Figure 10 is a horizontal sectional representation, taken on line 10—10 in said Figure 8, looking in the direction of the arrows in said figures.

Similar characters of reference are employed in the above described views, to indicate corresponding parts.

Referring now to the several figures of the drawings, the reference-characters 1 and 2 indicate fragmentary portions of the hinged frame-sections of any of the usual bag-frames, the frame-section 1 having suitably secured thereon, by means of lugs 4, or other suitable securing means, a bag-lock 3 of any suitable construction. In the present case, the bag-lock comprises a suitably shaped shell or casing, as 5, adapted to contain any usual locking mechanism, which may be actuated by means of a key, the said shell or

casing being shown secured in this case upon the upper surface of the frame-section 1, by means of the usual end-lugs 4, as indicated in Figures 1, 2, 6 and 7 of the drawings. Upon its upper face, the said shell or casing 5 has associated therewith a pair of open-ended box-shaped elements, as 6, between which is disposed a suitably constructed key-receiving element 7, for locking and unlocking the locking mechanism contained within the shell or casing 5, as may be desired. Movably disposed within each box-shaped element 6 is a slide 8, each slide having a portion extending from the open end of its respective box-shaped element, the projecting portions of said slides 8 being preferably provided with manipulating means, usually in the form of fingerpieces, as 9. Extending downwardly from said slides 8, through properly located slits or openings in the top of the shell or casing 5 and in the upper face of the frame-section 1 are hasp-engaging elements or posts, as 10, with the chamfered edges of which hasp-lugs 11, with which the frame-section 2 is provided, are adapted to be brought into holding engagement when the frame-sections 1 and 2 are brought into the closed relation. The lock-mechanism is provided with suitably disposed springs 12, see Figure 2 of the drawings, which constantly act upon and against the edges of the respective hasp-engaging elements or posts 10, to maintain the said elements or posts in their normal positions, shown in Figure 1 of the drawings.

Suitably secured upon the upper face-portion of the frame-section 1, near its respective end-portions, by means of clamping lugs 13, or other fastening means, are suitably shaped shells or casings 14, each shell or casing resting directly upon a base-plate 15. The upper surface of each shell or casing 14 has suitably mounted thereon and secured in a fixed position by means of a rivet 16, or otherwise, a member 17 in imitation of the usual hinged or pivoted element of the usual bag-frame fastener. It will be understood, however, that these members 17, which in this case are used merely for ornamental purposes, may be entirely omitted, if desired.

Referring now more particularly to Figure 2 of the drawings, it will be seen that the frame-section 1, beneath each base-plate 15, has an open portion 18, and that each base-plate 15, directly above each open portion 18, is formed with a correspondingly located opening 19. Suitably secured against the lower face of each base-plate 15, by means of rivets 20, or other suitable fastening means, is a plate 21, each plate being provided with a downwardly extending chambered member or box 22 which is closed, as at 23, said closed portion, however, being provided with an opening 24, in alinement with the opening 19 in the base-plate 15. Movably disposed within each member or box 22 is a hasp-engaging lock-post 25, each post having an upper enlarged engaging end-portion 26, which is usually chamfered, as at 27, and which projects from the opening 19 of the base-plate 15, as shown. The lower end-portion of each lock-post 25 extends from the opening 24 of the chambered member or box 22, the projecting end-portion of each post 25 being slotted, as at 28. Within each member or box 22, each post 25 is encircled by a coiled spring 29, the purpose of which is self-evident. Suitably secured to each plate 21 is a bracket 30, with which is pivotally connected, by means of a pivot 31, a crank 32, each crank having a laterally extending finger or arm 33, which in turn is pivotally connected by means of a pin 34, with the slotted or bifurcated end-portion 26 of the respective lock-post 25, substantially as shown more particularly in Figure 4 of the drawings. Links 35 are employed for operatively connecting the respective hasp-lug engaging elements or posts 10 of the bag-lock 3 with the crank-members 30 of the respective end-fasteners, by means of pivot-pins 36 and 37 at the respective ends of said links 35, as will be clearly evident from an inspection of Figures 1, 2 and 4 of the drawings. The frame-section 2 is provided in proper location with hasp-lugs or catches, as 38, and of any suitable construction, which are adapted to engage the chamfered end-portions of the respective lock-posts 25, when the frame section 2 is closed within the frame-section 1.

The operation of the mechanism for separating the various devices from their locked or retaining engagement, when it is desired to bring the frame-sections 1 and 2 into their open relation is simple, and is accomplished by pressure upon the fingerpieces 9 of the slides 8 of the main bag-lock 3 in the directions of the arrows x and y, indicated in Figure 1 of the drawings. The result is that the posts 10 of the lock are correspondingly moved in the directions of the said arrows, so as to be withdrawn from the engagement with the hasps or catches 11. At the same time, the links 35 actuate the crank-members 30, which by means of their fingers or arms 31, actuate the respective lock-posts 25, which are consequently drawn in downward directions, against the tensions of the springs 29, so as to also withdraw the chamfered end-portions 26 of the posts 25 from their locked or holding engagement with the hasps or catches 38, and whereby the frame-sections 1 and 2 are adapted to be brought into their separated or opened relation, indicated in Figure 2 of the drawings. The various springs 12 and 29 naturally return all the parts to their normal initial positions, when the pressure is removed from the finger-pieces 9. The arrangement and

construction of the various parts of the lock 3 and of the fasteners at the ends of the frame is such, that when the frame-section 2 is closed within the frame-section 1, the respective hasps or catches 11 and 38 will again readily enter into locked or holding engagement with the respective posts 10 of the main lock 3, and with the posts 25 of the respective bag-frame fasteners located at the ends of the frame-section 1.

Of course it will be understood, that the construction of the mechanism of the main bag-lock 3 is such, so that when a key is inserted in the key-receiving element 7, the mechanism within the shell or casing 5 can be locked against movement, whereby the slides 3 and posts 10, as well as the parts actuated from said posts, are also locked against movement.

In lieu of the particular construction of end-fasteners herein-above described, and illustrated more particularly in Figures 3 and 4 of the drawings, I may employ with the form of main bag-lock 3, and its posts 10 and links 35, end-fasteners 39 of the construction illustrated in connection with Figures 7, 8, 9 and 10 of the drawings. In this instance, each end-fastener comprises a shell or casing 40 secured upon the upper face of the frame-section 1 by means of clamping lugs 41, or other suitable fastening means, the upper surface of each shell or casing having suitably mounted thereon a member 42 in imitation of the usual hinged or pivoted element of the usual bag-frame fastener. The upper surface of the said shell or casing 40 is formed with a longitudinally extending elongated opening 43, said opening being made of a greater width, as at 44. Contiguous to said enlarged open portion 44 are a pair of fingers or lugs 45. Suitably mounted against the inner face of the upper portion of said shell or casing 40 is a plate 46 provided with an elongated opening 47, longitudinally in alinement with the open portions 43 and 44 in the top of the shell or casing 40.

The frame-section 1 in this case is also made at its end-portions with elongated openings 48 in alinement with the openings 47, 43 and 44 of the respective end-fasteners 39, and slidably arranged in said openings of the respective fasteners are vertically disposed plates 49. Each plate 49 is formed with a downwardly projecting portion 50 and a laterally extending finger 51, each portion 50 having a chamfered edge 52 for retaining or holding engagement with a hook-shaped catch, as 53, with which the frame-section 2 is provided. Connected with each finger 51 of each plate 49, by means of a rivet or pin 54 is a link 55, the said links being suitably connected at their opposite end-portions, by means of rivets or pins 56, with the respective posts 10 of the bag-frame lock 3. That each plate 49 is properly maintained in its operative position, without interfering with its sliding movement, each plate is provided with a laterally extending pin 57 which bears against the lower face of the plate 46, and has its upper marginal edge 58 bearing directly upon the lower face of the member 42. The normal initial relation of the several parts is maintained by an arrangement of coiled springs 60 bearing against the marginal edges 59 of the respective plates 49, each spring having its ends attached to the previously mentioned fastening lugs 45, as will be clearly understood from an inspection of Figures 8 and 10 of the drawings. The construction and arrangement of the parts of the main bag-lock 3 is the same as that heretofore described in connection with Figures 1 to 5 of the drawings, and any further description of the same is therefore deemed unnecessary.

Of course, I am aware that other changes may be made in the general arrangements and combinations of the various devices and parts, as well as in the details of the construction of the said parts, without departing from the scope of the present invention as set forth in the foregoing specification, and as defined in the clauses of the claims which are appended thereto. Hence, I do not limit my present invention to the exact arrangements and combinations of the several devices and parts as described in the foregoing specification, nor do I confine myself to the exact details of the construction of the said parts as illustrated in the accompanying drawings.

I claim:—

1. In combination with the frame-sections of a bag-frame, hasp-lugs extending from one of said frame-sections, end-fasteners mounted upon the other frame-section, provided with mechanism with which some of said hasp-lugs are adapted to enter into holding engagement, a bag-lock also mounted upon said last-mentioned frame-section intermediate said end-fasteners, said bag-lock comprising a main shell containing the lock-mechanism, a pair of box-shaped elements thereon, and a key-receiving element for locking and unlocking the lock-mechanism, slides movably disposed in said box-shaped elements provided with portions extending from the ends of said box-shaped elements for manipulation of said slides, hasp-engaging posts extending downwardy from said slides for engagement with others of said hasp-lugs, and links connecting said posts with the mechanism of the respective end-fasteners, all arranged so that manipulation of the slides will actuate the mechanism of the end-fasteners and will simultaneously release all of the hasp-lugs.

2. In combination with the frame-sections

of a bag-frame, hasp-lugs extending from one of said frame-sections, end-fasteners mounted upon the other frame-section, each end-fastener consisting of a main shell provided with a hasp-lug receiving opening, a base-plate disposed between said shell and the frame-section, said base-plate being provided with an opening, the said frame-section being also provided with an opening in alinement with the opening in said base-plate, a spring-controlled hasp-lug engaging post movably disposed in said openings, a bag-lock also mounted upon said last-mentioned frame-section, hasp-lug engaging posts extending from said bag-lock, and interconnecting means between said last-mentioned posts and the spring-controlled posts of the respective end-fasteners for actuating said spring-controlled posts.

3. In combination with the frame-sections of a bag-frame, hasp-lugs extending from one of said frame-sections, end-fasteners mounted upon the other frame-section, each end-fastener consisting of a main shell provided with a hasp-lug receiving opening, a base-plate disposed between said shell and the frame-section, said base-plate being provided with an opening, the said frame-section being also provided with an opening in alinement with the opening in said base-plate, a spring-controlled hasp-lug engaging post movably disposed in said openings, a bag-lock also mounted upon said last-mentioned frame-section, hasp-lug engaging posts extending from said bag-lock, links pivotally connected with said last-mentioned posts, and a means of pivotal connection between said links and the spring-controlled posts of the respective end-fasteners for actuating said spring-controlled posts.

4. In combination with the frame-sections of a bag-frame, hasp-lugs extending from one of said frame-sections, end-fasteners mounted upon the other frame-section, each end-fastener consisting of a main shell provided with a hasp-lug receiving opening, a base-plate disposed between said shell and the frame-section, said base-plate being provided with an opening, the said frame-section being also provided with an opening in alinement with the opening in said base-plate, a spring-controlled hasp-lug engaging post movably disposed in said openings, a bag-lock also mounted upon said last-mentioned frame-section, hasp-lug engaging posts extending from said bag-lock, a bell-crank pivotally connected with the base-plate of each end-fastener and its respective spring-controlled post, and links connecting the hasp-engaging posts of the bag-lock with the bell-cranks of the respective end-fasteners.

5. In combinaton with the frame-sections of a bag-frame, hasp-lugs extending from one of said frame-sections, end-fasteners mounted upon the other frame-section, each end-fastener consisting of a main shell provided with a hasp-lug receiving opening, a base-plate disposed between said shell and the frame-section, said base-plate being provided with an opening, the said frame-section being also provided with an opening in alinement with the opening in said base-plate, a chambered member extending downwardly from each base-plate, said member being provided in its end-wall with an opening in alinement with the openings in the frame-section and in said base-plate, a spring-controlled hasp-engaging post movably disposed within each chambered member and having portions projecting from said respective openings, a bag-lock also mounted upon said last-mentioned frame-section, hasp-lug engaging posts extending from said bag-lock, and interconnecting means between said last-mentioned posts and the spring-controlled posts of the respective end-fasteners for actuating said spring-controlled posts.

6. In combination with the frame-sections of a bag-frame, hasp-lugs extending from one of said frame-sections, end-fasteners mounted upon the other frame-section, each end-fastener consisting of a main shell provided with a hasp-lug receiving opening, a base-plate disposed between said shell and the frame-section, said base-plate being provided with an opening, the said frame-section being also provided with an opening in alinement with the opening in said base-plate, a chambered member extending downwardly from each base-plate, said member being provided in its end-wall with an opening in alinement with the openings in the frame-section and in said base-plate, a spring-controlled hasp-engaging post movably disposed within each chambered member and having portions projecting from said respective openings, a bag-lock mounted upon said last-mentioned frame-section, hasp-lug engaging posts extending from said bag-lock, links pivotally connected with said last-mentioned posts, and a means of pivotal connection between said links and the spring-controlled posts of the respective end-fasteners for actuating said spring-controlled posts.

7. In combination with the frame-sections of a bag-frame, hasp-lugs extending from one of said frame-sections, end-fasteners mounted upon the other frame-section, each end-fastener consisting of a main shell provided with a hasp-lug receiving opening, a base-plate disposed between said shell and the frame-section, said base-plate being provided with an opening, the said frame-section being also provided with an opening in alinement with the opening in said base-plate, a chambered member extending down-

wardly from each base-plate, said member being provided in its end-wall with an opening in alinement with the openings in the frame-section and in said base-plate, a spring-controlled hasp-engaging post movably disposed within each chambered member and having portions projecting from said respective openings, a bag-lock also mounted upon said last-mentioned frame-section, hasp-lug engaging posts extending from said bag-lock, a bell-crank pivotally connected with the base-plate of each end-fastener and its respective spring-controlled post, and links connecting the hasp-engaging posts of the bag-lock with the bell-cranks of the respective end-fasteners.

8. In a bag-frame, in combination with a frame-section provided with an opening, a fastener mounted upon said frame-section above said opening, said fastener consisting of a main shell provided with a hasp-lug receiving opening, a base-plate disposed between said shell and the frame-section, said base-plate being provided with an opening in alinement with the opening in said frame-section, and a vertically disposed and spring-controlled hasp-lug engaging post movably disposed in said openings.

9. In a bag-frame, in combination with a frame-section provided with an opening, a fastener mounted upon said frame-section above said opening, said fastener consisting of a main shell provided with a hasp-lug receiving opening, a base-plate disposed between said shell and the frame-section, said base-plate being provided with an opening in alinement with the opening in said frame-section, a chambered member extending downwardly from said base-plate, said member being provided in its end-wall with an opening in alinement with the opening in the frame-section and in said base-plate, and a spring-controlled hasp-engaging post movably disposed within said chambered member and having portions projecting from said respective openings.

In testimony, that I claim the invention set forth above I have hereunto set my hand this 4th day of November, 1925.

FRANK T. STUART.