No. 609,989. Patented Aug. 30, 1898.

P. GANS.

BAG FASTENER.

(Application filed May 7, 1898.)

(No Model.)

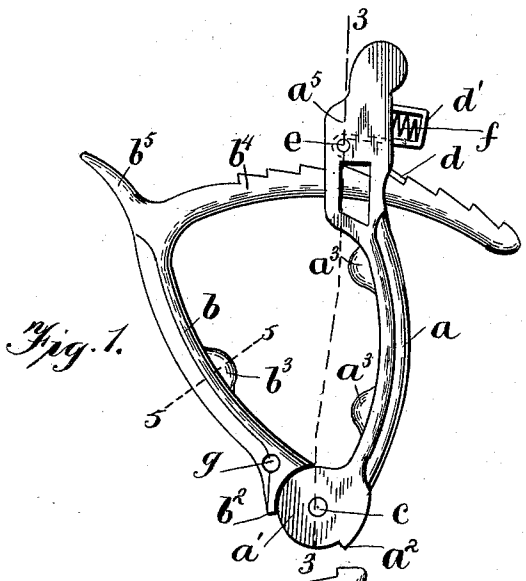


Fig. 1.

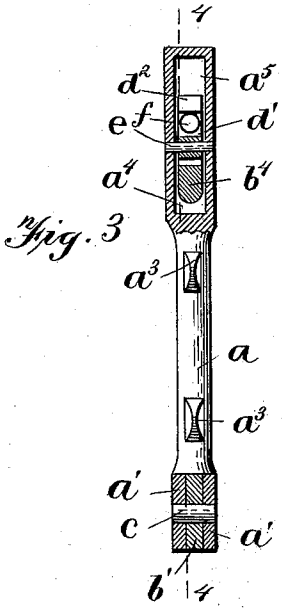


Fig. 3.

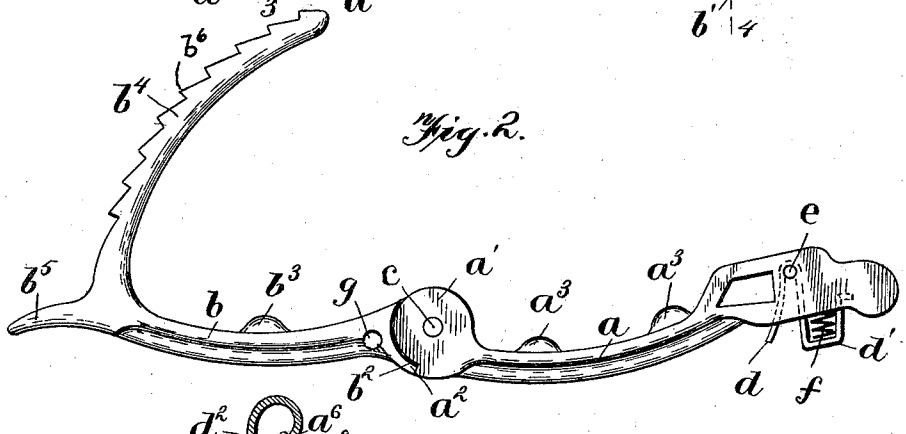


Fig. 2.

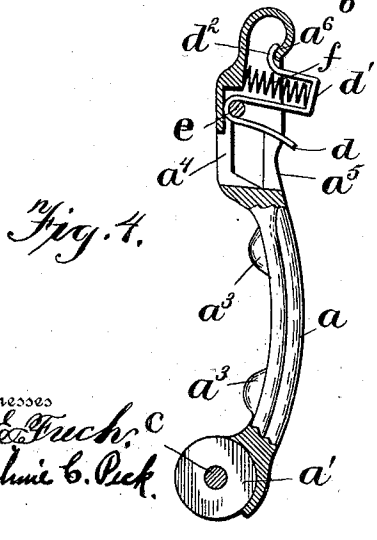


Fig. 4.

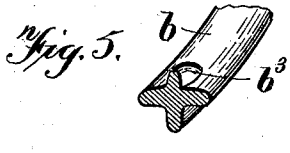


Fig. 5.

Witnesses

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UNITED STATES PATENT OFFICE.

PETER GANS, OF SALEM, OHIO.

BAG-FASTENER.

SPECIFICATION forming part of Letters Patent No. 609,989, dated August 30, 1898.

Application filed May 7, 1898. Serial No. 680,064. (No model.)

To all whom it may concern:

Be it known that I, PETER GANS, a citizen of the United States, residing at Salem, in the county of Columbiana and State of Ohio, have invented certain new and useful Improvements in Bag-Fasteners; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to certain improvements in bag-fasteners; and the objects and nature of the invention will appear more fully hereinafter.

The invention consists in certain novel features in construction and in combinations and in arrangements of parts, as will appear hereinafter in detail.

Referring to the accompanying drawings, Figure 1 is a side elevation of the bag-fastener in a closed position. Fig. 2 shows a fastener in its open position with the V-shaped member held rigid against continued backward swing and forming the long hook to catch and receive the gathered portion of the bag. Fig. 3 is a sectional view on the line 3 3, Fig. 1. Fig. 4 is a sectional view on the line 4 4, Fig. 3. Fig. 5 is a sectional view on the line 5 5, Fig. 1.

My invention consists of two members pivoted together at corresponding ends and provided with ratchet locking mechanism to automatically lock together their opposite ends when the device is applied to a bag, the various members being peculiarly constructed, as hereinafter set forth in detail, whereby the highly-efficient, durable, and cheap article is produced.

One member a of the bag-fastener is formed at one end with the wide, usually about circular, bearing-plates a' a', separated a sufficient distance to snugly receive between their flat inner faces the corresponding wide circular plate or portion b' of the swinging V-shaped member b. c is the pivot passing concentrically through said plates and forming the joint between the ends of the two members. The bearing-plates a' a' and b' are usually cast integral with their respective members and then can be properly finished or smoothed off, if not so cast, to form an accurate joint and prevent looseness or lost motion between them. The plates a' at the outer portions of their edges are formed with the stop-shoulders a^2, and the member b is formed at its outer edge outwardly from its bearing-plate b' with a corresponding shoulder b^2 to coact with the two shoulders a^2, whereby the V-shaped member is held rigid against continued backward swing when the bag-fastener is in its open position, for the purposes hereinafter more fully described.

The bag-grasping portions of the two members are preferably formed about or approximately straight, each with a slight outward bulge or curve, and said two portions of the two members are about of the same length usually, so that when brought to their limit of movement toward each other a narrow elliptical opening is left between them. Said bag grasping or engaging portions of the two members are preferably formed T-shaped in cross-section or triangular in cross-section with the wide rounded inner bag-engaging surfaces. Said inner engaging portions of the two members are formed, preferably, although not necessarily, with inward-projecting wide rounded lugs. One member is usually provided with two of these lugs a^3 a^3 near its opposite ends and the other member with one lug b^3 at an intermediate or about the central portion of its bag-engaging portion, arranged opposite the space between the two lugs a^3 a^3.

The member b is formed V-shaped, preferably forming an acute angle with the long arm b^4, usually longer from the apex of the V than the bag-engaging portion of said member from said apex. At or about its apex the V-shaped member b is provided with an outwardly-projecting horn b^5. The outer edge of the curved ratchet-arm b^4 is formed with the ratchet-teeth b^6, inclined toward the apex of the V-shaped member.

The ratchet-arm extends toward the free end of the member a of the bag-fastener, which member is formed with an enlarged projecting head at its free end. This head is formed with a transverse opening a^4 at its inner end and at the outer extremity of the engaging portion of said member. Said opening is formed to snugly receive and form a passage for the ratchet-arm. The head a^5 extends outwardly beyond said transverse

opening a^4 and is formed hollow from said opening outwardly. The outer side edge of said head is also open, except for the locking mechanism hereinafter specified.

The locking device comprises a swinging spring-held pawl having the locking end d, thumb or finger piece d', and stop end or portion d^2. The pawl is arranged in said hollow projecting end or head beyond the ratchet-arm and is preferably, although not necessarily, bent from one piece of strip metal, with a loop partially embracing and rocking on the pivot e, passed through the head. The lower arm of the loop projects outwardly and is turned down to form the engaging end or pawl d, which is held yieldingly in engagement with the ratchet-teeth on the outer edge of the ratchet-arm b^4 to permit said arm to slide freely inwardly through the head and yet to hold the same firmly against retrograde movement. The other side of the loop passing around said pivot is extended outwardly through the open edge of said head and is there bent to form the projecting loop or thumb-piece d' beyond the edge of the head. The upper end of the strip from said thumb-piece is bent laterally or upwardly within the head to form the shoulder or stop portion d^2 within the closed outer end of the head and opposite a shoulder or stop a^6 thereof, which limits the outward swinging of the pawl. A coiled retractive or other spring f is arranged within the hollow head and between said thumb-piece and the inner wall of the head to yieldingly press the thumb-piece outwardly and the end d toward the ratchet-arm.

It will thus be observed that the pawl can be easily released from the ratchet-arm by pressing the thumb-piece and that when the members are pressed together the pawl slides over the ratchet-teeth and yet automatically locks the parts against separation.

The three enlarged flat bearing-plates, the plate of the swinging arm between the other two, insures the proper guidance of the ratchet-arm into the aperture a^4 and prevents such lateral play at the joint as might cause the ratchet-arm to engage beyond either side of the opening therefor in the head a^5. This is a matter of material practical importance and advantage and avoids the necessity of employing long guiding-fingers on opposite sides of said openings, which fingers interfere with the reception of the bag.

Material advantages are attained in providing the friction lugs or projections a^3 a^3 b^3, as the lug b^3 forces the folded gathered part of the bag between the lugs a^3 a^3 and thus firmly locks and grips the same. This function is enhanced by the shape of the lugs, and yet the lugs are so formed as to provide no sharp teeth to enter the material of the bag and thereby tear and injure the same.

The lugs in my device are preferably semicircular and rounded, which grip the bag sufficiently to prevent the fastener slipping off.

When applying the device to a bag, the fastener is opened to its fullest extent, with the two bag-gripping portions about in continuation of each other, as shown in Fig. 2, and the long ratchet-bar forming a hook with a wide mouth. The device is then held usually in the left hand, with the member a held between the fingers thereof. The bag can then be gathered easily into the hook and the fastener closed thereon.

Material advantages are attained by providing means, such as opposing shoulders a^2 b^2, whereby the fastener is held in said extended position against backward swing, as otherwise the fastener could not be handled in this advantageous manner.

Material advantages are also attained by providing the extended horn b^5 in connection with the extended head a^5, as thereby the fastener can be most easily and quickly closed when the bag has been gathered into the hook. It is also very desirable to locate the ratchet-teeth on the outer edge of the bar b^4 to avoid engagement with the bar and to locate the finger-operating portion of the pawl at the outer edge of the head a^5, where it can be conveniently reached when the fastener is on a bag and the horn is used to open the fastener to release the same. The fastener is preferably cast with a hole, such as g, in one member to receive a cord for attaching the fastener to a bag.

It is evident that various changes might be made in the forms and constructions of the parts described without departing from my invention. Hence I do not wish to limit myself to the exact device shown.

What I claim is—

1. The bag-fastener comprising the two pivoted members, the bag-engaging portions of which are approximately straight and formed T-shaped in cross-section with the inwardly-projecting rounded friction-lugs, the pivoted ends of said members formed with stops to limit the outward swing thereof so that the bag-engaging portions thereof will be held practically in continuation of each other when opened, and one member formed integral with the two separated enlarged plates and the other member with the corresponding plate or portion turning between said plates of the other member for the purpose stated, one member formed with an outwardly-projecting head forming a finger-hold and having a transverse opening and spring-lock, the other member formed V-shaped with the lateral ratchet-arm to enter said opening, and the outwardly-projecting horn or finger-hold from its angle or apex.

2. A bag-fastener comprising the two pivoted members having approximately straight bag-engaging portions, one member continued outwardly by a head having a transverse opening at its inner portion and forming a finger-hold, a spring-actuated pawl carried by said head and having its operating releasing portion at the rear or outer edge of said head outwardly beyond said opening, for the

purpose stated, the other member formed V or hook shaped with the long lateral curved arm having ratchet-teeth at its outer edge, and a finger-hold or horn at or about the apex of the member, and a stop mechanism at the jointed ends of the members to hold the bag-engaging portions of said members about in continuation of each other when opened so that they can be easily held with the ratchet-bar forming a long hook into which the bag can be gathered, as set forth.

3. A bag-fastener comprising the two pivoted members having their bag-engaging portions about or approximately straight, one member having the transverse opening and extended outwardly beyond said opening to form a finger-hold and provided with a spring-actuated pawl, the other member formed V-shaped with the long ratchet-bar with the teeth at its outer edge, and the horn extended outwardly from its angle or apex, said ratchet-bar curving or extending laterally and inwardly to form a hook when the members are extended and held in the hand, substantially as described.

4. A bag-fastener comprising two pivoted members having their bag-engaging portions about straight, one member having the two separated rounded friction-lugs and the other member having one rounded friction-lug arranged opposite the space between the two opposite lugs to press and clamp the gathered portion of the bag between said lugs, substantially as set forth, one member having an extended head having a transverse opening and spring-actuated pawl, and the other member formed V-shaped with the laterally-extended ratchet-bar to enter said opening and form a hook.

5. A bag-fastener comprising two pivoted members, one member extended outwardly by a hollow head having a transverse opening, a swinging pawl therein formed in one piece and mounted on a pivot and formed with the end normally projecting into said opening and the finger or depressing portion projecting to the exterior of the rear edge of said head outwardly beyond said opening, a spring yieldingly holding said pawl with said end pressed in and said finger portion pressed out, and a stop therefor, the other member formed with the long laterally-extending ratchet-arm forming a hook and having teeth on its outer edge to engage said end of the pawl, substantially as described.

6. A bag-fastener of the character described comprising two pivoted members, one having the ratchet-bar and the other a projecting hollow head with an opening to receive the ratchet-bar, and the pawl therein looped around a pivot with the outwardly-projecting locking end, the thumb-piece projecting at the side edge of the head, a spring within the head pressing out the thumb-piece, and a stop for the pawl.

In testimony whereof I affix my signature in presence of two witnesses.

PETER GANS.

Witnesses:
W. W. HOLE,
MARTHA E. HOLE.