This invention relates to a bag or sack holder, and it is primarily an object of the invention to provide an apparatus of this kind which initially maintains or supports a sack or bag with its mouth open to facilitate filling and which also operates to close said mouth after filling so that the mouth portion of the bag will be in proper position for sewing or the application of other fastening means.

The invention consists in the details of construction and in the combination and arrangement of the several parts of my improved bag or sack holder whereby certain important advantages are attained and the device rendered simpler, less expensive and otherwise more convenient and advantageous for use, as will be hereinafter more fully set forth.

The novel features of my invention will hereinafter be definitely claimed.

In order that my invention may be the better understood, I will now proceed to describe the same with reference to the accompanying drawings, in which:

Figure 1 is a view in side elevation of a bag or sack holder constructed in accordance with an embodiment of my invention, the operating spring being shown in fragment;

Figure 2 is a view in top plan of the structure as illustrated in Figure 1 with the supporting member omitted and certain of the parts being indicated by broken lines;

Figure 3 is a view similar to Figure 2 but showing the device in open position to receive the mouth portion of a bag or sack, the holding latch and other parts being omitted;

Figure 4 is an enlarged fragmentary sectional view taken through the meeting end portions of the movable holding bars;

Figure 5 is an enlarged transverse sectional view taken substantially on the line 5—5 of Figure 1 looking in the direction of the arrow;

Figure 6 is an enlarged fragmentary sectional view taken substantially on the line 6—6 of Figure 1;

Figure 7 is an enlarged transverse sectional view taken through the apparatus illustrating means for holding the teeth on the swinging bars in effective or working position;

Figure 8 is a view similar to Figure 7 showing the parts in a second position to allow the bag engaging hooks to swing to a position to release the bag or sack;

Figure 9 is a view partly in section and partly in elevation, the section being indicated by the line 9—9 of Figure 6 looking in the direction of the arrow;

Figure 10 is a sectional view taken substantially on the line 10—10 of Figure 2;

Figure 11 is a view similar to Figure 10 but showing certain of the parts in a second position.

As disclosed in the accompanying drawings, B denotes a supporting beam for my improved apparatus although I do not wish to limit myself to the use of a beam as any other element possessing the requisite strength and having the required dimensions may be employed with equal facility.

 Held by the stud bolts I or otherwise to the under surface of the beam or support B at desired spaced points therealong are the blocks 2 of required dimensions. The inner end of each of said blocks 2 at its lower portion is provided with an inwardly disposed extension 2'. The blocks 2 proper are also provided in their upper surfaces with suitably spaced recesses or slots 3 to receive the stud bolts I hereinafter referred to. At this time I wish to state that I do not care to be limited as to the manner of securing the blocks 2 in place.

The outer end of each of the extensions 2' is provided with a socket 4 which rotatably receives an end portion of a main bag or sack holding bar 5 and said bar 5 at a point immediately adjacent to the free end of one of the extensions 2' carries an outstanding segment plate 6. This plate 6 is of desired dimensions and, as herein disclosed, one end thereof contacts with the extended end portion of a sliding bolt 7 whereby the extent of rotary movement of the bar 5 in one direction is positively limited. This bolt 7 is slidably disposed through two upstanding lugs 8 carried by the extension 2' of one of the blocks 2. The bolt 7 between the lugs 8 has disposed therethrough a pin 9 and interposed between this pin 9 and the inner lug 8 is an expansible spring encircling the bolt 7. This spring 10 serves to normally maintain the arm 7 projected in the path of travel of the segment plate 6.

Encircling each end portion of the bar 5 is a coil spring 11. One extremity of each of said springs is secured, as at 12, to the bar 5 while the opposite end portion thereof is anchored, as at 14, to the free end face of the adjacent extension 2' of a block 2.

When the bolt 7 is extended for contact with the segment 6, the bag engaging hooks 15 carried...
by the bar 5 are disposed upwardly as desired to properly and effectively hold the portion of a bag or sack engaged therewith. However, when the bolt 7 is retracted in a manner which 5 will hereinafter be more particularly referred to, the weight of the contents of the bag or sack upon the hooks 15 will cause the bar 5 to rotate inwardly and downwardly a distance sufficient, as particularly illustrated in Figure 11, to allow the bag to readily free itself from said hooks 15. During this movement of the bar 5 the springs 14 are placed under tension so that promptly upon freeing of the bag from the hooks 15 the bar 5 will rotate upwardly and rearwardly and thus return the hooks 15 to their desired raised position to be engaged by another bag or sack.

It is to be noted that the segment 6 at its peripheral portion is of such length to hold the bolt 7 retracted during the entire period the bar 5 is swinging downwardly and until the bar 5 swings upwardly a distance sufficient to cause the plate 5 to pass entirely beyond the bolt 7 which extends within the extension 2' of a block 2 and its extension 2. This slot 16 is horizontally disposed and the outer portion thereof is intersected by a vertically disposed slot 17 or, in other words, the slots 16 and 17 are in right angular relation.

Extending through each of the slots 16 is an elongated flat arm 18, said arm 18 extending at all times beyond the opposite sides of the block 2 and its extension 2'. The arm 18 has disposed through its middle a tight pin 19, the end portions of which freely work in the slot 17 above and below the slot 16. This pin 19 provides a pivotal mounting permitting the arm 18 to readily swing and at the same time the slot 17 will permit said arm 18 to have limited movement in a direction lengthwise of the bar 5. Each arm 18 for each block 2 carries a head 20 while the end portions of these arms 18 at the opposite sides of the blocks 2 are tied or connected by an interposed retractor member 21 of desired strength and herein disclosed as a coil spring. This spring 21 serves to constantly pull the ends of the arms 18 remote from the heads 20 one toward the other but limited by contact of the pins 19 with the inner ends of the slots 17 and by the contact of the heads 20 with the adjacent sides of the blocks 2.

The inner end of each of the heads 20 has disposed lengthwise therethrough an opening 22 which has disposed therein an end portion of a tubular bar section 23. This tubular bar section 23 has a slot 24 disposed lengthwise thereof and inserted within the end portion of this bar section 23 within the opening 22 is a solid filler member 25. The member 25 is keyed to the bar section 23 by a pin 26, the extremities of which extending beyond the tubular bar section 23 and engaging within the slot 27 whereby the bar section 23 is held against endwise movement with respect to its head 20 yet is permitted to have limited rotary movement.

The ends of the bar sections 23 remote from the heads 20 have telescopically engaged therein the reduced extensions of the hinge members 28. These members 28 are pinned, as at 29, or otherwise securely held in position. These hinge members 28 project a desired distance beyond the adjacent ends of the bar sections 23 and are formed and constructed to interlock so that a pivot member 30 may be suitably disposed therethrough to pivotally connect the inner end portions of the bar sections 23. This pivotal connection at 35 permits the inner end portions of the sectional bar 23 to swing outwardly from the main bar 5 as the arms 18 move inwardly of the slot 17 and swing upon the pivot members 30 under the action of the retractor spring 21.

Freely mounted within each of the bar sections 23 for movement endwise thereof are the blocks 31 and extending outwardly from each of these blocks 31 and passing out through the slot 32 of the bar section 23 are the bag engaging hooks 33. Interposed between adjacent blocks 31 and between an end block 31 and the inner end of a filler member 25 and also between the second end block 31 and a hinge member 28 are the expandable separating members 34 herein disclosed as coil springs. These springs are of a tension so as to maintain the blocks 31 in desired spaced relation but readily permit the blocks 31 to have movement lengthwise of the bar section as the bar sections 23 are moved into or out of parallelism with the bar 5, thus permitting of the hooks 15 of the bars close the sack.

The hooks 33 carried by the bar sections 23 are also normally upwardly directed as preferred. The filler member 25 of one of the bar sections 23 extends outwardly a slight distance beyond its associated head 20 and said extended portion carries a segment 35, one end of which, as particularly illustrated in Figure 7, contacts from below with an extended end portion of a bolt 36 whereby the hooks 33 are held in their normal raised position. This end portion of the bolt 36 is maintained projected by the coil spring interposed between one of the bearings 38 through which the bolt 35 moves and a stop pin 20 disposed through the arm 36.

Upon inward movement of the bolt 36 the extended block 2 will be retracted to release the segment 35 whereby the weight of the filled bag will cause the bar sections 23 to swing downwardly a distance sufficient to allow the bar to pass therefrom. As these bar sections swing downwardly and inwardly they place under tension the springs 34 engaging the outer end portions of the bar sections 23 and secured, as at 41 to said bar sections and as at 42 to the adjacent ends of the heads 20. This tension of the springs 40 is sufficient to rotate the bar sections 23 upwardly as the bag is disengaged therefrom to return the hooks 33 to their normal raised position and with the arm 36 projected to engage an end of the plate 35 to hold the hooks 33 in such raised position.

It is to be noted that this segment 35 is of a length that extends over the adjacent end of the bolt 36 when retracted and at all times during the downward movement of the hooks 33 so that said bolt 36 will not be projected until after the plate 35 has been swung back to its normal position.

The inner end of the bolt 36 carries an upstanding post 43 with which is adapted to contact an end portion of a swinging lever 44. This lever 44 is pivotally connected intermediate its ends, as at 45, to the upper surface of the extension 2' of a block 2 and the outer end portion of this lever 44 is freely disposed through the end 46.
portion of the bolt 1 remote from the plate 6 of the bar 5. This lever 44 when pushed in one direction by hand, will simultaneously move the bolts 7 and 35 into retracted position so that the hooks 15 and 33 may readily swing downwardly under the weight of a filled bag to release the same. This releasing action preferably takes place after the mouth portion of the bag which has previously been held between the bar 5 and the closed bar sections 23 has been sewed or otherwise closed.

Normally the bar sections 23 are in the position illustrated in Figure 3 and which arrangement readily allows the desired application to the holder of the mouth portion of an empty bag. After the bag has been filled, as by discharge through a grain spout or otherwise as may be preferred, the operator presses inwardly at the pivotally connected portions of the bar sections 23 wherupon said bar sections 23 will be caused to assume the position as illustrated in Figure 2 or substantially parallel to the bar 5. As these bar sections 23 are pushed into their closed position, the hook 15 is forced upwardly and be engaged by a latch member 46 (see Figure 5) whereby the bar sections 23 will be maintained in such closed position until the latch is moved into released position as by an operator striking or pressing the latch 46 from below. This latch 46 has a tail or stem portion 47 which is hingedly connected at a desired point intermediate its ends, as at 48, to a side face of the beam or support B. This tail or extension 47 extends beyond the opposite side of the beam or support B and underlies an outwardly extending bracket 49 carried by the beam or support B.

Freely disposed through the overlying portions of the extension or tail 47 and bracket 49 is a headed shank 50, said shank having a nut 51 threaded upon one end portion thereof and engaging the externally threaded end portion of said bracket 49 and being engaged by a latch member 63 hereinafore disclosed as a coil spring encircling the shank. This spring 63 is of desired tension and serves to normally maintain the latch 46 in its working position. This arrangement permits of the shank 50 to have proper engagement or disengagement with its associated bar section 23.

Disposed along the inner portion of the bar 5 and from substantially one extension 2' to the other and also extending along the major portion of the bar sections 23 below the hook members 15 and 33 respectively are flanges 54. These flanges 54 extend inwardly toward the other and when the bar sections 23 are in closed position the outer free longitudinal edges of the flanges 54 closely approach each other. These flanges serve to effectively hold the mouth portion of the bag in closed position and in proper formation over the bag content so that the sewing or other closing operation may be materially facilitated. It is also to be stated that with the use of these flanges 54 it has been found possible to sew or close the bag closely adjacent to the upper free margin with a resultant increase in bulk of material within the bag or sack.

From the foregoing description it is thought to be obvious that a bag or sack holder constructed in accordance with my invention is particularly well adapted for use by reason of the convenience and facility with which it may be assembled and operated, and it will also be obvious that my invention is susceptible of some change and modification without departing from the principles and spirit thereof and for this reason I do not wish to be understood as limiting my self to the precise arrangement and formation of the several parts herein shown in carrying out my invention in practice except as hereinafter claimed.

I claim:—

1. A bag holder comprising a main bar, supporting means therefor, bar sections, means for pivotally connecting the inner end portions of the bar sections, arms pivotally supported adjacent the extremities of the main bar, said arms having sliding movement in a direction lengthwise of the main bar, the outer end portions of the bar sections being secured to said arms, means for urging the arms one toward the other to maintain the pivoted portions of the bar sections outwardly spaced with respect to the main bar, and bar engaging hooks carried by the bar and bar sections.

2. A bag holder comprising a main bar, supporting means therefor, bar sections, means for pivotally connecting the inner end portions of the bar sections, arms pivotally supported adjacent the extremities of the main bar, said arms having sliding movement in a direction lengthwise of the main bar, the outer end portions of the bar sections being secured to said arms, means for urging the arms one toward the other to maintain the pivoted portions of the bar sections outwardly spaced with respect to the main bar, bag engaging hooks carried by the bar and bar sections, and means for holding the bar sections against movement away from the main bar.

3. A bag holder comprising spaced blocks, a bag holding bar interposed therebetween and supported thereby, arms extending transversely of the blocks, means for connecting said arms to the blocks for swinging movement and also for movement in a direction, lengthwise of the holding bar, bag holding bar sections having their outer extremities engaged with the arms, and means for pivotally connecting the inner end portions of the bar sections.

4. A bag holder comprising spaced blocks, a bag holding bar interposed therebetween and supported thereby, arms extending transversely of the blocks, means for connecting said arms to the blocks for swinging movement and also for movement in a direction lengthwise of the holding bar, bag holding bar sections having their outer extremities engaged with the arms, and means for pivotally connecting the inner end portions of the bar sections, and means for urging the arms to swing and travel inwardly of the holding bar to move the pivotally connected end portions of the bar sections away from the bar.

5. A bag holder comprising spaced blocks, a bag holding bar interposed therebetween and supported thereby, arms extending transversely of the blocks, means for connecting said arms to the blocks for swinging movement and also for movement in a direction lengthwise of the holding bar, bag holding bar sections having their outer extremities engaged with the arms, and means for pivotally connecting the inner end portions of the bar sections, and automatic means constantly urging the pivotally connected end portions of the bar sections away from the bar.
the blocks for swinging movement and also for movement in a direction lengthwise of the holding bar, bag holding bar sections having their outer extremities engaged with the arms, means for pivotally connecting the inner end portions of the bar sections, and retractile members interposed between said blocks and the arms for urging the blocks to each other, members having bores rotatably receiving the outer ends of the bar sections away from the bar.

7. A bag holder, including a rigid main bag engaging bar, a complementary bar engaging bar, each of said bars being rotatably mounted at its ends for axial movement, the complementary bar being formed of a plurality of sections hinged to each other for movement into or out of angular relation, each of said bars having inwardly extending bag supporting hooks, and releasable means latching the bars against rotative movement in a direction to release the hooks from the bag.

8. A bag holder, including a rigid bag engaging main bar, a complementary sectional bar, each of said bars being rotatably mounted at its ends for axial movement, each of said bars having inwardly extending bag engaging hooks, the complementary bar being formed of a plurality of sections hinged to each other for movement into or out of angular relation, means for urging the sections of the complementary bar into such angular relation, releasable means latching the sectional bar in parallel position to the main bar, and releasable means for latching both of said bars against rotative movement.

9. A bag holder, including a rigid main bar, a complementary bar formed of two hingedly connected sections, each of said bars being rotatably mounted at its ends for axial rotative movement, means holding the outer ends of the sectional bar in sliding engagement with the ends of the rigid bar, means urging the sections of the complementary bar into angular relation, releasable means latching the two bars in parallel position against the action of the last named urging means, and releasable means latching the bars against rotative movement.

10. A bag holder, including a main bag engaging bar having inwardly projecting hooks, supporting members having bores within which the main bar is rotatably mounted, springs engaged with said members and with the bar and acting to urge the hooks to an approximately horizontal position, a sectional bag engaging bar formed of two sections pivoted to each other, members having bores rotatably receiving the outer ends of said bar sections, the bar sections having inwardly projecting hooks, springs engaging the members and the ends of the bar sections and urging the bar sections in a direction to support the hooks in an approximately horizontal plane, the end members of the sectional bar having rounded outer corners confronting the end members connected to the arms for rocking engagement therewith, arms on the end members of the sectional bar, the end members of the rigid bar having slots through which said arms pass, the arms having sliding engagement in said slots, a spring connecting said arms and urging them toward each other, and sections of the second-named bar into angular relation to each other, detachable means for holding the sectional bar parallel to the first named bar and against the action of the last named spring, bolts for locking each of said bars from rotative movement, and means for releasing said bolts to permit the bars to turn under the weight of a bag.

12. In a bag holder of the character described, a rigid main bar having inwardly projecting hooks and a sectional complementary bar formed of two hingedly connected sections, the sections being movable into angular relation to each other and to the main bar or into parallel relation to the main bar, each of said sections being tubular and longitudinally slotted, a plurality of blocks disposed within said sections and having hooks projecting out through the slots therein, and springs disposed between said blocks and between the end blocks and the ends of the sections yieldingly holding the blocks in spaced relation to each other.

13. A bag holder including a longitudinally rigid main bar-engaging bar, supporting means thereof, an opposed bar formed of two sections hinged to each other, the sectional bar being movable from a position parallel to the main bar to a position with the two sections in angular relation, and coacting latching elements carried respectively on the bars and the supporting elements thereof latching the bars with the bag engaging members in confronting approximately horizontal position, and means for simultaneously releasing the latching elements for both bars to permit the bars to rotate under the weight of a bag to thereby release the bag from the bar engaging elements, one of said latching elements associated with each bar being constructed and arranged to hold the coating latching element out of latching position until the bar has returned to its initial position with the coating latching elements disposed on an approximately horizontal plane.

15. A bag holder of the character described, including opposed bars, each bar having bag engaging members thereon, elements within which the ends of said bars are supported for axial rotation, the elements and bars being movable toward or from each other, latching members carried by said bars and rotatable therewith, latching bolts carried by the supporting elements and operatively
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engaging with the latching members to thereby hold the bars against axial rotation, the release of said bolts from their engagement with the latching members permitting the bars to rotate in a direction to carry their bag engaging members downward to thus release the bag, and means for retracting said bolts, the latching members being constructed and arranged to hold the bolts retracted until the bars are returned to their initial position.

16. A bag holding mechanism of the character described, including a main bar, a complementary bar movable toward or away from the main bar, both of said bars having bag engaging members, supporting elements for the ends of each of said bars and within which the bars are axially rotatable, each of said bars carrying a latching plate axially rotatable with the corresponding bar, a latch and a supporting element for each bar operatively engaging said plate to hold the bars in a position with the bag engaging members disposed in an approximately horizontal position, and means for simultaneously releasing both of the latches from engagement with the respective plates, said plates bearing against the latches to hold them in released position until the return of the bars and plates to their initial position.

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