To all whom it may concern:

Be it known that I, Maurice Mehrens, a citizen of the United States, residing at Blair, in the county of Washington and State of Nebraska, have invented certain new and useful Improvements in Mail Delivering and Receiving Apparatus, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to improvements in mail receiving and delivering apparatus, and has for its object the provision of means for facilitating the supporting of a mail bag in position to be delivered to a moving vehicle, as for instance, a car, and also the provision of means for facilitating the receiving of a mail bag or an object from a rapidly moving train.

Another object of the invention is the construction of a peculiar device for receiving a mail bag from a rapidly moving train, and which device will automatically move away from the track or the side of the train as soon as the load or bag has been delivered thereto.

Another object of the invention is to overcome the present strain that is placed upon the ordinary type of mail receiving and delivering mechanisms, owing to the rigidity of the support and the non-pivoting feature of the members constituting said support, which will not permit the receiving device to swing freely for overcoming the momentum of the bag or object delivered thereto.

With these and other objects in view, the invention consists of certain novel constructions, combinations, and arrangements of parts, as will be hereinafter fully described and claimed.

In the drawings: Figure 1 is a view, in side elevation, of an apparatus constructed in accordance with the present invention. Figure 2 is a top plan view of the structure depicted in Figure 1. Figure 3 is a top plan view of the inner section of the bag receiving device. Figure 4 is a fragmentary, longitudinal, sectional view of the auxiliary bag-receiving arm. Figure 5 is a fragmentary, sectional view of the top of the standard. Figure 6 is a sectional view taken on line 6—6 of Figure 5. Figure 7 is a top plan view of the retarder device. Figure 8 is an enlarged sectional view taken on line 8—8 of Figure 7.

Referring to the drawings by numerals, 1 designates a vertical standard, which is provided with laterally-extending braces 2; the standard is carried by a support, as for instance, the ground, or a platform made of wood or stone, and said standard is provided with a socket or recess portion 3 at its upper end, for the purpose hereinafter described.

The bag-receiving device comprises an arm composed of an inner section 4 and an outer section 5, which outer section 5 carries a pivotally-mounted hook 6, the arm being capable of being swung upon either side of the section 5 for receiving the bag in either direction. To the outer end of the section 5 is secured a curved or bowed plate or guide 7, and connected to the outer ends of member 7 are inwardly-extending braces 8, which braces are fixedly secured, at 9, to the sides of section 5. Therefore, it will be noted that the plate or guide 7 is securely braced, and through this plate 7 is extended a portion (as indicated by dotted lines 10) of the hook 6, whereby said hook is pivotally connected to said plate or guide and the section 5 as hereinafter mentioned.

Catch-devices are provided upon the plate or guide 7 at opposite sides of the section 5, and each catch-device comprises a transverse or horizontal opening 11 in the plate, which opening or aperture 11 is closed at one end, by means of a cup or cap 12, that is secured, by any suitable fastening means, to the inner face of the plate or guide 7, Figure 2. A catch 13 is pivotally mounted, as at 14, and the catch is provided at its outer end, and upon its inner face with a cup or flanged extension 15, and in the flanged extension or cap 15 in the cap 12 is positioned a coil spring 16, whereby the inner end of the catch 13 is normally positioned between the hook member 6 and the plate or guide 7, so that a bag may be secured between said plate 7 and the hook, after it has passed over the outwardly-bowed or curved body of the catch 13 and positioned behind its flanged edge. Of course, the catch 13 can be quickly pressed inward against the face of the cleat or guide 7, while the bag is passing between the catch and the hook for positioning the same at the extreme inner end of said hook. The spring 16 and the cap 15 in each catch-device act as a guide and produce an efficient and positive device for performing the desired function.

The inner and outer sections 4 and 5, respectively, of the bag-receiving arm, are connected in the following manner: The inner section is provided with a plate 17 (Fig...
4), resting upon its upper face, and said plate is provided with an apertured cone 18. The outer section 4 is provided with a conical-shaped socket, in which extends the hollow conical extension 10 of plate 20, which plate is secured against the inner face or bottom of the section 5; the conical hollow extension 19 rests upon the apertured conical extension 18 producing a very efficient bearing, which will allow independent rotary movement of the sections, and will also permit the outer section to swing around independently of the inner section. However, sections 4 and 5 are practically locked against independent rotary movement, through the medium of a bolt 21 passing through the cone 18 and an aperture in the section 4, the head of the bolt resting upon the upper face of the section 5 and its lower threaded end extending below the lower face of the section 4 and upon the extreme end of the shank of the bolt 20 are threaded lock-nuts 22, for preventing displacement of the coil-spring 23; the spring 23 being placed between the inner nut and the bearing plate 24, which plate 24 is secured against the bottom of the section 4. Therefore, by adjusting the nuts 22, the tension of the yielding member or spring 23 can be controlled, governing the frictional resistance offered against independent rotary movement of the two sections. The spring may be of sufficient strength to entirely resist any independent rotary movement of the two members, provided the nuts 22 are threaded inward upon the shank of the bolt a sufficient distance, although an unusual heavy strain or load placed upon the outer end of section 5 might cause a slight rotary movement of said section independent of the inner sections. However, I have provided means for permitting the rotation of the bag-receiving device at its inner end by having the inner end of section 4 rotatably mounted upon the upper end of the standard or post 1.

The auxiliary standard 30 is provided with a flange or an enlarged base 31 resting upon the top of section 4, and said auxiliary standard 30 is provided with a depending stem 32, which stem is provided with a threaded lower end having thereon locked-nuts 22. Positioned between locked-nuts 22' and the lower face of the top portion or casing 25 is a coil spring 23', which performs the same functions as spring 23.

The inner section 4 is provided, at its rear end, with a laterally extending arm 33, which arm acts as a bumper support. The laterally extending portion 33 is provided, at each end, with a bumper 34, which bumper acts to retard rotary movement of the outer arm 5. The outer arm 5 is provided, on each side, with a plate 35, which protects said arm and is so positioned upon said arm as to strike the bumper when rotated.

The delivering device of my apparatus comprises an upper sectional arm and a lower sectional arm. The upper sectional arm comprises an inner horizontal section 37 and an outer section 38, the outer section being pivotally connected at 39 to the outer end of the inner section 37. The inner section 37 is strengthened or braced by means of inclined braces 39' and 40. The outer section 38 is provided with a weight 41, at its inner end, and with a spring-clamp 42 at its outer end, for receiving, for instance, a ring shown by dotted lines 43, carried by one end of a bag 44. The lower arm comprises an inner section 45, which inner section is pivoted at 46, at its inner end, to a collar 47 positioned around the post or standard 1, and is braced by means of inclined brace 48, the brace 48 being secured at its upper end to an angle-member 49 and at its lower end to the section 45. The outer section 50 of the lower arm is hinged at 51, so that normally it can drop down. When it is in a set position it is placed as shown in Fig. 1, by reason of the fact that the spring-clamp 51', carried at its outer end, receives a ring, as for instance, 52, secured to the lower or one end of bag 44.

The lower end of the vertical portion of the angle-member 49 is secured to the upper surface of the arm 45, and the other end of 51b of the longitudinally extending portion of the member 49 is provided with a recess 52, which fits over the square portion 53 upon the depending portion 52. The horizontally extending portion of the angle-member 49 works in a slot 54 so as to allow said angle-member to freely swing from right to left.

Below the collar 47 is positioned a bracket 55, said bracket being secured to the standard 1 by means of bolts 57. Near where the ends of the bracket are connected to the standard 1, are positioned bumpers 58 to limit the swing of the delivering arm, said bumpers being covered by cushioning material, such as rubber. Positioned upon the
bracket are a plurality of retarding devices, and, as each device is of the same structure, it will only be necessary to specifically describe one. A vertically-curved plate 59 is pivotally mounted, at 60, in a curved slot or opening 61 formed in the bracket, Figs. 7 and 8, and the plate 59 is provided, at its outer end, with a horizontal flange 61, which limits the upward movement of the retarding plate 59, by said flange 61 coming in contact with a shoulder or extension portion 62 on the bracket 55, Fig. 8. The upper portion of the retarding plate is normally held above the casing by means of a yielding member or spring 63, which engages, at its upper end, the bottom portion of the plate, and its lower end engages a substantially U-shaped bracket 64 secured to the lower face of the bracket 55, Fig. 8. When the lower bag-delivering arm is swung around upon the retarding device, the inner section 45 will come in contact with and ride over the upper inclined face of the retarding plate 59, swinging the outer end of the retarding plate downwardly and compressing the spring or yielding members 63 within the supporting-bracket, thereby acting as a brake for retarding rotatory movement of the bag-delivering device, caused usually by the delivery of a bag or loop to a car or the like. The structure of my apparatus is such as to overcome the rotatory movement of the delivering apparatus when the bag is delivered therefrom.

The bracket supporting the retarding device is reinforced by means of braces 55', which are secured, at their outer ends, to the bracket, and, at their inner ends, to the standard.

It is to be noted that the lower end of the extension 32, carrying the ends 21' and spring 23', is necessarily positioned in a cut-out or recess portion 3 of the standard 1, Fig. 4, and, furthermore, by reason of this structure the auxiliary standard 34 is pivotally mounted upon the retarding device and secured to the receiving device upon the standard.

What I claim is:

1. In an apparatus of the class described, the combination with a standard, of a bag-receiving device rotatably mounted upon the upper end of said standard, bag-holding and delivering means rotatably mounted upon the bag-receiving device and standard and securing said bag-receiving device to the upper end of said standard, and said bag-holding and delivering means provided with means for retarding its rotatory movement and also the rotatory movement of said bag-receiving device.

2. In an apparatus of the class described, the combination with a support, of bag-receiving means rotatably mounted upon said support, bag-holding and delivering means rotatably mounted upon said bag-receiving means and securing said bag-receiving means to said support.

3. In an apparatus of the class described, the combination with a support, of a bracket carried by said support, said bracket provided with a movably retarding device, and bag-receiving means carried by said support and adapted to rotate upon said support, and means rotatably mounted upon said opening, a depending bracket carried by said first-mentioned arm, and means engaging said bag-holding means and securing the same to said casing.

4. In an apparatus of the class described, the combination with a support provided with a socket or recess portion, at its upper end, a casing positioned upon said upper end, bag-holding means carried by said casing and adapted to rotate upon said casing, and means positioned in the socket or recess portion of the post and engaging said bag-holding means and securing the same to said casing.

5. In an apparatus of the class described, the combination with a support, a load-receiving arm rotatably mounted upon the upper end of said support, of a bag-holding and delivering arm rotatably mounted upon said first-mentioned arm, and securing said first-mentioned arm to said support, and means for retarding rotatory movement of said delivering arms and said receiving arm.

6. In an apparatus of the class described, the combination with a standard, of an arm carried by said standard, an auxiliary standard provided with an extension, the extension extending through said arm, means carried by said extension for holding said standard and arm together, means for retarding rotatory movement of either said arm or said standard, and load-holding means secured to both said arm and auxiliary standard.

7. In an apparatus of the class described, the combination with a standard, of a casing including portions of said standard, a bracket extending laterally from said standard, said bracket provided with integral extensions constituting bumpers, spring-pressed retarding devices carried by the bracket at opposite sides, and bag-supporting means movably mounted upon said casing and being adapted to engage one or both of said retarding-devices and said bumpers.

8. In an apparatus of the class described, the combination with a support, of a casing carried by said support, said support provided with a bracket, a retarding-device carried by said bracket, said device comprising a pivotally-mounted plate, means for normally exerting pressure upon said plate, a bag-holding means carried by said support and adapted to pass over and be retarded in its movement by said plate.

9. In an apparatus of the class described, the combination with a support, of a bracket carried by said support, said bracket provided with an opening, a plate movably mounted upon said opening, a depending bracket carried by said first-mentioned bracket, and means engaging said depending
bracket and plate for normally exerting pressure thereon, and bag-holding means movably mounted upon said casing and adapted to engage said plate, the plate retarding movement of said bag-holding means.

10. In an apparatus of the class described, the combination with a support, of a casing carried by said support, said support provided with a bracket extending from one side thereof, said bracket provided with an opening, a plate pivotally mounted near one end in said opening and adapted to move therein, said plate provided with an extension for limiting its outward movement, a spring pressing against the plate and normally holding the extension in engagement with the bracket for positioning the plate beyond one face of the bracket, and bag-holding means pivotally mounted upon the casing and adapted to engage the plate when swung upon said casing.

11. In an apparatus of the class described, the combination with a support, of a casing, a laterally-extending bracket carried by said support, said bracket provided with a plurality of vertical openings, spring-pressed plates movably mounted in said openings, and bag-holding means adapted to swing upon the standard and engage either one of said plates.

12. In an apparatus of the class described, the combination with a support, of a bracket carried by said support, yielding bumpers fixedly secured to said bracket retarding devices formed upon the front of said bracket, each retarding device comprising an opening in the casing, a curved plate pivotally secured near one end in said opening, said plate provided at its opposite end with a flange for limiting its pivotal movement, a substantially U-shaped bracket secured to the under face of the curved bracket near each opening, a spring engaging at one end said U-shaped bracket and at its opposite end said plate for normally exerting an outward pressure upon said plate, and bag-holding means movably mounted upon said standard and being adapted to engage a portion of said retarding-device.

13. In an apparatus of the class described, the combination with a support, of a horizontal bracket carried by said support, said bracket provided with retarding devices and with a bumper on each side of said bracket, and load-delivering means movably mounted upon said support and being adapted to engage either one of said retarding devices, prior to engaging said bumper.

14. In an apparatus of the class described, the combination with a support, of a casing provided with a conical extension, a bracket carried by said support, said bracket provided with retarding means, a bag-receiving arm resting upon the conical extension and being rotatably mounted upon said casing, and bag-delivering arms adapted to engage said retarding means for limiting their movement, subsequent to the removal of a load therefrom.

15. In an apparatus of the class described, the combination with a support, of a casing provided with a conical bearing, a bag-holding device provided with a conical bearing, the bearing of the device positioned upon the bearing of the casing, and spring-pressed clamping-means extending through the bearings and holding the casing and device.

16. In an apparatus of the class described, the combination with a support, of a standard provided with an extension and with horizontal bag-supporting means, the extension projecting through a portion of said support, yielding means positioned upon the extended end of the extension and yieldably holding the standard upon the support, whereby the movement thereof will be retarded by frictional contact with the support.

17. In an apparatus of the class described, the combination with a standard, of bag-holding means rotatably mounted upon said standard, spring-pressed retarding devices carried by said standard and adapted to be engaged by said bag-holding means for limiting its rotary movement, and a bumper carried by said standard and adapted to stop or prevent rotary movement of the bag-holding means after the same engages said bumper.

18. In an apparatus of the class described, the combination with a support, of a pair of sectional arms, constituting an upper and lower arm carried by said support, the sections of said lower arm hinged together, each arm provided with a clamp at its outer end, and means for causing a powerful frictional movement to be offered against rotary movement of the rotatable arm.

19. In an apparatus of the class described, the combination with a support, of a bag-receiving device carried by said support, said bag-receiving device comprising a sectional arm, each section provided with a plate having a conical portion, the conical portions of the plates being positioned together, and spring-pressed means extending through the sections and through the conical portions of said plates and securing said sections together.

20. In an apparatus of the class described, the combination with a support, of a rotatably-mounted arm carried by said support, said arm comprising a plurality of sections, a plate provided with a conical extension resting upon one of said extensions, a plate provided with a hollow conical extension, the hollow extension extending into the other section, the hollow extension positioned upon the conical extension of the other plate, a bolt passing through the extensions and...
through the conical sections of the plate, a spring positioned upon one end of said bolt, and means adjusting the tension of said spring upon said sections for clamping the plates and sections together.

21. In an apparatus of the class described, the combination with a support, of a bag-receiving device carried by said support, said bag-receiving device comprising an arm provided with sections, a sectional bearing formed upon the sections, and expansible fastening means securing said sections and the bearings together.

22. In an apparatus of the class described, the combination with a support, of a bag-receiving device carried by said support, said bag-receiving device comprising an arm provided at its outer end with a curved guide, bracing means connected to the arm and to the outer ends of said guide, and a pivoted hook secured upon the guide and the outer end of said arm.

23. In an apparatus of the class described, the combination with a support, of a bag-receiving device carried by said support, said bag-receiving device comprising an arm, a pivoted hook positioned contiguous to said guide, said guide provided with a plurality of catch-devices, each catch-device comprising an aperture in the guide, and a cap secured over one end of the aperture, a catch pivotally secured to said guide and provided with a cap, and a spring positioned in the cap of the catch and in the first-mentioned cap for normally pressing outward upon the catch.

24. In an apparatus of the class described, the combination with a support, of a bag-receiving device carried by said support, said device comprising an arm, a guide carried by said arm, a hook pivotally mounted upon said arm and adapted to be swung to either side thereof and cooperating with said guide, and spring-pressed catches carried by the guide and positioned at opposite sides of the arm.

25. In an apparatus of the class described, the combination with a support, of an arm rotatably mounted upon said support, said arm provided at its outer end with a curved guide, a hook positioned contiguous to said guide and pivotally-mounted spring-pressed catches carried by said guide and adapted to cooperate with said hook for securing a bag or load between the guide and the hook.

26. In an apparatus of the class described, the combination with a support, of an arm carried by said support, a guide secured to the outer end of said arm, a hook pivotally mounted upon the arm and adapted to be swung to opposite sides thereof and cooperating with said guide, and spring-pressed catches carried by the guide at opposite sides of the arm and cooperating with said guide and hook for holding the bag or load upon the arm.

27. In an apparatus of the class described, the combination with a standard, a mail-receiving arm mounted upon said standard, a mail-delivering arm positioned above said mail-receiving arm, and a mail-delivering arm positioned below said mail-receiving arm, said upper delivering arm provided with a depending portion, a recess positioned in the top of said standard, said depending portion positioned in said recess, a slot positioned in one side of said standard, said slot registering with said recess, and an angle-brace connected to said depending portion, and said lower delivering arm, and one part of said brace passing through said slot.

28. In an apparatus of the class described, the combination with a standard, of a casing carried by said standard, a mail-receiving arm mounted upon said casing, an auxiliary standard positioned above said mail-receiving arm, said auxiliary standard provided with a depending portion, said depending portion provided with a square portion, an angle-brace connecting said support or delivering arm, and a square recess formed upon said angle-member, fitting around said square portion upon said depending portion.

29. In an apparatus of the class described, the combination with a standard, a sectional mail-delivering arm, said arm pivotally mounted upon said standard, a plurality of sectional delivering or supporting arms, said delivering-arms connected by means of an angle brace, said brace having its vertical portion connected to the lower arm and its longitudinal portion connected to the depending portion of said upper arm.

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

MAURICE MEHRENS.

Witnesses:
GEORGE B. WILTSBIE,
F. W. KENNEY, Sr.