No. 891,382. PATENTED JUNE 23, 1908.

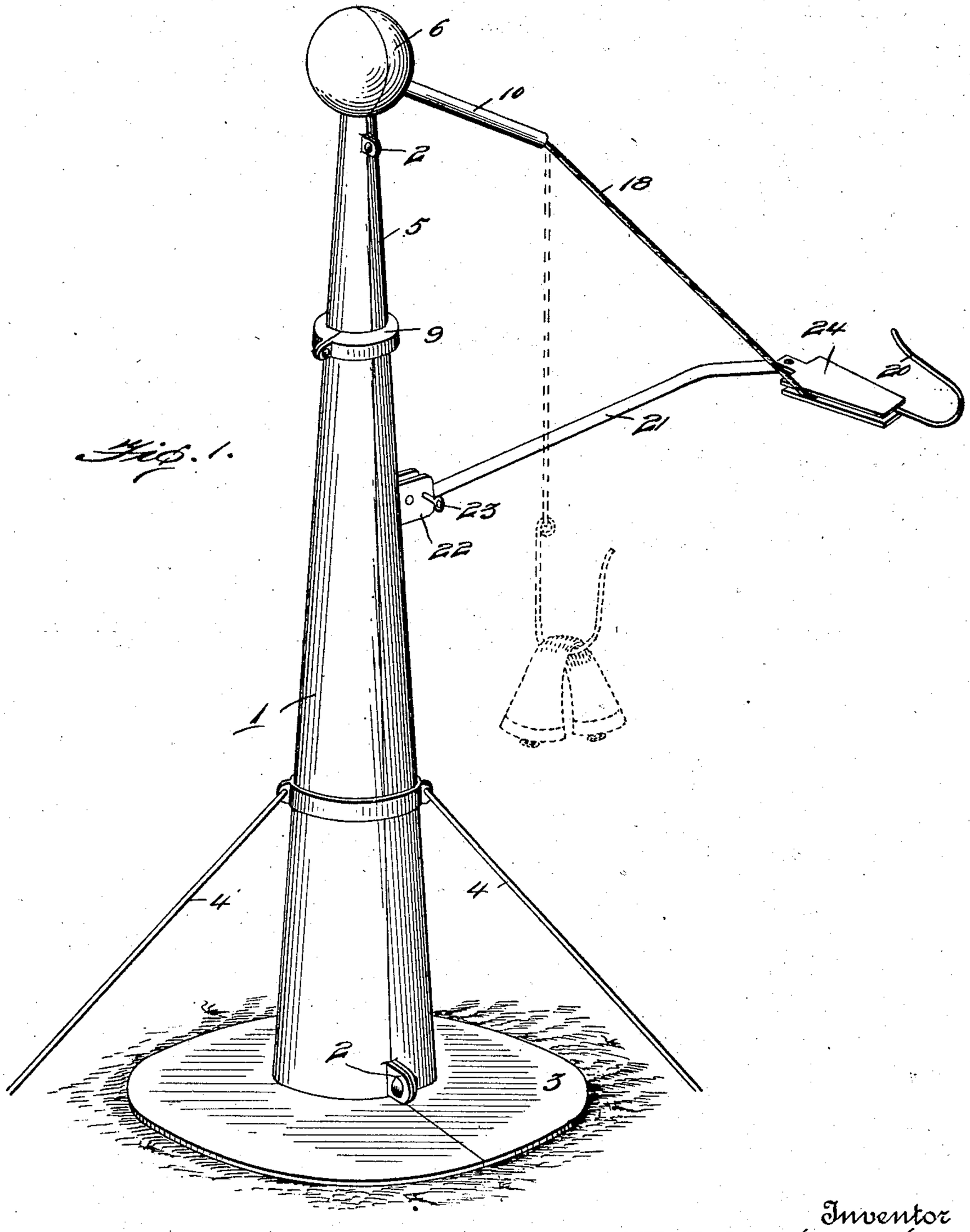
P. B. SOUTHWORTH.

MAIL BAG CATCHER.

APPLICATION FILED MAR. 19, 1908.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses
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2 SHEETS—SHEET 2.

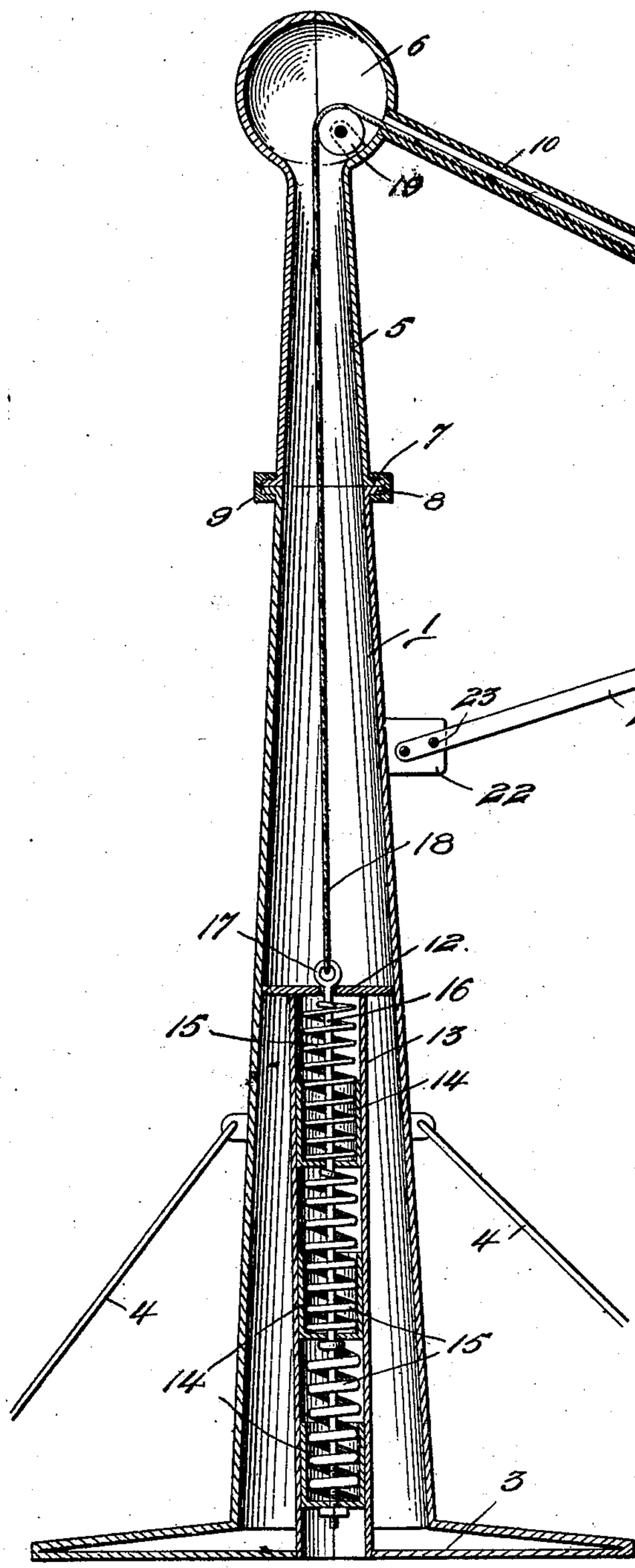

Fig. 2.

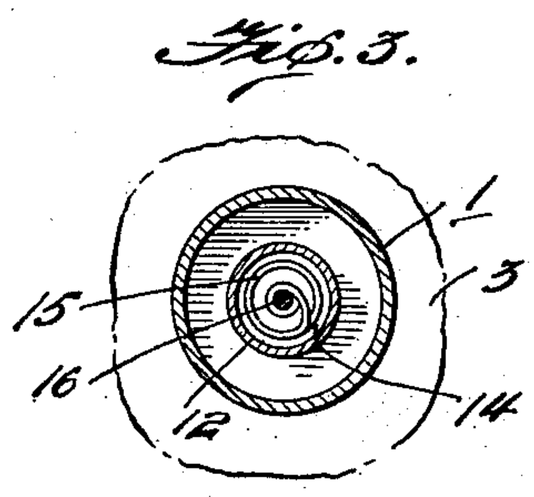

Fig. 3.

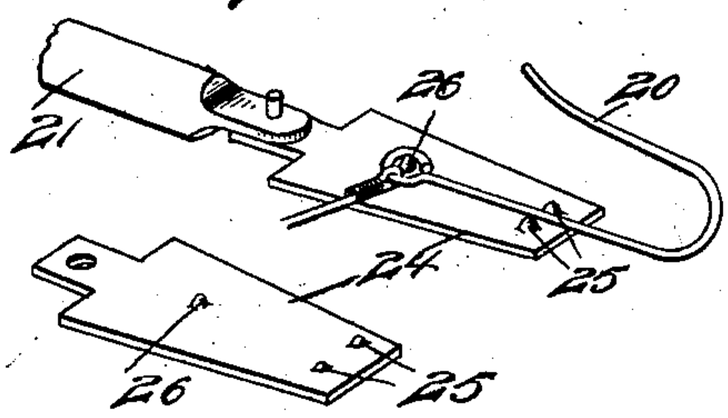

Fig. 4.

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UNITED STATES PATENT OFFICE.

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MAIL-BAG CATCHER.

No. 891,382. Specification of Letters Patent. Patented June 23, 1908.

Application filed March 19, 1908. Serial No. 422,140.

To all whom it may concern:

Be it known that I, PRESTON B. SOUTHWORTH, a citizen of the United States, residing at Klamath Falls, in the county of Klamath and State of Oregon, have invented certain new and useful Improvements in Mail-Bag Catchers; and I do 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 improvements in mail bag catchers.

The object of the invention is to provide an apparatus of this character whereby the mail bag may be taken from a fast-moving train without injury to the bag or its contents.

With this object in view, the invention consists of certain novel features of construction, combination and arrangement of parts as will be hereinafter described and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a perspective view of a mail bag catching apparatus constructed in accordance with the invention, showing in full lines the position of the parts to catch the bag, and in dotted lines the position of the parts after the bag is taken; Fig. 2 is a vertical sectional view of the same; Fig. 3 is a cross sectional view; and Fig. 4 is a detail view of the bag-catching hook and means for holding the same in operative position.

In the embodiment of the invention I provide a supporting boss, or standard, which is preferably formed of tubular metal and tapers from its lower end toward its upper end, as shown. The standard is formed in two longitudinal sections, the meeting edges of which are provided with apertured ears, 2, through which are inserted fastening bolts, by means of which the sections of the standard are held together. On the lower end of the standard is formed a suitable base, 3, by means of which the standard is anchored or suitably fastened to the ground or other support. The standard is further provided with inclined braces, 4.

Revolubly mounted on the upper end of the standard 1 is a hollow tapering cap, 5, having on its upper end a hollow spherical head, 6. The cap, 5, and head, 6, are preferably formed in longitudinal sections which are bolted together in the same manner as the standard. The cap is provided on its lower end with a radially projecting annular flange, 7, which is adapted to be seated on a similar flange, 8, and around said flanges is arranged a collar, 9, by means of which the cap is revolubly secured to the upper end of the standard. On one side of the spherical head, 6, and projecting outwardly and downwardly therefrom is a tubular guide arm 10, the upper end of which communicates with the hollow head.

In the standard 1, substantially midway between its ends, is arranged a diaphragm, 12, which is formed by segmental partitions arranged in each half of the standard as shown, and within said standard below the diaphragm, 12, and extending between the same and the base, 3, is a guide tube, 13, in which is slidably mounted a series of spring-holding buckets, 14, in which is seated a series of coiled springs, 15, said springs being of different tension and ranging from a very heavy spring in the lower bucket to a light spring in the upper bucket. Through said buckets and springs is arranged a centrally disposed connecting rod, 16, the upper end of which projects through a small aperture formed in the diaphragm, 12, and is provided with an eye, 17, the purpose of which will be hereinafter described.

The upper end of each spring is bent to form a reduced rod-engaging eye which is disposed in the center of the upper end of each of the coils and serves to hold said upper ends of the springs in concentric relation to the rod, the lower ends of said springs being held in place by the buckets in which they are seated. The lower end of the connecting rod is provided with a head by means of which it is secured to the lowermost bucket. By this arrangement when the connecting rod is pulled upwardly, the uppermost spring will be compressed against the inside of the diaphragm, 12, and each successive spring will be compressed between its bucket and the next bucket above.

Secured to the eye on the upper end of the

connecting rod, 16, is a flexible connection, 18, which may be in the form of a cable or chain, said connection extending upwardly through the upper portion of the standard and through the cap, 5, and into the tubular head, 6, where it passes over a guide pulley, 19, and extends through the tubular supporting arm, 10, connected to the head. To the outer end of the connection, 18, is secured a bag-catching hook, 20, which is adapted to engage and take the bag from its support on the moving train.

In order that the hook may be held in the position to engage and take the bag from the train, I provide a supporting arm, 21, which is pivotally connected at its inner end between a pair of apertured lugs, 22, arranged on one side of the standard, said arm being held in an operative position by means of a removable supporting pin, 23, which is inserted through an aperture in the lugs, 22, and through an aperture in the arm, 21, adjacent to its pivoted end. By removing the supporting pin, 23, the arm, 21, will drop to an inoperative position along side the lower portion of the standard.

The outer end of the arm, 21, is provided with a reduced flattened end to which is pivotally connected a pair of spring metal hook-holding plates, 24, between which the hook, 20, is held in an operative position to engage the bag as the train passes said hook. The plates, 24, are provided on their inner sides, adjacent to their outer ends, with pairs of laterally projecting studs, 25, between which the outer portion of the hook is detachably held, the inner end of said hook being provided with an eye to receive the outer end of the flexible connection, 18, said eye being engaged between laterally projecting studs, 26, formed on the inner side of the spring-holding plates, 24, midway between their ends.

In the operation of the device to catch a mail bag, the hook 20 is engaged with the studs between the spring-metal holding-plates, 24, so that its free end will project in the direction of the approaching train, said plates and the arm, 21, thus supporting the hook in proper position to engage the bag as the train passes. As soon as the hook is engaged with the bag, it will be pulled from between the spring metal plates by the force of the moving bag, said force or momentum swinging the cap and head on the upper end of the standard around in the direction of the movement of the bag, which will be gradually brought to a stop by the springs in the lower end of the standard, which are connected to the hook through the flexible connection, 18, as hereinbefore described, thus preventing the bag or its contents from being injured, which would occur should the bag be suddenly jerked from a fast-moving train and abruptly stopped.

Any desired number of stop springs may be provided, and springs of various tensions may be provided according to the speed of the trains from which the bags are to be removed, thus providing for the catching and stopping of the bag without injury at whatever speed the train may be moving.

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

1. In a mail bag catcher, a supporting standard, a series of bag stopping springs arranged therein, a bag-engaging hook, a flexible connection between said hook and said springs, and means to hold the hook in position to take the mail bag from the moving train, substantially as described.

2. In a mail bag catcher, a supporting standard, a series of bag stopping springs arranged in the lower portion thereof, a cap revolubly mounted on the upper end of said standard, a bag-engaging hook, a flexible connection between said hook and springs, a supporting arm connected to said standard to detachably hold the hook in operative position thereon, substantially as described.

3. In a mail bag catching apparatus, a tubular supporting standard, a series of bag-stopping springs arranged in the lower portion of said standard, buckets arranged between said springs and adapted to receive the same, a connecting rod arranged through said buckets and springs, a tubular cap revolubly mounted on the upper end of the standard, a hollow head on the upper end of said cap, a diagonal guide arm connected to said head, a bag-engaging hook, a flexible connection arranged in said guide arm and adapted to extend through said head and cap and the upper portion of said standard and to be secured to said connecting rod, and means to detachably support said hook in operative position, substantially as described.

4. In a bag catching apparatus, a tubular tapered supporting standard formed in longitudinal separable sections, a similarly formed cap revolubly mounted on the upper end of said standard, a hollow head on said cap, a diagonal guide arm connected to said head, a bag-engaging hook, a series of bag-stopping springs arranged in the lower portion of said standard, a flexible connection between said hook and springs, a hook supporting arm pivotally mounted on one side of said standard, means to hold said arm in operative position, and spring metal hook-holding plates on the outer end of said arm adapted to hold said hook in an operative position, substantially as described.

5. In a bag catching apparatus, a tubular

supporting standard, a series of bag stopping springs arranged in said standard, buckets arranged between each of said springs, a connecting rod secured at its lower end to the lowermost bucket and extending through said buckets and springs, a bag-catching hook, a flexible connection between said hook and the upper end of said connecting rod, and means to hold said hook in position to engage the bag on a moving train, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

PRESTON B. SOUTHWORTH.

Witnesses:

I. L. WHITWORTH,

J. B. MELTON.