

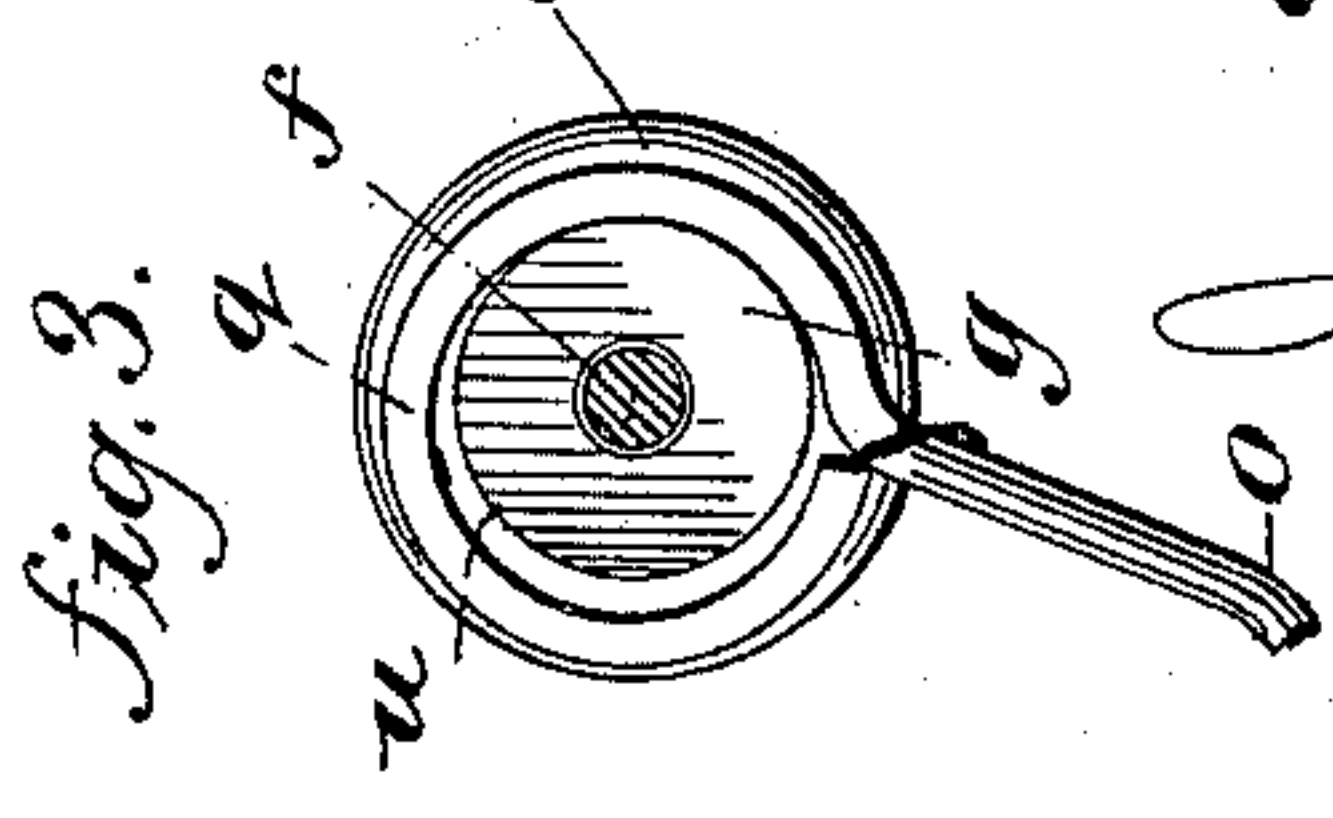
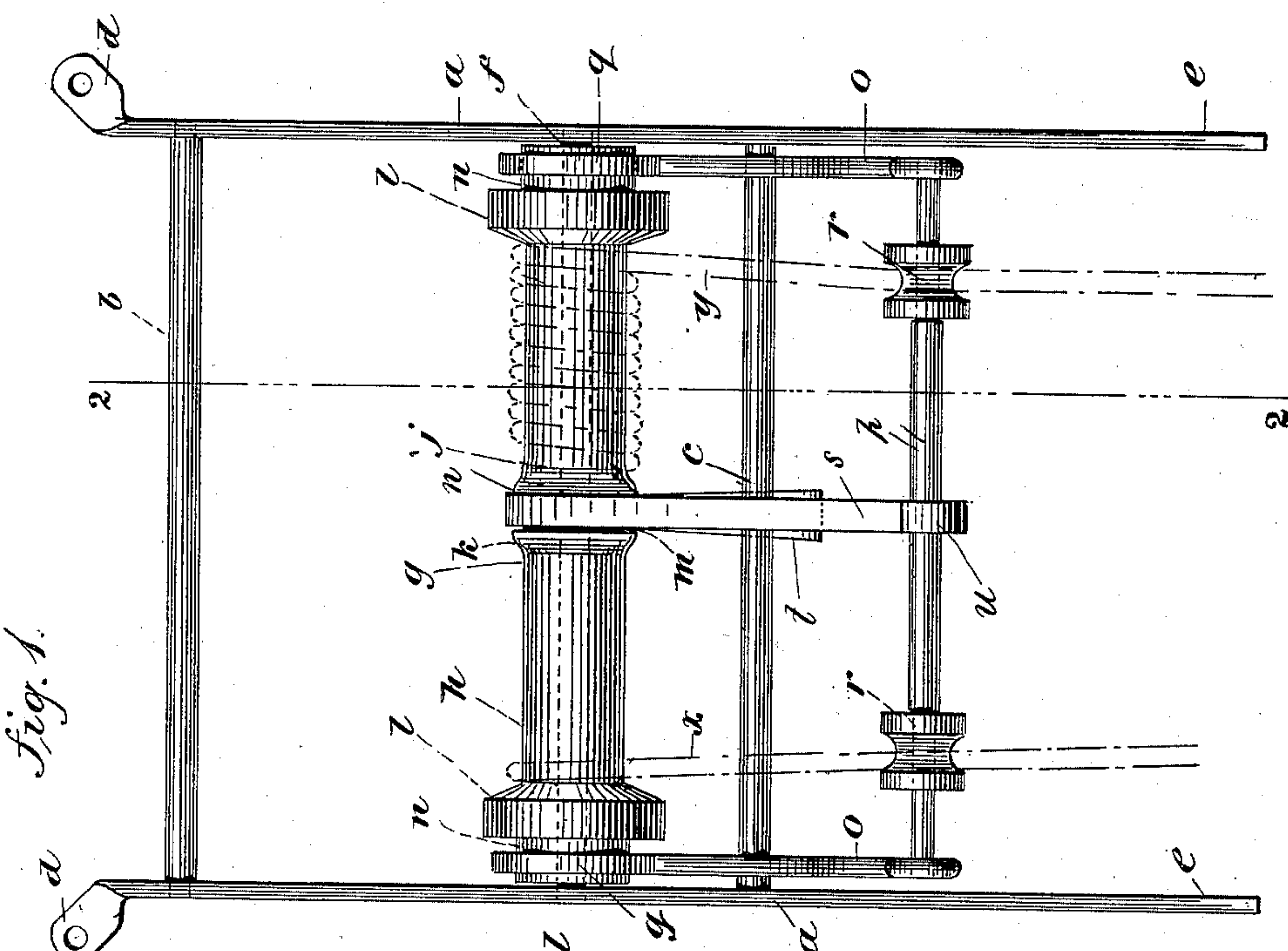
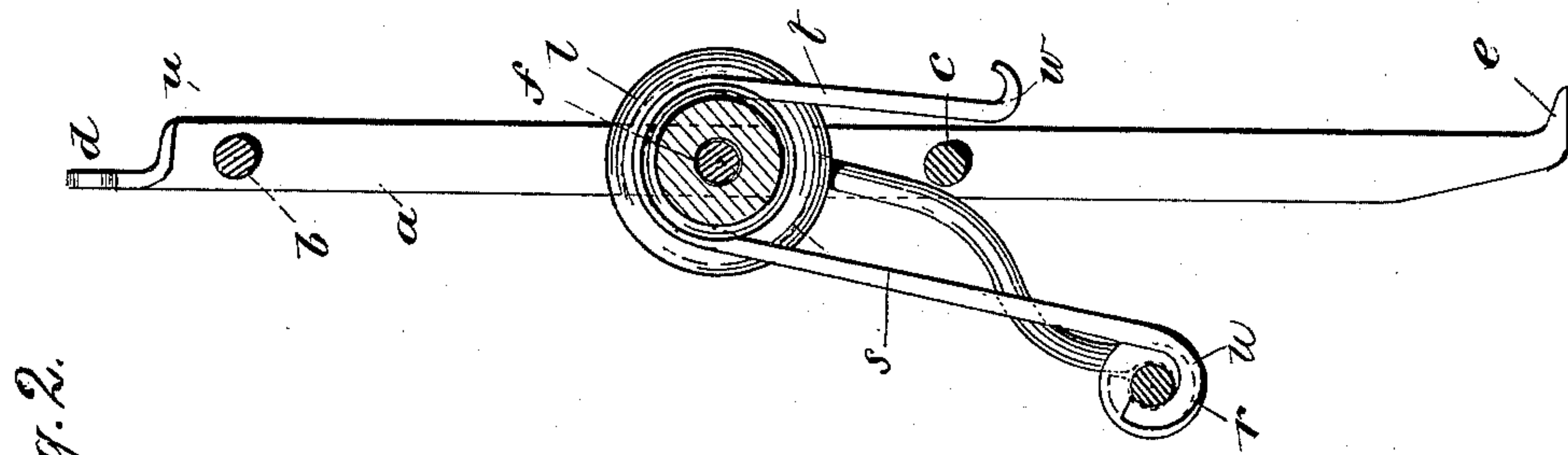
No. 639,455.

Patented Dec. 19, 1899.

J. SPALDING.
FIRE ESCAPE.

(Application filed May 26, 1899.)

(No Model.)



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FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 639,455, dated December 19, 1899.

Application filed May 26, 1899. Serial No. 718,356. (No model.)

To all whom it may concern:

Be it known that I, JOHN SPALDING, a citizen of the United States, residing at Ilse, in the county of Custer and State of Colorado, have invented certain new and useful Improvements in Fire-Escapes, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to fire-escapes; and the object thereof is to provide an apparatus of this class whereby persons and articles may be safely and rapidly lowered from buildings.

My invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which like reference characters denote like parts in the several views, and in which—

Figure 1 is a front elevation of a fire-escape constructed according to my invention; Fig. 2, a vertical section upon the line 2 2 thereof, and Fig. 3 a view of a detail of construction.

Referring more particularly to the drawings, I provide a frame consisting of side bars *a* and upper and lower cross-bars, respectively, *b* and *c*. The upper end of each of the side bars *a* is provided with an ear *d*, adapted for attachment to a side of a window-frame or to the walls of a building, and the lower ends thereof are formed into feet *e*, which are adapted to be secured to a window-sill, floor, or other support by staples or other fastening devices.

Journaled in the side bars *a*, between the cross-bars *b* and *c*, is a spindle *f*, and revolubly mounted thereon is a roller *g*, provided at either side of the center thereof with a drum, respectively, *h* and *j*, formed between inner end flanges *k* and outer end flanges *l*.

Between the flanges *k* is formed an annular recess *m*, and the flanges *l* are so formed upon the roller as to leave unobstructed end portions *n*, the purpose of which is hereinafter described.

A brake-frame consisting of side bars *o* and a cross-bar *p* is pivotally secured to the roller *g* by means of collars *q*, integral with or formed upon one end of the side bars *o*, and the collars *q* are respectively revolubly mounted upon the end portions *n* of the rollers *g*, which portions operate as brake-bearings in connection with said collars.

The side bars *o* normally rest in contact with the cross-bar *c*, and the lower ends thereof are outwardly and downwardly bent.

Revolubly mounted upon the cross-bar *p*, beneath each of the drums *h* and *j*, is a pulley *r*, the cross-bar *p* being annularly recessed to prevent longitudinal movement thereof.

An S-shaped supplemental brake-bar *s*, of spring metal, engages with one of its loops *t* the annular recess *m* in the collar *q* and with the other loop *n* the cross-bar *p* of the brake-frame, and the loop *t* is provided with a downwardly-projecting arm *w*, upon which pressure may be exerted to brake the roller *g*.

Ropes *x* and *y* are adapted to be respectively secured at one end to the drums *h* and *j*, and in the operation of the device baskets or other receptacles may be suspended from said ropes, which pass over the rollers *r*, and when a person or article is placed in the basket the rope having been previously wound upon the drum to which it is connected and allowed to descend pressure will be applied to the brake-frame *o p* and upon the brake-bearings *n*, operating to retard the revolution of the roller *g*, and consequently the descent of the basket or other receptacle.

If the ropes *x* and *y* be oppositely wound upon the roller *g*, as shown, the unwinding of one thereof will be synchronous with the winding of the other, and the device may be readily and effectively operated.

By proper relative adjustment of the brake-frame *o p*, the brake-heads *n*, and the cross-bar *c* the braking pressure of the collars *q* may be regulated so that the speed of descent of articles secured to the ropes *x* and *y* may be accurately predetermined, and it is evident that the greater the weight sustained by said ropes the greater the consequent friction of the collars *q* and brake-heads *n*, so that the braking potential thereof will be in proportion to the weight of the descending body and an even speed thereof at all times maintained. As a further security, however, the supplemental brake-rod *s* is provided, and a person stationed at hand may apply pressure to the arm *w* thereof and apply friction to the roller *g*, further braking the same.

It is evident that the principle embodied in my invention may be further and varyingly

exemplified; but the form above described is found to be the most advantageous and preferable in the present state of the art.

Having fully described my invention, I claim as new and desire to secure by Letters Patent—

1. The herein-described apparatus, comprising a frame, a roller revolubly mounted therein, a brake-frame frictionally supported by said roller and adapted to operate in connection with said frame and said roller, and a rope secured to said roller and adapted to operate in connection with said brake-frame, substantially as shown and described.

2. The herein-described apparatus, comprising a frame provided with a cross-bar, a roller revolubly mounted therein, a brake-frame provided with collars by which it is suspended from said roller and operating in connection with said cross-bar, and a rope secured to said roller and adapted to operate in connection with said brake-frame, substantially as shown and described.

3. The herein-described apparatus, comprising a frame, a roller revolubly mounted in said frame, said frame being provided with a cross-bar beneath said roller, a brake-frame provided with collars which engage said roller and operate as brakes in connection therewith, a rope secured to said roller, a pulley mounted upon said cross-bar and in connec-

tion with which said rope operates, and a brake-bar connected with said brake-frame and operating in connection with said roller, substantially as shown and described.

4. In an apparatus of the class described, a frame consisting of side bars and an upper and a lower cross-bar, a roller journaled in said side bars between said cross-bars, and provided with two drums upon each of which a rope is adapted to be wound, a brake-frame connected with said roller, and a brake-bar consisting of an S-shaped bar of spring metal, one loop of which engages said brake-frame and the other loop of which engages said roller between said drums, substantially as shown and described.

5. In an apparatus of the class described, a frame, a roller journaled therein, a brake-frame frictionally supported by said roller, and an S-shaped brake-bar one loop of which engages said brake-frame and the other loop of which engages said roller, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 17th day of May, 1899.

JOHN SPALDING.

Witnesses:

ELIJAH SANDOW,
WILLIAM BRIGGS.