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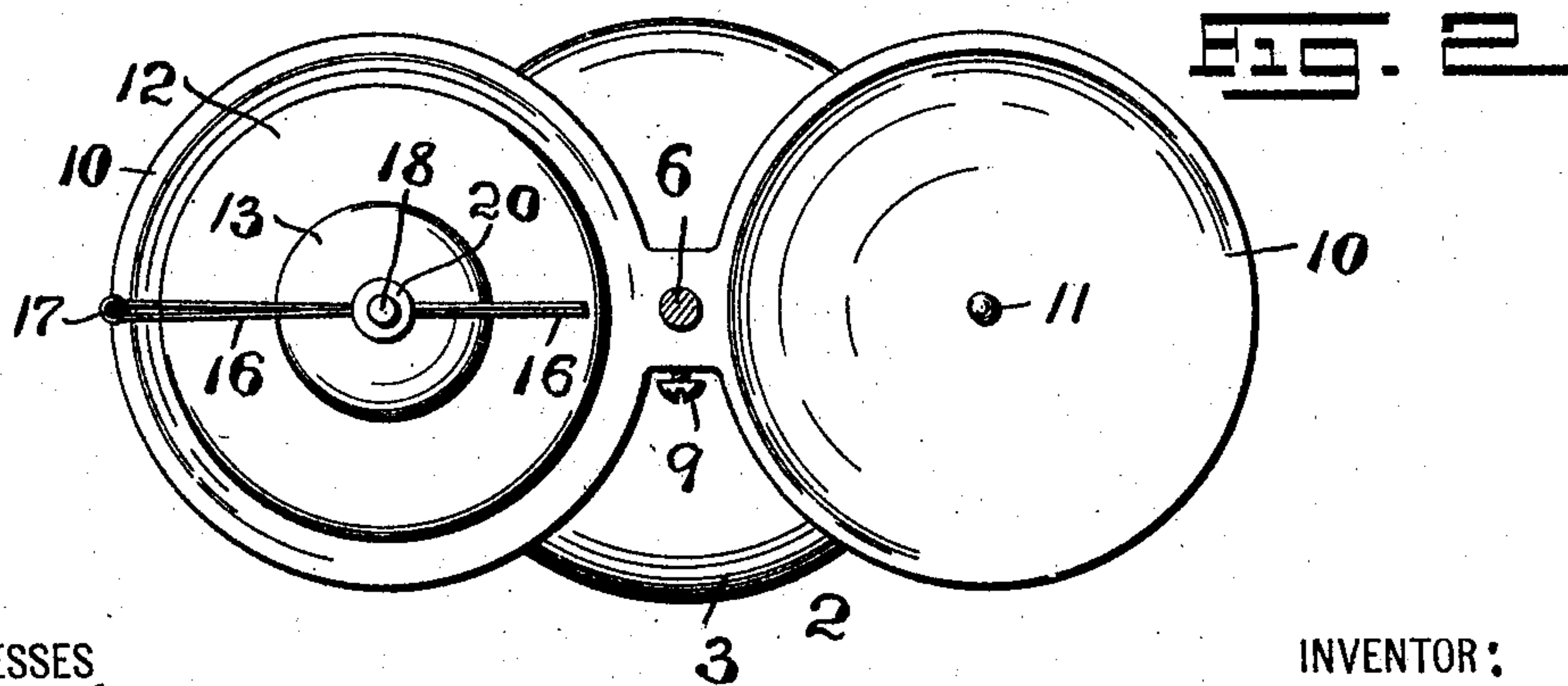
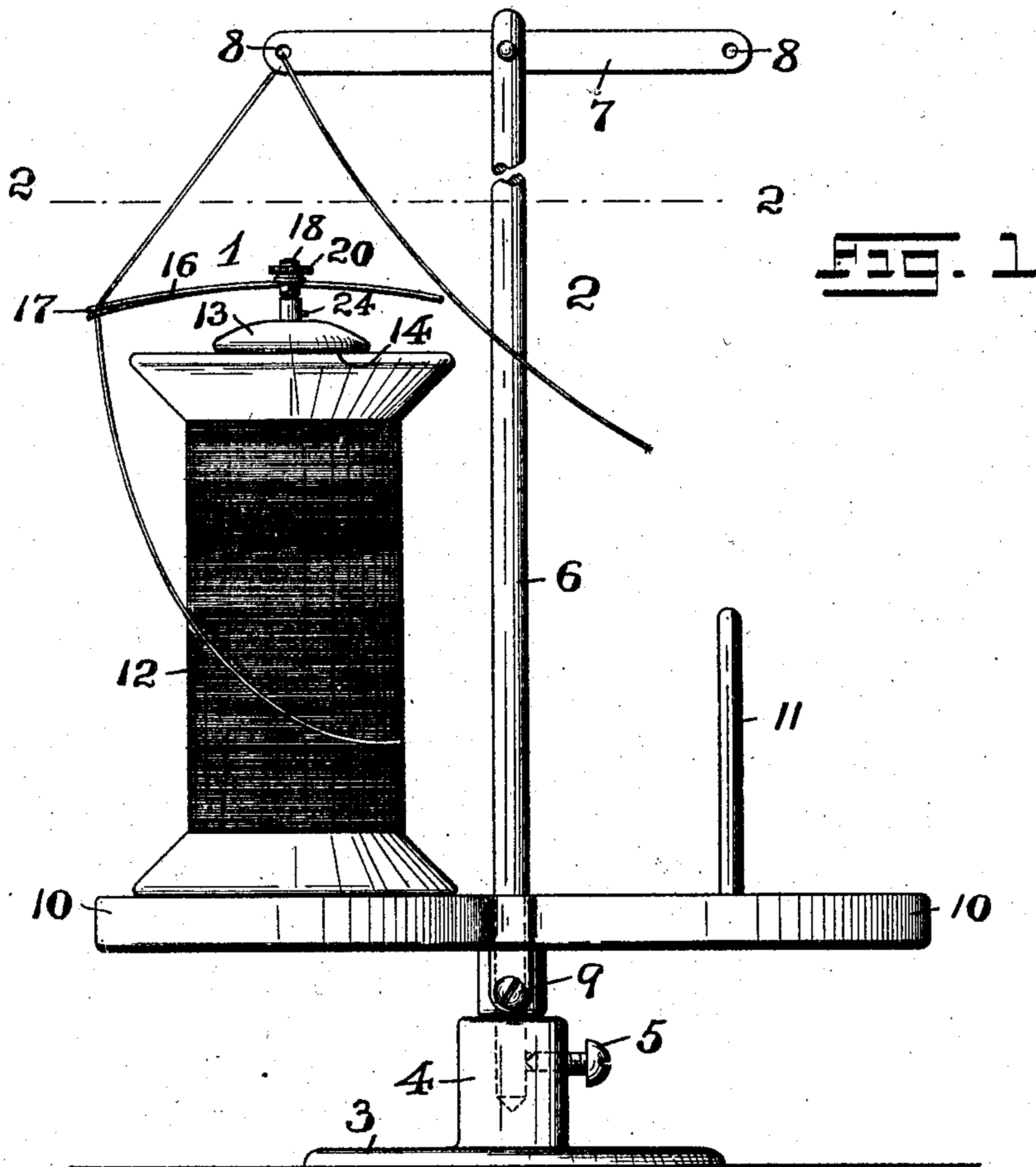
PATENTED MAR. 27, 1906.

A. H. GROEL.

COMBINED WEIGHT AND FLIER FOR SPOOL HOLDERS.

APPLICATION FILED MAR. 13, 1905.

2 SHEETS—SHEET 1.



WITNESSES

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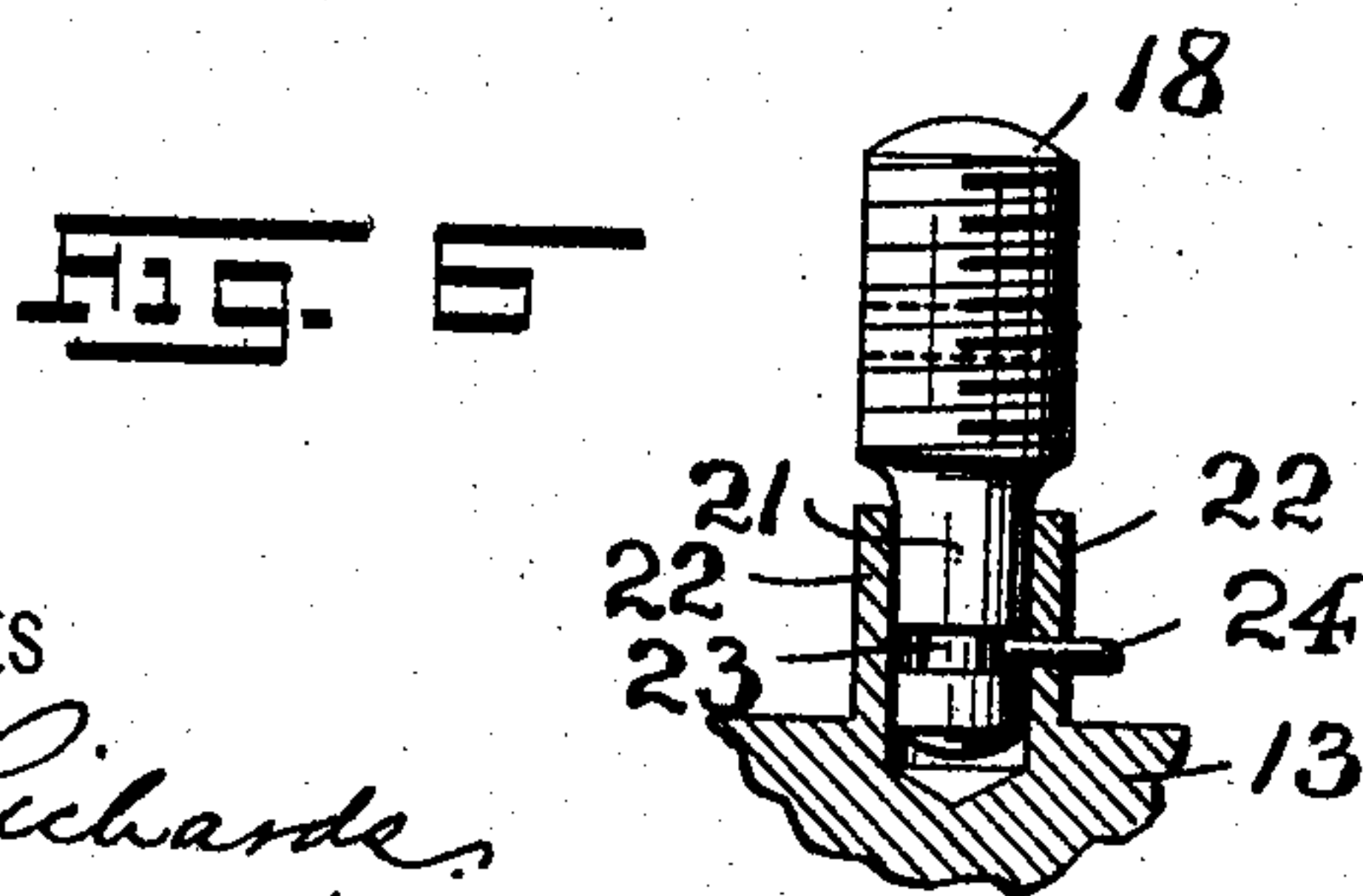
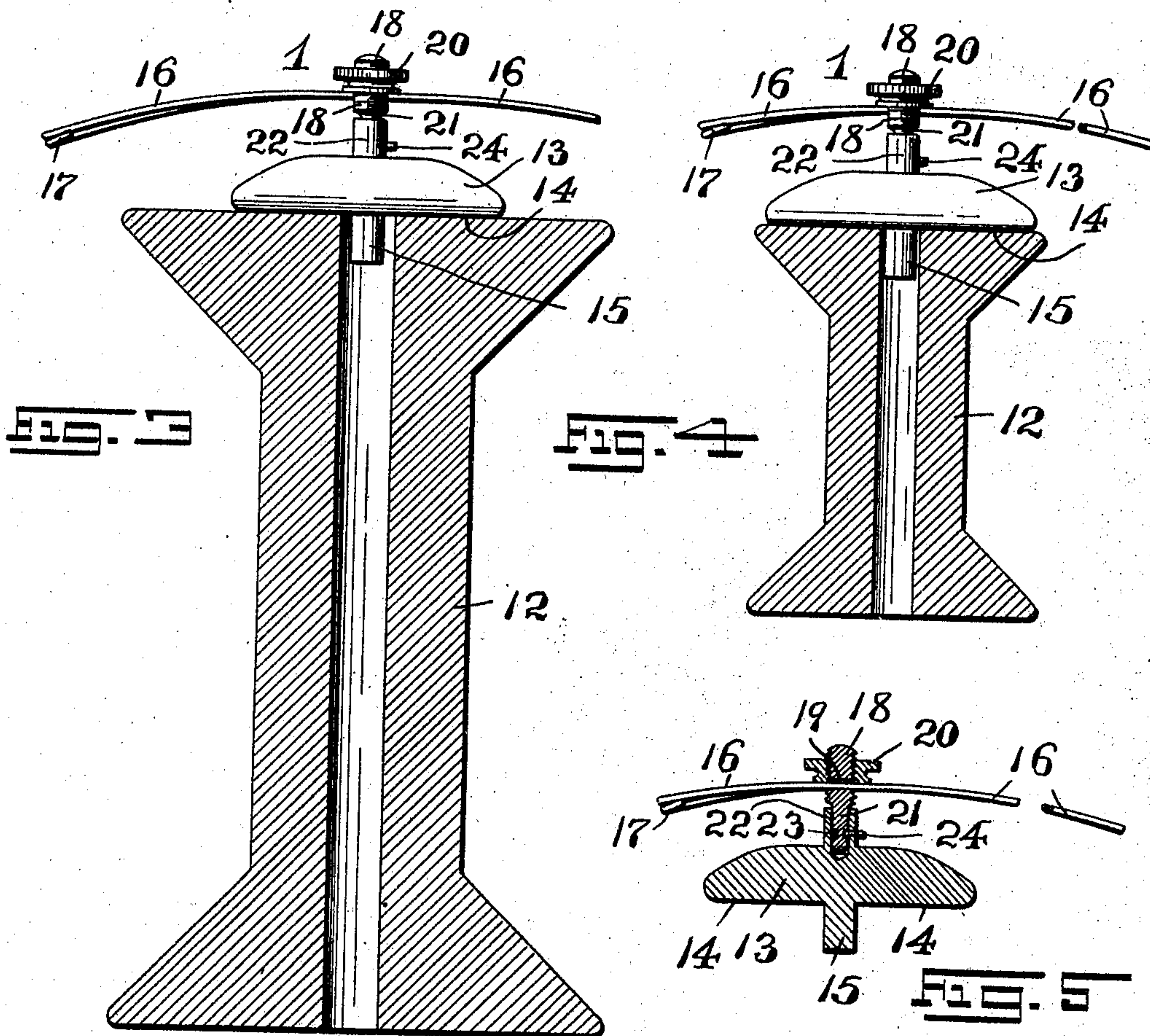
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2 SHEETS—SHEET, 2.



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UNITED STATES PATENT OFFICE.

ADAM H. GROEL, OF ORANGE, NEW JERSEY, ASSIGNOR TO THE SPOOL COTTON COMPANY, A CORPORATION OF NEW JERSEY.

COMBINED WEIGHT AND FLIER FOR SPOOL-HOLDERS.

No. 815,956.

Specification of Letters Patent.

Patented March 27, 1906.

Application filed March 13, 1905. Serial No. 249,829.

To all whom it may concern:

Be it known that I, ADAM H. GROEL, a citizen of the United States, residing at Orange, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in a Combined Weight and Flier for Spool-Holders; 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, reference being had to the accompanying drawings, and to figures of reference marked thereon, which form a part of this specification.

This invention relates to a novel device which is to be used with the unwinding of cotton thread or the like from the usual spools, cops, and the like, such device to be hereinafter known as the "combined weight and flier."

My present invention has for its principal objects to provide a simply-constructed weight and flier which is readily applied in its operative position upon the spool or similar body from which the cotton or thread is to be unwound, the device being used with the vertically-supported spool arranged upon a stem of a spool carrier or standard and the flier-arm of the device having an eye or loop through which the thread is passed, readily unreeling the thread in the manner of the hand of a person when unwinding thread from a spool, and thereby preventing the binding of the thread upon the spool of thread when unwinding from a vertically-placed spool.

A further object of this invention is to provide a combined weight and flier which will serve the purpose of holding the spool down upon the vertical stem or spool-holder of the carrier or standard and at the same time serve to equalize the tension of the thread and prevent the binding of the thread or catching and tearing of the same upon the end flange of the spool during unwinding.

A still further object of the present invention is to provide a combined weight and flier for a spool holder or carrier, said flier being adjustable laterally, so as to be used with spools of cotton of various sizes and that the thread which is being unreeled will be clearly held away from the marginal edge of the large annular flange or shoulder of the spool.

Other objects of this invention not at this

time more especially mentioned will be clearly evident from the following detailed description of the same.

With the various objects of my invention in view the said invention consists, primarily, in the novel weight and flier for spool-carriers hereinafter set forth; and, furthermore, this invention consists in the various arrangements and combinations of devices, as well as in the details of the construction of the same, all of which will be hereinafter more fully described and then finally embodied in the clauses of the claim which are appended to and which form an essential part of this specification.

The invention is clearly illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of a spool holder or carrier and a spool of cotton thereon provided with a combined weight and flier; and Fig. 2 is a horizontal section taken on line 2 2 in said Fig. 1, showing the spool in end view and the combined weight and flier, as well as the lower portion of the spool holder or carrier, being represented in plan. Figs. 3 and 4 are vertical sections of two different sizes of spools with a side view of the combined weight and flier, showing the adjustability of the flier arm or bar relatively to the marginal flanges or end-shoulders of the different sizes of spools. Fig. 5 is a longitudinal vertical section of the weight and side view of its adjustable flier, said view illustrating more clearly one manner of connecting the flier-arm adjustably as well as rotatably to the main body of the weight; and Fig. 6 is a detail vertical section of the upper part of the weight and a socket in which a post which carries the flier-arm is rotatively arranged, the said view being made on an enlarged scale.

Similar characters of reference are employed in all of the said above-described views to indicate corresponding parts.

Referring now to the several figures of the drawings, the reference character 1 indicates the combined weight and flier embodying the principles of my present invention, and 2 indicates any usual form of spool support or carrier, such as is used in factories for leading the thread from a spool or the like, arranged upon the support or carrier, to a sewing-machine.

In Figs. 1 and 2 of the drawings I show one

form of spool holder or carrier 2, the same comprising a suitably-constructed base or foot piece 3, having a receiving-socket 4, in which is arranged and adjustably held, by means of a set-screw 5, the lower end portion of a supporting rod or post 6. This rod or post is provided at its upper end with a cross rod or bar 7, in the opposite ends of which it is provided with holes or perforations 8, substantially as illustrated. Arranged upon the said rod or post 6 and held in a fixed position thereon by means of a set-screw 9 is a suitably-constructed platform, preferably of the marginal configuration shown in Fig. 2 of the drawings, so as to provide a pair of spool-receiving members 10. Each member 10 is provided with a centrally-disposed vertical post or stem 11, over which may be arranged the usual spool of thread 12, substantially as illustrated and of any desired size.

The combined weight and flier 1 consists, essentially, of heavy body 13, preferably of the shape shown, which has a flat base 14 adapted to rest snugly upon the end of the vertically-placed spool 12 and having a teat or stud 15 projecting from the said flat base 14, the said teat or stud 15 extending into the tubular portion of the spool, as clearly illustrated in Figs. 3 and 4 of the drawings. The arrangement of this teat or stud 15 is such that it retains the weight in its proper position upon the end of the spool which has been placed over the post or stem 11, the said weight 13 at the same time holding the spool down in its position upon the supporting member 10, as will be clearly understood. This is especially so when the weight is used with the smaller sizes of spools of thread, and which in consequence are much lighter in weight and are thus apt to move up and down upon the post or stem 11 during the unreeling of the thread. That the free end portion of the thread which is passed through a hole or perforation 8 in the cross rod or bar 7 may be readily unreeled from the main body of thread upon the vertically-disposed spool and that the said end portion of the thread may also be prevented from coming in contact with the marginal edge of the enlarged end of the spool to prevent an uneven pull upon the thread and in consequence thereof a binding of the same, which may cause the thread to break or otherwise cause the thread at the needle of the sewing-machine to act in an improper and poor manner, the said weight is provided with a rotary flier. This flier comprises a flier-arm 16, which is preferably made from wire, and has a receiving eye or loop 17, through which the end portion of the thread is passed before being arranged in the hole or perforation 8 of the rod or arm 7 in the manner more clearly illustrated in Fig. 1 of the drawings. From an inspection of Fig. 5 of the drawings it will be seen the said flier-arm 16 is slidably arranged in a laterally-ex-

tending hole or receiving portion 19, formed in the upper screw-threaded end portion of a rotary post 18, the said flier-arm 16 being firmly held in its adjusted and immovably-fixed position upon the said post 18 by means of a holding or tightening screw-threaded nut or finger-piece 20, as clearly shown. That the said post 18 may be rotatively connected with the said weight 13 the lower end portion 21 of the said post 18 extends into a receiving-socket 22 on said weight 13, the said end portion 21 of the post 18 being formed with an annular groove or depression 23, into which extends the inner end portion of a supporting-pin 24, which is secured in one side of the flange which forms the socket 22 and holds the said post 18 in its supported position, while at the same time permitting a rotary movement of the same and the flier-arm 16, as will be clearly evident from an inspection of Figs. 5 and 6 of the drawings. Owing to the fact that the said flier-arm 16 has a laterally-adjustable relation with the said post 18, it will be clearly seen that its eyes or loops 17 can be brought into the proper position above the marginal edge of the enlarged end of the spool, as clearly represented in Figs. 3 and 4 of the drawings, and that the unreeled end portion of the thread during the flying or unwinding action of the flier-arm 16 will at no time come in contact with any portion of the spool, as clearly shown and as will be more fully understood from an inspection of Fig. 1 of the drawings.

From the foregoing description it will be seen that I have devised a simply-constructed and efficiently-operating device to be used with spools of cotton or the like placed upon a spool carrier or holder which at all times equalizes the tension of the thread as it is being reeled from the spool and as used, and, the thread being held clear from the enlarged end of the spool, there is no danger of friction and the possibility of the thread parting. A slight turn of the nut or finger-piece 20 upon the screw-threaded portion of the said post 18 is sufficient to permit of a sliding motion of the flier-arm 16 in the duct 19 for adjusting the eyelet or receiving-loop 17 the proper distance from the central vertical axis of the said post 18 when used with spools of the different sizes, the said flier-arm 16 being again securely affixed in its adjusted position as soon as the finger-piece or nut 20 is screwed down upon the portions of the flier-arm 16 at either side of the said post 18.

I claim—

1. A combined spool weight and flier, comprising a body having a base adapted to be placed upon the end of a spool of thread or the like, a stud extending downwardly from said base so as to be inserted into the tubular portion of the spool, a receiving-socket extending upwardly from the top of said base, a post rotatively arranged in said socket, and a

flier-arm extending from said post, substantially as and for the purposes set forth.

2. A combined spool weight and flier, comprising a body provided with means for retaining said body in position, a receiving-socket upon said body, a post rotatively arranged in said socket, said post being provided with a laterally-extending receiving-duct, and a screw-threaded part, a flier-arm movably arranged in said duct, a nut on said screw-threaded part for securing said flier-arm in a fixed position after adjustment, and means on said flier-arm with which the free end portion of the thread may be brought in guiding engagement, substantially as and for the purposes set forth.

3. A combined spool weight and flier, comprising a body provided with means for retaining said body in position, a receiving-socket upon said body, a post rotatively arranged in said socket, said post being provided with a laterally-extending receiving-duct, and a screw-threaded part, a flier-arm movably arranged in said duct, a nut on said screw-threaded part for securing said flier-arm in a fixed position after adjustment, and a receiving-eye on said flier-arm through which the free end portion of the thread may be passed, substantially as and for the purposes set forth.

4. A combined spool weight and flier, comprising a body provided with means for retaining said body in position, a receiving-socket upon said body, a post rotatively arranged in said socket, said post having an annular groove, a pin in said socket having a portion in supporting engagement with the groove of said post, a flier-arm extending from said post, and means on said flier-arm with which the free end portion of the thread may be brought in guiding engagement, substantially as and for the purposes set forth.

5. A combined spool weight and flier, comprising a body provided with means for retaining said body in position, a receiving-socket upon said body, a post rotatively arranged in said socket, said post having an annular groove, a pin in said socket having a portion in supporting engagement with the groove of said post, a flier-arm extending from said post, and a receiving-eye on said flier-arm through which the free end portion of the thread may be passed, substantially as and for the purposes set forth.

6. A combined spool weight and flier, comprising a body provided with means for retaining said body in position, a receiving-socket upon said body, a post rotatively arranged in said socket, said post having an annular groove, a pin in said socket having a portion in supporting engagement with the groove of said post, said post being also provided with a laterally-extending receiving-duct, and a screw-threaded part, a flier-arm

movably arranged in said duct, a nut on said screw-threaded part for securing said flier-arm in a fixed position after adjustment, and means on said flier-arm with which the free end portion of the thread may be brought in guiding engagement, substantially as and for the purposes set forth.

7. A combined spool weight and flier, comprising a body provided with means for retaining said body in position, a receiving-socket upon said body, a post rotatively arranged in said socket, said post having an annular groove, a pin in said socket having a portion in supporting engagement with the groove of said post, said post being also provided with a laterally-extending receiving-duct, and a screw-threaded part, a flier-arm movably arranged in said duct, a nut on said screw-threaded part for securing said flier-arm in a fixed position after adjustment, and a receiving-eye on said flier-arm through which the free end portion of the thread may be passed, substantially as and for the purposes set forth.

8. A combined spool weight and flier, comprising a body having a flat base, a stud extending from said base for retaining said body in position, a receiving-socket upon the upper portion of said body, a post rotatively arranged in said socket, said post being provided with a laterally-extending receiving-duct, and a screw-threaded part, a flier-arm movably arranged in said duct, a nut on said screw-threaded part for securing said flier-arm in a fixed position after adjustment, and a receiving-eye on said flier-arm through which the free end portion of the thread may be passed, substantially as and for the purposes set forth.

9. A combined spool weight and flier, comprising a body having a flat base, a stud extending from said base for retaining said body in position, a receiving-socket upon the upper portion of said body, a post rotatively arranged in said socket, said post having an annular groove, a pin in said socket having a portion in supporting engagement with the groove of said post, a flier-arm extending from said post, and a receiving-eye on said flier-arm through which the free end portion of the thread may be passed, substantially as and for the purposes set forth.

10. A combined spool weight and flier, comprising a body having a flat base, a stud extending from said base for retaining said body in position, a receiving-socket upon the upper portion of said body, a post rotatively arranged in said socket, said post having an annular groove, a pin in said socket having a portion in supporting engagement with the groove of said post, said post being also provided with a laterally-extending receiving-duct, and a screw-threaded part, a flier-arm movably arranged in said duct, a nut on said

screw-threaded part for securing said flier-arm in a fixed position after adjustment, and a receiving-eye on said-flier arm through which the free end portion of the thread may
5 be passed, substantially as and for the purposes set forth.

In testimony that I claim the invention

set forth above I have hereunto set my hand this 10th day of March, 1905.

ADAM H. GROEL.

Witnesses:

FREDK. C. FRAENTZEL,
GEO. D. RICHARDS.