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M. W. BEHNKE

2,953,010

LOCK FOR BAG ROPES

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Fig. 1

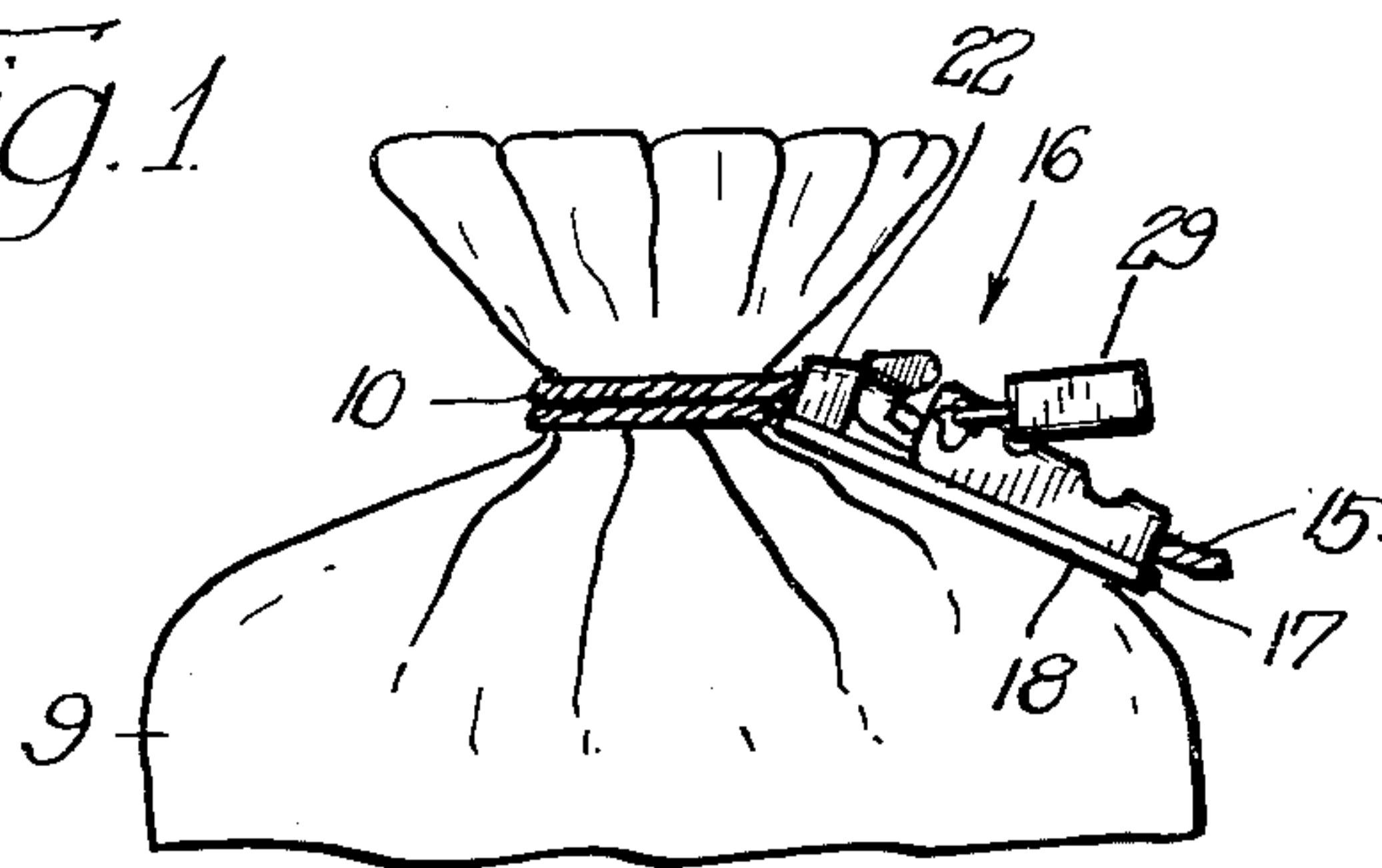


Fig. 2

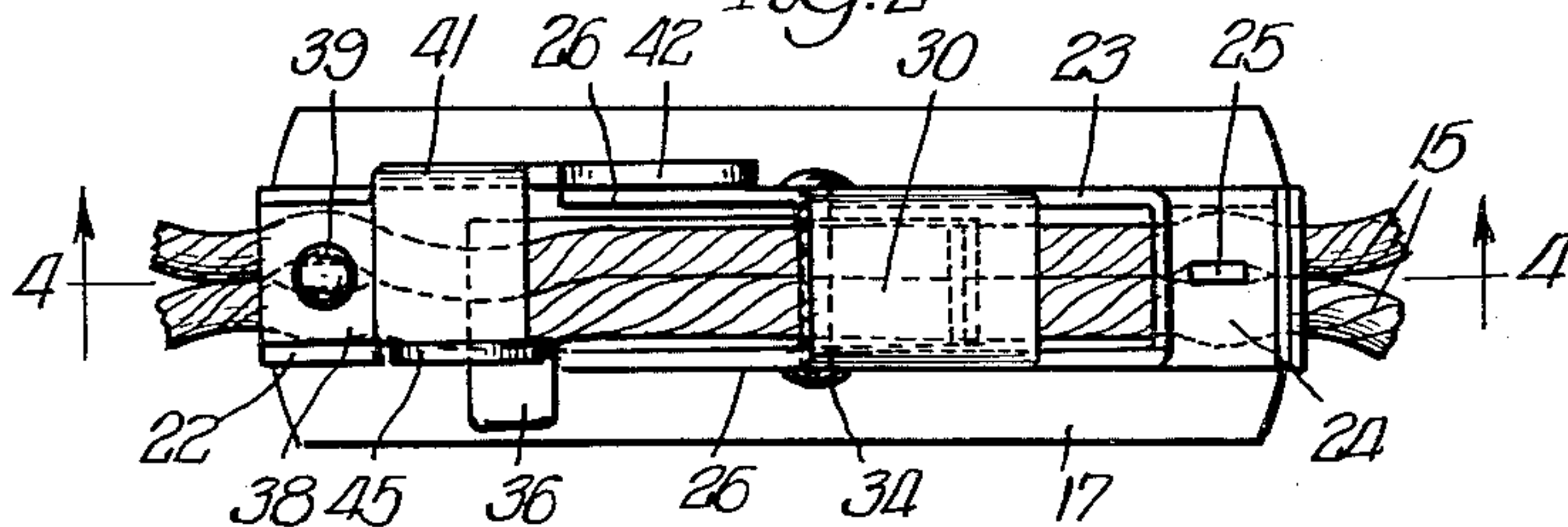


Fig. 5

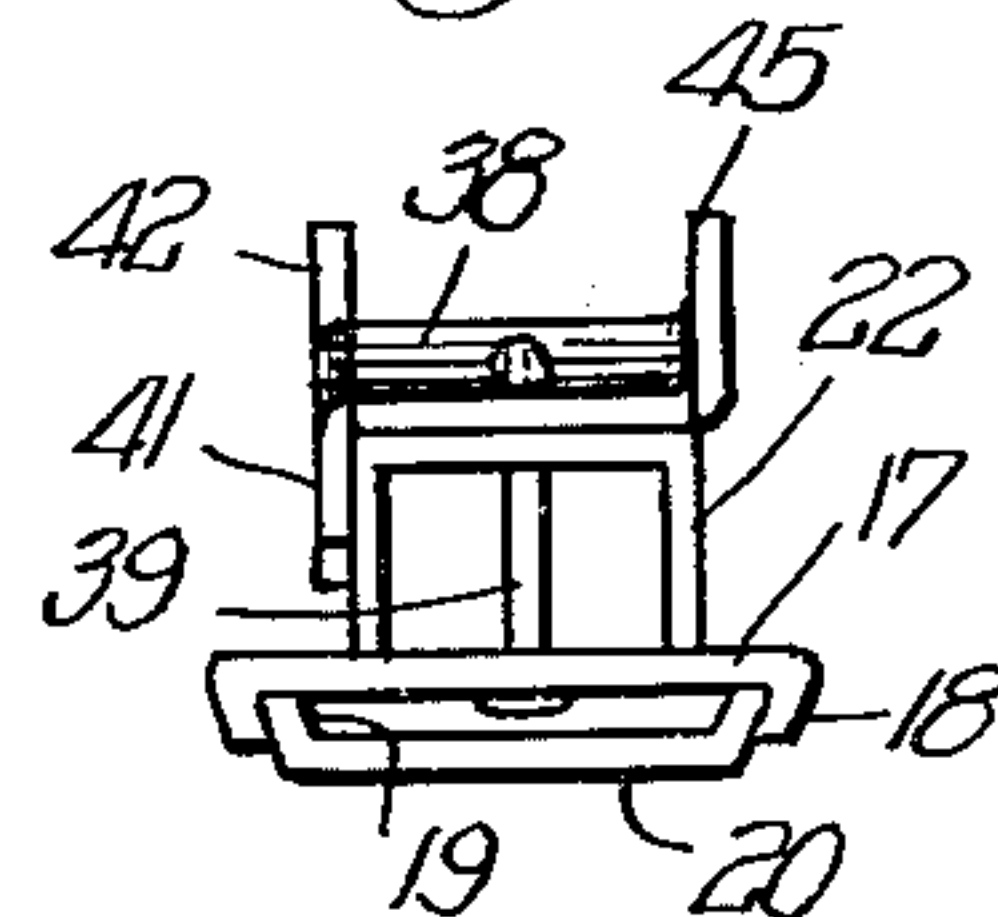


Fig. 3

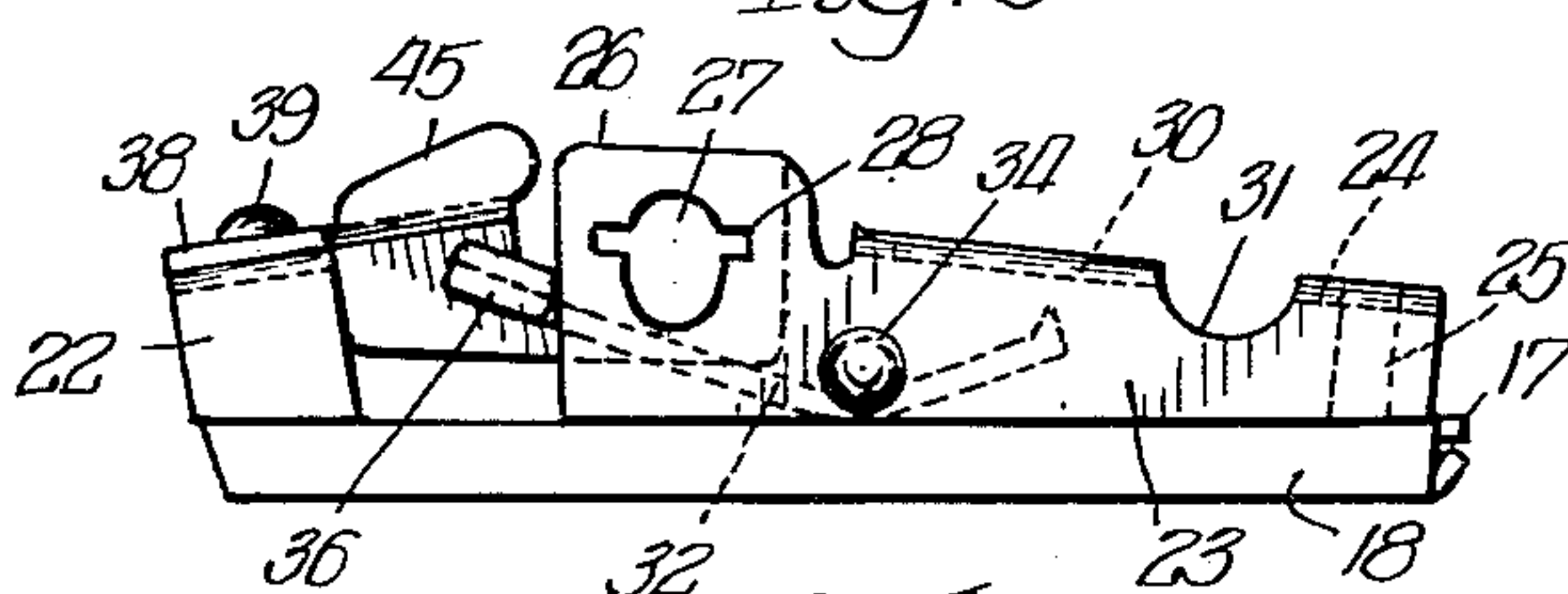


Fig. 6

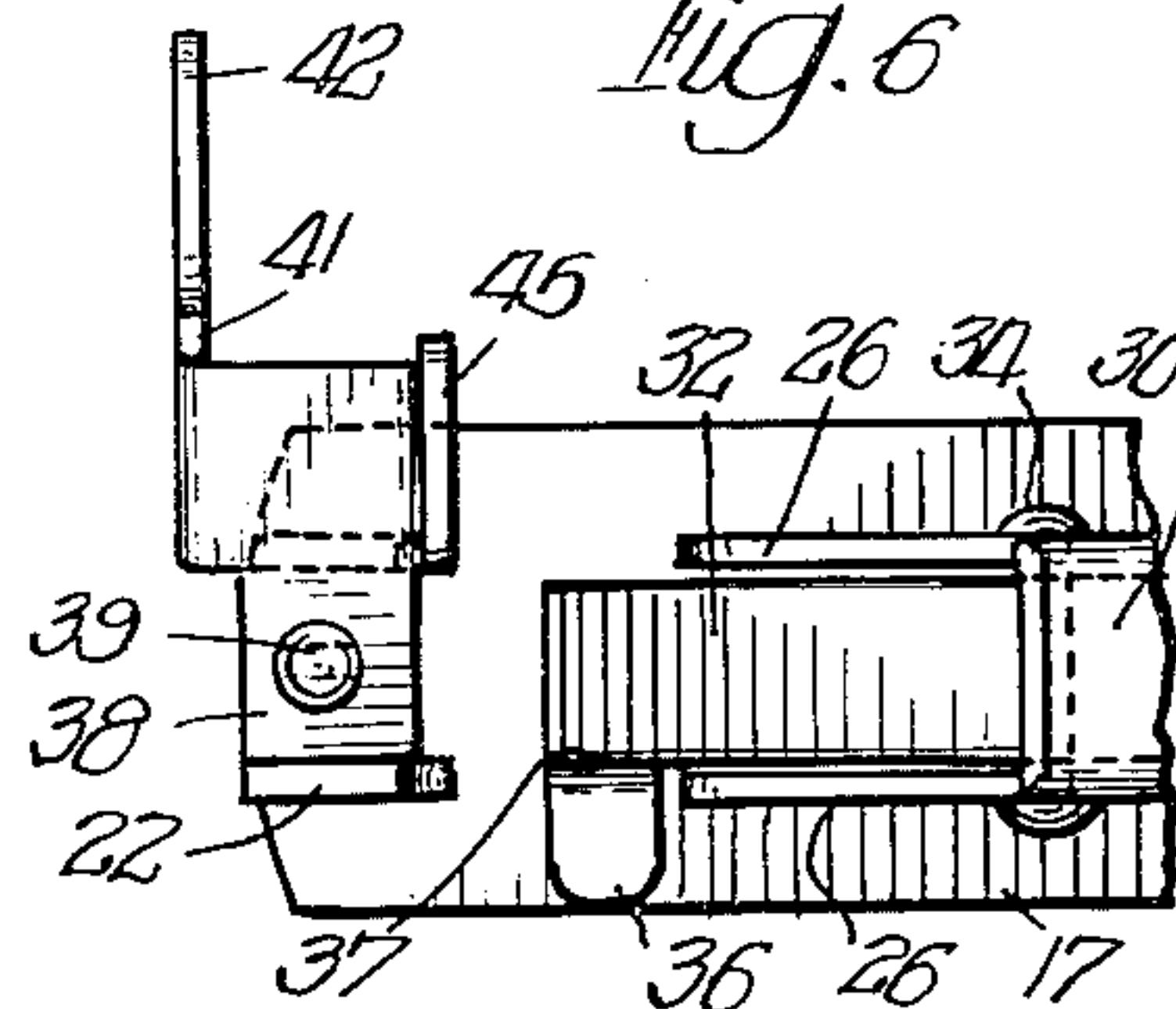


Fig. 4

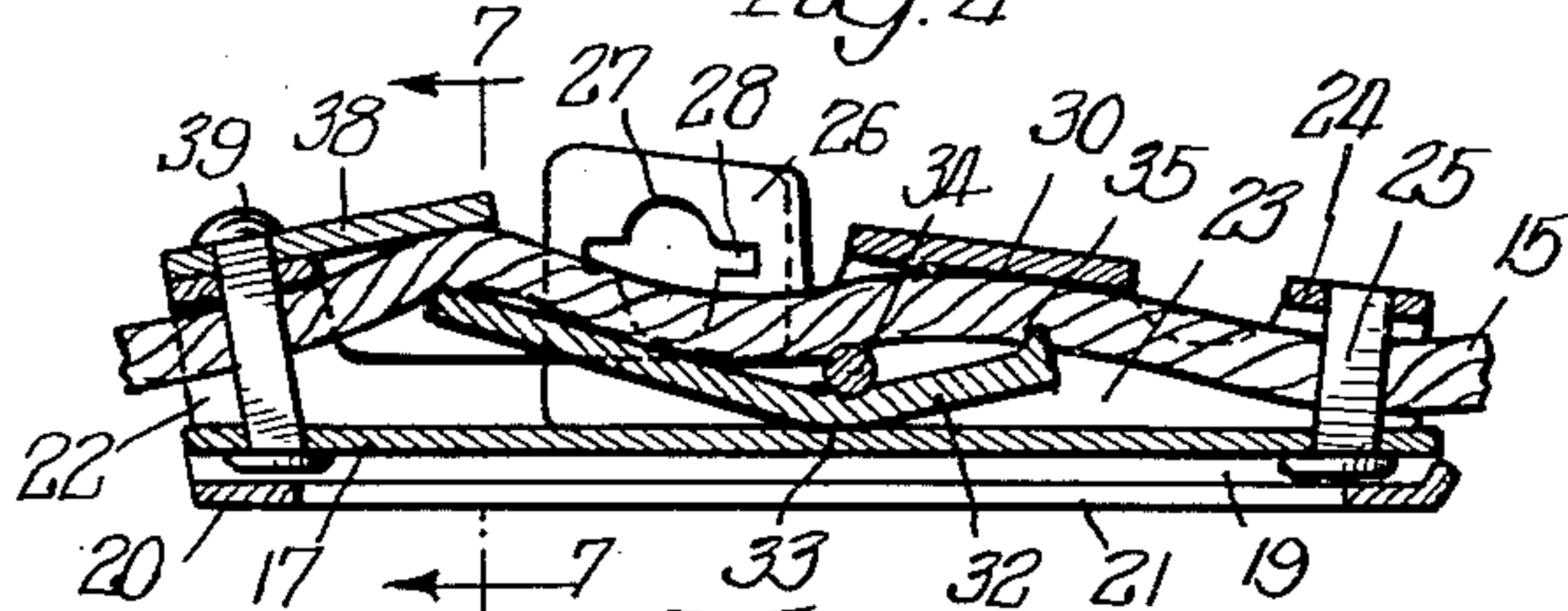


Fig. 8

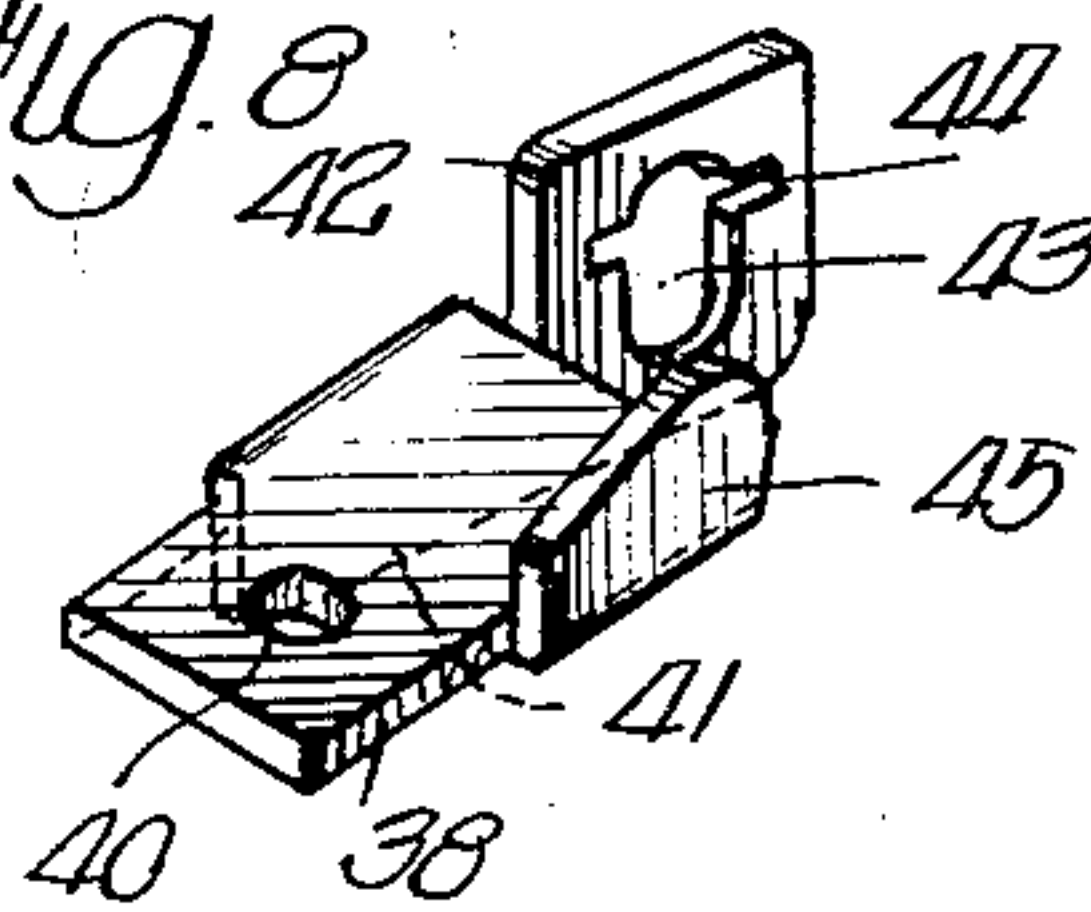
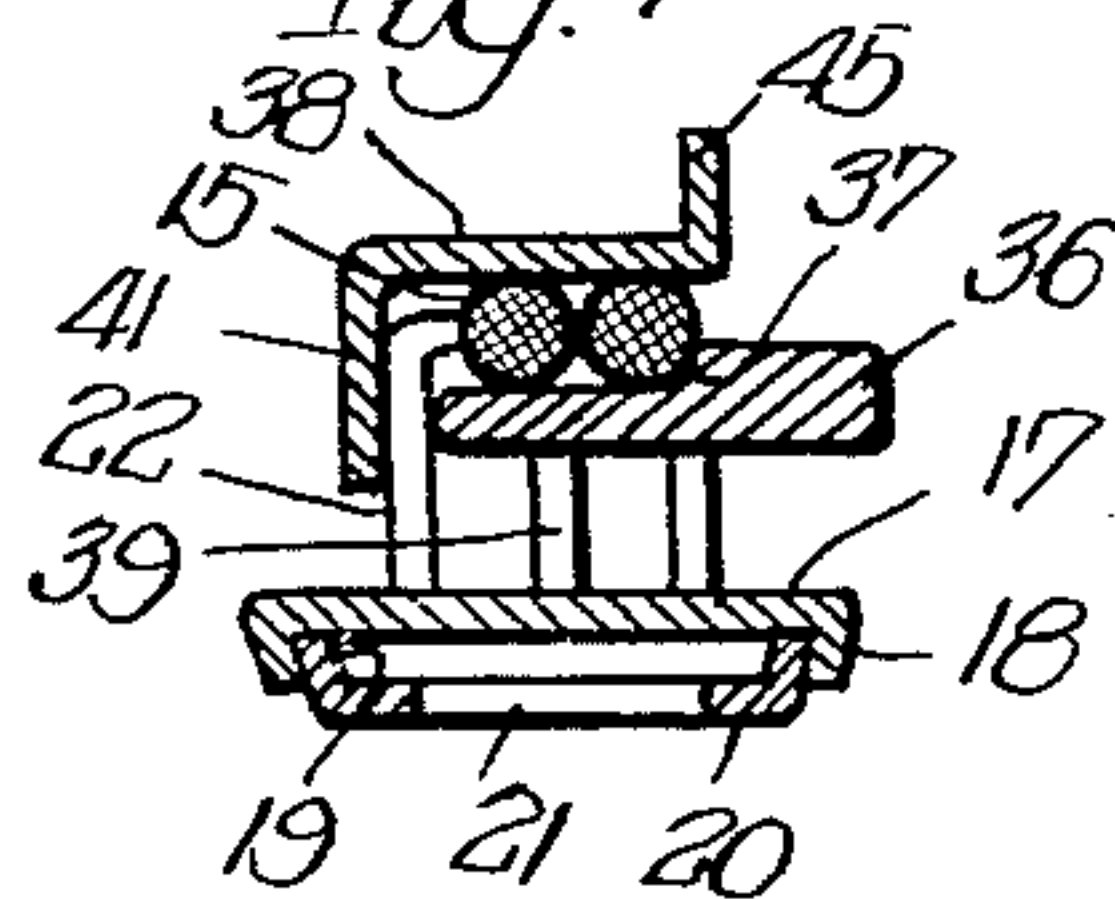


Fig. 7



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2,953,010

LOCK FOR BAG ROPES

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2 Claims. (Cl. 70—65)

The present invention relates to locks for bag ropes of the type disclosed in my Patents 2,798,370 and 2,783,634.

The lock to which the present invention relates essentially includes a base from which a pair of vertical, parallelly disposed walls projects. Intermediately of the ends of said walls a bridge plate, rigidly formed with the upper edges of said vertical walls, connects the latter. Formed adjacent the ends of said vertical walls, which are proximate to the bag, is a pair of apertured projections which extend upwardly from the said vertical walls and above said bridge plate. Supported for a rocking movement within said vertical walls and above the base is an arcuate lever with the ends thereof raised away from the base in an upward direction. The end of said lever which is proximate to the bag extends past the adjacent ends of said vertical walls and said projections. Two ends of a rope, which leave a loop made around the neck of a bag, are adapted to be passed between said vertical walls, in a longitudinal relation with the lock, and disposed above said lever and below the said bridge plate. When the rope ends, at points disposed above the proximate end of the lever, are pressed in a downward direction, by such means as a padlock shackle or the like, extended through the apertures made in the said projections, the opposite end of the lever will be urged in an upward direction, toward said bridge plate, for pressing the rope ends against the said bridge plate, for thereby preventing the longitudinal shifting movement of the lock upon the rope ends, and consequently for supporting the lock upon the rope ends in the immediate contact with the loop made at the bag neck.

The above is the essential construction of the lock disclosed in both of my said patents.

The principal object of the present invention is the provision of a horizontal, swingable plate, pivotally supported upon the proximate end of the lock for the purpose of selectively shifting the same to its operative longitudinal relation with the lock for bringing the same in an overlying relation with the proximate free end of the said rocking lever and the two rope ends disposed thereabove, for preventing shifting of the said free end of the rocking lever in an upward direction for thereby preventing the disengagement of the opposite end of said rocking lever from the ends of the rope, or for the purpose of swinging said plate in a lateral direction, transversely of the lock, and from the path of the shifting movement of the free end of said rocking lever preparatory to the conditioning of the lock for its operative use or the disengagement thereof from the rope ends, said swingable plate, adjacent one lateral edge thereof being provided with a rigidly formed, vertical wing provided with an aperture, which aperture comes in alinement with the apertures made in the said projections, when said plate is swung to its operative position, for permitting extension of a padlock shackle or the like through all the apertures, those made in the said projections and in the said wing, for interlocking the said plate with the said

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projections, for thereby maintaining the lock in its operatively established position upon the rope ends.

Another object of the present invention is the provision, at the opposite lateral edge of said swingable plate, of an upwardly extending wing, which however terminates short of the adjacent ends of the said projections, for defining means whereby the said swingable plate may be manually shifted for bringing the same to its operative or inoperative positions.

A still further object of the present invention is the provision of an extension, rigidly formed with the proximate end of the said lever, and laterally extending therefrom, past the plane of one of said vertical walls and the cooperating projection, for defining manual means for grasping said proximate end of the said lever, when said swingable plate has been first shifted to its inoperative position, for shifting the said proximate end of said lever in an upward direction, for thereby freeing the rope ends from their engagement with the opposite end of the said lever and the said bridge plate for thereby conditioning the lock for its free sliding movement upon the rope ends preparatory to the operative positioning of the lock upon the rope ends.

A still further object of the present invention is the provision of means, in association with the said extension, whereby the dislocation of the rope ends, from the free, proximate end of the said lever, may be prevented when the said swingable plate is shifted to its operative position.

With the above general objects in view and others that will appear as the invention is better understood, the same consists in the novel construction, combination and arrangement of parts hereinafter more fully described, illustrated in the accompanying drawing and pointed out in the appended claims.

In the drawing forming a part of this application and in which like designating characters refer to corresponding parts throughout the several views:

Fig. 1 illustrates the operative position of the present lock and the coacting padlock with the rope ends leaving the loops made around the bag neck;

Fig. 2 is an enlarged plan elevational view of the present lock in its operative position upon the two ends of a cord or rope;

Fig. 3 is a side elevational view of the lock;

Fig. 4 is a longitudinal cross sectional view through the lock with the cord ends in an engaged operative position therewith;

Fig. 5 is the end elevational view of the present lock, of the end thereof which is proximate to the cord loop;

Fig. 6 is a fragmentary top plan elevational view of the proximate end of the lock, with the swingable, cord-retaining plate in its inoperative position;

Fig. 7 is a transverse, cross sectional view through the lock, taken on line 7—7 of Fig. 4, illustrating the operative position of the swingable, cord-retaining plate; and

Fig. 8 is a perspective view of the said swingable, cord-retaining plate.

Referring in detail to the present drawing, in Fig. 1 there is shown a bag 9 for receiving mail or the like. Tightly looped around the neck of said bag 9 is a rope or cord loop 10, the two free ends 15 of the cord, leading from loop 10 are engaged by the present lock, which is generally indicated by 16 in Fig. 1.

Lock 16 includes an oblong base 17, which along its side edges is provided with downwardly converging flanges 18 for the purpose of receiving therewithin in a contactual relation the upwardly projecting and outwardly diverging flanges 19 of a rectangular frame 20. The four sides of said frame 20 define a window 21, through which a card, containing address or other written information,

when inserted between the bottom face of said base 17 and frame 21, may be visible.

An inverted, U-shaped member 22 by its free ends is soldered or otherwise rigidly affixed to base 17 adjacent the proximate end of the lock.

Rearwardly of and in a spaced relation with said U-shaped member 22, and in a longitudinal relation with base 17, is a pair of parallelly disposed walls 23, the lower edges of which are soldered, welded, riveted or otherwise rigidly affixed to said base 17.

Adjacent the far ends of said walls 23 there is a horizontal strip 24, in a spaced relation with base 17, which connects in a rigid relation the upper edges of said walls 23. A dividing post 25, separating the cord ends 15, is by its ends riveted or otherwise rigidly affixed to said base 17 and said strip 24.

The proximate ends of said side walls 23 are extended in an upward direction to define a pair of projections 26, each of which is provided with aperture 27, with a pair of horizontal slots 28 merging therewith. Apertures 27 and slots 28 in the two projections are in a transverse alinement, as is seen in Fig. 3, for alternately receiving a shackle of padlock 29, or any other locking device fitting within slots 28, for the purpose which will be later apparent.

Rearwardly of said projections 27 the two side walls 23 at their upper edges are connected by a bridge plate 30. Rearwardly of said bridge plate 30 said side walls 23 are recessed, as at 31, thereby spacing said bridge plate 30 from said strip 24.

Positioned within said walls 23, and substantially filling the space therebetween, is lever 32, which is of a flat, and substantially angular formation, with its both ends raised from said base 17. Said lever 32, by its intermediate bend portion 33 (Fig. 4) rests upon and contacts said base 17. At the upper face, coincidentally with bend 33 said lever 32 is provided with a transverse depression for reception therewithin of pivot pin 34, for maintaining the bend portion 33 of said lever 32 in contact with base 17 and for permitting the former to make the rocking movement upon the latter.

The proximate end of said lever 32 projects forwardly of and past the adjacent ends of said side walls 23 and projections 26, while the far end of said lever 32 terminates in an upwardly directed tooth 35, disposed below the far end of said bridge plate 30. Said tooth 35 may be substituted by either roughened surface serrations, knurls or the like for frictionally engaging and bearing against the cord ends 15 for firmly frictionally engaging the said cord ends as well as pressing the same against bridge plate 30 for preventing sliding of the lock along said cord ends 15 when the free, proximate end of said lever 32 is pressed in a downward direction.

After the cord has been formed into one or more loops 10 around the neck of bag 9 the free ends may then be knotted, and thereupon each passed through the U-shaped member 22 and extended over and above the entire length of said lever 32, above said tooth 35 and under the bridge plate 30, and then extended under strip 24 and rearwardly from the far end of the lock. When said cord ends 15 have been extended through the lock in a longitudinal relation as described, manual pressure exerted upon the proximate end of lever 32 in an upward direction, that is away from base 17, for disengaging the opposite end of lever 32, including said tooth 35, the lock may then be freely shifted along the cord ends 15 toward the knot thereof adjacent said loops 10, as is seen in Fig. 1. While in that position of the lock, manual pressure borne against the cord ends 15 at points immediately above the free, proximate end of lever 32, in a downward direction, that is towards base 17, will depress said latter end of said lever 32, effecting the elevation of the opposite end of said lever 32, including tooth 35 for engaging the same with the cord ends 15 at the

adjacent points of the latter for clamping the same against said bridge plate 30. While maintaining the manual pressure aforesaid at the free, proximate end of lever 32, the shackle of padlock 29 is then extended through apertures 27 in the two projections 26. The shackle thus extended acts as a bar for preventing the portions of the cord ends 15, disposed immediately below the shackle, and said free, proximate end of lever 32, from making shifting movement in an upward direction, for thereby maintaining the opposite end of said lever 32 in engagement with the cord ends 15, and consequently for preventing dislocation of the lock from its operative position upon cord ends 15.

In lieu of a padlock shackle of a round formation on cross section, a shackle conforming in cross section to the shape of the said apertures 27, including said slots 28, may be employed. As an alternative any suitable locking device, to constitute a bar, fitted within apertures 27 and slots 28, with wires connecting with the ends thereof leading to a suitable seal, may be also used.

For the purpose of facilitating manual pressure upon the free, proximate end of lever 32 for conditioning the lock for use upon cord ends 15, that is for alternately engaging tooth 35 with the cord ends or for disengaging the same therefrom, which operation necessitates alternate shifting of the free, proximate end of lever 32 to either direction, that is toward or away from base 17, suitable means is provided to accomplish this purpose. The said means consists of extension 36 which is integrally formed with the portion of the said free, proximate end of lever 32 which is disposed forwardly of the adjacent end edges of said side walls 23 and projections 26. In effect, said extension 36, extending laterally, past the plane of the adjacent side wall 23 and its associated projection 26, acts as a handle to be manually grasped by the operator and shifted in either direction for inducing the shifting of the free, proximate end of said lever 32 in either direction for the purposes hereinabove described.

Said extension 36 is particularly desirable in view of the fact that without it the lock does not provide for the operator's fingers a convenient access to the said free, proximate end of lever 32 for either depressing the said end of said lever toward base 17 or for shifting the same away therefrom for purposes already mentioned. As indicated in Fig. 7 said extension 36 is thicker than said lever 32, effecting thereby shoulder 37 for the purpose hereinafter specified.

Although a padlock shackle or any similar instrument extended through apertures 27 in the pair of said projections 26 would for most purposes constitute a sufficient bar for the cord ends 15 and the proximate end of said lever 32 for preventing the shifting movement of the said end of said lever 32 and consequently the clamped engagement of the rope ends 15 between the opposite end of said lever 32 and bridge plate 30, additional means are provided to lock the free, proximate end of lever 32 against the angular shifting movement thereof in an upward direction, away from base 17 for thereby assuring an operative engagement of the lock with rope ends 15.

The means hereinabove mentioned include a horizontal swingable plate 38, which, by its proximate end is pivoted upon post 39. Said post 39 extends by its lower end through base 17, and by its upper end through the horizontal, intermediate portion of the said U-shaped member 22. Said post 39, being located at the transverse center of the lock, functions as a divider between the two strands of the rope ends 15, as is indicated in dotted lines in Fig. 2. Although the major body portion of said post, below plate 38 may be flat, as is seen in Fig. 5, its upper end however, particularly the portion thereof which is passed through aperture 40 (Fig. 8) in said plate 38, should be of a cylindrical formation to provide a pivot upon which said plate 38 may be swung to its operative

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position shown in Figs. 2, 3 and 4, or to its inoperative position illustrated in Fig. 6. Both ends of said post 39 are provided with rivets to maintain the said post in its rigid operative engagement with the proximate end of the lock, at the same time preventing the disengagement of said plate 38 from said U-shaped member 22.

Rigidly formed with one edge of said swingable plate 38 is a downwardly directed wing 41, which extends rearwardly, that is towards the far end of the lock, and beyond the rear end of plate 38. Integrally formed with the rear end of said wing 41 and upwardly extending therefrom is projection 42, which is provided with aperture 43 and communicating slots 44. When said plate 38 is swung to the longitudinal, operative relation with the lock, said projection 42 contacts with the adjacent projection 26, as seen in Fig. 2, with aperture 43 and slots 44 in alinement with the corresponding aperture 27 and slots 28 made in the said projections 26, so that a padlock shackle or like instrument may be extended through all three apertures 27 and 43 and projection 42 interlocked with one or both of said projections 26.

While in the operative position of said plate 38, best shown in Figs. 4 and 7, the far or rear end of said plate 38 overhangs the adjacent free end of said lever 32, with the cord ends 15 interposed therebetween, for further guarding against the shifting movement of the said free, proximate end of lever 32 in an upward direction, and thereby assuring the operative engagement of the lock with the cord ends, through the action of the far end of lever 32 thereon, as was hereinabove described.

Integrally formed with the opposite edge of said plate 38 is vertical plate 45 which is directed in an upward direction. Said plate 45 defines means for manual grasping whereby plate 38 may be swung either to its operative or inoperative positions.

When said plate 38 remains in its operative overhanging relation with the free, proximate end of lever 32, it is contemplated that the adjacent portions of cord ends 15 snugly fit within and fill the space between said plate 38 and the said free proximate end of lever 32, thereby preventing upward shifting of the said free, proximate end of said lever 32, and consequently preventing the disengagement of the opposite end of lever 32 from said cord ends 15.

Since normally the diameters of cord ends 15 are greater than the space defined by plate 38 and the adjacent free, proximate end of lever 32, some manual force is required to overcome the friction between said plate 38 and the adjacent peripheral points of the cord ends 15 during the shifting of said plate 38 from its open, inoperative position, shown in Fig. 6, to its closed, operative position, best shown in Figs. 4 and 7. Due to the friction aforesaid, and the consequent drag engendered by plate 38 upon the adjacent peripheral points of cord ends 15, there is a tendency of said cord ends to shift in the direction of the shifting movement of said plate 38, as is indicated by dotted lines in Fig. 2. To guard against the adjacent portions of said cord ends 15 from completely shifting away from the adjacent free, proximate end of said lever 32, in a lateral direction, shoulder 37 (Fig. 7) prevents such action by defining a stop which prevents the disengagement of the adjacent portions of cord ends 15 from the disengagement from the adjacent, free, proximate end of lever 32 in a lateral direction, when under influence of frictional action thereon by plate 38 when the latter is shifted to its operative position.

Once said plate 38 remaining in its operative position, in an overhanging relation with the adjacent portions of cord ends 15, and their snug fit between said plate 38 and the adjacent, free, proximate end of lever 32, it will be impossible to shift said latter end of lever 32 in an upward direction in an attempt to disengage the opposite end of said lever 32 with cord ends 15 in an attempt to tamper with the lock for shifting the same upon said cord ends 15, bearing in mind that the rope

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employed is of a braided, compact and rather stiff and unyielding material, which does not lend itself readily for yielding when under pressure in a transverse direction.

It is to be understood that by near or proximate end of the lock or of its parts, is meant the end or ends thereof which is or are nearest to loop or loops 10, and by the far end or ends of the lock is and are meant such end or ends which are farther removed from said loop or loops 10, when the lock remains in an operative position upon cord ends 15.

While there are described herein preferred embodiments of the present invention, it is nevertheless to be understood that minor changes may be made therein without departing from the spirit and scope of the invention as claimed.

What I claim as new is:

1. A lock for locking a pair of cord sections comprising a base, a pair of parallelly disposed side walls in a substantially perpendicular relation with said base, said walls being rigidly affixed by their edges to said base, a bridge plate connecting the opposite edges of said walls in a spaced relation with said base, a lever disposed intermediately of said base and said bridge plate, said lever being substantially of an arcuate formation for defining a pair of ends directed away from said base, a pivot extended through said side walls and said lever intermediately of the ends of the latter, whereby said lever may be capable of a rocking movement upon said pivot, one end of said lever extending forwardly of the adjacent ends of said side walls and being in a free relation therewith and with said bridge plate, the opposite end of said lever being disposed below said bridge plate, in the operative position of a pair of cord sections the same being adapted to overlie said lever throughout the entire length thereof with the said opposite end of said lever impinging upon the cord sections and pressing the same against said bridge plate for thereby engaging the lock with said cord sections, the ends of said side walls adjacent the free end of said lever being provided with aligned apertures, said apertures being upon a plane in a spaced relation with a point of said lever intermediately of the free end thereof and said pivot and in a transverse relation with the longitudinal axis of the lock, a support affixed to said base and extending thereabove, said support being in a spaced relation with the ends of said side walls which are adjacent the free end of said lever, an oblong plate pivoted by one of its ends to said support for angular swinging motions to operative or inoperative positions, when in an operative position the free end of said oblong plate overhanging in a longitudinal relation the free end of said lever with the cord sections interposed between said oblong plate and the free end of said lever for preventing an upward shifting movement of the free end of said lever and thereby the disengagement of the opposite end of said lever from its impinging relation with said cord sections, and a wing extending in a perpendicular and longitudinal relation from one edge of said oblong plate, said wing being provided with an aperture, when said oblong plate is swung to its operative position said wing being adapted to come in contact with the outer face of one of said side walls with the aperture thereof in register with the apertures provided in said side walls for insertion through all of the said apertures of a padlock shackle or like instrument in a transverse overhanging relation with the cord sections for locking said oblong plate with said side walls and for maintaining the same in its operative position with relation to the said free end of said lever and to the cord sections interposed therebetween, while in the inoperative position the free end of said oblong plate being out of engagement with the cord sections and shifted out of the path of the free end of said lever.

2. A lock for locking a pair of cord sections comprising a base, a pair of parallelly disposed side walls in a substantially perpendicular relation with said base, said

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walls being rigidly affixed by their edges to said base, a bridge plate connecting the opposite edges of said walls in a spaced relation with said base, a lever disposed intermediately of said base and said bridge plate, said lever being substantially of an arcuate formation for defining a pair of ends directed away from said base, a pivot extended through said side walls and said lever intermediately of the ends of the latter, whereby said lever may be capable of a rocking movement upon said pivot, one end of said lever extending forwardly of the adjacent ends of said side walls and being in a free relation therewith and with said bridge plate, the opposite end of said lever being disposed below said bridge plate, in the operative position of a pair of cord sections the same being adapted to overlie said lever throughout the entire length thereof with the said opposite end of said lever impinging upon the cord sections and pressing the same against said bridge plate for thereby engaging the lock with said cord sections, the ends of said side walls adjacent the free end of said lever being provided with aligned apertures, said apertures being upon a plane in a spaced relation with a point of said lever intermediately of the free end thereof and said pivot and in a transverse relation with the longitudinal axis of the lock, a support affixed to said base and extending thereabove, said support being in a spaced relation with the ends of said side walls which are adjacent the free end of said lever, an oblong plate pivoted by one of its ends to said support for angular swinging motions to operative or inoperative positions, when in an operative position the free end of said oblong plate overhanging in a longitudinal relation the free end of said lever with the cord sections interposed between said oblong plate and the free end of said lever for preventing an upward shifting movement of the

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free end of said lever and thereby the disengagement of the opposite end of said lever from its impinging relation with said cord sections, a wing extending in a perpendicular and longitudinal relation from one edge of said oblong plate, said wing being provided with an aperture, when said oblong plate is swung to its operative position said wing being adapted to come in contact with the outer face of one of said side walls with the aperture thereof in register with the apertures provided in said side walls for insertion through all of the said apertures of a padlock shackle or like instrument in a transverse overhanging relation with the cord section for locking said oblong plate with said side walls and for maintaining the same in its operative position with relation to the said free end of said lever and to the cord sections interposed therebetween, while in the inoperative position the free end of said oblong plate being out of engagement with the cord sections and shifted out of the path of the free end of said lever, and a wing rigidly formed with the opposite edge of said oblong plate and extending in an upward direction therefrom, said latter wing constituting a manually graspable means whereby said oblong plate may be alternately swung to its operative or inoperative positions.

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