

No. 606,722.

Patented July 5, 1898.

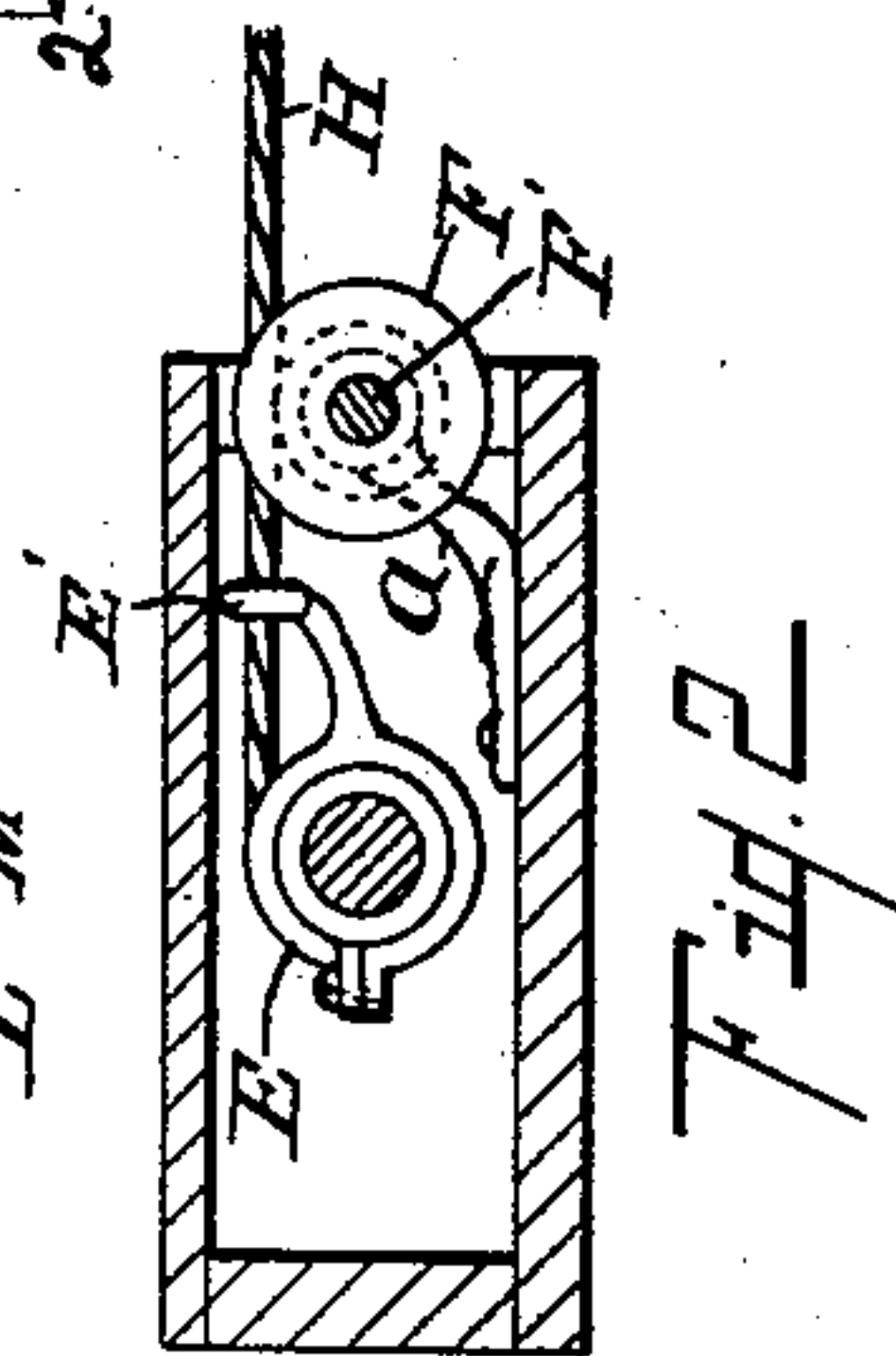
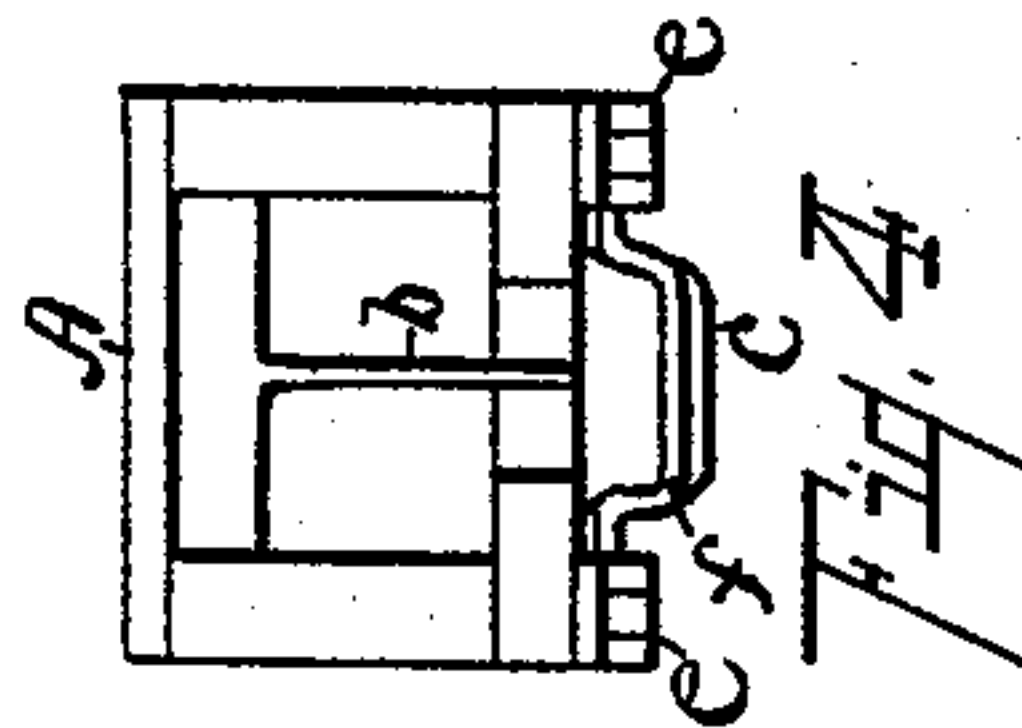
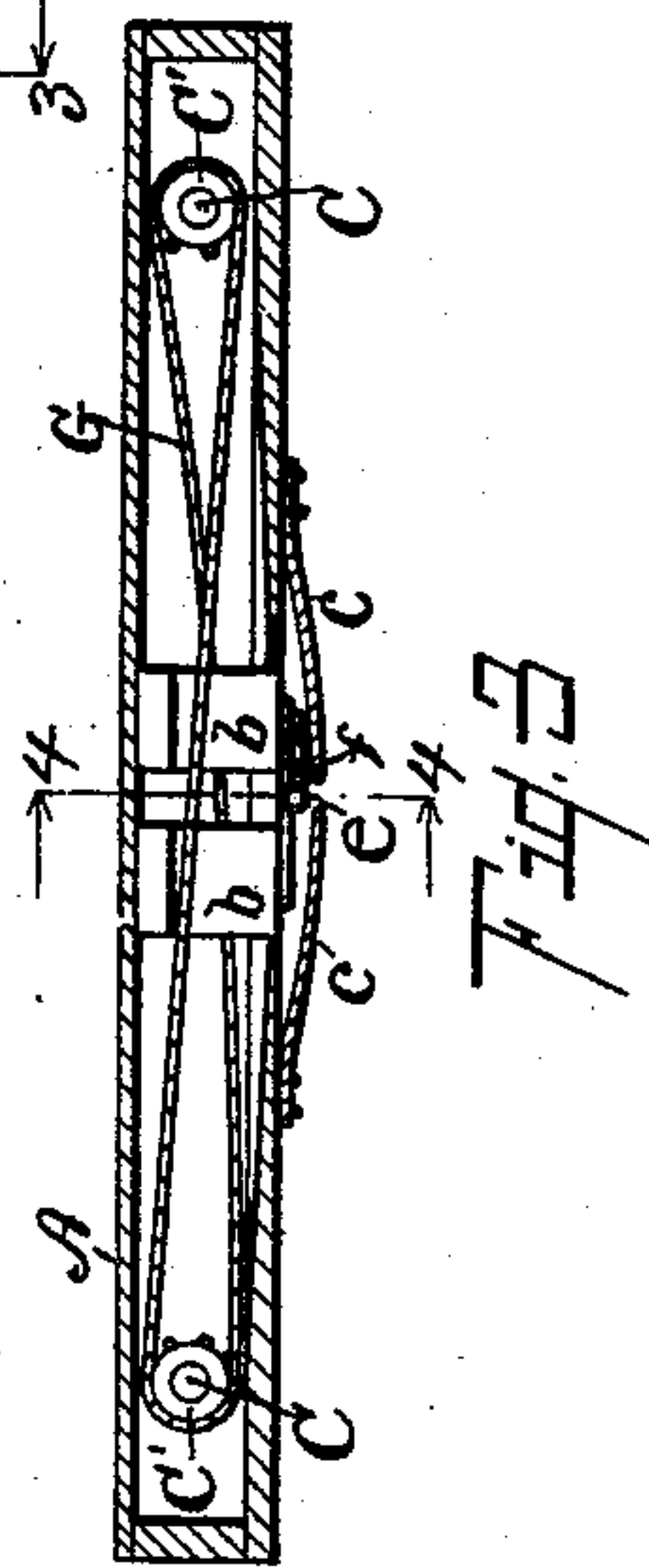
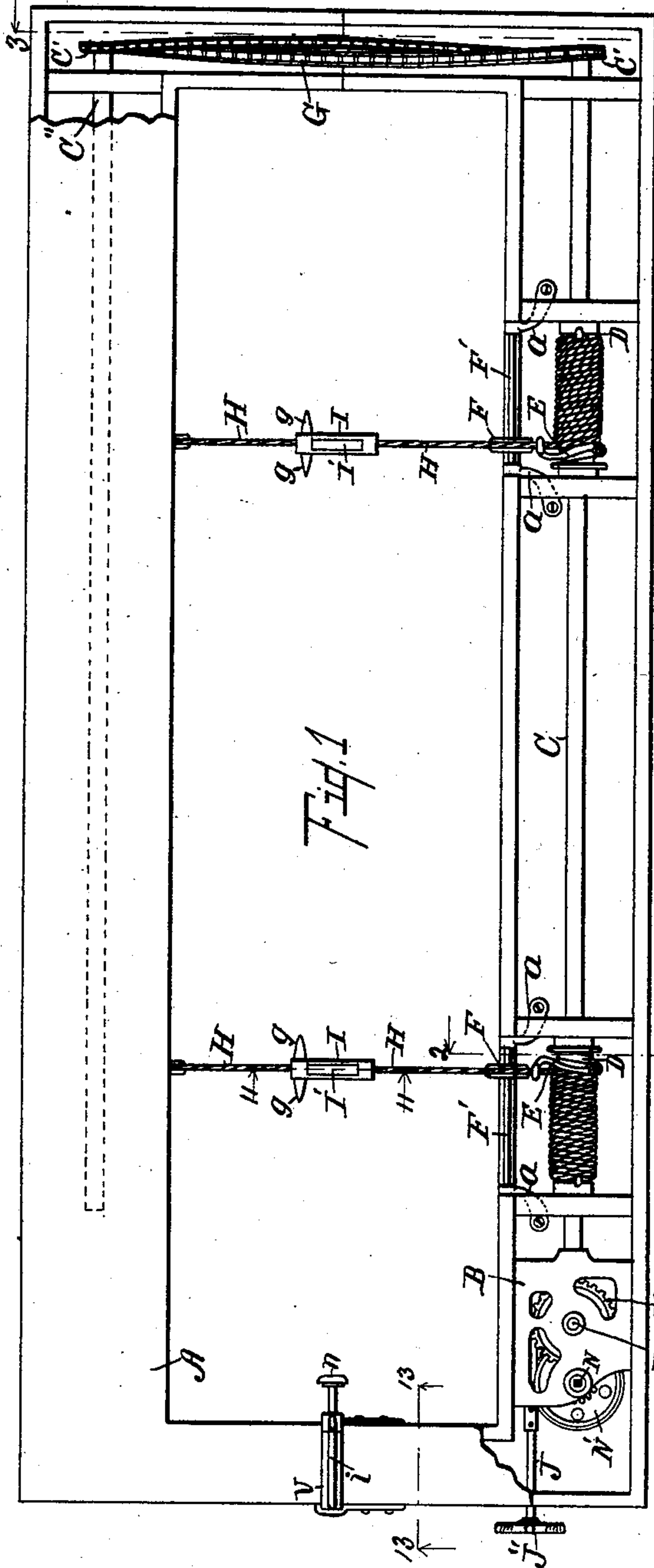
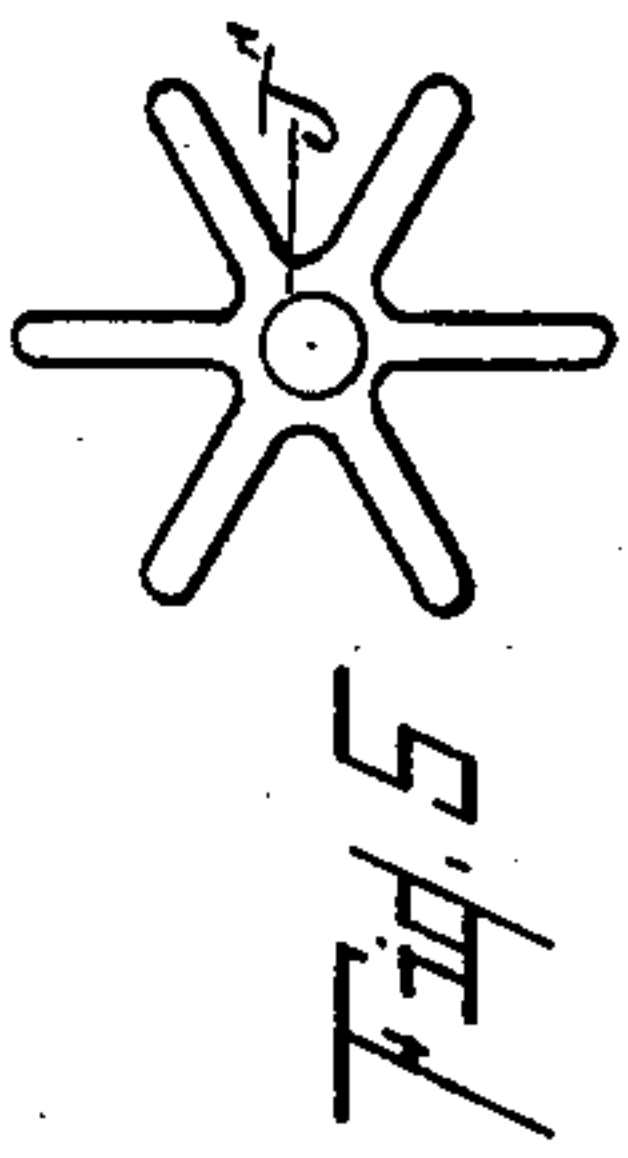
R. R. KINNEY & G. P. BARNARD.

BURIAL APPARATUS.

(Application filed July 29, 1897.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses.

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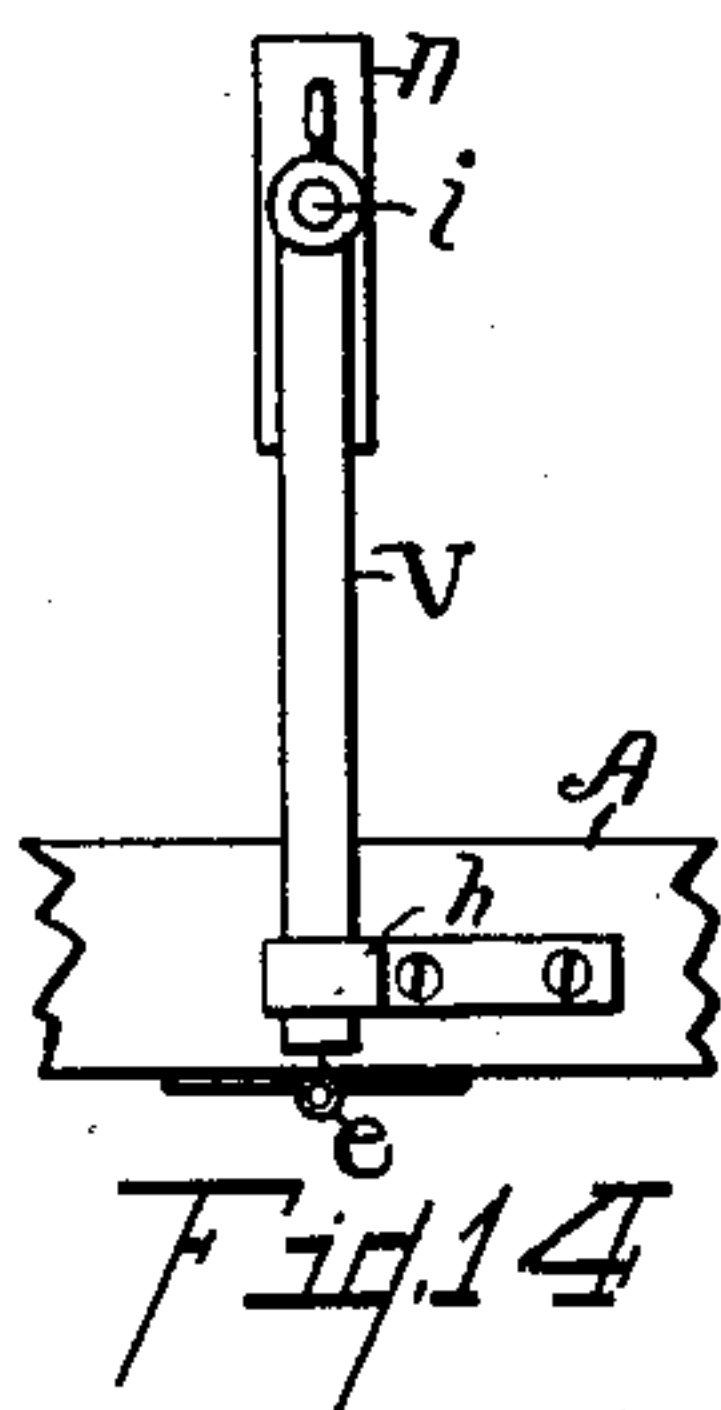
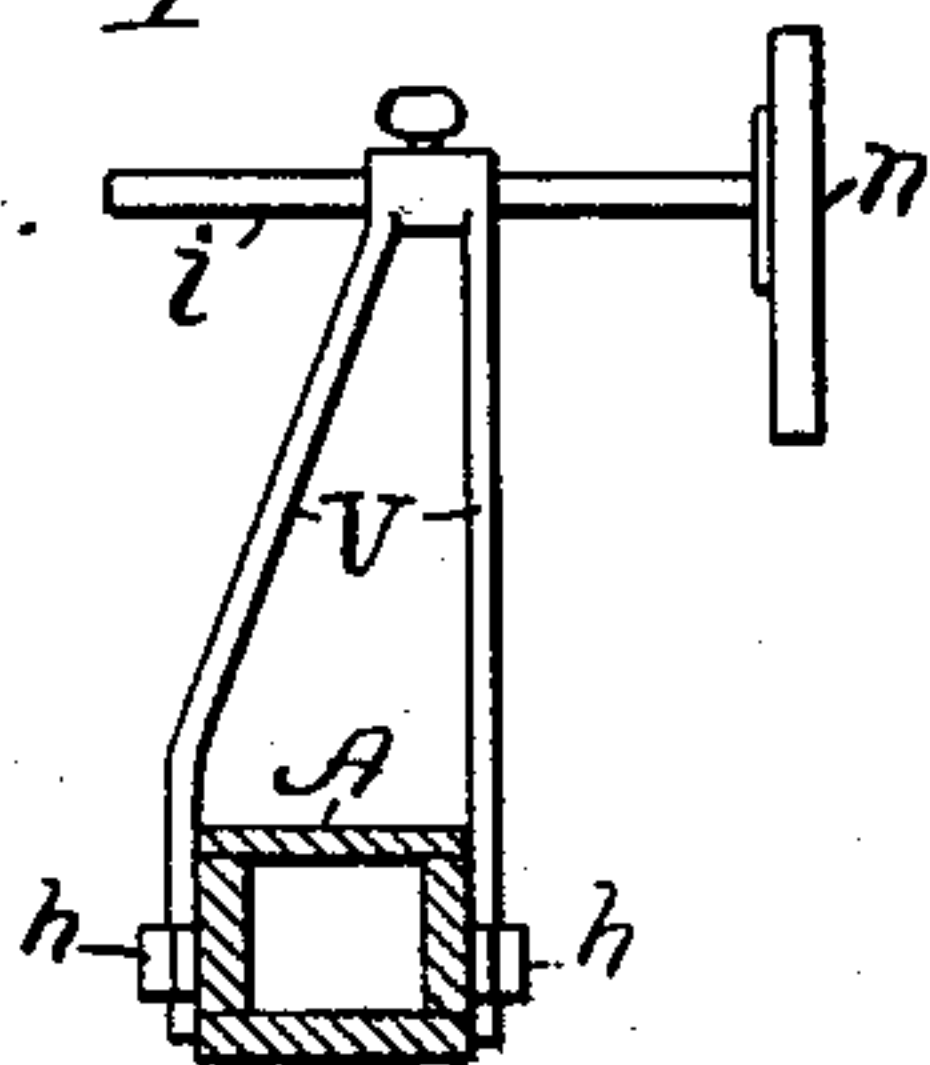
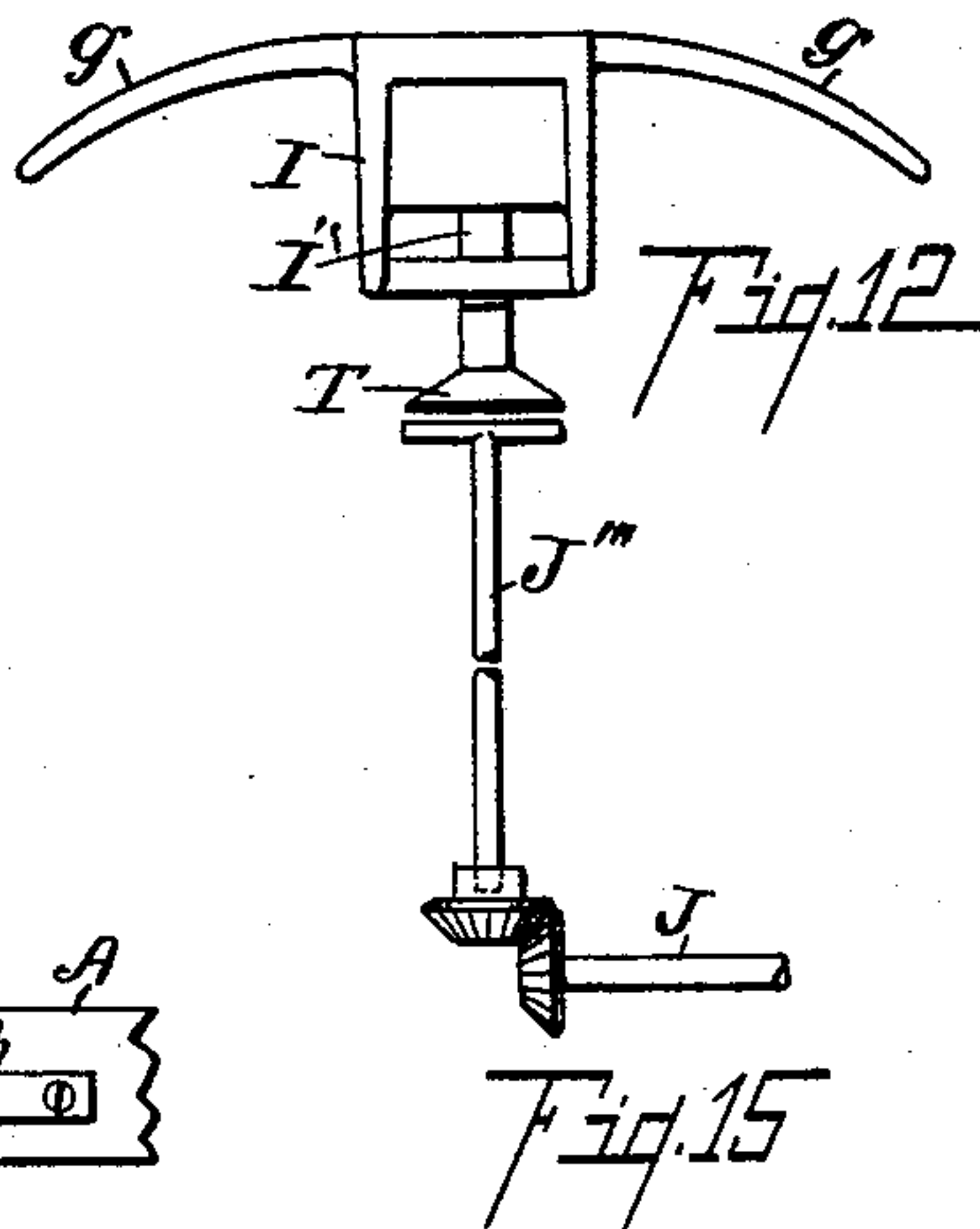
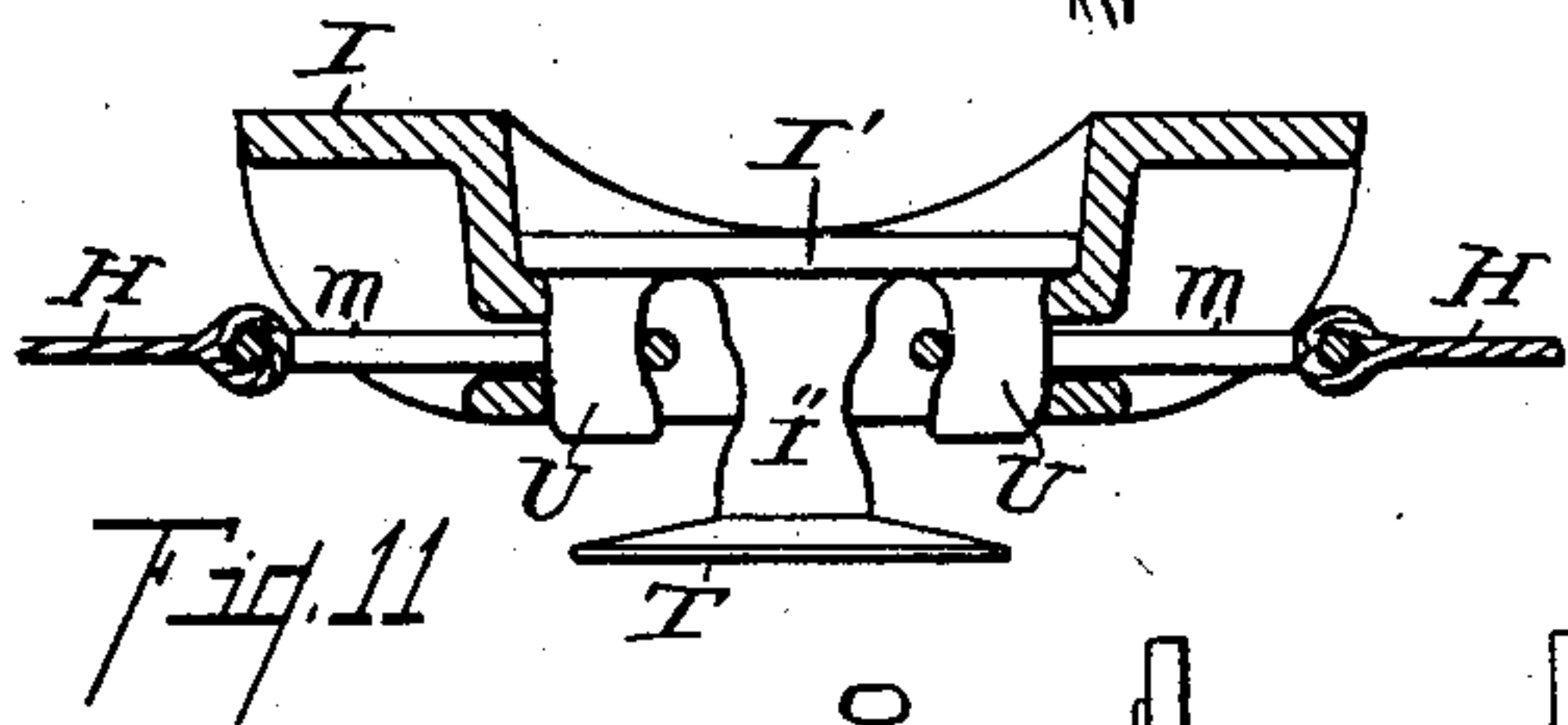
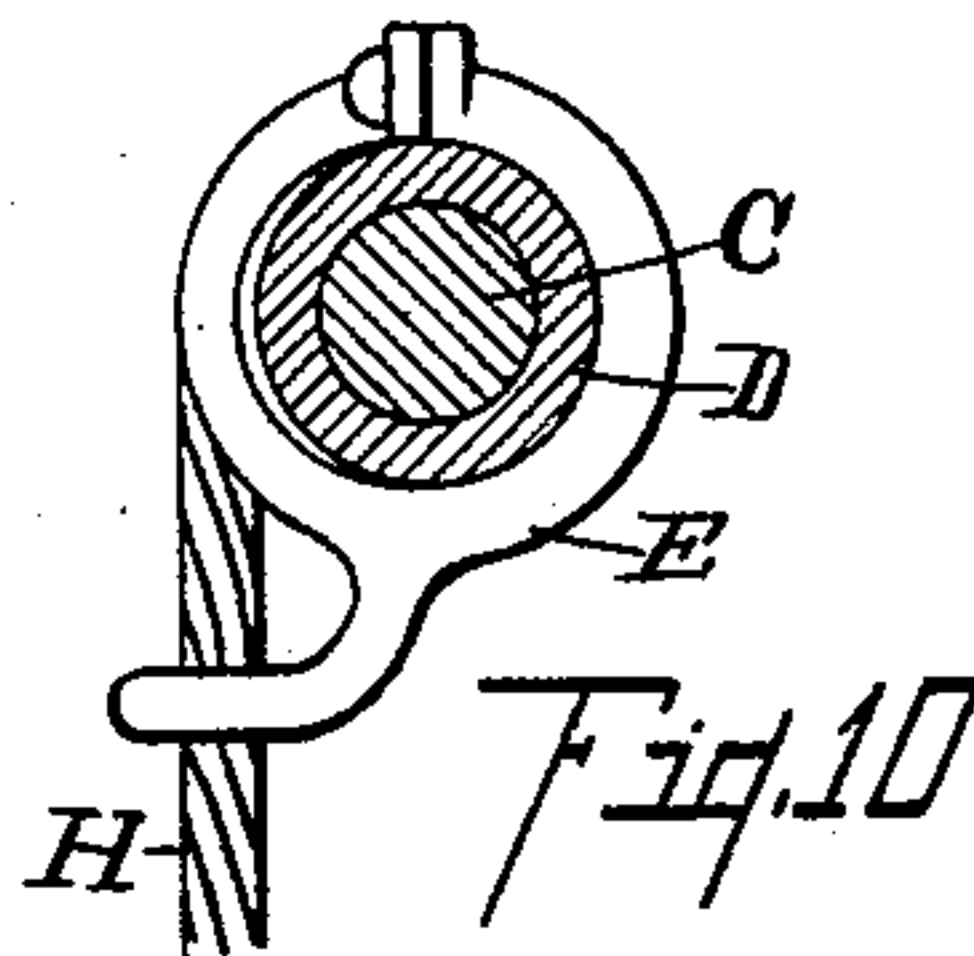
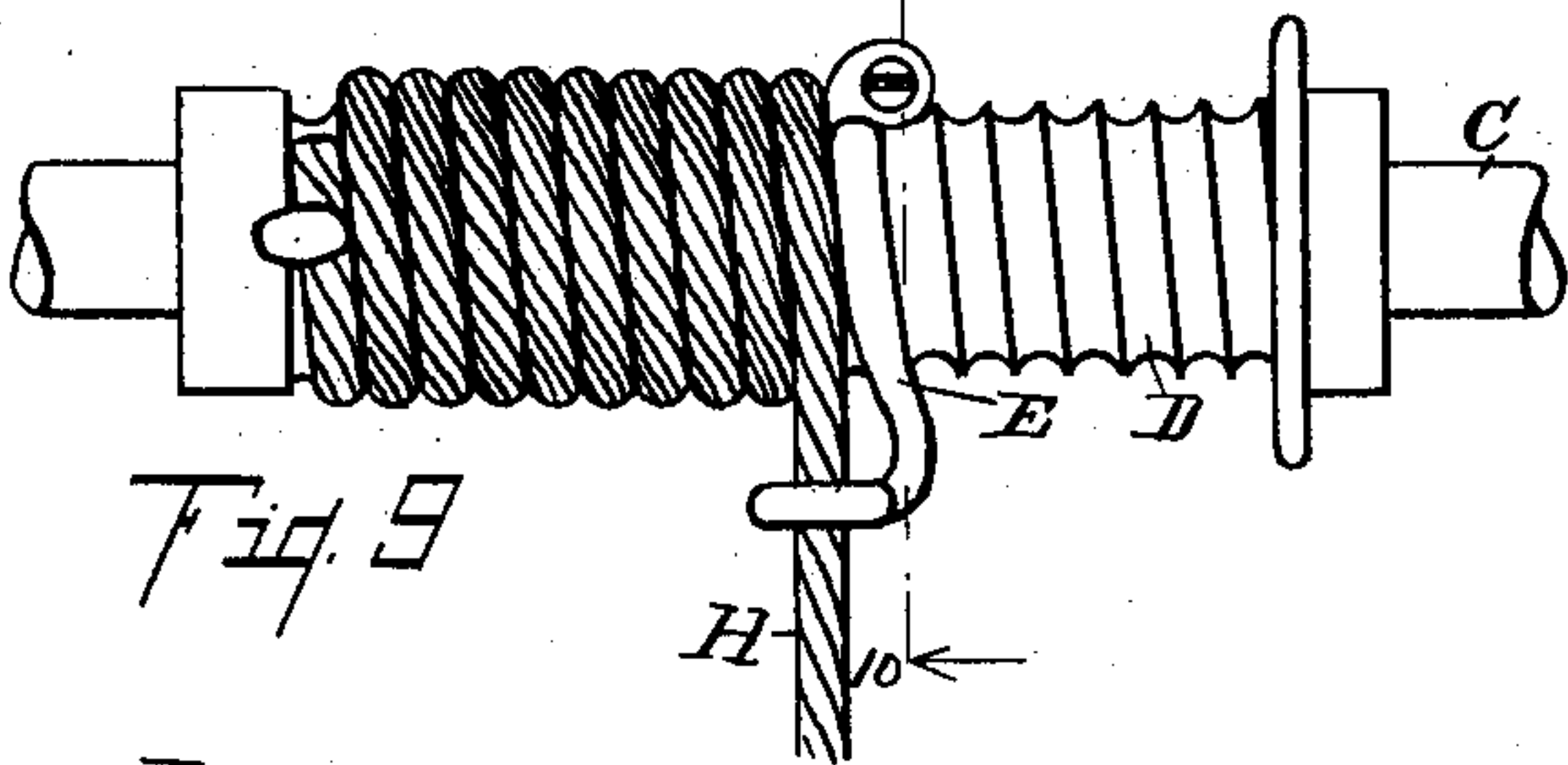
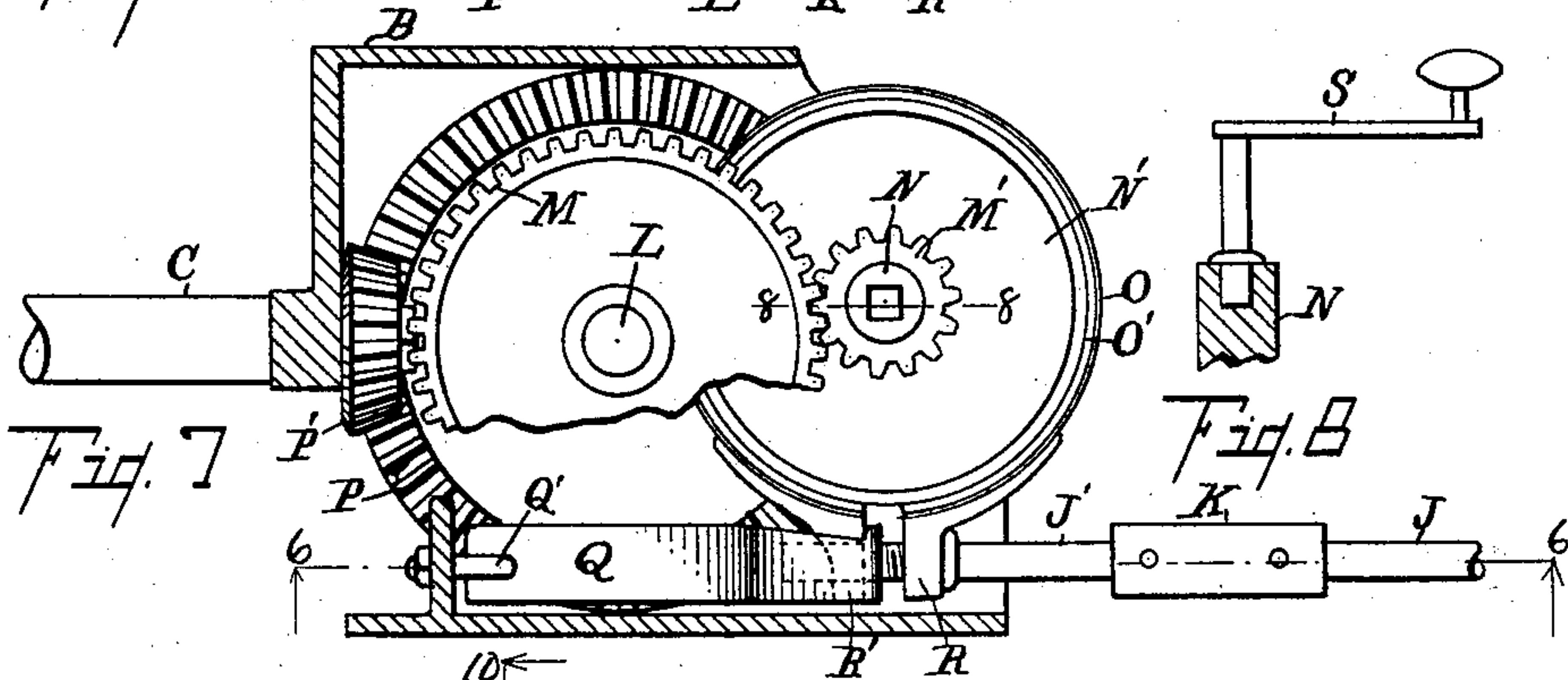
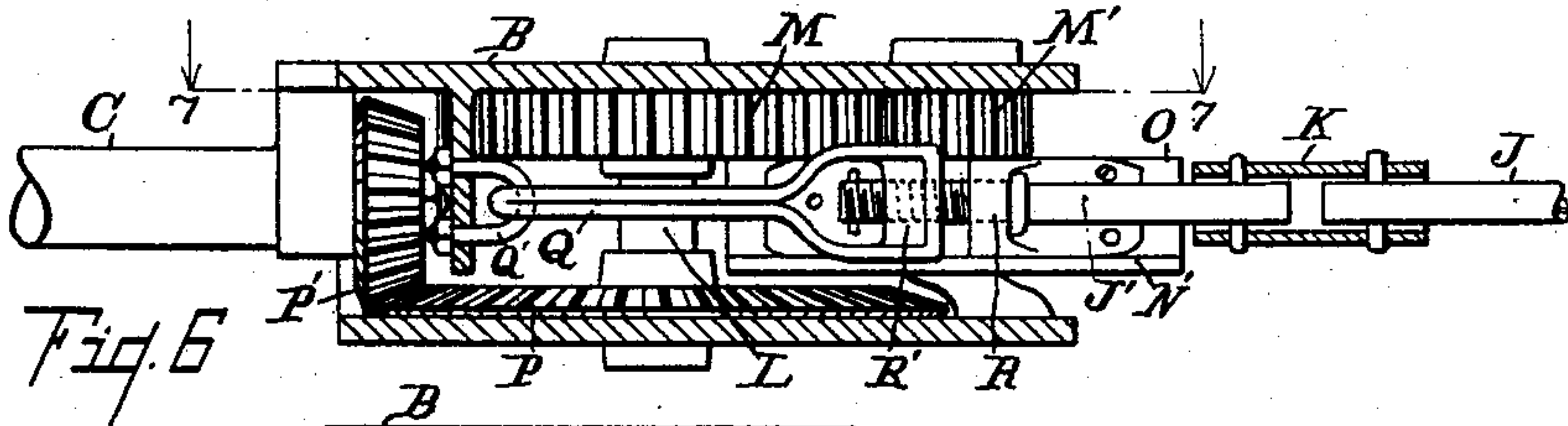
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BURIAL APPARATUS.

(Application filed July 29, 1897.)

(No Model.)

2 Sheets—Sheet 2.



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# UNITED STATES PATENT OFFICE.

RICHARD R. KINNEY AND GARDNER P. BARNARD, OF COLDWATER,  
MICHIGAN, ASSIGNORS OF ONE-THIRD TO WILLIAM L. BARTH, OF  
SAME PLACE.

## BURIAL APPARATUS.

SPECIFICATION forming part of Letters Patent No. 606,722, dated July 5, 1898.

Application filed July 29, 1897. Serial No. 646,347. (No model.)

*To all whom it may concern:*

Be it known that we, RICHARD R. KINNEY and GARDNER P. BARNARD, citizens of the United States, residing at the city of Coldwater, in the county of Branch and State of Michigan, have invented certain new and useful Improvements in Burial Apparatus, of which the following is a specification.

This invention relates to improvements in apparatus for lowering coffins or caskets into graves.

The objects of this invention are, first, to simplify the construction of such apparatus; second, to provide an improved brake mechanism for controlling the lowering apparatus; third, to provide improved gearing and connections for controlling and operating the lowering apparatus; fourth, to provide improved means for releasing the lowering straps or ropes; fifth, to provide improved means of winding the lowering-ropes and guiding the same; sixth, to provide improved connections for the opposite sides of the device so arranged as to permit the folding of the halves of the same together.

Further objects will definitely appear in the detailed description to follow.

We accomplish these objects of our invention by the devices and means described in this specification, definitely pointed out in the claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a top plan view of our improved apparatus with portions of the casing broken away to show details of construction. Fig. 2 is an enlarged detail sectional view taken on line 2 2 of Fig. 1, showing the details of construction of one of the windlasses and guiding means for the rope. Fig. 3 is a transverse sectional view on line 3 3 of Fig. 1, showing the connections and arrangement of parts between the two sides of the machine. Fig. 4 is an enlarged detail sectional view taken on a line corresponding to line 4 4 of Fig. 3. Fig. 5 is an enlarged detail view of the operating-wheel J". Fig. 6 is an enlarged detail sectional view of the brake mechanism in position in the frame, taken on a line corresponding to line 6 6 of Fig. 7. Fig. 7 is an enlarged detail sectional view of the same,

taken on a line corresponding to line 7 7 of Fig. 6. Fig. 8 is an enlarged detail view showing the means of applying the crank to wind up the lowering-ropes, the hub to which the crank is applied being shown in section on line 8 8 of Fig. 7. Fig. 9 is an enlarged detail plan view of one of the windlasses of the machine, showing the guide for the rope thereon. Fig. 10 is an enlarged detail sectional view of the same, taken on line 10 10 of Fig. 9. Fig. 11 is an enlarged detail sectional view of the releasing device for the ends of the lowering-ropes, taken on line 11 11 of Fig. 1. Fig. 12 is an enlarged end elevation of the part shown in Fig. 11. Fig. 13 is an enlarged detail of the gage for locating the coffin or casket when placed in the same, being a sectional view taken on line 13 13 of Fig. 1. Fig. 14 is an enlarged detail rear elevation of the same. Fig. 15 illustrates the means of controlling the brake mechanism when it is desired to control the same by the hand instead of by the foot, showing connections to the controlling-shaft J for that purpose.

In the drawings all of the sectional views are taken looking in the direction of the little arrows at the ends of the section-lines, and similar letters of reference refer to similar parts throughout the several views.

Referring to the lettered parts of the drawings, A represents the casing for the apparatus and its supporting-frame. This consists of two symmetrical halves hinged together on the under side at the center, so that they can be folded upon each other. The sides and ends of the frame are made up of a rectangular casing which contains the operating mechanism, which is concealed from view by the said casing with the exception of the parts which project for manipulation and operation of the same.

Shafts C C extend longitudinally of the frame on each side within the casing. On the ends of these shafts are secured small sprocket-wheels C' C', which are connected by a crossed sprocket-chain G, which of course operates the same in opposite directions. Toward the center of the frame, near the hinge e, are blocks b, which project between the two



parts of the chains and prevent their rubbing against or catching onto each other, as clearly appears in Figs. 3 and 4. To the under side of the frame at this point are secured sheets  
5 of leather or similar materials *c c* opposite slots in the casing, which permit the chain to sag and rub without rattling. A loop *f* is also secured to one of the halves to serve as a support for the chain when the frame is  
10 folded.

On shafts *C C* are supported windlasses *D*, two on each side of the frame, which control and operate the lowering-cords *II*. These windlasses are the same on each side, so only  
15 the two on one side are illustrated. These windlasses are provided with spiral grooves for the reception of the cord or rope, and the two windlasses on each side are oppositely threaded, so that as the rope is wound up or  
20 unwound it moves from or to the center. The windlasses opposite each other in the case are also oppositely threaded, so that their motion carries the lowering-rope parallel and evenly to prevent any uneven motion of the  
25 same. On each windlass is a guide *E*, which embraces the same so that it engages the spiral grooves, which act upon it like the threads of a screw on a nut and carry it along. An eye  
30 is provided on this guide through which the rope extends, so that the rope is carried along and distributed evenly in the grooves, making the winding and unwinding of the same positive and even.

Secured to the side of the casing toward the  
35 inside from the windlass are small shafts or rods *F'*, carrying guiding-sheaves *F*, which engage and carry the lowering ropes or cords *II* and move back and forth with the same to prevent strain and friction in winding and  
40 unwinding. The rods *F'* are supported by any suitable means, preferably the brackets *a*.

On the inner ends of the cord *II* are links or loops *m m*, as clearly appears in Fig. 11. The small plate *I* is provided with projecting  
45 wings *g g* to each side at one end to retain the same in the upright position when the burial-case or other load is placed upon it. Pins *U U*, joined together by a top plate *I'*, which has a depending portion *I''*, having a foot *T*  
50 at the bottom, engage the links *m m* at the center. When a coffin is placed upon the plates *I* and the links *m m* are engaged by the pins *U U*, the same will be supported until it is lowered to the bottom of the grave or in  
55 the rough box at the bottom. When the foot *T* strikes the bottom, the weight of the coffin or load presses down the plate *I*, which carries down the links *m m* past the bottom of the pins *U U*, thus releasing the ends of the  
60 ropes or cords *II II*, which can then be withdrawn. It will be observed that this releases the ends of the lowering-ropes automatically when the load reaches the bottom. When the ropes are released, they are wound up by  
65 the means hereinafter described.

At the head end of the frame *A* we provide a gage consisting of the bracket *V*, secured

thereto by insertion in loops *h h*, having an adjustable head *i* with contact-plate *n* for guiding the coffin to be placed on the apparatus,  
70 as clearly appears in Figs. 1, 13, and 14. Because the shafts *C C* are connected together positively by a sprocket-chain *G* it is only necessary to control one of them, and we only provide apparatus and brake mechanism for  
75 controlling one of them. On the end of the shaft *C* is a beveled gear *P'*. A shaft *L* extends vertically and is supported in frame *B*, which carries the gearing inside the casing. The shaft *L* bears the beveled gear *P*, which  
80 meshes with the gear *P'* on the end of shaft *C*. On the upper end of the shaft *L* is secured a gear *M* by a suitable key or other means. Another shaft *N* is parallel thereto and carries a gear *M'*. The gear *M* meshes  
85 with the gear *M'* on the shaft *N*. On the shaft *N* is supported a plain pulley *N'*, to which the brake is applied. The upper end of the shaft *N* contains a socket to receive a crank *S* for winding the same. A metal band *O*, with a  
90 leather or similar facing *O'*, extends around the plain pulley *N'*, which is the brake-wheel. The band *O* and facing *O'* form the brake-shoe.

On the ends of the band *O* are small brackets *R R'*. The bracket *R'* is screw-threaded.  
95 A shaft *J'* extends through the same, having a screw-thread on its end which fits into the bracket *R'*. A suitable collar on the rod or shaft *J'* engages outside the bracket *R*, so that  
100 when a shaft is rotated it operates either to close or open the brackets *R R'* and apply or release the brake.

A link *Q* is pivoted on the loop *Q'* and extends around the bracket *R'* and fits loosely  
105 over the screw-thread of the shaft *J'* between the brackets *R R'*, so that it merely supports the brake *N* in this position without preventing its free action and allows the brake-wheel *N'* to rotate within the brake, but affords its  
110 resistance against its tendency to revolve when the brake is applied to resist the load. As the link *Q* plays freely on the rod *J* the operation of the rod or shaft has no effect upon the even application of the brake *O O'*  
115 on wheel *N'*. On the end of the rod *J'* we secure an actuating-rod by a suitable sleeve *K*. On the end of the rod is an operating-wheel *J''*, (see Figs. 1 and 5,) which extends outside the frame and affords the means of applying  
120 or releasing the brake. This can be done by the foot of the operator, which is a very convenient and inconspicuous means. Where it is desired, however, an additional connection with rod *J'''* can be provided, as appears in  
125 Fig. 15, by means of the intermediate beveled gears or any other suitable connection to operate the same by hand.

Having thus described the various parts and the arrangement of our improved burial  
130 apparatus, we will now indicate briefly the method of its operation.

The complete frame, as it appears in Fig. 1, is placed above the grave with the lowering-



ropes connected with the means illustrated. The gage *n* is set at the right point at the head, and the coffin is placed upon the plates *I I*, which are retained in their proper position by the wings *g g*. When the whole is in readiness, the operating-wheel *J''* is turned until the weight of the load operates the windlasses *D D* and the coffin begins to descend. Owing to the intermediate gearing and the action of the brake on wheel *N'* it will descend gradually to the bottom of the grave. When it reaches the bottom of the grave or the usual rough box, the foot *T* of the detaching device strikes the bottom and the upper portion is pressed down over the same, releasing the links *m m*. When this is done, the ropes are easily and quickly drawn back by means of a small crank or key *S*, inserted into the socket of the shaft *N*, and the apparatus can then be removed, as its work is done.

Having thus described our improved burial apparatus, we desire to state that our improved windlasses and guiding apparatus can be successfully used in other connections than we have here illustrated. We also desire to state that it is not an absolute necessity that the frame be a folding frame, though it is a great convenience, though the structure accomplishes results which we consider to be valuable. The gage at the head of the frame is not an absolute necessity, though very desirable. We are aware that other connections and gearing could be used in connection with our improved brake to make up a brake mechanism, though the exact brake structure we have produced is also of great advantage. Other variations will, no doubt, readily suggest themselves to those skilled in the art to which our invention pertains.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a burial apparatus, the combination of a suitable framework; longitudinal shafts *C, C*, to each side supported therein; sprocket-wheels *C', C'*, on the ends of said shafts; a crossed sprocket-chain *G*, connecting the same; a block *b* between the parts of the chain to prevent their engaging and rubbing upon each other; windlasses *D, D, D*, *D*, two on each shaft opposite each other formed with right and left hand spirals facing each other; lowering-ropes *H*, to rest in said spirals; guides *E*, engaging said spirals to be carried thereby and having eyes for the passage of the ropes; and rods *F'*, toward the inside of said frame carrying sheaves *F*, to receive the lowering-ropes.

2. In a burial apparatus, the combination of a suitable framework, longitudinal shafts *C, C*, to each side supported therein; sprocket-wheels *C', C'*, on the ends of said shafts; a crossed sprocket-chain *G*, connecting the same; a block *b* between the parts of the chain to prevent their engaging and rubbing upon each other formed with right and

left hand spirals facing each other; lowering-ropes *H*, to rest in said spirals; guides *E*, engaging said spirals to be carried thereby and having eyes for the passage of the ropes; and rods *F'*, toward the lowering-ropes; a detaching device between the ends of the ropes; and suitable brake mechanism to apply to one of the shafts, all coacting together substantially as described for the purpose specified.

3. In a burial apparatus the combination of a suitable frame; shafts to each side thereof, windlasses on said shafts opposite to each side containing right and left hand spirals; lowering-ropes adapted to be received by said spirals; guides engaging the spirals on said windlasses to be carried thereby having suitable eyes for the passage of the ropes; suitable means of detaching the lowering-ropes and means for controlling the shafts, for the purpose specified.

4. In an apparatus of the class described, the combination of a windlass *D*, containing a suitable spiral groove; a rope or cable therefor; guide *E*, engaging said spirals to be carried thereby containing a suitable eye for the passage of the rope to deliver the same into the spirals, for the purpose specified.

5. In an apparatus of the class described, the combination of a windlass *D*, containing a suitable spiral groove, a rope or cable therefor; guide *E* engaging said spirals to be carried thereby containing a suitable eye for the passage of the rope to deliver the same into the spirals; a shaft extending parallel with said windlass bearing a suitable guiding-roller adapted to slide over the same to receive and guide the rope, for the purpose specified.

6. In a burial apparatus, the combination of lowering-ropes; a separate releasing device between the ropes consisting of a plate *I*, with laterally-projecting wings *g g*, pins *U, U*, joined together by a plate *I'*, having a depending portion *I''*, with a foot *T* at the bottom to engage loops upon the lowering-ropes so that when a load is lowered the plate *I*, will press down upon the loops and force them below the pins and thereby release the said ropes, for the purpose specified.

7. In a burial apparatus, the combination of suitable shafts carrying windlasses, ropes adapted to extend therefrom across a grave; a brake mechanism consisting of a pinion *P'*, on one of said shafts, parallel shafts *L* and *N*, gear *P*, on said shaft meshing with the pinion *P'*; the gear-wheels *M, M'*, on said shafts *L* and *N*, respectively meshing with each other; a brake-wheel *N'*; a metal band *O*, having facing *O'*, of leather or similar material embracing the wheel *N'*, brackets *R, R'*, containing screw-threads on the ends of said band *O*, rod *J*, with a screw-thread for adjusting said brackets *R, R'*, to apply and release the brake; a link *Q*, supported on a loop *Q'*, and loosely surrounding the rod *J*, between the brackets *R, R'*, to support the same and suitable means



of rotating the shaft  $J'$ , to apply and release, coacting for the purpose specified.

8. In a burial apparatus, the combination of suitable shafts with windlasses thereon for  
5 actuating and controlling the lowering-ropes; a brake-wheel with a band  $O$ , having a facing  $O'$ , of leather or similar material round the same to form a brake; a suitable rod with a  
10 screw at its end extending through brackets on the ends of said bands for applying and releasing the brake; a link connecting the same with the supporting-case and a train of  
gears between the brake-wheel and the controlling-shaft for the purpose specified.

15 9. In a burial apparatus the combination of a suitable frame; lowering-ropes; means of controlling the same and a suitable gage consisting of a bracket  $V$ , with an adjustable rod  $i$ , having a guide-plate  $n$ , at its end to

locate the coffin or casket in position for the  
20 purpose specified.

10. In a burial device a frame corresponding to the top of a grave divided longitudinally into two parts; hinges joining the said  
25 parts so they may fold on each other; lowering mechanism on each part; a chain or belt connecting the parts together, and a separating-block  $b$ , and loop  $f$  to support the same and prevent displacement in folding as specified.  
30

In witness whereof we have hereunto set our hands and seals in the presence of two witnesses.

RICHARD R. KINNEY. [L. S.]

GARDNER P. BARNARD. [L. S.]

Witnesses:

FRANK B. REYNOLDS,

NORMAN A. REYNOLDS.