

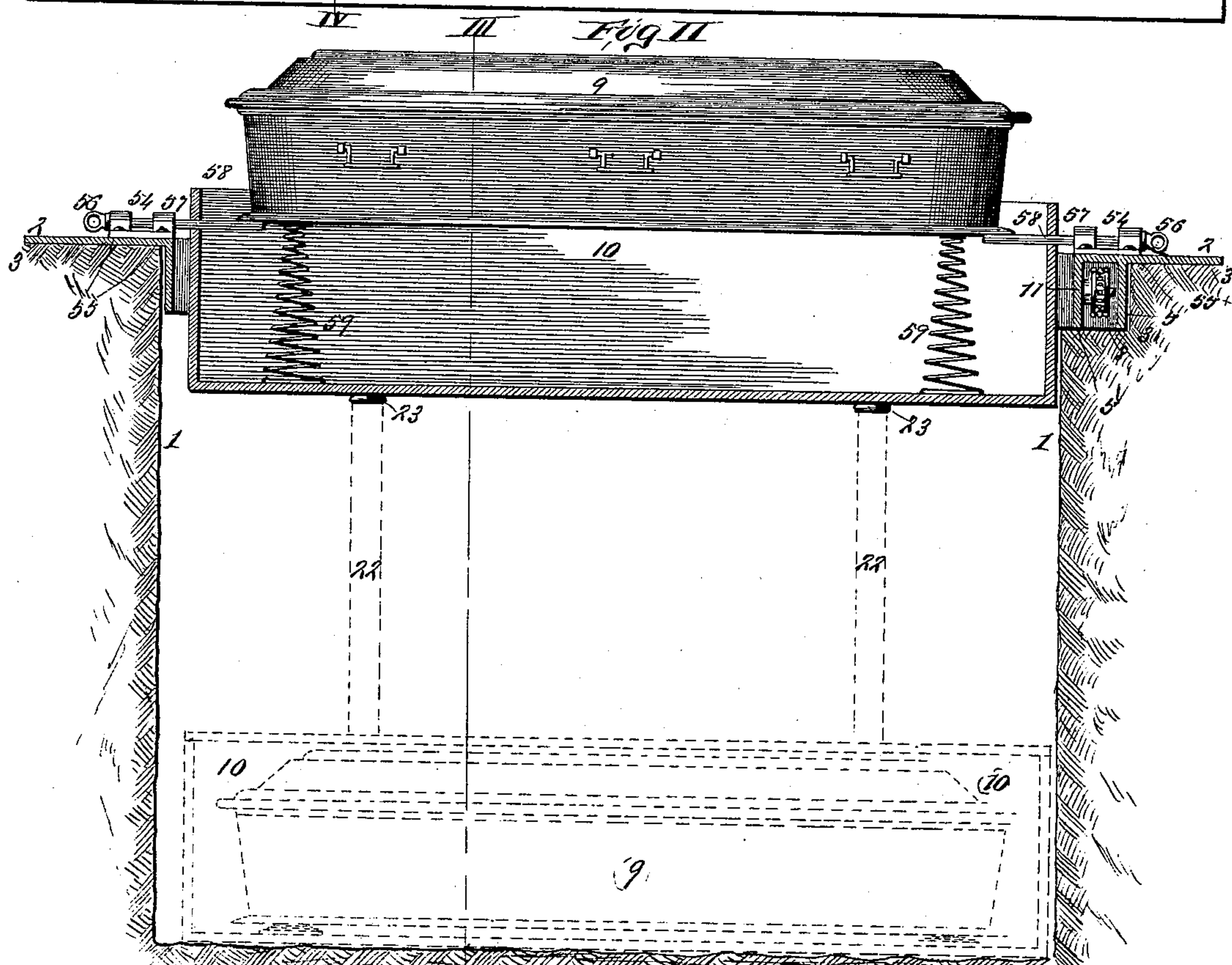
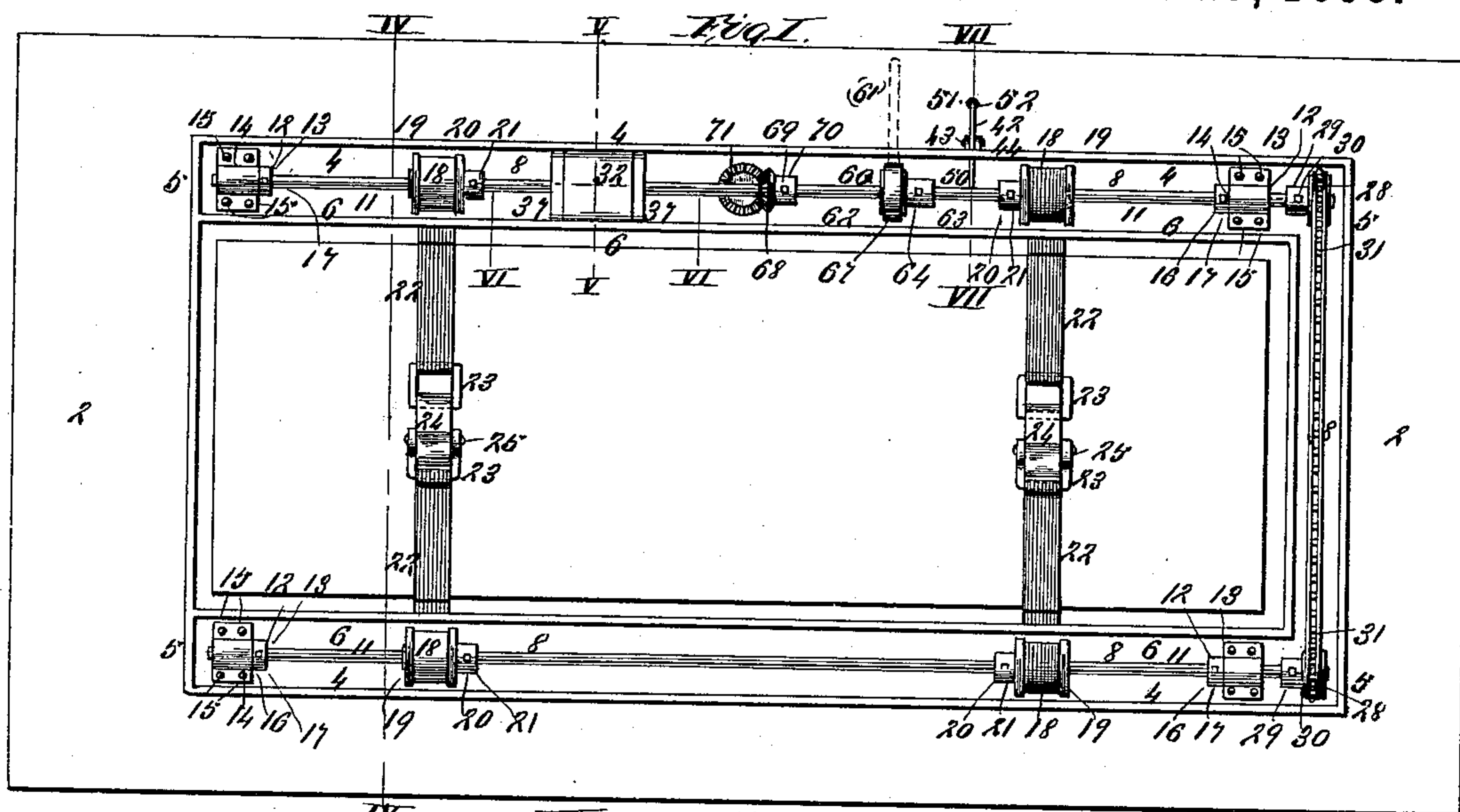
(No Model.)

M. C. SCHERER.
BURIAL APPARATUS.

2 Sheets—Sheet 1.

No. 507,043.

Patented Oct. 17, 1893.



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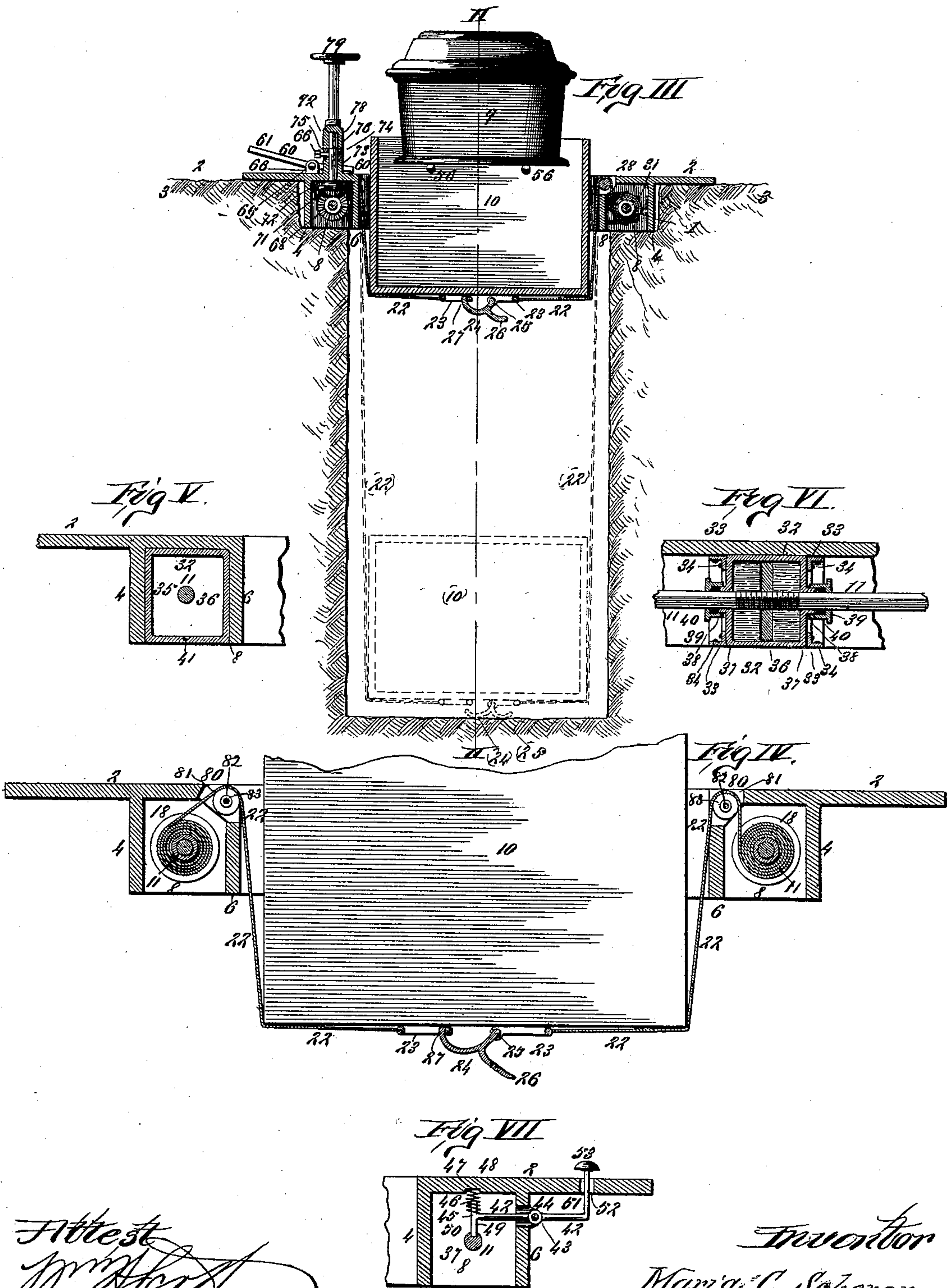
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UNITED STATES PATENT OFFICE.

MARIA C. SCHERER, OF NEW YORK, N. Y.

BURIAL APPARATUS.

SPECIFICATION forming part of Letters Patent No. 507,043, dated October 17, 1893.

Application filed August 29, 1892. Serial No. 444,424. (No model.)

To all whom it may concern:

Be it known that I, MARIA C. SCHERER, of the city of New York, in the county of New York and State of New York, have invented a certain new and useful Improvement in Burial Apparatuses, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

10 This invention relates to a device, under the control of a fluid pressure brake, for automatically, gently lowering caskets and burial cases into the grave provided for their reception, with a trip device, that after the
15 same has been safely lowered, then automatically disconnects the lowering straps below the case, to facilitate the removal of said straps, and the invention consists in features of novelty hereinafter fully described and
20 pointed out in the claims.

Figure I is a bottom or inverted view of the platform that surrounds the grave, and shows the roller strap bearer, duplex piston-shafts, the fluid controlling cylinder mounted on
25 one of said shafts, the strap bearer rollers fast mounted on said piston shafts, the bearer straps mounted on said rollers, the automatic trip, that connects and disconnects said bearer straps, and the sprocket chain that provides
30 an equalizing drive connection between said bearer shafts. Fig. II is a vertical section, taken on lines II—II, Fig. I, and shows the grave, the burial case suspended on the lowering straps, within the mouth of said grave, the
35 platform around the grave, the bolts that pass through the ends of the case and support the casket in view of the mourners, during the burial services, and the spiral springs mounted on the bottom of said case, that allow the
40 casket to gently lower into its ultimate resting place within the case, when said supporting pins are withdrawn. Fig. III is a vertical section, taken on line III—III, Fig. I, and shows the funeral platform, the case and casket sup-
45 ported within the same, the pressure oil, or other fluid or atmospheric power cylinder, the rotary screw-piston shaft of which is connected with and works the lowering straps to automatically gently lower the body in its
50 casket and case into the grave; it also shows the automatic trip hook that connects the two sections of said straps, and the lever thereon

that as it strikes the bottom of the grave (as shown in broken lines at the bottom of said figure) trips the link connection of said straps; 55 it also shows the bevel gear on one of the bearer screw piston-shafts with its surmounting pedestal, that when operated by a hand-key rotates said screw piston shaft and thus forces back its head to its normal position, after a
60 funeral, preparatory to its future use, the fluid repassing through the duct in maintenance of its level. Fig. IV is an enlarged, vertical section, taken on line IV—IV, Fig. I, and shows the platform, the lowering straps wound
65 around their reels on the bearer screw piston shafts and it also shows the automatic trip lever link connections of said lowering straps. Fig. V is an enlarged, vertical section, taken on line V—V, Fig. I, and shows the fluid brake-
70 pressure power cylinder, the piston shaft and its head therein, the pendent casing integral with the platform, in which said cylinder is seated, and the small duct through which the fluid slowly passes under pressure, as the
75 screw piston shaft rotates, from the uncoiling on the reels mounted on said shaft of the lowering straps, as the case and casket descends into the grave. Fig. VI is an enlarged, ver-
80 tical section taken on line VI—VI, Fig. I, and shows the fluid power cylinder, the screw piston shaft that passes through said cylinder, the horizontally moving piston head screw mounted on said shaft, and the tight journal
85 boxings mounted on the cylinder heads, through which said piston shaft works; and Fig. VII is an enlarged, vertical section, taken on line VII—VII, Fig. I, and shows a spring
90 fulcrum tappet key, that when sprung home by its surmounting spiral spring is lock seated in the screw piston shaft, but when the tappet head is pressed by the undertaker's foot, the fulcrum key releases the screw piston shaft, which immediately commences to rotate at
95 the slow rate that the passage of the fluid through the duct will allow.

Referring to the drawings:—1 represents a grave in connection with which my invention is used.

2 represents the platform on which the 100 mourners and the attendants stand, and which platform rests on the surface of the ground 3, surrounding said grave.

4 are the outer side pieces, 5 the outer end

pieces, 6 the inner side pieces and 7 the inner end piece of the boxing chamber 8 that hangs pendent from said platform which boxing extends along the sides of the grave, and across one end, as shown in the inverted view in Fig. I, the said boxing being bottomless and being firmly secured to said platform. In said boxings are housed the running and brake elements of the automatic devices by which the casket 9 and its case 10 are gently and noiselessly lowered into the grave.

11 represents duplex, rotary piston-shafts, whose journals 12 work in bearings 13 in the journal-boxes 14, which journal boxes are secured by screw bolts 15 within the side sections of said pendent boxes to the platform above. Set collars 16 are mounted on said piston shafts and are fastened to their shoulder bearings alongside said journal boxes 14 by the set screws 17.

18 represent roller reels, two of which are fast mounted on each of the two piston shafts 11, and are held in their required longitudinal position on said shafts by the integral projecting collars 19 and the set collars 20, which collars are secured tight alongside said reels by the set screws 21, so as to enforce the turning of said reels with said piston shaft.

22 represent the duplex sectional lowering straps, which may be made of woven wire in the form of straps, or of leather, or any other suitable material, and are made in two pairs, there being two sections in each. The fast ends of said strap sections are securely attached to the drums of said reels, and to their loose inner respective ends are secured the blank tongueless buckles 23, to one of each tongueless buckle in each pair is pivotally secured the trip clutch hooks 24 by means of the pivot bolts 25.

26 are trip levers or triggers on the curved, inverted backs of said clutch hooks. The clutch points 27 of said hooks are made to engage in each pair of straps with the corresponding blank buckle of the other section, and thus holds said sections in engagement until said trip lever triggers 26 come in contact with the bottom of the grave, and thus act as fulcrums on the pivot bolts 25 to effect the release of the clutch points 27 of the hooks 24 from the blank buckles of the corresponding sections of the straps with which they have been engaged, so as to disconnect the same and allow their quiet withdrawal after the casket and its case have been safely deposited in their final resting place. It is thus evident that by this automatic detachment of the corresponding sections of the lowering straps, the said straps can be almost noiselessly withdrawn, and the usual very objectionable and protracted and noisy withdrawal of the long straps which have to pass with a rubbing, grating noise under the casket and case is by this device avoided.

28 represent sprocket gear wheels, which with their integral collars 29 are fast mounted on the respective communicatory drive

ends of the duplex rotary piston rods 11, and the rigidity of said mount is further secured by the set screws 30.

31 represents a sprocket chain which is mounted on said sprocket wheels, and communicates the power from the drive member of said duplex piston shaft to the driven member thereof.

32 represents a stationary oil, atmospheric, or other fluid-pressure cylinder, or tube on the drive side of the duplex rotary piston compound arrangement, and which tube is preferably of a square form in cross-section, as shown in Figs. I, V and VI, and of proportions to fit snugly within the pendent outer and inner side pieces 4 and 6, and against the platform 2 which surmounts it, to which and to said pendent side pieces the said fluid pressure cylinder or tube is securely fastened by the brackets 33 and bolts 34. The member of the duplex rotary piston-shaft which is on the same side as said fluid pressure cylinder or tube, and passes through its center, is provided with a peripheral screw around said shaft, the length of and within said tube on which screw portion of said piston shaft, the screw center 35 of the square traveler piston head or valve 36 is mounted. The end walls 37 of said pressure tube are provided with projecting collar circle flanges 38, within which the said drive member of the piston shafts has its intermediate bearings. Inner screw tapped, flanged, bearer collars 39 are screw seated on the peripheral screws of the collar flanges 38 and packing 40 of any suitable material around the piston shaft inside said bearer collars 39, effect fluid tight joints around said piston shaft at its points of outlet through said bearer collars.

41 represents a small channel groove oil, atmosphere or other fluid duct, that is recessed in the inner wall of the under side of said pressure cylinder or tube. The said small duct allows the reciprocating, gradual passage of the fluid under pressure on one side of the traveling piston head or traveler valve 36 to the other within the cylinder or tube 32.

42 represents a fulcrum tappet trip treadle, whose journal pins 43 are fulcrumed in the perforate lugs 44, which lugs are seated and firmly secured in one of the inner side pieces 6 of the pendent boxing chamber frame 8. 45 is the vertical, inner T end of said treadle, on the upper limb 46 of which the spiral spring 47 is mounted the head of which spring projects into and is held in the recess 48 in the under side of the platform 2. The lower limb or key stem 49 of said T head, when under the influence of said spiral spring is key seated in the socket key hole 50 in the rotary piston shaft, so as to prevent the rotation of said shaft, as long as said key stem maintains its lock seat in said socket key hole.

51 represents the vertical drive surmounting end of said treadle, which rises from the horizontal fulcrum bar thereof, through a slot 52 in the platform 2 and is itself surmounted

by the treadle cap 53. It will be seen that as long as said treadle cap is not pressed down, the spiral spring forces the lock key of said treadle into its stop key hole in said piston shaft, so that said shaft cannot travel and in consequence the lowering straps are held taut and hold the casket and its case from being lowered, until the undertaker or other gentleman in charge of the funeral steps on the cap 53 of the treadle trip 42, so as to withdraw the key 50 from the piston shaft, when the gravitating effect of the weight of the casket and case, turns the duplex piston shafts 11, but the piston head or traveler valve 36, that is screw mounted on the drive screw member of said piston shafts, can only travel from one end of the fluid pressure piston cylinder or tube 32 to the other at the same slow speed that said fluid (let it be air, or oil, or any other suitable fluid), can readjust itself by passage through the small duct 41 respectively to or from the corresponding chambers of said pressure cylinder on each side of said traveler valve. It is thus evident that said casket and coffin will be lowered very gently and quietly into the grave, in fit accordance with the solemn occasion, and avoids the usual objectionable practice of the mourners having to stand aside and having the grave diggers come forward and take possession of the platform to lower the casket during the last most solemn leave taking rite, in which the receptacle that holds the remains of the departed one is lowered into the grave, out of sight for ever. Thus the heretofore objectionable commotion and noise in lowering the casket and withdrawing the straps, and that by strangers during the final and most solemn closure of the funeral rites, that adds poignancy to the grief of the mourners is avoided.

54 represent bracket foot plates which are secured to the platform, preferably at the ends, but may be at the sides of the grave, by the bolts 55, and 56 are long hand pins that pass through the perforate lugs 57 that surmount said foot plates, and through bore holes 58 in the case, through which said bolts project sufficiently to support the casket in an elevated position in said case. Either two or four of said foot plates with their mounted pins may be used.

59 represent spiral pyramid springs, of which there are preferably four, which are large at their bases, which rest on the bottom of the case and which taper toward their summits on which the casket rests, when the above mentioned pins are withdrawn at the close of the funeral services, the said spiral springs then allowing said casket to gently subside or be lowered by said springs within the case. As the weight of the casket and body is sufficient to closely compress said springs, the casket then assumes the position within said case shown in broken lines in Fig. II, and the lid can then be placed on the case (if desired) before it is lowered in the grave. Thereby is

also avoided another usual distressing feature of funerals, incident to one of the grave diggers having to let himself down or jump down on the burial case to affix the lid thereon. In jumping down there is also danger that the man may sometimes accidentally alight on and break the casket, all which dangers and circumstances, incongruous to the solemnity of the occasion is avoided by the use of my invention.

In Figs. I and III is also shown my lever friction brake 60, that may if desired be used in the place of the fulcrum tappet trip treadle 42, by the undertaker keeping his foot on said lever until such time as it is desired that the casket and case shall be lowered. 61 is the fulcrum lever of said brake, and 62 is a friction drum, the integral collar 63 of which is rigidly secured to the drive member of the rotary piston rods 11 by means of the set screw 64. 65 are perforate lugs which are secured to and surmount the platform 2. 66 is the fulcrum pivot pin that passes through said fulcrum brake lever and through said lugs, and 67 is the friction brake strap, the fast end of which is secured to said drum and the other end to said fulcrum lever. It will be seen that the undertaker can restrain the automatic lowering of the casket by said friction lever, when from any cause my fulcrum trip lever is not used.

68 represents a vertical, bevel pinion that is fast seated on the drive member of the rotary piston rod, by means of its collar 69, and set screw 70, and 71 is a horizontal, bevel pinion, that engages with the foregoing and whose vertical operating shaft 72 rotates in the tube column 73, and 74 is a stay collar that is secured by the set screw 75 to said vertical shaft, to retain it in position in said column.

76 represents an integral key seat that surmounts said vertical shaft, and 77 is a rotary key whose socket 78 fits on the key seat 76, to wind the same when said key is turned by the aid of its surmounting disk 79.

80 represent apertures provided at the junction of the inner side pieces 6, and the platform 2, opposite the reels that carry the lowering straps. 81 are pulley frames secured within said apertures. 82 are bearer pins mounted in said frames, and 83 are pulley rollers mounted on said bearer pins. The lowering straps 22, after leaving the reels 18, pass through said apertures 80, over said pulley rollers 81 and under the burial case as aforesaid, where the blank buckles of the sections of said lowering straps from each side are secured together beneath said case by the automatic fulcrum trip hooks 24.

The fluid pressure cylinder or tube 32 is both air and fluid tight, the packing around the bearings of the rotary piston making said bearings also fluid tight, so that whether said fluid pressure is of air, oil, or other fluid, it always remains the same, sealed up within the cylinder, and as it can only travel from

one compartment to the other of said cylinder, past the traveler valve or piston head, as the screw of the piston shaft rotates in that of the valve, the device constitutes a perfect
5 brake to gently and slowly lower the casket and burial case with the body of the departed to the final resting place.

The whole automatic lowering device is locked by means above stated from its lowering
10 movement, until by the simple quiet act of the undertaker (not necessarily seen by others) by his stepping on the cap 53 of the fulcrum trip treadle 42, which relieves the rotary piston shafts, and the casket is then
15 automatically lowered, and the sections of the lowering strap automatically disconnected when the operation is completed as above described, so that the said straps are raised without the usual distressing noise.

20 At any time before the removal of the platform and apparatus, after the departure of the funeral party, the fulcrum treadle is made to release its hold of the piston shaft, and the friction brake 60 if it has been in use is also
25 released. Then the socket of the key 77 is seated on the key seat 76 of the pinion, wind operating shaft 72 on which is mounted the bevel pinion 71, which meshes with the bevel pinion 68, which latter is fast mounted on the
30 drive member of the rotary piston shafts. Then by the turning of the key and the consequent turning of said bevel gear connection, the said drive member of the piston shaft is turned and by means of the corresponding
35 sprocket wheels 28 in both members of said piston shafts and the connecting sprocket chain 31, the driver member of said duplex piston shafts is also rotated and the reels wind up the lowering straps 22 for future use.

40 I claim as my invention—

1. In a burial apparatus, the combination of the platform, the system of bevel gear operated piston shafts 11, beneath said platform, the reels 18 on said shafts, the lowering straps
45 mounted on said reels, the fluid pressure cylinder, and the piston head brake that works therein, substantially as set forth.

2. In a burial apparatus, the combination of the platform, the system of bevel gear operated piston shafts 11, the fluid pressure cylinder 32, and the piston head-brake that works therein, the reels 18 on said shafts, the duplex sectional lowering straps 22 having the connecting blank tongueless buckles or links 23,
50 and the locking trip clutch hooks 24, that alternately connect and trip the connection of said links of the lowering straps, substantially as set forth.

3. In a burial apparatus, the combination of
60 the platform 2, the system of gear operated rotary piston shafts 11, the reels 18 on said shafts, the sectional duplex straps 22, the connecting links 23 at the joint ends of said straps, the locking trip lever hooks, the fluid
65 pressure cylinder 32, through which the rotary piston shaft 11 passes, the rotary screw working piston head 36 mounted on said shaft

in said fluid compression cylinder 32, the fluid in said cylinder, and the said cylinder provided with the recessed channel-groove duct 70
41, substantially as set forth.

4. In a burial apparatus, the combination of the platform 2, the system of rotary piston shafts 11, the reels 18 on said shafts, the lowering straps 22 mounted on said reels, the fluid
75 pressure cylinder 32, the drive member of said rotary shafts constituting a screw threaded piston shaft, the piston-head or traveler valve 36, that is mounted on said piston-shaft, the said fluid pressure cylinder provided
80 with the fluid duct 41, through which the fluid gradually passes said cylinder head as said cylinder rotates, the fluid in said cylinder, the fulcrum trip lever 42, said piston shaft provided with the countersunk locking
85 recess 50, and said lever having the foot key 49 the spiral spring 47 that enforces the locking of said foot key, and the said trip lever provided with the tappet head 53, which when depressed works said lever on its fulcrum
90 journal to release said foot key; substantially as set forth.

5. In a burial apparatus, the combination of the platform 2, the system of rotary piston shafts 11, the reels 18 on said shafts, the set
95 screws 17 that fasten said reels to said shafts, the lowering straps mounted on said reels, the fluid pressure cylinder 32, the drive member of said rotary shafts constituting a screw threaded rotary piston shaft that works in
100 said cylinder, the rotary piston head 36 mounted on said piston shaft, the said cylinder provided with the fluid duct 41, the fluid in said cylinder, the vertical winding stem
105 72, the bevel-pinion 71 on said stem, the bevel pinion 68 on one of said piston shafts 11, the key 77 that fits on said stem 72, and winds up the piston shaft, and its head; substantially as described.

6. In a burial apparatus the combination of
110 the platform 2, the duplex piston shafts 11, the fluid pressure cylinder 32, the screw mounted piston head or traveler valve in said cylinder, the reels 18, the sectional lowering straps 22, the links 23 on said straps, the trip
115 trigger hooks that connect said strap sections and release the same, the sprocket wheels 28 on said piston shafts and the sprocket chain 31 that connects said sprocket wheels, substantially as described.

7. In a burial apparatus, the combination of the platform 2, the side and end pieces 4, 5, 6 and 7 secured beneath said platform that constitute the box chamber 8, the duplex piston shafts that work in said chamber, the
125 journal boxes 14 in which said shafts are mounted, the reels 18, the sectional lock trip lowering straps, the spiral springs 59, the bracket foot plates 54, and the supporting pins 56; substantially as described.

8. In a burial apparatus, the combination of the platform 2, the duplex piston shaft 11, the fluid pressure cylinder 32, and the piston head brake that works therein the reels 18

mounted on said shafts, the sectional lowering straps mounted on said reels, the links secured to the corresponding ends of said straps, the automatic trip trigger connection
5 of said links, the pulley rollers 83 over which said straps pass in the vicinity of said reels, and the friction brake 60 having the lever 61,

the friction drum 62, and the friction brake straps 67; substantially as described.

MARIA C. SCHERER.

In presence of—

J. LINCOLN FENN,
ANDREW F. GATES.