

No. 675,928.

Patented June 11, 1901.

W. J. BREED & J. G. WARTHER.
BURIAL CASKET LOWERING APPARATUS.

(No Model.)

(Application filed Dec. 28, 1900.)

4 Sheets—Sheet 1.

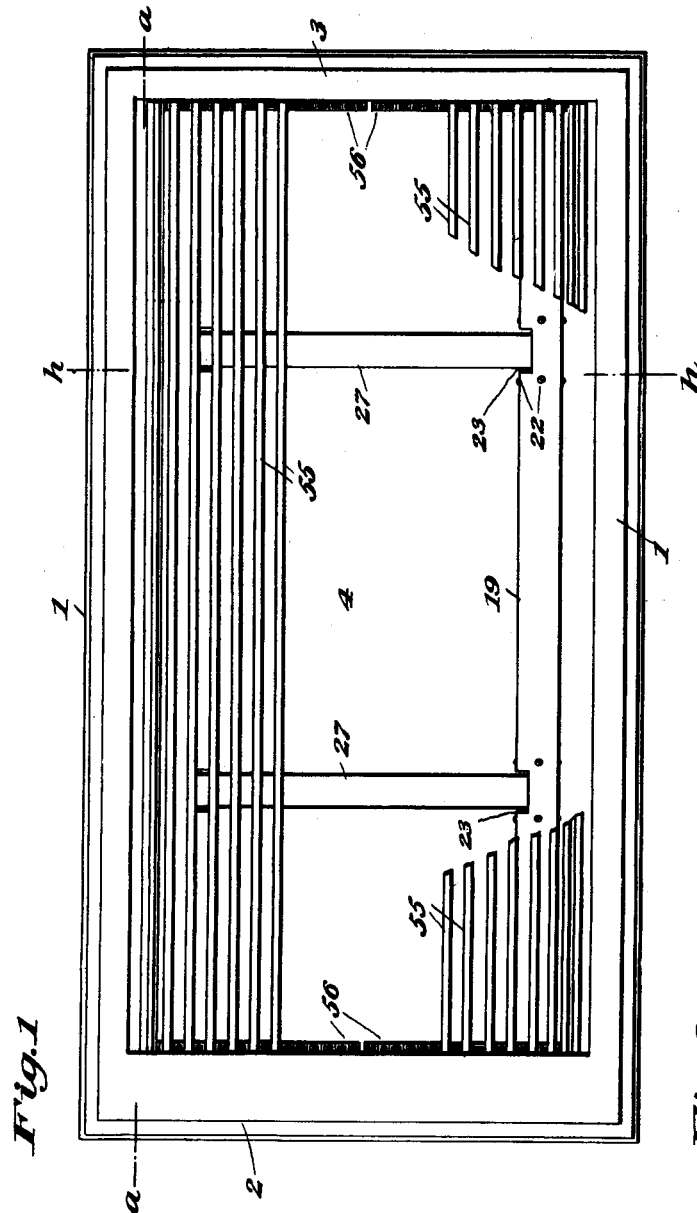


Fig. 1

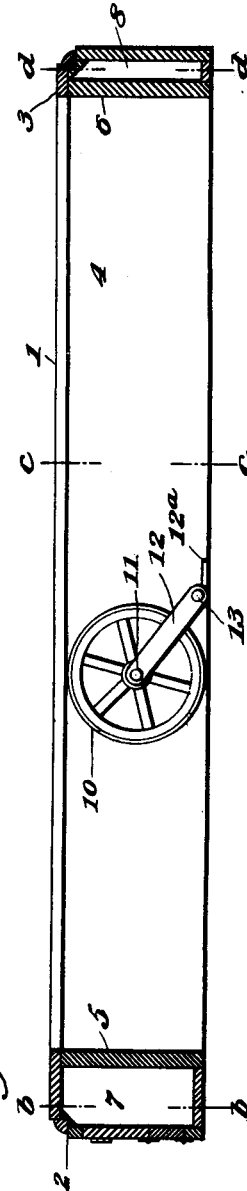


Fig. 2

Witnesses
J. S. Thorne
A. A. Breed

Inventors:
William J. Breed and
Joseph G. Warther,
by John Elias Jones,
their Attorney.

No. 675,928.

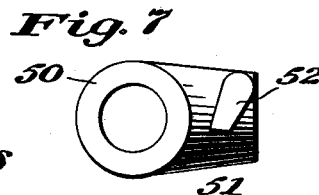
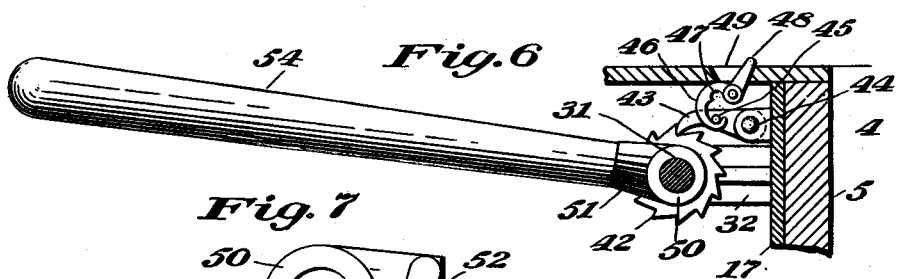
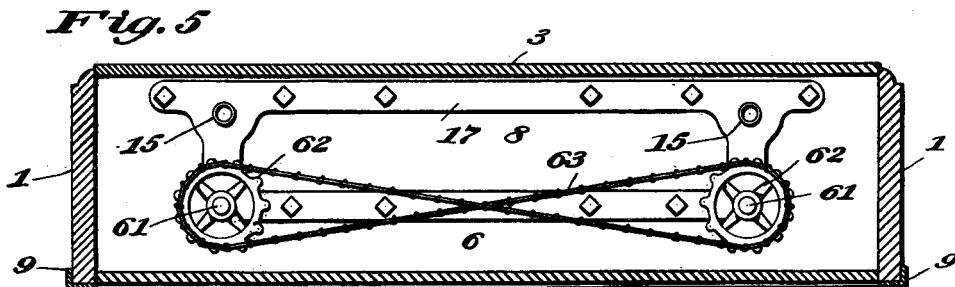
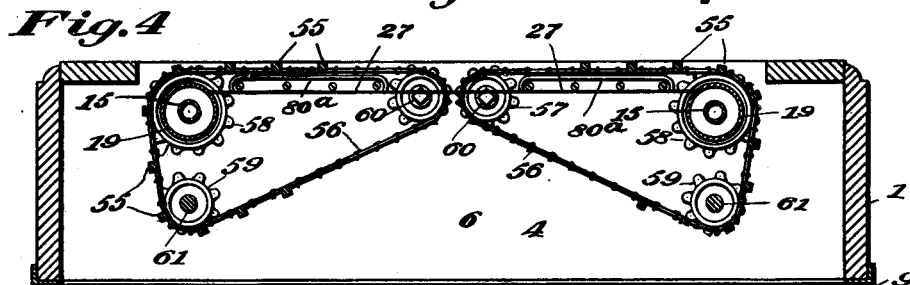
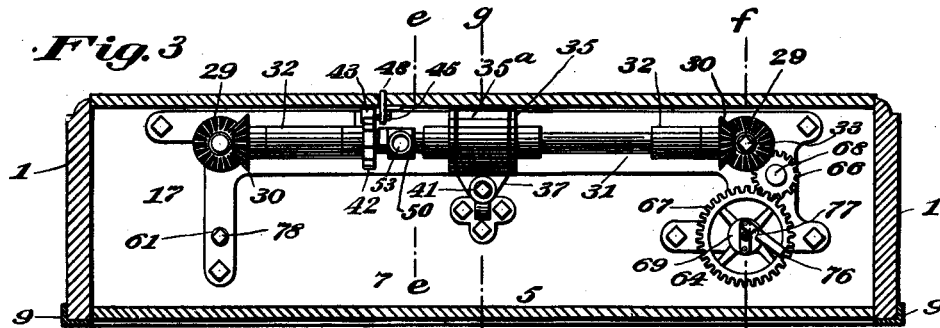
Patented June 11, 1901.

W. J. BREED & J. G. WARTHER.
BURIAL CASKET LOWERING APPARATUS.

(No Model.)

(Application filed Dec. 28, 1900.)

4 Sheets—Sheet 2.



Witnesses
J. D. Thorne
H. A. Breed

Inventors:
William J. Breed and
Joseph G. Warther,
by John Elias Jones,
their Attorney

No. 675,928.

Patented June 11, 1901.

W. J. BREED & J. G. WARTHER.
BURIAL CASKET LOWERING APPARATUS.

(Application filed Dec. 28, 1900.)

(No Model.)

4 Sheets—Sheet 3.

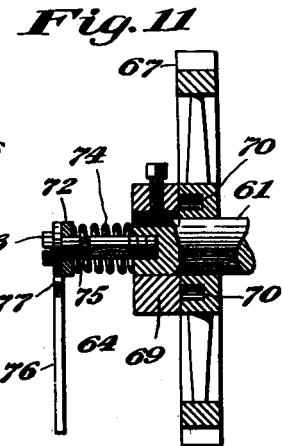
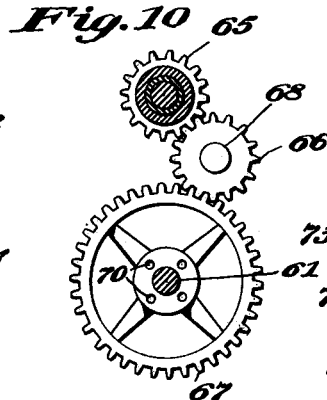
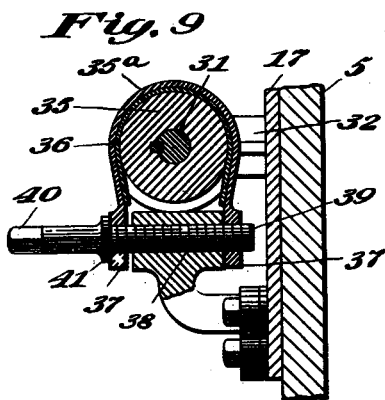
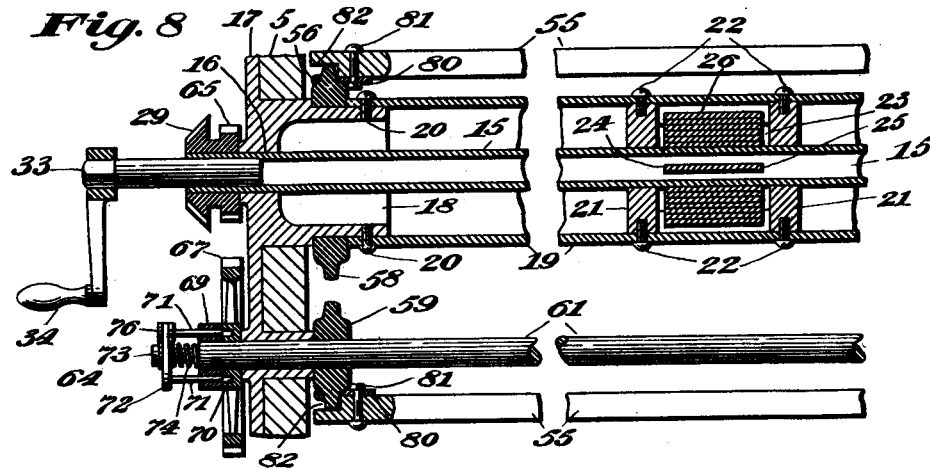
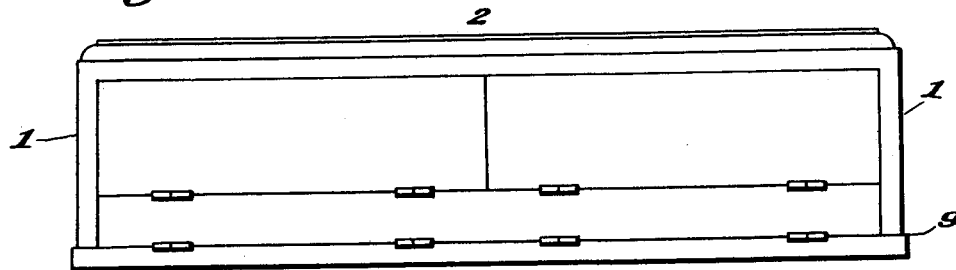


Fig. 13



Witnesses
W. J. Breed
J. G. Warther

Inventors:
William J. Breed and
Joseph G. Warther,
by John Elias Jones,
their Attorney.

No. 675,928.

Patented June 11, 1901.

W. J. BREED & J. G. WARTHER.
BURIAL CASKET LOWERING APPARATUS

(Application filed Dec. 28, 1900.)

(No Model.)

4 Sheets—Sheet 4.

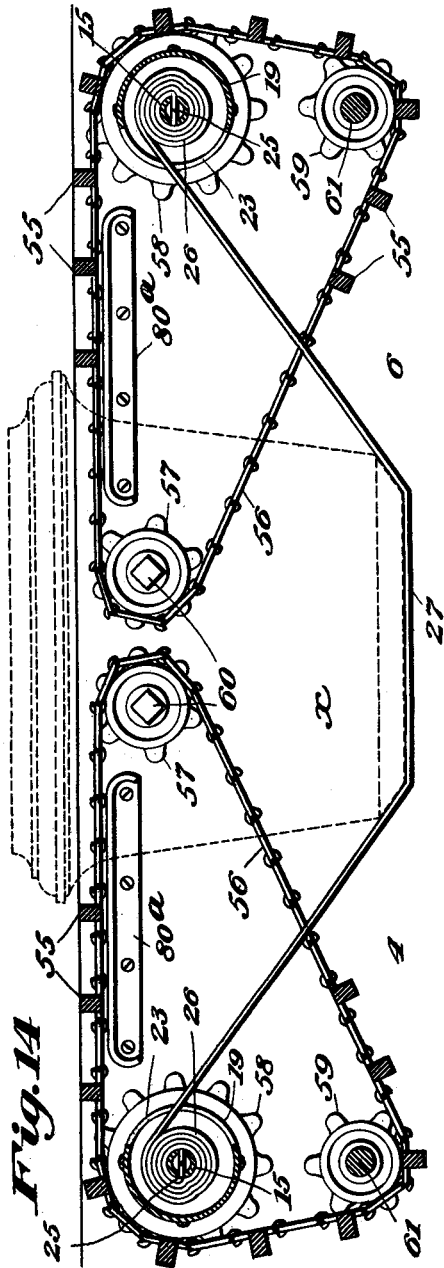


Fig. 14

Witnesses
J. D. Thorne
W. J. Breed

Fig. 16

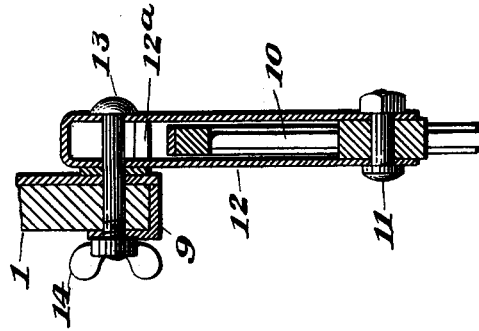


Fig. 12



Fig. 17

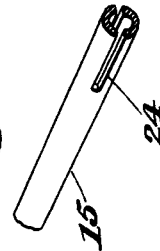
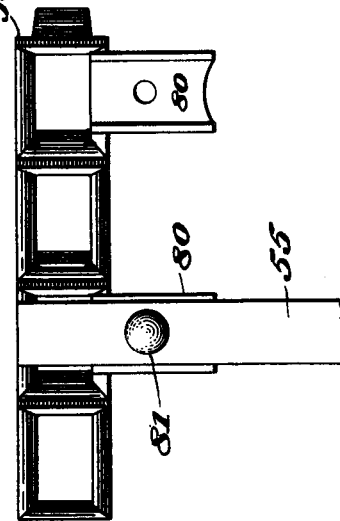


Fig. 15



Inventors:

William J. Breed and
Joseph G. Warther,
by John Elias Jones,
their Attorney.

UNITED STATES PATENT OFFICE.

WILLIAM J. BREED AND JOSEPH G. WARTHER, OF CINCINNATI, OHIO,
ASSIGNORS TO THE CRANE & BREED MANUFACTURING COMPANY,
OF SAME PLACE.

BURIAL-CASKET-LOWERING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 675,928, dated June 11, 1901.

Application filed December 28, 1900. Serial No. 41,405. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM J. BREED and JOSEPH G. WARTHER, citizens of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented new and useful Improvements in Burial-Casket-Lowering Apparatus, of which the following is a specification.

This invention relates to certain improvements in lowering devices such as are adapted for use in lowering burial caskets and coffins into the grave; and the object of the invention is in part to provide a device of this character of a simple and inexpensive nature and of a light, compact, and durable construction having improved means for lowering the casket or coffin into the grave and in part to provide the device with means of an improved and simplified nature for covering over and concealing the mouth of the grave after the casket or coffin has been lowered.

The invention consists in certain novel features of the construction, combination, and arrangement of the several parts of the improved lowering device whereby certain important advantages are attained and the device is made simpler, cheaper, and otherwise better adapted and more convenient for use, all as will be hereinafter fully set forth.

The novel features of the invention will be carefully defined in the claims.

In the accompanying drawings, which serve to illustrate the invention, Figure 1 is a plan view showing the improved device, and Fig. 2 is a longitudinal section taken vertically through the device in the plane indicated by line *a a* in Fig. 1 and showing the arrangement of the wheels or trucks for use in moving the device about. Fig. 3 is an enlarged transverse section taken through the device in the plane indicated by the line *b b* in Fig. 2 and showing the controlling and actuating mechanisms of the device. Fig. 4 is a section similar to Fig. 3, but taken in the plane indicated by line *c c* in Fig. 2 and showing the casket sustaining and covering means. Fig. 5 is a sectional view similar to Figs. 3 and 4, but taken in the plane indicated by line *d d*

in Fig. 2 and showing the gearing for actuating the grave concealing or covering means at opposite sides of the device in unison with one another. Fig. 6 is an enlarged sectional detail view taken in the plane indicated by line *e e* in Fig. 3 and showing the casket-raising means forming part of the invention. Fig. 7 is an enlarged detail view showing the pivoted dog for actuating the casket-raising means. Fig. 8 is an enlarged sectional detail view taken in the plane indicated by line *f f* in Fig. 3 and showing certain features of construction of the casket-lowering and grave-closing means to be hereinafter referred to. Fig. 9 is an enlarged sectional detail view taken in the plane indicated by line *g g* in Fig. 3 and showing features of construction of the brake device for controlling the casket-lowering means. Fig. 10 is a sectional view showing the gearing for driving the grave-concealing means from the casket-lowering means. Fig. 11 is an enlarged sectional detail view taken at right angles to the plane of the section in Fig. 8 and showing features of the clutch mechanism for driving the grave-concealing means from the casket-lowering means. Fig. 12 is a detached detail view showing the guide-screw forming part of the clutch device. Fig. 13 is an end view of the frame or casing of the device, showing the arrangement of doors therein. Fig. 14 is an enlarged fragmentary sectional view taken transversely through the device in the plane indicated by line *h h* in Fig. 1, a casket being shown in dotted lines in place on the casket-lowering means. Fig. 15 is an enlarged fragmentary detail view showing the construction of the screens for closing over the casket. Fig. 16 is an enlarged sectional view showing the arrangement of the trucks or wheels with which the improved device is provided. Fig. 17 is a fragmentary detail view showing a portion of one of the hollow shafts having slitted side walls.

As shown in the drawings, the device is constructed with a rectangular frame or casing formed of closed side portions 1 1 and end portions 2 and 3, the central part of the cas-

ing being formed with a rectangular space or opening 4, adapted to communicate with the grave, the under side of the casing being adapted to rest upon the earth at the sides and ends of the grave. At the ends of the space 4 transverse walls or partitions 5 and 6 are extended across the interior of the casing, forming supports for the casket-lowering and grave-concealing means, and at the head end 10 of the casing a space or chamber 7 is produced outside the partition 5 and adapted to house certain mechanisms to be hereinafter referred to, a similar but smaller space 8 being provided at the foot end of the casing.

15 Access may be had to the space 7 by means of doors at the head end of the casing. One arrangement of such doors is shown in Fig. 13.

The under side of the casing is provided with a metal shoe 9, formed of an angle-iron 20 secured around the edges of the casing and adapted to engage the ground to protect and strengthen the lower part of the casing, and in order to make the improved lowering device more readily portable from place to place, 25 so as to be more convenient for use, I provide trucks or wheels 10, held to turn on shafts 11, which are mounted in yokes 12, the upper ends of which are pivotally held on screw-studs 13, set in the side portions of the casing, 30 near the lower edges thereof. The threaded ends of the studs 13 extend outside the casing and are adapted to receive nuts 14, by means of which the yokes may be clamped to the inner faces of the side portions 1 of the casing to hold the yokes against pivotal movement. The yokes are adapted to be extended 35 below the casing, so as to project the wheels or trucks 10 in order that the device may be readily pushed about, and when in lowered position the projecting yokes engage stops 12^a 40 on the inner faces of the side portions 1 of the casing and are held against said stops by the clamping action of the nuts 14. When the device is in proper position at the grave, the nuts 14 are loosened, permitting yokes 12 to 45 be swung up pivotally inside the casing, so as to be out of sight, and the yokes and wheels may be held in that position by tightening the nuts 14.

50 The casket-lowering means, which is actuated from the weight of the casket itself, comprises shafts 15, extended lengthwise in the space 4, near the top of the casing, said shafts being spaced apart sufficiently to permit the 55 casket or coffin to be lowered into the grave between them and being for the sake of lightness, as herein shown, made hollow or tubular, although this is not essential to our invention. At the ends of the space or opening 60 4 shafts 15 are held in bearings 16 in brackets or bearing-plates 17, secured on the partitions 5 and 6 in spaces or chambers 7 and 8, said brackets or bearing-plates having at the bearings 16 bosses or studs 18, which extend 65 through the partitions, as shown in Fig. 8, and are hollowed out to form supports for

sleeves or housings 19, also extended lengthwise in the space 4 and inclosing the shafts 15. The internal diameter of the sleeves or housings is considerably greater than the diameter of the shafts 15, so that annular spaces 70 are formed between the shafts and housings. The sleeves or housings are held to the supports or bosses 18 by screws 20 or the like, and within said housings are circular bearing- 75 blocks 21, held in place by screws 22 and adapted to maintain the shafts 15 alined axially in the housings. The bearing-blocks may, if desired, be formed from aluminium for the sake of lightness. 80

The bearing-blocks 21 are arranged in pairs spaced apart, as shown in Fig. 8, each sleeve or housing having two such pairs of bearing-blocks, one pair near each end, and the bearing-blocks are arranged in corresponding positions or in alinement in the respective 85 sleeves or housings. At a point between the blocks 21 of each such pair the corresponding shaft 15 has slitted openings 24 in its side walls, and at corresponding points the inner 90 sides of the sleeves 19, or those sides whereat the sleeves or housings are adjacent to each other, are cut out, as shown at 23 in Figs. 1, 8, and 14. Through the slitted openings 24 in shafts 15 are passed the ends of tapes or 95 webbings, there being, as shown herein, two such tapes or webbings employed in the device, each end of each tape or webbing being held by one of the shafts 15.

The tapes or webbings 25 are adapted to be 100 wound or coiled on the shafts 15 in the hollows of the housings 19 between the bearing-blocks 21, as shown at 26 in Figs. 8 and 14, and the central portions of the webbings are extended across the space between the two 105 housings 19, as shown at 27, so as to form supports for the casket when placed upon the device to be lowered into the grave.

The ends of the shafts 15 are extended slightly in the space or chamber 7 at the head 110 end of the casing or frame, and on said extended ends are held bevel gear-wheels 29, which mesh with similar gears 30 on a transverse or cross shaft 31, extended across the upper part of space 7, being held to turn in 115 bearings 32 on the bracket or bearing-plate 17 in said space. By means of the shaft 31 the two shafts 15 are geared to turn in unison with each other and are caused to turn in opposite directions, so that when rotative movement is applied to either of the three shafts it 120 will be imparted equally to both the shafts 15 to cause the tapes or webbings 26 to be similarly and equally wound on the shafts or unwound therefrom to raise or lower the casket. 125

In order that the tapes or webbings may be readily wound on the shafts 15 when no casket is supported on said tapes—as, for instance, in preparing for receiving the casket—we provide the extended end of one shaft 15— 130 that at the right as shown in Figs. 3 and 8—with a core 33, brazed or otherwise secured

in its hollow and having a squared end projecting from the end of shaft 15 and adapted to receive a detachable crank-handle, as shown at 34 in Fig. 8, and in order to hold the shafts 15 against turning movement when the tapes have been drawn taut between them and the casket is placed in position on said tapes we provide a detent device in the space or chamber 7, adapted until thrown out of operation to hold the cross-shaft 31 against backward rotation, although permitting said shaft to turn freely in a direction such that shafts 15 may be turned to wind up the tapes or webbings upon them.

This detent device comprises a ratchet wheel or disk 42, held on shaft 31 and having its teeth adapted to be engaged by a pawl or dog 43, pivoted upon the bracket 17, as shown at 44. The dog 43 has a pin or stud 45 projecting from one side, as clearly shown in Fig. 6, and said pin or stud is engaged with the bent end 46 of a cam-lever pivoted in space 7 and having an arm 48, extended through an opening 49 in the top of the casing, so as to be capable of being readily moved on its pivot. The cam-lever has a seat 47 formed in it to receive and hold the pin or stud 45 when the cam-lever is mounted pivotally, so that by such movement of the lever the dog or pawl is raised from engagement with the teeth of the ratchet-wheel and is held raised until said lever is moved in the reverse direction to permit the dog to again drop.

To permit of regulating the speed at which the casket is lowered by the turning of shafts 15 and consequent unwinding of the tapes or webbings 25, we provide in chamber 7 a brake device. (Shown in detail in Figs. 3 and 9.) This device comprises a drum 35, held on shaft 31 and having a recessed periphery with which is engaged a brake-strap formed of a strip 35^a of steel, having a shoe 36, formed of a strip of leather, secured on the inner side of the steel strip for contact upon the face of the drum. The ends of the steel strip are bent down and thickened, as shown at 37, and are perforated for the passage of a screw-shaft 39, which is passed through a threaded opening in an arm 38, secured on the bracket 17. The arm 38 is interposed between the ends 37 of the brake-strap, and the screw-shaft carries a collar or enlargement 41 for engagement with the forward thickened part 37 and has its extremity provided with a square 40, adapted to receive a detachable crank-handle, similar to that shown at 34 in Fig. 8, by means of which the screw-shaft may be turned. When the screw-shaft is so turned, it will be obvious that the forward end of the brake-strap will be drawn upon by engagement of the collar 41 therewith in such a way as to cause the central curved part of said strap to press forcibly on the periphery of drum 35 to hold shaft 31 securely against movement. By adjusting the tension exerted by the brake-strap upon the drum, which adjustment may

readily be accomplished by turning the screw-shaft backward or forward, the speed of the turning movement of the shafts 31 and 15 may be conveniently controlled and regulated notwithstanding the weight of the casket supported upon the tapes or webbings and tending to actuate the lowering means.

Since it is evident that the crank 34 engaged with square 33 would not be a suitable means for lifting the casket out of the grave, we provide for this purpose an independent mechanism comprising a sleeve 50, loose on shaft 31, adjacent to the ratchet-wheel 42, and adapted for movement lengthwise on the shaft toward and away from said ratchet-wheel. Sleeve 50 has a projecting portion at one side, as shown at 51, and in said portion is formed a socket 53, adapted to receive the end of a detachable lever or handle 54, (see Figs. 6 and 7,) and on the side of said projecting portion adjacent to the ratchet-wheel 42 is formed a projecting tooth 52, adapted for engagement with the teeth of the ratchet-wheel when the sleeve 50 is slid on the shaft over toward said wheel. By this means it will be seen that when the sleeve is moved to engage its tooth 52 with the teeth of the ratchet-wheel and the handle or lever 54 is inserted in the socket 53 said lever or handle may be used for conveniently and quickly turning shaft 31, and through its gearing with shafts 15 the tapes or webbings may be wound on said shafts to raise the casket out of the grave. When this mechanism is used, the dog 43 will be lowered into engagement with the ratchet-wheel and the brake device will be adjusted so as to offer no resistance to the turning movement of shaft 31.

The grave covering or concealing means comprises screens formed, as herein shown, of slender strips or slats 55, extended lengthwise in space 4 of the casing, the slats or strips being at their ends mounted upon and connected together by sprocket-chains 56, extended over chain-wheels 57, 58, and 59, which are held to turn in space 4 upon partitions 5 and 6. There are two of the screens thus formed, one screen being arranged to close or cover over each side of the space 4, and the screens are similarly constructed and arranged, except that they are adapted to be moved by their actuating mechanisms in opposite directions, so that as the casket is lowered the screens will be caused to draw or move toward each other across the space 4 and across the top of the casket to cover the mouth of the grave and conceal the descending casket. In using the device the screens thus formed will ordinarily be draped with suitable material, which may carry floral or other decorations, so as to give to the device a harmonious and softened appearance. Each of the screens is arranged for movement in the frame in an unsymmetrical path, which is, as herein shown, partly in a curved and

partly in a straight line, the straight portion of the path serving to permit the screen to be drawn across the space or opening in the frame through which the casket is lowered and the curved portion serving to permit the screen to be drawn down within the frame at the side of said space, so as to be obscured from view when said space is uncovered to receive the casket.

The three chain-wheels 57, 58, and 59 at each end of each screen are in triangular arrangement with relation to each other, as clearly shown in Figs. 4 and 14, the wheels 58 and 59 being located one above the other, adjacent to the side wall of the casing or frame, and the wheel 57 being near the central part of the space 4, the said wheels 57 of the two screens being, in fact, as close together as it is possible for them to be placed without interfering with the proper operation of the parts. The wheels 57 are held to turn on screws 60, having engagement with the brackets 17.

Wheels 58 are loosely held on the bosses 18 of brackets 17, said bosses having, as shown in Fig. 8, shoulders located just beyond the partitions 5 and 6, whereby the wheels 58 are held away from said partitions to give clearance to chains 56. The ends of sleeves or housings 19 are employed to hold wheels 58 in place on bosses 18, said ends of the sleeves or housings inclosing the bosses outside of said wheels and being secured by means of screws 20 to said bosses, as above described. The chain-wheels 57 and 58 are so arranged that the upper runs of chains 56, moving between said wheels, are adapted to extend in horizontal lines, and the upper surfaces of the screens formed of said chains and strips or slats 55 are substantially flush with the top side of the casing when the screens are closed over the space 4.

The lower chain-wheels 59 are secured on shafts 61, extended lengthwise in space 4 beneath the respective shafts 15, said shafts 61 having their ends held to turn in bearings formed in bosses similar to the bosses 18 above described and formed on the brackets 17 and extended through the partitions at the ends of the space 4. The bosses are also extended slightly beyond the faces of partitions 5 and 6, as shown in Fig. 8, so as to give clearance to the chains 56, and the shafts 61 are made to project into the spaces 7 and 8 at opposite ends of the frame or casing, those ends of said shafts which extend into the space 8 at the foot end of the casing being provided with chain-wheels 62, over which extends a crossed chain belt 63, serving to gear the shafts 61 to turn in unison and in opposite directions.

The screens are driven from shafts 61, and in the space 7 at the head end of the casing is arranged a clutch device 64, (shown in Figs. 3, 8, 10, and 11,) by means of which one of said shafts 61—that at the right as shown in Fig. 3—is adapted to be actuated from the

casket-lowering means above described in such a way as to cause the screens to be drawn into closed position in unison with the lowering of the casket. At the clutch device 64 the shaft 61 may also be disconnected from the casket-lowering means, so as to permit the casket to be raised and lowered without actuation of the shafts 61 or movement of the screens. The shaft 61 at the opposite or left-hand side of the device as the parts are shown in Fig. 3 is also provided with a squared end 78, projected in space 7 and adapted to receive a detachable crank-handle, similar to that shown at 34 in Fig. 8, whereby the shafts may be actuated independently of the casket-lowering mechanisms for adjusting the screens to a desired position, or in certain cases, if desired, for moving the screens into closed position after the casket has been lowered sufficiently to permit this to be done.

For actuating the screens from the casket-lowering mechanisms a train of gears 65, 66, and 67 is provided in space 7, the gearing being such as to drive the screens at a suitable speed relatively to the speed with which the casket is lowered. The gear 65 is, as herein shown, formed integrally with the bevel-gear 29 on shaft 15. Gear 66 is loose on a stud 68 on bracket 17, and gear 67 is loose on shaft 61. On shaft 61, as shown in Figs. 8 and 11, and outside of gear 67 is fixed a collar 69, having at diametrically opposite points openings extended through it and adapted to correspond with sockets 70 in the hub of gear 67. There are four such sockets 70, as shown in Fig. 10. Pins 71 play through the openings in the collar 69 and have their ends adapted for engagement in sockets 70 to lock the gear-wheel 67 to the collar 69 and compel the shaft 61 to turn to actuate the screens from the casket-lowering mechanisms. Pins 71 extend beyond the collar 69 and are tied together by a yoke or cross-piece 72, extended between them and having a central opening for the passage of a guide-screw 73, (seen in Figs. 11 and 12,) said screw being set in the end of shaft 61 and the yoke or cross-piece being guided on the screw for movement lengthwise with relation to the shaft. A spring 74 is coiled on screw 73 between the yoke and the end of the shaft 61 and tends to hold the yoke pressed outward from the end of the shaft to hold the pins 71 drawn out of the sockets 70 in gear 67, so that the shaft 61 will normally not be driven from the casket-lowering means.

In screw 73 is formed an annular groove or seat 75, and on yoke 72 is pivoted a lever 76, having a notch 77, adapted to receive the reduced part of the screw 73 at said groove or seat 75, so that when yoke 72 is pressed toward the end of shaft 61 to compress the spring 74 and insert pins 71 in sockets 70 to lock collar 69 to the gear-wheel 67 the lever 76 may be swung pivotally and its notch 77 be engaged with said reduced part of the screw

73 to hold the pins in said sockets. When the lever 76 is swung in an opposite direction, the yoke is freed and spring 74 is permitted to act to withdraw the pins 71 from sockets 70.

5 To guide the upper runs of the chains 56 between the wheels 57 and 58, we provide on the partitions 5 and 6 in space 4 guide-plates 80^a, which engage under the chains and hold the screens when in closed position against
10 sagging between the chain-wheels, and in order to provide a secure attachment of the slats or strips 55 to chains 56 we form the chain-links with projecting portions 80, which extend beneath the end portions of the slats
15 or strips and to which said end portions are held by means of bolts 81. The extreme end portions of the slats or strips 55 are made to project across the chains 56 and are cut away, as shown at 82 in Fig. 8, to afford space for
20 the teeth of the chain-wheels.

In the operation of the device the trucks or wheels are lowered to permit the device to be readily transported to the grave, and after the casing is in position the nuts 14 are loosened
25 to permit the casing to lie flush on the ground over the grave, the wheels or trucks being hidden within the side portions 1 of the frame or casing. The door or doors at the end of the casing are then opened to permit of ad-
30 justing the screens and tapes or webbings, the latter being drawn taut to receive the casket and being held against unwinding from the shafts 15 by means of both the brake device and the detent device in the space 7.
35 The screens are adjusted to bring their inner edges as close together as possible, space being left between them to permit the descent of the casket when lowered into the grave. To permit the proper adjustment of
40 the screens, the clutch device will of course be thrown out of operation, and said device will be left out of operation until the casket shall have been lowered far enough to permit the screens to be closed over it. This pre-
45 liminary adjustment of the parts will of course be effected before the arrival of the casket, and when the casket has been placed in position on the tapes or webbings and is ready to be lowered into the grave the door or
50 doors will be again opened to give access to the space 7, and the crank-handle being applied to the screw-shaft of the brake device the dog or detent 43 is raised from engage-
55 ment with the ratchet-wheel 42 by moving the cam-lever 46, so that the shafts 15 and 31 will be permitted to turn under the actu-
ing influence exerted by the weight of the casket, subject, of course, to the control exerted through the brake device by the funeral-
60 director. As the casket at first descends the screens stand still; but when the casket shall have descended sufficiently to permit the screens to be moved or drawn into closed po-
sition across the top of the casket the clutch
65 device 64 will again be thrown into operation, so as to permit the screens to be actuated

from the casket-lowering mechanisms, where-
upon the screens will be moved across the top
of the casket to cover the same and conceal
the mouth of the grave as the casket is low- 70
ered into the same, the speed of movement of
the screens as well as of the casket-lowering
mechanisms being under the full control of
the funeral-director through the brake de-
vice. When the screens have been moved 75
into closed position, the clutch device 64 will
again be thrown out of operation, so as to per-
mit the further descent of the casket into the
grave. After the casket has been lowered it
may be again raised, should this be neces- 80
sary for any reason, by throwing into opera-
tion the detent device and inserting the lever
or handle 54 in socket 53 of the sleeve 50, so
that said sleeve may be swung back and
forth pivotally upon shaft 31, the engage- 85
ment of the tooth 52 with the teeth of the
ratchet-wheel serving to turn the shaft 31 and,
through the intermediate gearing, the shafts
15, to wind up the tapes or webbings on said
shafts 15. When the casket is fully lowered, 90
the tapes or webbings are detached at their
ends from the shafts 15 by drawing them out
of the slitted openings in said shafts, and
when so detached the said tapes or webbings
may be drawn endwise from under the cas- 95
ket, leaving the latter in the grave.

From the above description of our improved
lowering device it will be seen that the appa-
ratus is of an extremely simple, compact, and
inexpensive nature and is especially well 100
adapted for use, since it permits of readily
and conveniently lowering the casket into the
grave and also provides means for screening
the descending casket. The device is also of
such a construction as to be altogether noise- 105
less in operation and is under the complete
control of the funeral-director. It will also
be obvious from the above description that
the device is capable of some modification
without material departure from the princi- 110
ples and spirit of the invention, and for this
reason we do not wish to be understood as
limiting ourselves to the precise form and ar-
rangement of the several parts herein set
forth. 115

Having thus described our invention, we claim—

1. In a device of the character described,
the combination of a frame having a space
adapted for communication with the grave 120
when the frame is over the grave, a screen
movable in the frame to close said space and
formed of parallel parts having flexible con-
nections at their end portions, wheels whereon
the flexible connections of the screens are 125
held, and means for actuating said screen
comprising a shaft extended in the frame and
wheels on the shaft and with which the flexi-
ble connections of the screen are engaged,
substantially as set forth. 130

2. In a device of the character described,
the combination of a frame having a space

adapted for communication with the grave when the frame is over the grave, screens arranged in the frame for movement toward each other to close said space, actuating mechanism for moving said screens in unison, a casket-lowering means, gearing for operating the screen-actuating mechanism from the casket-lowering means, and a clutch device for throwing said gearing into and out of operation, substantially as set forth.

3. In a device of the character described, the combination of a frame having a space adapted for communication with the grave when the frame is over the grave, hollow sleeves or housings extended lengthwise in said space, flexible sustaining means for the casket, said means being extended across the space between said sleeves or housings and having their ends passed inside the sleeves or housings, and devices for drawing upon and slacking said flexible sustaining means to raise or lower the casket, substantially as set forth.

4. In a device of the character described, the combination of a frame having a space for communication with the grave when the frame is over the grave, shafts extended lengthwise in said frame, a cross-shaft having gearing with said shafts for driving them in unison, flexible sustaining means for the casket having connection with said shafts and adapted to be wound up and unwound to raise or lower the casket, a ratchet-wheel on the cross-shaft, a detent device for holding said shafts against backward rotation, and a pivoted sleeve having a tooth for engagement with the ratchet-wheel, substantially as set forth.

5. In a device of the character described, the combination of a frame having a space for communication with the grave when the frame is over the grave, screens arranged in the frame for movement to close said space, mechanism for moving the screens in unison and comprising a shaft extended in the frame, a casket-lowering means, a wheel loose on the shaft of the screen-actuating mechanism and having means for driving it from the casket-lowering means, a collar on the shaft of the screen-actuating mechanism, pins guided on said collar and arranged for engagement with the wheel to lock the same to the collar, a spring for withdrawing said pins from engagement with the wheel and means for holding the pins in engagement with the wheel, substantially as set forth.

6. In a device of the character described, the combination of a frame having a space for communication with the grave when the frame is over the grave, and wheels or trucks adapted to be raised and lowered, said wheels or trucks when in lowered position being adapted for engagement with the ground and when raised being hidden within the frame, substantially as set forth.

7. In a device of the character described,

the combination of a frame having a space for communication with a grave when the frame is over the grave, guides carried by the frame and a flexible screen having operating mechanism and adapted for movement along said guides to close said space, substantially as set forth.

8. In a device of the character described, the combination of a frame having a space for communication with a grave when the frame is over the grave, guide-plates carried by the frame and extended along opposite walls of said space and a screen having operating mechanism and having end portions supported on and arranged for movement along said guides into position to close said space, substantially as set forth.

9. In a device of the character described, the combination of a frame having a space for communication with a grave when the frame is over the grave, a screen movable in the frame to close said space and formed of parts extended in parallel directions in the frame and flexible devices whereon said parts are carried and means for moving said screen, substantially as set forth.

10. In a device of the character described, the combination of a frame having a space for communication with a grave when the frame is over the grave, a flexible screen having operating mechanism and arranged to be moved across said space to close the same and rotatable parts carried by the frame and around which the screen is adapted to be bent when moved in a direction to uncover said space, substantially as set forth.

11. In a device of the character described, the combination of a frame having a space for communication with a grave when the frame is over the grave, a flexible screen having operating mechanism and arranged to be moved across said space to close the same, a rotatable part carried by the frame and around which the screen is adapted to be bent when moved in a direction to uncover said space and guides carried by the frame and along which the screen is adapted for movement when actuated to close said space, substantially as set forth.

12. In a device of the character described, the combination of a frame having a space for communication with a grave when the frame is over the grave, a screen arranged for movement to close said space, casket-lowering means and mechanism for actuating the screen and casket-lowering means in unison, said mechanism comprising disengageable parts arranged, when thrown out of engagement, to permit of actuating the casket-lowering means independently of the screen, and means for actuating the screen when said disengageable parts are thrown out of engagement, substantially as set forth.

13. In a device of the character described, the combination of a frame having a space for communication with a grave when the frame

is over the grave, shafts extended lengthwise in said space, means for driving said shafts, flexible sustaining means for the casket having connection with and adapted to be wound on said shafts and screens having actuating mechanism and arranged for movement in the frame over the shafts and adapted to close said space and to obscure the shafts, substantially as set forth.

14. In a device of the character described, the combination of a frame having a space for communication with a grave when the frame is over the grave, hollow sleeves or housings extended lengthwise in said space, flexible sustaining means for the casket, said means being extended across the space between said sleeves or housings and having their ends passed inside the sleeves or housings, devices for drawing upon or slacking said flexible sustaining means to raise and lower the casket and screens having actuating mechanism and arranged for movement in the frame over the sleeves or housings and adapted to close said space and to obscure said sleeves or housings, substantially as set forth.

15. In a device of the character described, the combination of a frame having a space for communication with a grave when the frame is over the grave, casket-lowering means and actuating devices for said casket-lowering means, said actuating devices comprising a shaft connected with the casket-lowering means and having a ratchet-wheel and a pawl-lever adapted for engagement with said ratchet-wheel, substantially as set forth.

16. In a device of the character described, the combination of a frame having a space for communication with the grave when the frame is over the grave, casket-lowering means and actuating devices for said casket-lowering means, said actuating devices comprising a shaft having a ratchet-wheel, a detent for preventing back rotation of said shaft, a pawl-lever for engagement with said ratchet-wheel to rotate the shaft and a brake device also arranged to hold said shaft against back rotation, substantially as set forth.

17. In a device of the character described, the combination of a frame having a space for communication with the grave when the frame is over the grave, parts pivotally held on the frame and adapted to be raised and lowered and wheels or trucks carried on the pivoted parts and adapted when the parts are lowered, to be projected below the frame for engagement with the ground and when the parts are raised to be drawn up inside the frame, substantially as set forth.

18. In a device of the character described, the combination of a frame having a space for communication with a grave when the frame is over the grave, a screen mounted for movement in the frame along a path one portion of which is extended across said space to permit the said space to be closed when the screen is moved to that portion of its path,

another portion of said path being extended down within the frame to permit the screen, when moved to that portion of its path, to be hidden within the frame, the screen being flexible to permit it to bend when being moved from one portion of its path to another and means for operating said screen, substantially as set forth.

19. In a device of the character described, the combination of a frame having a space for communication with a grave when the frame is over the grave, a screen mounted for movement in the frame along an irregular path, the screen being formed of parts having flexible connections adapted to permit the screen to be bent or flexed when moved along the irregular portions of its path and means for operating said screen, substantially as set forth.

20. In a device of the character described, the combination of a frame having a space for communication with a grave when the frame is over the grave, a screen mounted for movement in the frame along an irregular path, means to guide and support the screen while being moved along said irregular path, the screen being flexible to permit it to be bent or flexed when moved along the irregular portion of its path and means for operating said screen, substantially as set forth.

21. In a device of the character described, the combination of a frame having a space for communication with a grave when the frame is over the grave, a screen movable in the space and arranged to close the same and mechanism for actuating said screen comprising a shaft extended in the frame and devices extended, respectively, from opposite end portions of the screen and actuated from said shaft for moving the screen from said shaft, substantially as set forth.

22. In a device of the character described, the combination of a frame having a space adapted for communication with the grave when the frame is over the grave, hollow sleeves or housings extended lengthwise in said space, rotatable shafts extended in said sleeves, bearings for the shafts within the sleeves, means for driving said shafts, and flexible casket-sustaining devices extended across the space between the sleeves or housings with their ends connected to and arranged to be wound upon said shafts, substantially as set forth.

23. In a device of the character described, the combination of a frame having a space for communication with a grave when the frame is over the grave, a flexible screen and mechanism for moving said screen, the screen being arranged for movement in an eccentric path one portion of which extends across the space in the frame to permit the screen, when moved to that portion of its path, to close said space, another portion of the path extending down within the frame to permit the screen, when moved to that portion of its

path, to be obscured within the frame, substantially as set forth.

24. In a device of the character described, the combination of a frame having a space
5 for communication with a grave when the frame is over the grave, a flexible screen having operating mechanism and arranged to be moved across said space to close the same and rotatable means carried by the frame
10 and around which the screen is adapted to be

bent when moved in a direction to uncover said space, substantially as set forth.

In testimony whereof we have signed our respective names to this specification in the presence of two subscribing witnesses.

WILLIAM J. BREED.

JOSEPH G. WARTHER.

Witnesses:

JOHN ELIAS JONES,

J. D. THORNE.