

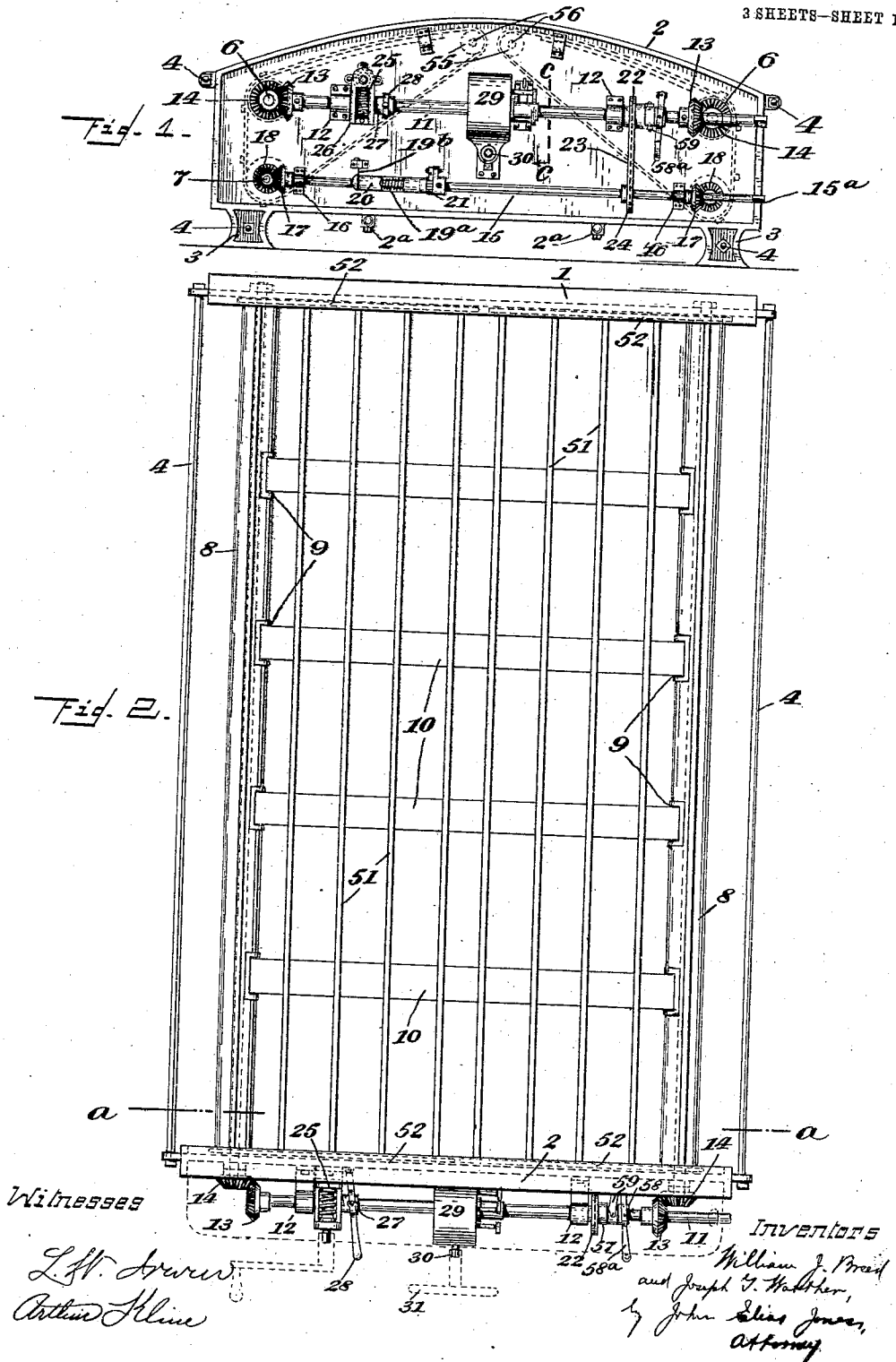
No. 849,104.

PATENTED APR. 2, 1907.

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

APPLICATION FILED JULY 18, 1904.

3 SHEETS—SHEET 1.



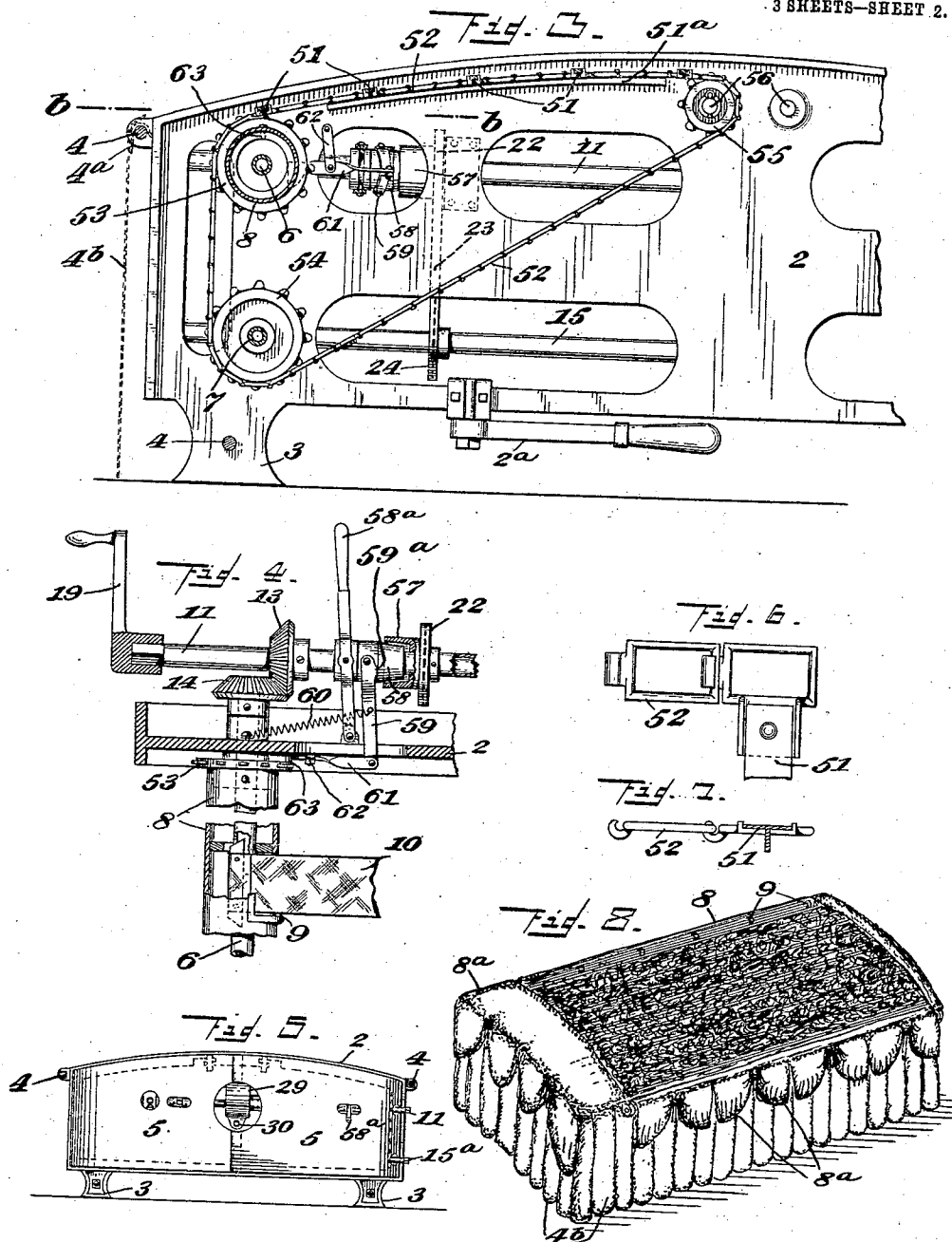
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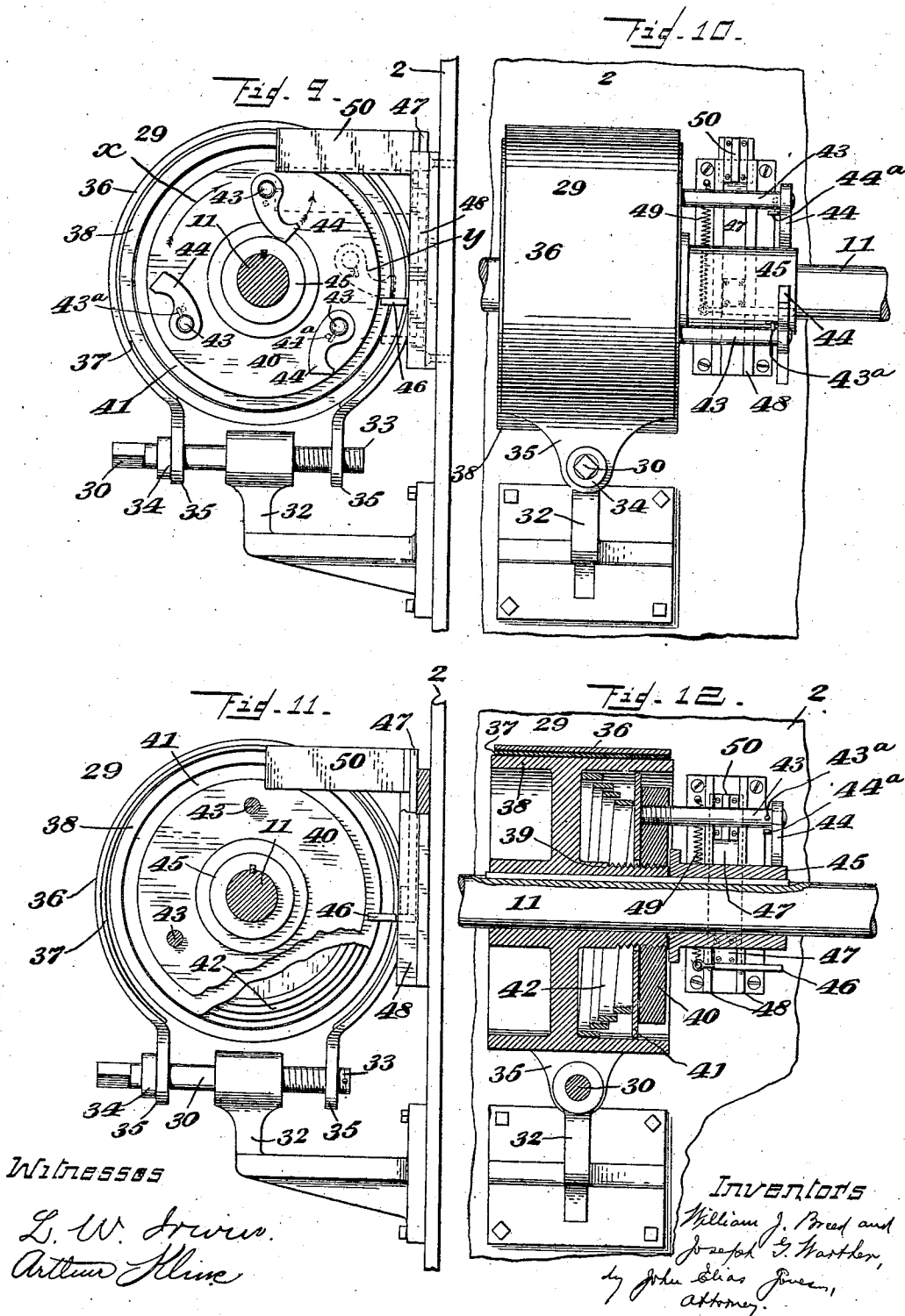
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3 SHEETS—SHEET 3.



UNITED STATES PATENT OFFICE.

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

BURIAL-CASKET-LOWERING APPARATUS.

NO 849,104.

Specification of Letters Patent.

Patented April 2, 1907.

Application filed July 18, 1904. Serial No. 217,130.

To all whom it may concern:

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

10 This invention relates to certain improvements in devices such as are adapted for use in lowering burial-caskets or coffins into the grave; and the object of the invention is 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 for covering over and concealing the mouth of the grave both before and after the lowering of the casket or coffin.

25 The invention consists in certain novel features of the construction, combination, and arrangement of the several parts of the improved lowering device and of the grave-covering means 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.

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

In the accompanying drawings, which serve to illustrate the invention, Figure 1 is an end elevation of the improved casket-lowering means, certain portions of the casing at said end being omitted for illustration of the underlying parts. Fig. 2 is a plan view of the device as shown in Fig. 1. Fig. 3 is an enlarged partial transverse section taken vertically through the device in the plane indicated by *a a* in Fig. 2 and showing certain features of construction of the grave covering or concealing means. Fig. 4 is an enlarged fragmentary section taken in the plane indicated by line *b b* in Fig. 3 and showing certain features of construction of the detachable driving connection between the casket-lowering and grave-covering devices. Fig. 5 is a view similar to Fig. 1, but drawn to a reduced scale and showing the doors or removable housings applied to the

end of the device. Fig. 6 is a fragmentary detail view showing a portion of one of the flexible curtains comprised in the grave-concealing means, and Fig. 7 is a sectional edge elevation of the same. Fig. 8 is a perspective view, drawn to a reduced scale and showing the device as it appears when in use. Fig. 9 is an enlarged sectional detail view taken through the device in the plane indicated by line *c c* in Fig. 1 and showing in end elevation the brake-and-clutch device employed for checking the operation of the casket-lowering means in case of accident. Fig. 10 is a face view of the parts illustrated in Fig. 9. Fig. 11 is a view similar to Fig. 9, but showing certain elements of the clutch device broken away to better illustrate the underlying parts. Fig. 12 is an axial section taken vertically through the device as seen in Figs. 9, 10, and 11.

As shown in these views, the device comprises a rectangular frame or casing of a length sufficient to permit it to be set over the grave, so that the casket or coffin may be lowered through the central opening of the frame into the grave, and said frame or casing comprises end plates or portions 1 and 2, which are provided at their lower parts with downwardly-extended lugs or projections 3, adapted to rest upon the earth at the opposite sides of the grave and to form a support for the device. The plates or end portions 1 and 2 are tied and connected together at their upper parts by means of rods 4, passed through lugs at opposite sides of said end plates and provided with nuts at their extremities, a similar arrangement of bars 4 being provided at the lower part of each side of the frame or casing, said lower bars 4 having their extremities attached by nuts or the like to the lugs or projections 3. By this construction it will be seen that the central portion of the frame or casing of the device between the end plates 1 and 2 is left open, so as to permit of receiving the casket-lowering and grave-concealing means and also to permit the casket or coffin to be lowered down through the central opening of the frame or casing between the side rods 4 4 into the grave.

The devices for operating and controlling the casket-lowering and grave-concealing

means are located upon the outer surface of the end plate or portion 2, as shown in Figs. 1 and 2, and said end plate or portion 2 will be provided, as shown in Fig. 5, with doors 5 or covers 5 5, hinged or otherwise detachably connected thereto and designed for covering and protecting the working devices, being provided with openings, as shown in Fig. 5, for the passage of operating-handles, such as are used during the operation of the mechanism. The doors or covers 5 5 will also be capable of being opened or removed to afford access to the interior parts for purposes of repair or adjustment.

To permit of conveniently lifting and carrying the improved lowering device, the end plates or portions 1 and 2 are preferably provided at their lower portions with pivotally-mounted handles 2^a, which when swung outward are adapted to be grasped by the hands of persons bearing the device in order that the casing may be adjusted in position over the grave. When the device is in position at the grave, the handles may be pushed back, as shown in Fig. 3, so as not to protrude from the casing.

The casket-lowering means, which is actuated from the weight of the casket itself, comprises shafts 6 6, extended lengthwise of the casing, near the top thereof, said shafts being at opposite sides of the casing and being spaced apart sufficiently to permit the casket or coffin to be lowered into the grave between them and being for the sake of lightness, as shown herein, made hollow or tubular. 8 8 indicate tubular sleeves or housings extended lengthwise of the casing between the end plates or portions 1 and 2 and inclosing the shafts 6, the internal diameter of the sleeves or housings being considerably greater than the diameter of shafts 6, so that annular spaces are formed between the shafts and housings.

In the sleeves or housings 8, at suitable intervals along the lengths thereof, are produced openings 9 9, through which are adapted to be passed the end portions of tapes or webbings 10 10, of flexible material, which are extended across the space between the housings in position to receive and support the casket or coffin to be lowered and which have their extremities within the sleeves or housings 8 attached by suitable means to the winding-shafts 6, as indicated in Fig. 4, whereby when said shafts are turned in one direction the ends of the webbings 10 will be wound thereon, so as to draw said webbings taut across the casing in position to receive the casket or coffin to be lowered. When the shafts 6 are oppositely turned, the said end portions of the webbings will be unwound therefrom, so as to permit the casket or coffin to be lowered into the grave.

At the end plate or portion 2 of the casing

is arranged a transversely-extended shaft 11, held in bearings 12 on the outer surface of said end plate or portion within the housings 5 5 and alined in the plane in which the shafts 6 6 are extended, the extremities of said shaft 11 being provided with bevel gear-wheels 13 13, meshing with similar gears 14 14 on the extremities of the shafts 6 6, which, as shown in Figs. 1 and 4, are extended through the end portion 2 to the outer surface thereof, so that gears 13 and 14 may mesh with each other. By this construction it will be seen that the shafts 6 6 are caused to move in unison, so that the opposite ends of the tapes or webbings may be similarly wound on or unwound from said shafts, and at one end the shaft 11 is provided with a squared portion adjacent to an opening in the housing 5 and adapted to receive a crank-handle 19, which when applied thereto permits the shaft 11 to be turned so that the ends of the tapes or webbings may be wound on shafts 6 6 to draw the said tapes or webbings taut across the casing in position to receive and support a casket or coffin in position to be lowered into the grave.

For controlling the operation of the shafts 6 6 when the tapes or webbings are unwound therefrom in lowering the casket or coffin into the grave there are preferably two devices provided, which are capable of independent employment. One of these devices is designed, primarily, for use in connection with light caskets or coffins and comprises a worm-wheel 26, held to shaft 11 and meshing with a worm 25, the extremity of which has a squared portion, as shown in Figs. 1 and 2, which is arranged adjacent to an opening in the housing 5 and is adapted to receive a crank-handle, as indicated in dotted lines in Fig. 2, which may be held by the director and employed for controlling the descent of the casket or coffin into the grave. The worm-wheel 26 has at one side a clutch-surface, with which is adapted to be engaged a clutch member 27, keyed or otherwise held to turn with shaft 11, but capable of movement endwise on said shaft and into out of engagement with the clutch-face of said worm-wheel. 28 indicates a lever fulcrumed on the end portion 2 and having forks engaged with the clutch member 27, the extremity of said lever being extended, as indicated in dotted lines in Fig. 2, through an opening in housings 5, so as to be capable of being shifted for throwing the clutch member in or out of engagement with the worm-wheel. By this means it will be evident that when it is not desired to use the worm-gearing for lowering the casket or coffin the lever 28 may be shifted to disconnect the worm-wheel from shaft 11. The other controlling device, which is designed especially for use in connection with heavy caskets or coffins, is indicated at 29 on the drawings and is adapted

for use at such times as the lever 28 is manipulated to throw the worm-gearing out of operation.

The mechanism indicated at 29 is in the nature of a brake device and comprises a member 38 in the form of a pulley keyed at its hub 39 on the central portion of the shaft 11, with its peripheral surface adapted to be engaged frictionally by a strap 36, having a leather or other frictional strip 37 held on its inner face for direct contact with the member 38 and having its opposite end portions 35 bent downward and perforated for engagement with a screw 30, carried on a bracket 32 at the end plate or portion 2 and having at one end a screw-thread 33 engaged with one of the bent ends 35 of the brake-strap, and at its other end a collar 34, engaged with the other bent end 35 of said strap. The threaded end portion 33 of screw 30 has engagement with the bearing portion of bracket 32, and when said screw is turned in one direction it will be seen that the bent ends 35 of brake-strap 36 will be moved toward each other to cause said strap 36 to bear frictionally upon the brake member 38, and when the screw 30 is reversely turned the ends 35 of the strap will be separated to release said strap from frictional engagement on the brake member. The screw 30 has a squared extremity adjacent to an opening in the housings 5 5 and adapted to receive a handle, as indicated in dotted lines at 31 in Fig. 2, whereby the tension exerted by the strap 36 on the brake member 38 may be controlled by the director for regulating at all times the speed at which the parts operate in lowering the casket or coffin into the grave.

By means of the brake device above described the director may conveniently regulate the descent of the casket or coffin and may check the same at any point in its descent, and in connection with said device we provide means for automatically checking the descent of the casket or coffin in case of derangement of the parts of the casket-lowering mechanism, so that in case of accident the casket is prevented from falling or dropping forcibly into the grave. Said automatic means comprises a plate or disk 40, having engagement with a screw-thread produced upon one end of the hub 39 of the brake member 38, as shown in Fig. 12, there being, as shown on the drawings, a washer 41 held by the plate or disk 40 and bearing against the outer end of a volute spring 42, the inner end of which is engaged against the web of the brake member 38. These parts 40, 41, and 42 are housed in a recess at the side of the brake member 38, and normally the plate or disk 40 stands at the outer end of the threaded hub portion 39, so that the spring 42 is not under tension and offers little or no resistance to the turning of the brake

member 38; but the plate or disk 40 when turned relatively to the hub portion 39 is caused to traverse the length of said hub portion in such a way as to compress the spring 42 and force the same into frictional contact with the web of the brake member in such a way as to effectively prevent the turning thereof, and consequently stop the turning of shaft 11, on which the brake member is held. From the outer face of the plate or disk 40 are extended three pins 43, which carry at their extremities hook-like members 44, held for turning movement on the pins, but provided with stops 44^a for engagement with projections 43^a on the pins 43, the arrangement of the stops and projections 44^a and 43^a being such that as shaft 11, carrying member 38, turns in the direction of the arrow *x* in Fig. 9 the pivotally-mounted members 44 will be caused to drop upon and rest against the upper surface of a sleeve 45, keyed on the shaft 11, with their hooked extremities upturned, as indicated at the top of Fig. 9. As the parts turn in the direction of the arrow *x* each member 44 in descending from its elevated position will drop by gravity to a vertical position, in which its hooked extremity will traverse a path outside of a projection 46, extended from the lower end of a slide-plate 47, mounted for movement in a vertical guideway 48 on the end portion 2 of the casing.

The projection 46 is extended from the slide-plate on end portion 2 toward the shaft 11, and the slide-plate 47 is normally upheld in the position shown in full lines in Figs. 9, 10, and 11 by means of a spring 49, the upper end of the slide-plate 47 having an arm 50 also directed over toward and above the shaft 11 and normally standing in uplifted positions of the slide-plate, as shown in Figs. 9, 10, and 11, above the uppermost part of the circular path traversed by the pins 43 on plate or disk 40.

At normal speeds of the shaft 11 and brake member 38 the swinging parts or members 44 in their descending movement will, as above stated, drop to a vertical position, so as not to actuate the devices for checking the operation of the casket-lowering means; but in case the descent of the casket or coffin should be too rapid the said parts or members 44 will in their descent be actuated by centrifugal force in such a way as to throw their hooked extremities outward to the position shown in dotted lines at *y* in Fig. 9, in which position their stops 44^a are engaged against the projections 43^a of pins 43 and their extremities are swung toward the end plate 2 of the casing, so as to stand in position for engagement upon the upper surface of the projection 46 at the lower end of slide-plate 47, whereby said slide-plate is drawn downward against the tension of its spring, so that its

upper projecting arm 50 is moved downward to the position shown in dotted lines in Fig. 9, in which position the extremity of said arm 50 is imposed in the path of the pins 43 on plate or disk 40 and will be engaged by one of the pins 43 in such a way as to check the rotation of the plate or disk 40 and cause the same, by reason of its threaded engagement with the hub 39 of the brake member 38, to traverse said hub and to forcibly and frictionally compress the spring 42 against the web of said brake member, so as to check and stop the operation of the casket-lowering means and prevent the casket or coffin from falling or being dropped into the grave. One or both ends of each tape or webbing 10 will of course be detachably connected with the shaft 6, so as to permit of being released from the shaft when the casket or coffin has been lowered into the grave in order that the tapes or webbings may be drawn endwise in a well-known way to disengage them from the casket or coffin.

In certain cases it is desirable to lift the casket or coffin from the grave after it has been lowered therein, and in such cases the worm-gearing, comprising worm-wheel 26 and worm 25, may be thrown in operation by means of the lever 28, the crank-handle attached to the squared part of the worm serving to offer sufficient leverage for lifting the casket or coffin even though the same be of considerable weight. When the casket or coffin has been lifted from the grave, it may of course be held in raised position by tightening the brake-strap 36 upon the brake member 38.

The grave covering or concealing means comprises screens formed, as herein shown, of slender strips or slats 51, extended lengthwise of the space between the end plates or portions 1 and 2 of the casing, the ends of said slats or strips 51 being mounted on and connected together by means of sprocket-chains 52, extended over chain-wheels 53, 54, and 55, which are held to turn upon the inner surfaces of the respective end plates or portions 1 and 2 of the casing. There are two of the screens thus formed, one screen being arranged to close or cover over each side of the space between the end plates or portions 1 and 2, through which the casket or coffin is lowered into the grave, 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 or coffin is lowered the screens are moved toward each other across the space between the end plates 1 and 2 and across the top of the casket or coffin to cover the mouth of the grave and conceal the descending casket. In using the device the screens thus formed will be ordinarily draped with suitable material, which may carry floral or other decorations,

so as to give to the device an appropriate appearance.

The three chain-wheels 53, 54, and 55 at each end of each screen are in such relative arrangement that the chains 52, carried on them, are caused to define a triangular figure, one side of which is extended substantially parallel with the side of the casing and extends from the wheel 53 to the wheel 54, which wheels are arranged one above the other at said side of the casing. Another side of the figure defined by each chain 52 is extended along the top of the casing, at one side of the central part thereof, and is slightly curved to conform to a convexity produced at the top of the casing, to maintain which curvature a guide or track 51^a is provided, on which the chains 52 rest and slide at this point. This side of the triangle is extended from the chain-wheel 53 at the side of the casing to the chain-wheel 55, which is closely adjacent to the center of the casing and is carried on a stud 56, on the end portion thereof, the chain-wheels 53 55 at opposite ends of the casing being arranged a closely adjacent as possible, so that the screens may when closed fit snugly together along the center of the casing.

The screens at opposite sides of the casing are provided with means for simultaneously moving them in opposite directions into open or closed positions, and when the screens are moved into closed position, as shown in Figs. 2 and 3, the strips 51 will be adjusted so as to extend along the top of the casing, and when the screens are actuated to move them into open position said strips 51 will be caused to move down over the chain-wheels 53 and traverse the sides of the triangular figures between chain-wheels 53 and 54 and at the side of the casing, so as to leave along the central part of the casing an open space whereat the casket or coffin supported on the tapes or webbings 10 may be lowered into the grave. The slats or strips 51 may be formed from any desired material; but we prefer to produce said parts from metal of angular cross-section, each strip having, as shown in Fig. 7, a central downwardly-extended strengthening-rib on its lower surface.

The upper chain-wheels 53 at the sides of the casing are held to turn loosely upon reduced bosses at the ends of the sleeves or housings 8, as indicated in Fig. 4, and the central wheels 55 55 are mounted to turn loosely on studs 56, the wheels 54 being arranged to drive the chains 52 at the ends of each screen in unison and being keyed or otherwise held on shafts 7 7, journaled in the end portions 1 and 2 of the casing below the shafts 6 6 at opposite sides of the casing, with which shafts 6 said shafts are extended parallel through and beyond the end plate or portion 2 of the casing and carry outside of the same bevel gear-wheels 18, which mesh

with similar bevel-gears 17 at opposite ends of a shaft 15, journaled in bearings 16 on the end portion 2 below the shaft 11.

Over the shaft 15 is coiled a spiral spring 19^a, which is inclosed within a casing or barrel 20 of tubular form, one end of the spring being held to the end plate or portion 2 of the casing, as seen at 19^b, and the opposite end thereof having connection with a ratchet-wheel 21, the teeth of which are engaged by a dog or pawl carried on a collar held on said shaft, the construction being such that said spring 19^a exerts a tension on the shaft tending to rotate the same in one direction, which tension may be conveniently regulated by means of the ratchet device comprising wheel 21 and its dog or pawl. By means of said spring it will be evident that the shaft 15 will be rotated and the screens moved into closed position, and the screens will be held closed and prevented from rattling, owing to the connection between their shafts 7 and said shaft 15.

22 indicates a sprocket-wheel held on the shaft 11 with its teeth engaged by a sprocket-chain 23, which is extended down around a wheel 24 on the shaft 15. As shown in the detail view Fig. 4, the sprocket-wheel 22 has a hollow boss 57 at one side, in which is adapted to be frictionally engaged a cone-shaped member 58, keyed or otherwise held to turn with the shaft 11, but adapted for endwise movement thereon into and out of frictional engagement with said hollow boss 57 of sprocket-wheel 22.

58^a indicates a lever pivoted on the frame and having connection with the member 58 for throwing the same endwise of shaft 11 into and out of engagement with the boss of wheel 22, and 59 indicates a lever having forks which are pivotally connected to opposite sides of a collar held to turn loosely on member 58. The forks of lever 59 are formed with projections 59^a, adapted for engagement on the end surface of the hollow boss 57 of sprocket-wheel 22, and the said lever 59 is connected with one end of a spring 60, the opposite end of which has connection with the end portion 2 of the casing, said spring being adapted to draw the lever 59, together with member 58, over toward the left, as the parts are shown in Fig. 4, so as to hold the member 58 normally out of engagement with the boss of sprocket-wheel 22.

61 indicates a trip-bar pivotally connected with the end of lever 59 on the inner side of the end portion 2 of the casing, said trip-bar having its central portion suspended by means of a link 62 and having its free end flattened and arranged in the path of a cam or projection 63 on the upper sprocket-wheel 53 at one side of the casing.

One end of the shaft 15 has a projecting squared portion 15^a, arranged adjacent to an opening in housing 5 at one side of the casing

and adapted to receive a crank-handle, by means of which said shaft 15 may be turned for actuating the grave-concealing screens. In the use of the device the casing when placed in position over the grave will be draped with suitable material, so that the mechanical construction thereof will be hidden, and in Fig. 8 we have illustrated the general appearance of the device when in position for use.

4^b indicates a drapery of any desired kind, provided at its upper part with hooks, as indicated at 4^a in dotted lines in Fig. 3, for engagement with the upper bars 4 along the sides of the casing or with other parts of the device, as may be desired, and 8^a indicates another drapery, extended along the upper portions of the casing to conceal the attachment of the drapery 4^b and also to cover the exposed upper portions of the casing. The screens are indicated in closed position in Fig. 8, and will be covered over, as above stated, with drapery, on which floral or other decorations will be carried.

When the device is in position over the grave, as shown in Fig. 8, and it is desired to place the casket or coffin in position to be lowered into the grave, a crank-handle will be first attached to the squared end 15^a of shaft 15, and said shaft will be turned to an extent sufficient to move the screens outward away from each other and toward the sides of the casing, so that an open space wide enough for the descent of the casket or coffin is afforded at the central part of the device. The tapes or webbings 10 being held taut across such open space by proper adjustment of the brake device 29 by means of handle 30, the casket or coffin is rested on said tapes or webbings and will be supported thereon until such time as it may be desired to lower it into the grave, the screens and drapery carried thereon covering the spaces at the sides of the casket or coffin and concealing the mouth of the grave. When it is desired to lower the casket or coffin, either the worm device or brake device may be employed for regulating its descent, as above described, the automatic controlling means, comprising pins 43 and slide-plate 47, being adapted for use to check the descent of the casket or coffin at any time, so that in case of accident the casket or coffin is prevented from dropping into the grave. When the descent of the casket or coffin is commenced, the lever 58^a will be manipulated to place the member 58 in engagement with the boss of sprocket-wheel 22 on shaft 11, so that the turning movement of said shaft will be communicated through the chain 23 and wheel 24 to the lower transverse shaft 15 and through the gearing to the screen-actuating shafts 7 7 at opposite sides of the device. The manipulation of the lever 58^a will be timed so that the actuation of the screens through their shafts 7 7 will occur

when the casket has been lowered sufficiently far to permit the screens to be moved into closed positions above the same, and when the lever 58^a is drawn over toward the right, as the parts are shown in Fig. 4, the flattened end of the trip-bar 61 will be presented in the path of the cam 63 on the upper idler-sprocket 53, so that when said sprocket 53 shall have completed a rotation and the screens shall have been correspondingly moved so that their inner adjacent parts meet at the center of the casing the cam 63 will contact with the flattened end of trip-bar 61 and will move said trip-bar over toward the right, whereby the projections 59^a on the forks of lever 59 will be pressed against the end of boss 57 on sprocket-wheel 22 in such a way that said lever 59 will be swung on said projections as fulcrum, whereby the member 58, connected with the extremities of the forks of lever 59, will be withdrawn from engagement with the boss of wheel 22 and spring 60 will operate to draw said member 58 over toward the left, as the parts are shown in Fig. 4, so that rotative movement will no longer be transmitted from shaft 11 to the screen-actuating mechanism, and consequently the screens will be stopped from further movement.

After the movement of the screens shall have been stopped, as above described, the descent of the casket or coffin will, however, continue until the same shall have arrived at the foot of the grave, such further descent of the casket or coffin being of course under full control of the director through the worm-gearing and brake device and will also be under control of the automatic checking mechanism, above described, so that in case of derangement of the parts the descent of the casket or coffin will be automatically stopped.

From the above description of our invention it will be seen that the device is of an extremely simple and inexpensive nature and is especially well adapted for use, since it permits of lowering the casket or coffin into the grave without liability of accidents due to breakage or derangement of the mechanism, the descent of the casket or coffin being at all times under direct control of the undertaker and being further automatically controlled by the checking mechanism. The grave-concealing means also effectually covers the mouth of the grave and conceals the same after the casket or coffin has been lowered.

It will also be obvious from the above description of our improvement that the device is capable of considerable modification without material departure from the principles and spirit of the invention, and for this reason we do not wish to be understood as limiting ourselves to the precise form and arrangement of the device herein set forth in carrying out our invention in practice.

Having thus described our invention, what

we claim, and desire to secure by Letters Patent, is—

1. A device of the character described comprising a casing having a space for communication with a grave when the casing is over the grave, casket-lowering means comprising a rotative part provided with a projection and a device controlled from the operation of the casket-lowering means and movable in the path of the projection on said rotative part.

2. A device of the character described comprising a casing having a space for communication with a grave, casket-lowering means comprising a rotative part, means to check the rotation of said part and comprising members having threaded connection, one member being adapted, when the members are relatively moved, to exert frictional pressure on said rotative part and mechanism controlled from the movement of the casket-lowering means and controlling the movement of one member relatively to the other.

3. A device of the character described comprising a casing, casket-lowering means comprising a rotative member, a screw-threaded part arranged to turn in unison with the movement of the casket-lowering means, a device having threaded engagement with said screw-threaded part and arranged to turn in unison therewith, but adapted, when moved relatively thereto, to traverse the screw-threaded part and to exert frictional pressure on the rotative part to check the operation of the casket-lowering means and mechanism controlled from the movement of the casket-lowering means and controlling the movement of said frictional engaging device relatively to the screw-threaded part.

4. A device of the character described comprising a casing, casket-lowering means comprising a rotative member, a screw-threaded part arranged to turn in unison with the movement of the casket-lowering means, a device having threaded engagement with said screw-threaded part and arranged to turn in unison therewith, but adapted, when moved relatively thereto, to traverse the screw-threaded part and to exert frictional pressure on the rotative part to check the operation of the casket-lowering means, a projection on said device and mechanism controlled from the movement of the casket-lowering means and movable in engagement with said projection.

5. A device of the character described comprising a casing, casket-lowering means comprising a rotative member, a screw-threaded part arranged to turn in unison with the movement of the casket-lowering means, a device having threaded engagement with said part and arranged to turn in unison therewith, but adapted, when moved relatively thereto, to traverse the screw-

threaded part and to exert pressure on the rotative member to check the operation of the casket-lowering means, a projection on said device, a slide-plate movable in and out of engagement with the projection, means to hold said plate out of engagement with the projection and a device arranged to turn in unison with the movement of the casket-lowering means and adapted, upon increase of speed, to engage and move the slide-plate into engagement with said projection.

6. A device of the character described comprising a casing, casket-lowering means, grave-concealing devices, a driving connection between the casket-lowering means and said grave-concealing devices and mechanism actuated from the operation of the grave-concealing devices for throwing said driving connection out of operation.

7. A device of the character described comprising a casing, casket-lowering means, grave-concealing devices, a driving connection comprising a disengageable clutch device between the casket-lowering means and the grave-concealing devices and mechanism actuated from the operation of the grave-concealing devices for throwing said clutch device of the driving connection out of operation.

8. A device of the character described comprising a casing, casket-lowering means comprising shafts extended along the sides of the casing and geared to a transverse shaft at their ends, a sprocket-wheel on the transverse shaft, and provided with a clutch-surface, a clutch member held to turn with the transverse shaft but movable endwise thereof in and out of engagement with the clutch-surface of the sprocket-wheel, grave-concealing devices comprising shafts along the sides of the casing and geared to a transverse shaft at their ends, a sprocket-wheel on said last-named transverse shaft, a chain passed over the sprocket-wheels on said transverse shafts, and means, actuated from the operation of the grave-concealing devices for moving the clutch member endwise on the first-named transverse shaft.

9. A device of the character described comprising a casing, casket-lowering means, grave-concealing devices comprising a part mounted to move and provided with a projection, a driving connection comprising a disengageable clutch device between the casket-lowering means and the grave-concealing devices, and mechanism for throwing said clutch device of the driving connection out of operation and comprising a lever connected with a movable clutch member and a trip-bar actuated from the projection of the grave-concealing devices and connected with the lever.

10. A device of the character described comprising a casing formed of end portions,

rods extended along the sides of the casing

with extremities secured to the end portions thereof, casket-lowering means comprising shafts extended along opposite sides of the casing and adapted for connection with tapes for supporting a casket or coffin and provided with actuating means and grave-concealing devices and means detachably connected with said rods for covering the sides of the casing.

11. A device of the character described comprising a casing, grave-concealing devices comprising a shaft held to turn, a spring coiled on the shaft with an end held to the casing, and a part connected with the other end of the spring and adjustably held to the shaft.

12. A device of the character described comprising a casing having end portions but open along its sides, devices extended longitudinally along the sides of the casing and means, detachably held upon said devices for closing the open sides of the casing.

13. A device of the character described comprising a casing, casket-lowering means, grave-concealing devices, and resilient means for moving the grave-concealing devices into closed position.

14. A device of the character described comprising a casing, casket-lowering means, grave-concealing devices and resilient means controlled from the operation of the casket-lowering means and arranged to move the grave-concealing devices into closed position.

15. A device of the character described comprising a casing, casket-lowering means, grave-concealing devices, resilient means for moving the grave-concealing devices into closed position and mechanism actuated from the operation of the casket-lowering means and controlling the operation of the grave-concealing devices.

16. A device of the character described comprising a casing, casket-lowering means, grave-concealing devices, resilient means for moving the grave-concealing devices into closed position, a driving connection between the casket-lowering means and the grave-concealing devices for controlling the movement of said devices from the operation of the casket-lowering means and mechanism for throwing said driving connection out of operation.

17. A device of the character described comprising a casing, casket-lowering means, grave-concealing devices, resilient means for moving the grave-concealing devices into closed position, a driving connection between the casket-lowering means and the grave-concealing devices for controlling the movement of said devices from the operation of the casket-lowering means and mechanism actuated from the movement of the grave-concealing devices for throwing said driving connection out of operation.

18. A device of the character described

comprising a casing, casket-lowering means, grave-concealing devices, means for moving the grave-concealing devices into closed position and mechanism for controlling the movement of the grave-concealing devices and actuated from the operation of the casket-lowering means.

19. A device of the character described comprising a casing, casket-lowering means, grave-concealing devices, means for moving the grave-concealing devices into closed position, a driving connection between the casket-lowering means and the grave-concealing devices for controlling the movement of said devices from the operation of the casket-lowering means and mechanism for throwing said driving connection out of operation.

20. A device of the character described comprising a casing, casket-lowering means, grave-concealing devices, means for moving the grave-concealing devices into closed position, a driving connection extended between the casket-lowering means and the grave-concealing devices for controlling the movement of said devices from the operation of the casket-lowering means and comprising a clutch device and mechanism controlled from the movement of the grave-concealing devices and connected with said clutch device for

throwing the driving connection out of operation.

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, casket-lowering means, a brake device the parts of which are adapted for engagement to check the operation of the casket-lowering means and mechanism actuated in unison with the casket-lowering means and controlling the engagement of said parts of the brake device.

22. In a device of the character described, the combination of a frame, casket-lowering means, a rotative part having operative connection with said casket-lowering means and devices engageable with said part and adapted, respectively, for manual control and for control from the movement of the casket-lowering means and adapted for engagement with said rotative part to check the operation of the casket-lowering means.

Signed at Cincinnati, Ohio, this 30th day of June, 1904.

WILLIAM J. BREED.
JOSEPH G. WARTHER.

Witnesses:

M. I. PARRY,
JOHN ELIAS JONES.