(No Model.)

J. WEIDENMANN & O. GRÜNINGER.

APPARATUS FOR LOWERING COFFINS.

No. 329,522. Patented Nov. 3, 1885.

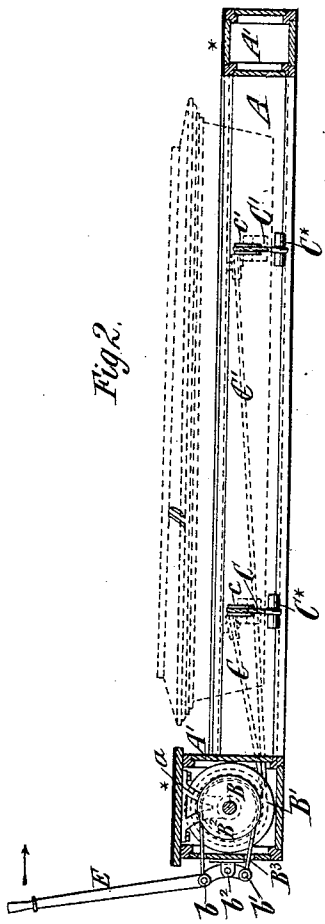


Fig. 2.

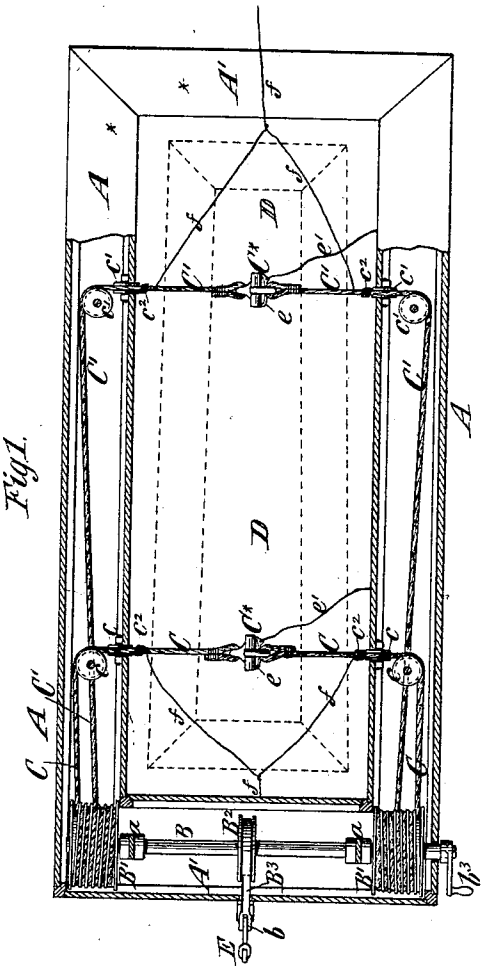


Fig. 1.

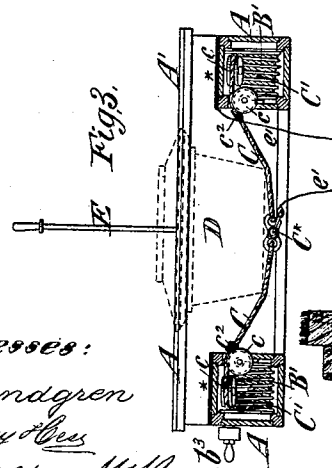


Fig. 3.

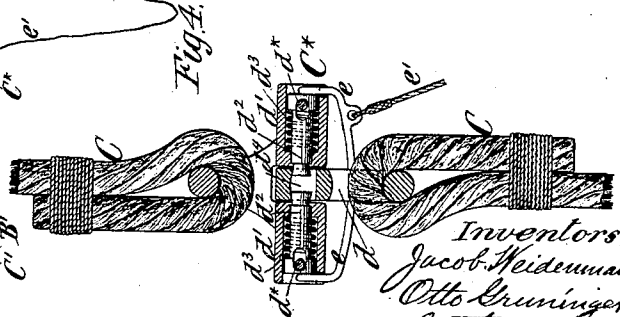


Fig. 4.

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UNITED STATES PATENT OFFICE.

JACOB WEIDENMANN AND OTTO GRÜNINGER, OF NEW YORK, N. Y.

APPARATUS FOR LOWERING COFFINS.

SPECIFICATION forming part of Letters Patent No. 329,522, dated November 3, 1885.

Application filed March 23, 1885. Serial No. 159,732. (No model.)

To all whom it may concern:

Be it known that we, JACOB WEIDENMANN and OTTO GRÜNINGER, both of the city and county of New York, in the State of New York, have invented a new and useful Improvement in Apparatus for Lowering Coffins, of which the following is a specification.

Various kinds of apparatus have been heretofore devised for lowering coffins into graves, and all of which comprise shafts or axles which are turned or rotated, in order to slacken belts or straps which extend across the grave and support the coffin.

Our apparatus comprises a rectangular box or hollow frame adapted to be placed over and around a grave, and the top of which may be utilized as a platform on which to stand. Arranged within one end portion of this hollow frame, and preferably extending in a direction transverse to the length of the frame, is a single shaft or axle, at opposite ends of which are drums. The two straps or bands which support the coffin near each end are conducted over and around suitable guide-pulleys arranged in the hollow frame, or through suitable eyelet-openings therein, and are passed to and wound around the drums which are upon said shaft.

The invention consists in novel combinations of parts, which are hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan, partly in horizontal section, of an apparatus embodying our invention, showing a coffin in dotted outline within the same. Fig. 2 is a longitudinal section of the apparatus, also showing a coffin in dotted outline. Fig. 3 is a transverse section of the apparatus; and Fig. 4 is a detailed sectional view, upon a larger scale, of the end portions of two ropes or bands and the lock, whereby they are so connected as to render them easy of detachment from each other after the coffin has been lowered.

Similar letters of reference designate corresponding parts in all the figures.

A A designate the side portions, and A′ A′ the end portions, of the hollow rectangular frame, in and upon which are arranged all the parts of the apparatus. This frame may be of wood or metal, and should be as light as is consistent with the necessary strength and rigidity. Its upper surface may be flat, so as to form a platform on which to stand, and this flat surface may have a covering of india-rubber or other suitable material, *, which will deaden the sound produced by stepping upon it, and will prevent its surface from showing wear.

Within one end portion, A′, of the frame, and extending in a direction transverse to the length thereof, is a shaft or axle, B, which has bearings in suitable hangers, *a*, within the frame. Near opposite ends of the shaft or axle B are drums B′, each of which may be formed with a spiral groove, so as receive the cords, ropes, or bands upon its surface. As here represented, cords, ropes, or bands C C′ are passed around these drums, and thence extend over and around suitable guide-pulleys, *c c′*, whereby they are properly deflected and caused to pass through openings or eyes in opposite sides of the rectangular frame A A′.

As here represented, the ropes or bands C have their ends detachably connected by a lock, C*, hereinafter described, and form a support for the head of the coffin D, and the ropes or bands C′ have their ends connected by a similar lock, C*, and form a support extending transversely across near the foot of the coffin.

It will be obvious from the above description that when the ropes or bands C C′ are wound upon the drums B′ so as to leave only a slight slackness between the sides of the frame, as shown in Fig. 3, the coffin D, when placed thereon, will by its weight exert such a pull on the ropes or bands C C′ as will tend to operate the drums B′ and unwind the ropes or bands, and it is only necessary to provide suitable means for retarding or controlling the rotation of the shaft B and drums B′ in order to properly regulate the lowering of the coffin. For this purpose we employ a friction-brake mechanism which may be operated in an unobstrusive way, and which may be of any suitable character.

We have here represented a brake drum or wheel, B^2, upon the shaft B, and the brake-strap B^3, passing around this drum or wheel, and having its ends connected at *b b′* with a lever, E, fulcrumed at b^2. It will be observed that the points of attachment of the brake-strap B^3 are at unequal distances from the

fulcrum b^3 of the lever E, the point b' being nearer the fulcrum than the point b. From this it will be understood that when the lever E is moved in the direction of the arrow in Fig. 2 the brake-strap will be slackened, and the shaft and drums allowed to rotate under the influence of the weight of the coffin, and that when the lever is moved in the opposite direction the brake-strap will be tightened on the drum or wheel and the coffin will be held against falling.

Upon the ropes or bands C C' are secured stops c^2, which are shown in Figs. 1 and 3, and which serve as a check to the drawing up of the ropes or bands and to maintain a certain amount of slackness thereof between the sides of the frame. When the coffin is placed upon the ropes or bands, as shown by dotted lines in Fig. 3, the strain is not in a horizontal line between the sides of the frame, as would be the case if the ropes or bands were drawn tight before the coffin is placed upon them; but the strain produced by the weight of the coffin is downward as well as inward, and hence has less tendency to draw the sides of the frame together. It will also be seen that the inward strain upon the sides of the frame grows less and less as the coffin is lowered, because the ropes or bands move during the operation of lowering from a position nearly horizontal to a nearly perpendicular position, and hence near the end of the lowering operation the strain is almost directly downward.

In order to wind up the bands or ropes after the coffin has been lowered, we may apply a small hand-crank, b^3, directly on the shaft B; but the turning of this shaft to wind up the ropes or bands will commonly be deferred until after the ceremony of interment is performed.

It will be seen that the apparatus has but a single shaft, B, and hence is light, portable, and capable of operation with the least amount of machinery.

The lock employed to connect the ends of the bands C C, and also the ends of bands C', is best shown in Fig. 4, to which we now refer. The end of one band C is attached to the eye d, which is received between corresponding eyes or sockets, d', formed in the shackles or device to which the other rope C is attached. In the sockets or eyes d' are arranged locking pins or bolts d^2, which are acted upon by springs d^3 to throw them outward or away from each other, and which are prevented from being thrown out of the sockets d' by pins d^*, inserted through the sockets, and passing through slots in the locking pins or bolts d^2. The ends of the locking pins or bolts, d^2, which engage with the hole d^4 in the eye d, are made slightly conical or taper, as clearly shown in Fig. 4, so that when strain is upon the ropes or bands C the friction exerted by the eye d upon the locking-bolts d^2 will be sufficient to prevent said bolts from being thrown outward by the tension of their springs. This lock also comprises a bail or keeper, e, which is of approximately C shape, and the ends of which project inward transversely to the length of the sockets d' and outside the ends of the bolts d^2. To this keeper e is attached a cord, e', which may be connected with the frame A, as shown in Figs. 1 and 3; and hence it will be seen that as the lowering proceeds, and when the coffin nearly reaches the bottom of the grave, the cords e' will be tightened, and the keeper e will be pulled away or detached from the lock. Even then the bolts d^2 will not be thrown outward, because the friction opposed to such movement will be sufficiently great to counteract the force of the springs d^3; but as soon as the coffin rests upon the bottom of the grave the pins d^2 will be retracted, and the ropes or bands C C' may then be pulled up out of the grave by hand, or by turning the small crank b^3, preferably by hand.

Instead of having the ropes C C and C' C' detachably connected with each other, a single rope may be employed in each instance without any means of disconnecting it below the coffin, and in this case there would be connected with each of the ropes C C' cords f, which, after the coffin is lowered, would be pulled in order to draw the ropes C C' outward beyond the ends of the coffin, to permit of their being drawn up to free them therefrom.

If desired, the ropes or bands C' C' may be provided with sharp points or spurs, which will prevent the coffin from slipping upon them in case the apparatus is to be used upon sloping ground.

It will be observed that when the ends of the brake-strap B^3 are connected with the lever E, as herein described, the weight of the coffin will automatically tighten the strap upon the drum or wheel B^2.

The guide-rollers c c' may, certain of them, be arranged in different positions on the outside or inside of the frame, to give the ropes C C' any direction desired.

From Fig. 1 it will be seen that the inner dimensions of the box or frame A A' are but very little more than the size of the coffin-box or coffin D, and that the top of the hollow frame is but little elevated from the ground.

In the use of our apparatus the frame is first placed around the excavation, and the coffin is then lifted up and deposited on the cords or straps C C'.

The moving parts of the apparatus being within the hollow frame, the top of the frame constitutes a broad and low platform on which persons may stand.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. In an apparatus for lowering coffins, the combination, with a hollow frame the top of which is closed to form a platform, of a shaft arranged in one end of the frame, drums upon said shaft, and ropes or bands passing around said drums and extending therefrom through the hollow frame and inward through oppo-

site sides of the frame, and serving to support a coffin near the head and foot thereof, substantially as herein described.

2. The combination, with a hollow frame and a shaft arranged in one end of the frame, of drums upon said shaft, ropes or bands passing around said drums and extending therefrom through opposite sides of the frame, in order to support the coffin near the head and foot thereof, and a brake mechanism applied to the shaft for controlling its rotation in lowering a coffin, substantially as herein described.

3. The combination, with a shaft, B, and its drums B′, of ropes or cords C C′, passing around and extending from said drums, and the hollow frame A A′, within which said parts are arranged for operation as described, and the top of which has a covering, *, of india-rubber or analogous material, substantially as described.

4. The combination, with the frame A A′, the shaft B, arranged transversely to the length thereof, and the drums B′ of said shaft, of the ropes or bands C C′, passing around said drums and extending therefrom through opposite sides of the frame, in order to support the coffin near the head and foot thereof, the brake-wheel B^2 on said shaft, and the brake strap and lever B^3 E, all arranged for operation substantially as described.

5. The combination, with a hollow frame and shaft arranged in one end of the frame, and drums upon said shaft, of ropes or bands C C′, passing around said drums and extending therefrom through opposite sides of the frame, in order to support a coffin near the head and foot thereof, and stops c^2 upon said ropes or bands, for the purpose of maintaining the required amount of slackness in said ropes or bands when the coffin is placed upon them, substantially as described.

6. The combination, with a hollow frame and a drum-shaft arranged therein, of ropes or bands passing around the drums and extending through opposite sides of the frame, and eyes *d*, with which the ropes or bands extending through one side of the frame are connected, bolt-sockets and spring-actuated bolts d' d^2, provided upon the ends of those ropes or bands which extend through the opposite side of the frame, and the keepers *e*, whereby the bolts are held with their springs under tension, substantially as herein described.

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