

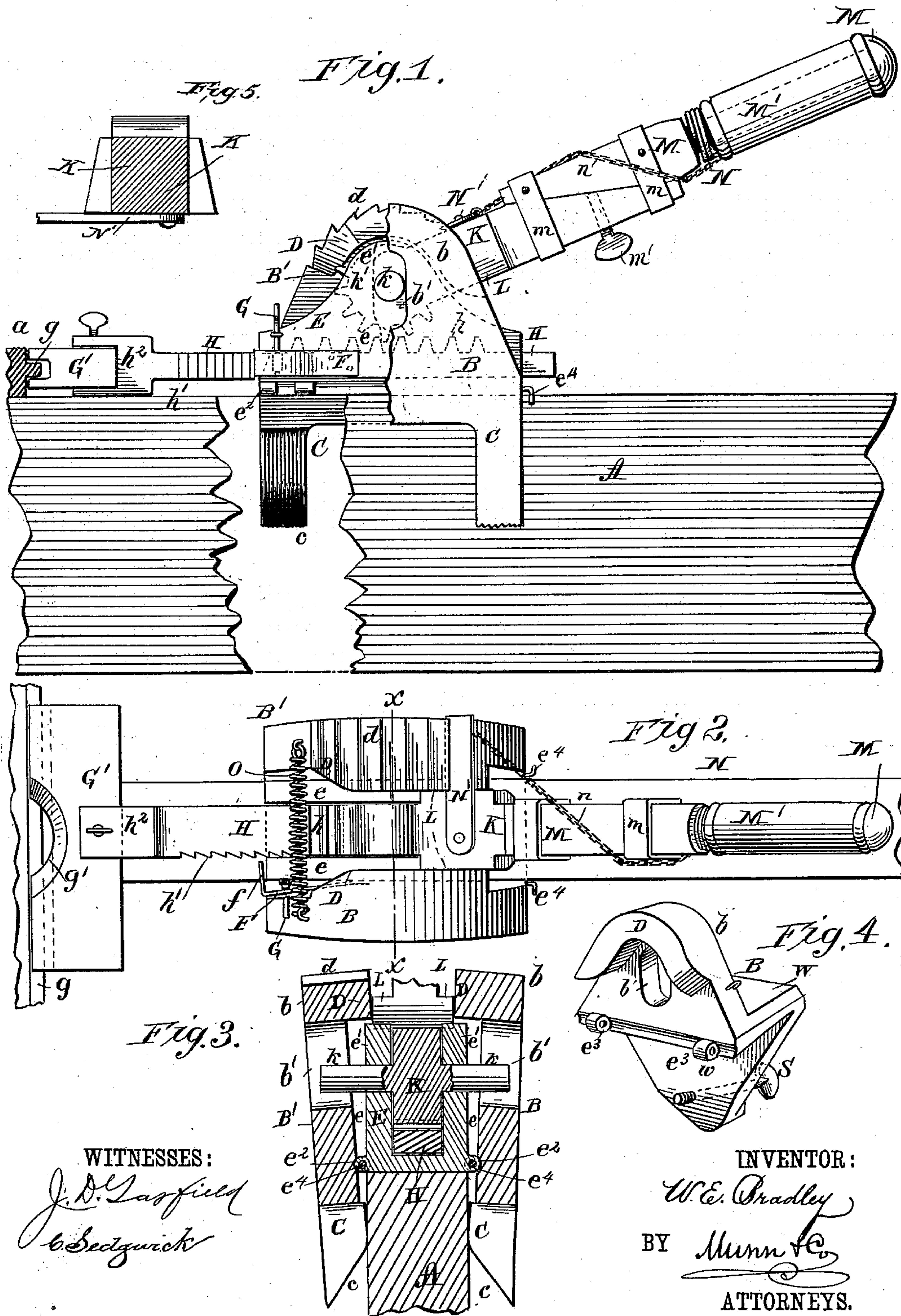
(No Model.)

W. E. BRADLEY.

FLOOR JACK.

No. 364,794.

Patented June 14, 1887.



UNITED STATES PATENT OFFICE.

WILLIAM E. BRADLEY, OF ROSCOE, NEW YORK.

FLOOR-JACK.

SPECIFICATION forming part of Letters Patent No. 364,794, dated June 14, 1887.

Application filed January 14, 1887. Serial No. 924,353. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. BRADLEY, of Roscoe, in the county of Sullivan and State of New York, have invented a new and useful Improvement in Floor-Jacks, of which the following is a full, clear, and exact description.

My invention relates to an improvement in floor-jacks, and has for its object to provide a jack simple in construction, which may be quickly and positively operated in laying floors, and wherein the device may be used in the capacity of an ordinary lifting or pressure jack, if found desirable.

The invention consists in the construction and combination of the various parts, as will be hereinafter fully described, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of my device, partly sectional, in working position; and Fig. 2 is a plan view of the same. Fig. 3 is a central vertical section through line *xx* of Fig. 2; Fig. 4, a perspective view of an extension side used in connection with my device. Fig. 5 is a detail sectional view of the operating lever, showing the wedge-shaped lugs.

In carrying my invention into effect, A represents a floor-beam about an inch and a half or two inches thick, and *a* a piece of flooring jacked in position.

In the construction of the device I employ two metallic sides, B B', provided with a central vertical slot, *b'*, near their semicircular top *b*, the lower portion of said sides being made to terminate in a narrow vertical downward projection, C, the inner faces of which are preferably curved outward and toward their extremities and provided with two or more sharp embossed ribs, *c*, as shown in Fig. 1.

Upon the upper inner surface of each side piece, B B', a segmental cam-surface, D, is formed flush with the upper edges and sides thereof, overhanging and partially encircling the vertical slots *b'*, as illustrated in Figs. 3 and 4, the entire upper semicircular surface of the side piece, B', being provided with transverse rearwardly-inclined teeth, *d*, as shown in Figs. 1 and 2. A box, E, having open ends and top, and provided with side pieces, *e*, hav-

ing a central semicircular apertured projection, *e'*, is hinged at the bottom upon each side at the ends to the outer side pieces, B B', below the center of said outer side pieces, one set of knuckles, *e²*, constituting said hinges, being cast integral with the said box E, and the mortising-knuckle *e³* integral with the outer side pieces, B B', the connection being made by passing a pin, *e⁴*, through said knuckles longitudinally the box and outer side pieces. When the box E and side pieces, B B', are hinged as aforesaid, the semicircular side projections, *e'*, of said box enter immediately beneath the cam-faced inner projections of said side pieces, B B'.

To one side of the box E, near the bottom and at the forward end, a spring, F, is attached, (shown in Figs. 1 and 2,) having one end, *f*, bent at right angles inward over the front edge of the box, which spring is operated laterally by a cranked pin, G, held to turn behind and against said spring in the side of the aforesaid box E, as illustrated in Figs. 1 and 2, the movement being effected by the engagement of the cranked portion of the pin with the inner side of the spring. A horizontal slide-bar, H, is entered the box E to slide therein upon the bottom, the said bar being of a greater length than said box, and provided upon its upper face from a point near the center to its outer end with an integral rack-surface, *h*, and upon its edge opposite the angular end *f* of the spring F with a series of rearwardly-inclined teeth, *h'*, extending from a point near the front a distance to the rear, the said teeth being adapted for engagement by the aforesaid spring to retain the slide-bar H in a given or fixed position. The forward end, *h²*, of the slide-bar H is enlarged and slotted to receive a block, G', which block is held in position by a set-screw passing through said enlarged end to a contact with said block. The block G' is preferably the thickness of the flooring, and is provided with a longitudinal groove, *g*, in its outer edge, adapted to receive the tongue of the floor-strip *a* to be jacked into position. A sloping recess, *g'*, is cut centrally the edge of the block, partially through the same, to enable the operator to drive a holding-nail through the edge of the said floor-strip. A lever, K, is pivoted in the apertures in the sides of the block E, the

pin *k*, whereby the said lever is journaled, being made to project through into the slots *b'* of the side pieces, *B B'*. The lower end of the lever *K* is made circular, and provided with a series of teeth, *k'*, adapted to mesh with the rack-surface *h* of the slide-bar *H* to propel the same backward or forward in the box *E*.

To each side of the lever *K* wedge-shaped lugs *L* are secured in line with the semicircular top of the sides *B B'* when the said lever is in a vertical position, the purpose of the said lugs being to engage the faces of the cam projections *D* of the side pieces, *B B'*, when the device is placed straddling the floor-beam, as shown in Fig. 1, and force the teeth or ribs of the jaws *C* into the beam as the slide-bar *H* is carried forward, and also to limit the backward and forward throw of the lever by the engagement of the sides of the wedge-lugs with the sides of the box in the first instance and the engagement of the end of said lugs with the forward side of the box *E* in the latter instance. The upper portion of the lever *K* is beveled off, as shown in Fig. 1, and a wooden handle, *M*, correspondingly beveled and provided with straps *m*, is held in rigid yet detachable connection with said lever by a set-screw, *m'*. A sleeve, *M'*, is provided the upper portion of the handle, adapted to be grasped by the hand of the operator, the movement of which sleeve is controlled by a spiral, *N*, having one end attached to said handle and the other to the bottom edge of the sleeve. A pawl, *N'*, is pivoted to the upper face of the lever *K*, above the circular lower end, to project outward over the teeth *d* in the side piece, *B'*, and a chain, *n*, is united to the free end of said pawl, the other end thereof being connected to the sleeve *M'*. The chain is of such length as that when the sleeve is in its normal position the pawl *N'* will be elevated above the teeth *d*. When, however, the said sleeve is turned against the spring, the said pawl will be allowed to engage the said teeth *d* and hold the slide-bar *H* in the position to which it is carried by the lever *K*, as shown in Fig. 2. The side pieces, *B B'*, are held together by a spiral spring, *O*, secured thereto by staple or otherwise, and extending from one side piece to the other, as also shown in Fig. 2.

In operation, the device is placed straddle a floor-beam and the block *G'* placed in registry with the strip of flooring *a* to be laid. The handle is now grasped and carried forward. The wedge-shaped lugs upon the lever *K*, engaging the cam projection *D* of the side pieces, force the tops thereof outward and the jaws *C* inward to a firm grip upon the beam. Meanwhile the teeth upon the said lever carry the slide-bar *H* forward by the engagement of its racked surface until the board *a* is firmly jointed against its fellow. The bar *H* is now held in this position by throwing the spring-arms *f* in engagement with the teeth *h'* upon the edge of said slide-bar, or by turning the

sleeve upon the handle and permitting pawl *N'* to engage the teeth *d* upon the side piece, *B*. A nail may now be driven through the tongue of the board *a* at the central recessed portion of the block *G'*. Upon the pawl *N'* or spring *F* being released the slide-bar is drawn back, the grip of the device upon the beam loosened, and the said device may then be entered in similar manner upon the next beam, and so on indefinitely until the floor is laid. When the floor-beams are more than two inches thick, I remove the side piece, *B*, and use in lieu thereof the extension-piece shown in Fig. 4, wherein a rear extension, *W*, is formed in horizontal alignment with the hinges of the side, the said projection being provided with a right-angular downwardly-projecting arm, *w*, fitted with a set-screw, *S*, instead of the jaw *C* upon the side piece taken off, the object of the set-screw being to adjust the said auxiliary side piece to beams exceeding two inches against the face of said arm *w*.

My device may be used as a jack for lifting purposes by clamping it at the top of a beam and resting the other end of said beam upon the floor or ground. In fact, it is capable of use wherever a jack is needed.

I sometimes detach the box *E* from the side clamps and secure the box to a work-bench by screws or otherwise, and use the jack for mortising. In that event a mortising chisel is held in the enlarged end *h'* of the sliding bar *H*. By moving the lever *K* back and forth a motion may be accurately made in little time. Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a jack, the combination, with spring-connected side pieces, *B B'*, hinged to a central box, *E*, and provided with ribbed jaws *C*, of a bar, *H*, adapted to slide in said box, and provided with an enlarged slotted end, *h'*, a grooved and recessed block detachably held in said enlarged end, and a toothed lever, *K*, adapted to operate said sliding bar, substantially as shown and described.

2. In a jack, the combination, with the box *E*, the toothed lever *K*, having wedge-shaped projections *L* and pivoted in said box, and the rack-faced sliding bar *H*, of the side pieces, *B B'*, having an upper inner cam projection, *D*, and hinged to said box, and means for retaining the jack stationary when the lever *K* is operated, substantially as shown and described.

3. In a jack, the combination, with the box *E*, the side pieces, *B B'*, hinged thereto, connected by a spring, *O*, and each provided with an upper inner and central cam projection, *D*, and teeth *d* upon the upper central surface of the side piece, *B'*, of a sliding rack-faced bar, *H*, the toothed lever *K*, having wedge-shaped side projections, *L*, and a pawl, *N'*, pivoted to its upper surface, a lever-handle, *M*, provided with a spring-actuated sleeve, *M'*, connected by a chain with said pawl, substantially as shown and described.

4. In a jack, the combination, with the box E, the side pieces, B B', hinged thereto, connected by a spiral spring and provided with inner central cam projections, D, an angular spring, F, attached to said box, and a crank-pin, G, adapted to operate said spring, of a sliding rack-faced bar, H, provided with teeth h and adapted to carry a block, G', and a toothed lever, K, provided with wedge-shaped side projections, L, adapted to operate said slide-bar, substantially as shown and described, and for the purpose herein set forth.

5. The combination, with the box E, the spring-united side pieces, B B', hinged to said box, and provided with an upper and inner

central cam-face, D, and lower ribbed jaws, C, a toothed lever, K, journaled in said box, provided with a handle, M, and means for retaining said lever in a fixed position, of a rack-faced sliding bar, H, having an enlarged slot-²⁰ted end, h^2 , and a block, G', held in said slot, provided with a longitudinal edge groove, g , and a central recess, g' , substantially as shown and described, and for the purpose herein set forth.

WILLIAM E. BRADLEY.

Witnesses:

SQUIRE L. DECKER,
EMMA J. GREEN.