

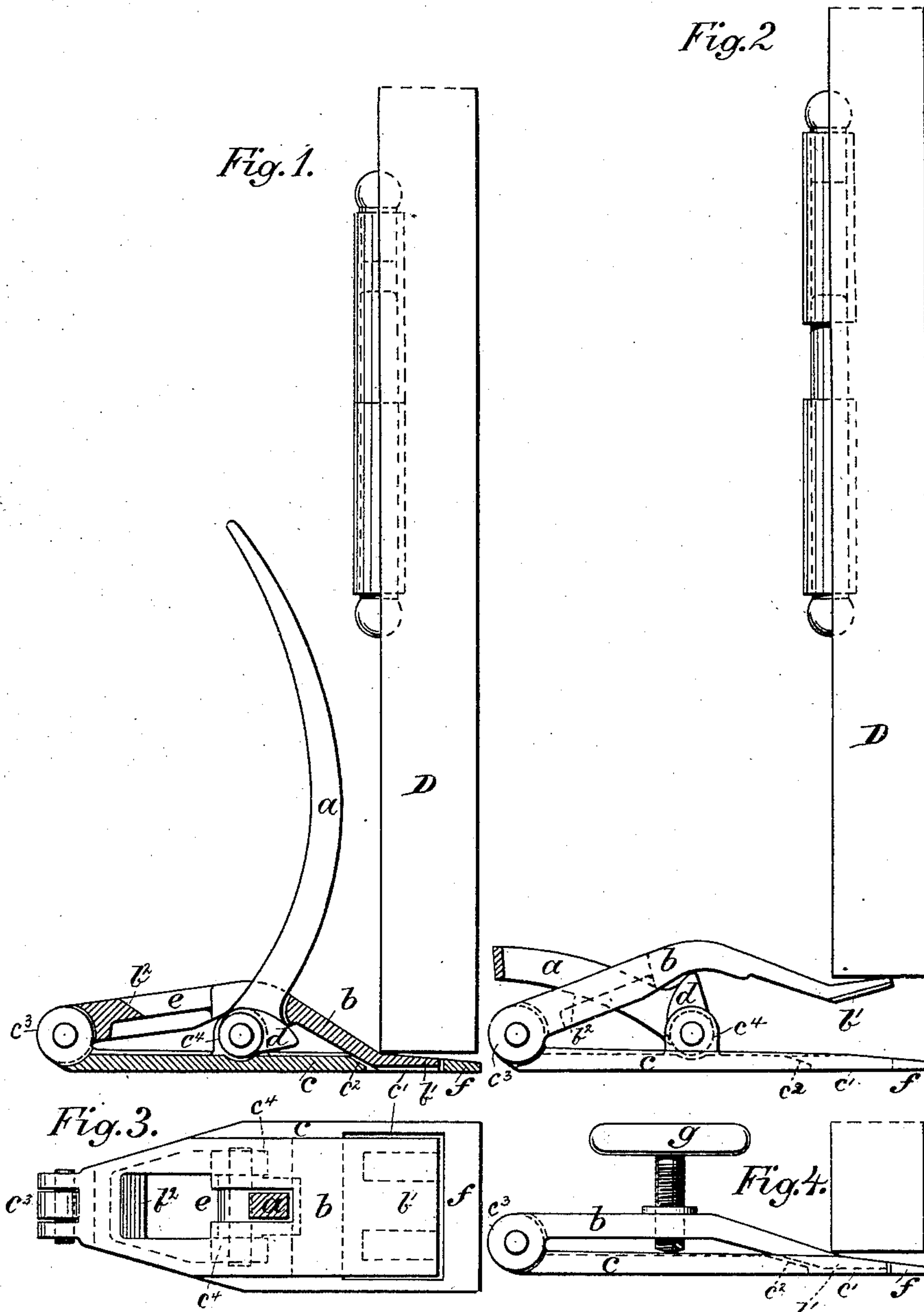
(No Model.)

H. BÜSSING.

DEVICE FOR LIFTING DOORS.

No. 354,461.

Patented Dec. 14, 1886.



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UNITED STATES PATENT OFFICE.

HEINRICH BÜSSING, OF BRUNSWICK, GERMANY.

DEVICE FOR LIFTING DOORS.

SPECIFICATION forming part of Letters Patent No. 354,461, dated December 14, 1886.

Application filed January 28, 1886. Serial No. 190,086. (No model.) Patented in France December 30, 1885, No. 173,235, and in England June 12, 1886, No. 7,893.

To all whom it may concern:

Be it known that I, HEINRICH BÜSSING, engineer, a subject of the Duke of Brunswick, residing at Brunswick, German Empire, have invented certain new and useful Improvements in Devices for Lifting Doors, (for which Letters Patent have been granted in France, No. 173,235, dated December 30, 1885, and in Great Britain, No. 7,893, dated June 12, 1886;) and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to devices for lifting or shifting bodies, and is applicable to a great variety of uses, its construction and application being here more especially designed for use with doors for lifting the same partly off their hinges when it is desired to oil their hinge-bearings. The form and relative arrangement of the operative elements of the apparatus may be varied according to the uses made of said apparatus, without, however, changing the principles involved or the nature of the invention, which consists in a stationary foot-plate and a lifting or shifting lever fulcrumed thereto, and means for operating said lever, substantially as hereinafter fully described.

In the accompanying drawings, in which like letters indicate like parts, and which drawings form a part of this specification, Figure 1 shows my improvements in connection with a door by a partial longitudinal vertical section, the parts being in position to lift the door. Fig. 2 shows the said improvements in side elevation, the lever being partly broken away, and in the position they assume when the door has been lifted. Fig. 3 is a top plan view of the same, the lever being shown in section; and Fig. 4 is a side elevation showing means for operating the lever otherwise than by hand.

In the above drawings I have illustrated my improved lifting or shifting devices for use in lifting doors partly off their hinges when it is desired to oil the same.

The difficulties heretofore encountered in oiling the hinges of a door, especially when the said door is hinged on butt-hinges, are well known. When the hinge-pins are short, it is almost impossible to lift the door partially off the hinges and hold the same in that position while the hinges are being oiled, and when lifted entirely off its hinges it is very troublesome to again hang the door.

By means of my improvements a door may be partly lifted off its hinges with the greatest facility; and the apparatus is constructed as follows: It is composed of a supporting or bed plate, *c*, the forward edge, *f*, of which is beveled, so as to adapt it to be introduced between a door, *D*, and the floor. The plate *c* is also provided with a slot or opening, *c'*, or a recess, the rear vertical wall of which is beveled at its upper end to form a bearing, *c''*, and at its rear end the said plate *c* has bearings (a lug or ear) *c'''*, to which is pivoted a flat lifting-lever, *b*. The latter lever is a little narrower than the plate *c*, and is curved or bent at its forward end, the nose *b'* whereof is beveled and lies within the opening *c'* of plate *c*, the under side of its bent portion resting on the beveled shoulder *c''* of said plate *c*. As shown, the upper edge of the beveled portion of the lever *b* lies flush with the upper face of the corresponding portion of the plate *c*, and when in the opening *c'* of the latter forms practically a continuation of said upper face of the plate.

Any suitable means may be employed for applying the necessary power to the lever *b* to lift the load thereon. This power may be applied through the medium of a hand-lever, *a*, as shown in Figs. 1, 2, and 3. In this case the hand-lever *a*, as shown, is fulcrumed on the plate *c* in suitable bearings, *c''*, and said lever has a cam, *d*, formed on and projecting from its perforated or bearing end, which cam *d* impinges on the under side of the lever *b*. The lever *b* has a longitudinal slot, *e*, through which the lever *a* projects and in which it plays. The rear wall of said slot is inclined or beveled, and forms a shoulder, *b''*, upon which the lever *a* rests when in its depressed position, as shown in Fig. 2.

It is obvious that when the apparatus is pushed under a door and the lever *a* depressed

the said door will be lifted off its hinges to any desired degree, and if the construction of the parts is such as to lift a door a given distance when the lever *a* is fully depressed, its cam *d* being in a vertical position, a door having hinge-pins of a given length may be lifted sufficiently for the purpose of oiling the same without lifting the door entirely off said hinges, as shown in Fig. 2. As the cam in the position shown in the latter figure stands on its dead-point, there is no need of any stop to maintain the parts in their respective positions during the time the hinges are oiled.

In case the hinge-pins are so short that by fully depressing the lever the door would be lifted entirely off its hinges any suitable means may be employed to lock the lever *a* into any desired position; or devices for operating the lever *b* may be employed that will act as a stop to the lever *b* at whatever point to which it may be brought—as, for instance, a screw and hand-wheel, *g*, as shown in Fig. 4, the lever *a* in this case being dispensed with. In either construction the forward end of the plate *c* forms a bearing that will effectually prevent the tilting of the apparatus when the load is supported therefrom.

As hereinbefore stated, the form of the operative device may be varied according to the

uses made of the apparatus. For instance, when the apparatus is constructed for moving bodies such as railroad-cars, the lever *b* may be provided with a claw or claws and the apparatus applied between the rail and car-wheel, so that the claw or claws of the lever will take hold of and operate on the wheel when the lever *a* is depressed or the screw *g*, Fig. 4, rotated.

The apparatus may be used for many other purposes than those indicated, and I do therefore not desire to limit myself to any specific form of its operative devices.

What I claim is—

The combination, with the slotted base plate *c*, the forward end, *f*, of which is made tapering, and the slotted lifting plate or lever *b*, the forward end, *b'*, of which is also made tapering and adapted to lie in the slot of the base plate, of the lifting lever *a*, fulcrumed on plate *c* and provided with the cam *d*, said parts being arranged for operation substantially as and for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

HEINRICH BÜSSING.

Witnesses:

WILLIAM C. FOX,
A. LUDEWIG.