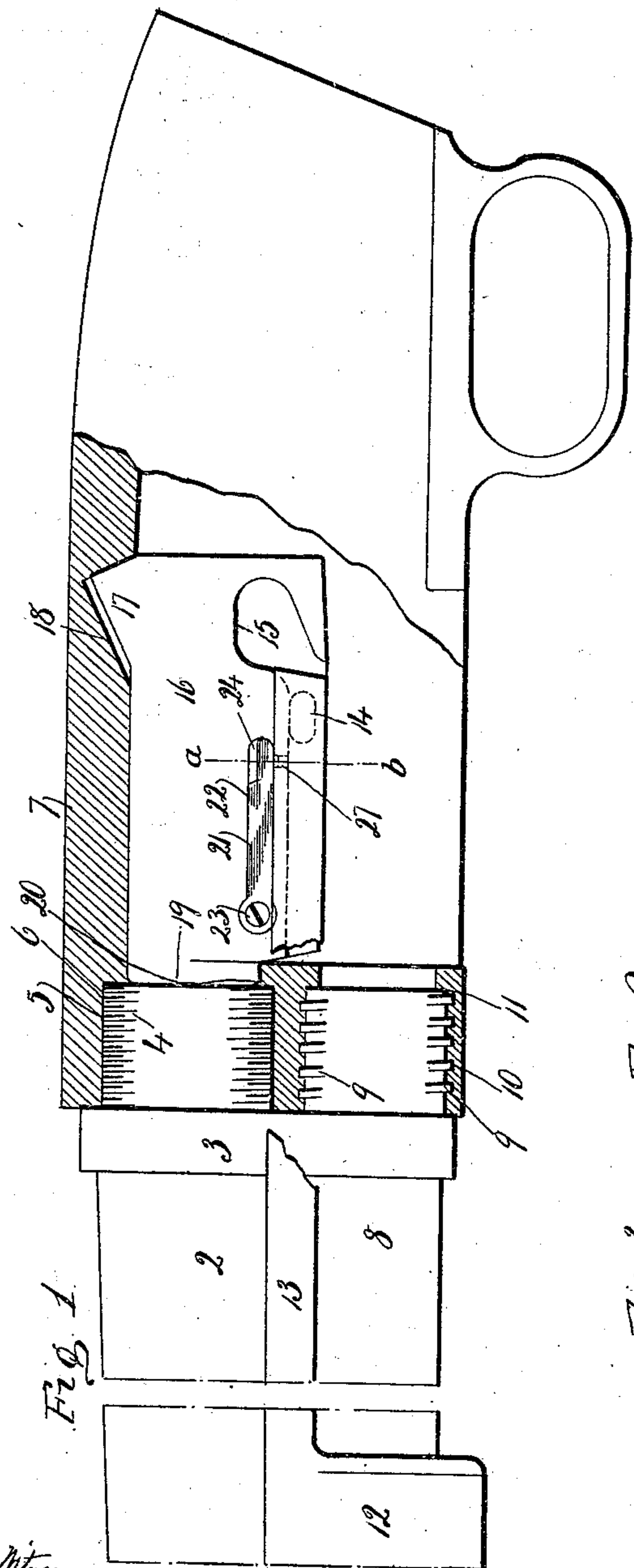


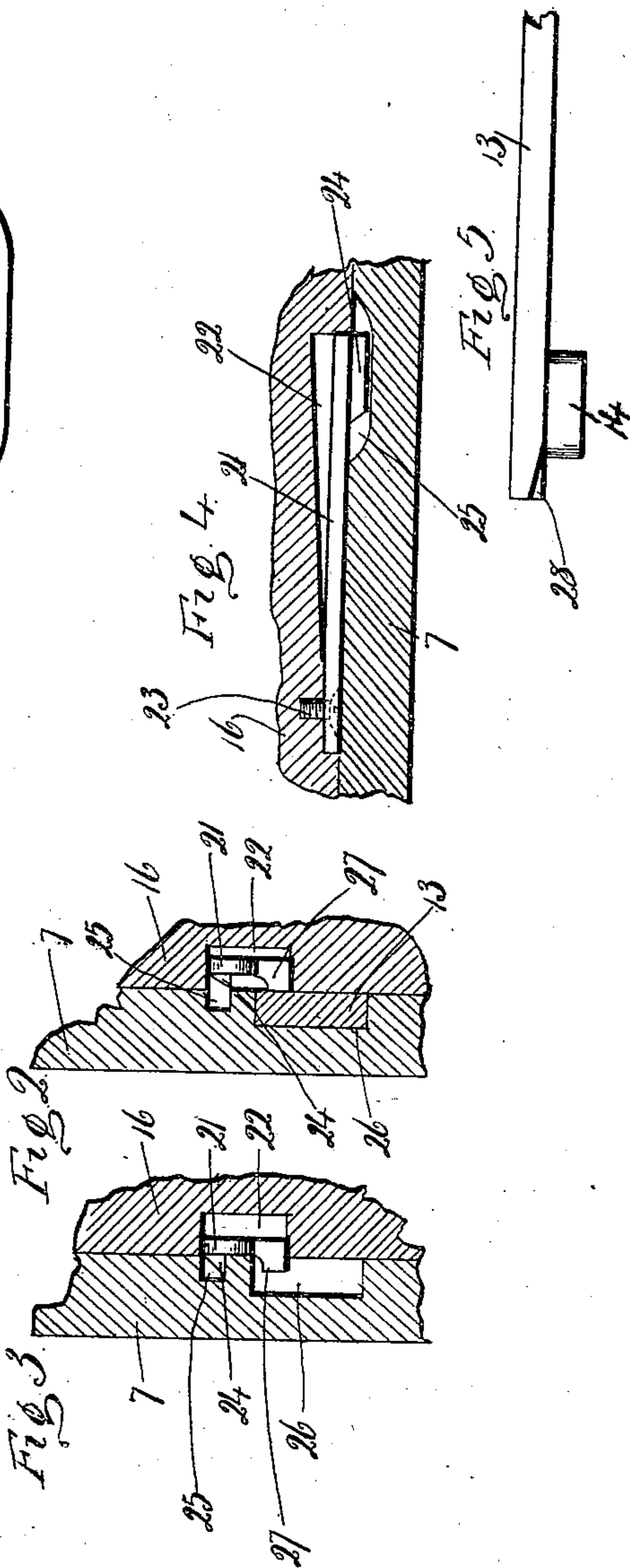
964,167.

F. F. KNOUS,
TAKE-DOWN GUN.
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TAKE-DOWN GUN.

964,167.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FRANKLIN F. KNOUS, a citizen of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Take-Down Guns; and I do hereby declare the following, when taken in connection with the accompanying drawings and the characters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1 a broken view partly in side elevation and partly in vertical longitudinal section of a gun constructed in accordance with my invention, showing its breech-block in its closed and locked position. Fig. 2 a broken view of the gun in vertical transverse section on the line *a—b* of Fig. 1, drawn on an enlarged scale and showing the breech-block lock in its retired position in which it is normally maintained by the action-bar extending rearwardly from the sliding operating-handle of the gun. Fig. 3 a corresponding view showing the breech-block lock in its operating position which it is allowed to assume by the removal of the action-bar from engagement with it consequent upon taking the gun down. Fig. 4 a broken detail view showing the breech-block and a portion of the left hand side wall of the gun-frame in horizontal section and the breech-block lock in plan. Fig. 5 a detached broken plan view of the rear end of the action-bar, showing the bevel provided at the rear end thereof for retiring the breech-block lock so as to unlock the same when the gun is put together again.

My invention relates to an improvement in that class of repeating take-down guns provided for their operation with a sliding operating-handle and furnished with a compound movement breech-block which is raised and lowered at its rear end for being locked and unlocked, the object of my present invention being to provide simple and reliable means for retaining the breech-block in its locked position in the gun-frame when the gun is taken down in order to facilitate putting the gun together again.

With these ends in view my invention consists in a gun having certain details of construction and combinations of parts as will

be hereinafter described and pointed out in the claims.

As herein shown, my invention is applied to a gun the take-down features of which are the same as shown and described in United States Patent No. 605,734, granted June 14, 1898, to the Winchester Repeating Arms Company on the application of William Mason. Having thus called attention to that patent, it seems unnecessary to give a detailed description of the take-down features of the gun herein shown and described more than to say that its gun-barrel 2 is provided at its rear end with a take-down band 3 rigidly secured in place at a right angle to it and depending below it. The extreme rear end of the said barrel 2 projects through the said band 3 and is formed with interrupted threads 4 which take into corresponding threads 5 in a socket 6 in the upper portion of the front face of the gun-frame 7. A sliding tubular magazine 8 extends through the lower portion of the band 3 and is formed at its projecting rear end with interrupted threads 9 taking into interrupted threads 10 in a socket 11 formed in the front face of the gun-frame 7 at a point directly below the socket 6 before mentioned. All this is fully described and shown in the Mason patent above referred to.

Upon the tubular magazine 8, I mount a sliding operating-handle or forearm 12 carrying a rearwardly projecting action-bar 13 having at its extreme rear end an inwardly projecting operating-lug 14 entering a cam-path 15 in the left hand side wall of the compound movement breech-block 16 which is formed at its upper rear corner with a locking-lug 17 entering a deep notch 18 in the closed top of the gun-frame 7. At its forward end the block 16 is provided with a tenon-like supporting nose 19 entering a mortise-like recess 20 in the gun-frame 7 and forming a fulcrum for the breech-block 16 to swing upon in being raised and lowered after it has reached the limit of its forward movement as described and claimed in the concurrently pending application of Thomas C. Johnson.

When the gun is taken down, the gun-barrel 2 and tubular magazine 8 are detached from the gun-frame 7 and drawn away therefrom taking, of course, the sliding operating-handle 12 and action-bar 13

with them. When the gun is taken down, as described, the breech-block 16 is always in its closed and locked position as shown in Fig. 1, and it is highly desirable to retain it in this position in the gun-frame so as to facilitate putting the gun together again, since if the breech-block should fall down out of its closed and locked position, it would interfere with the re-insertion into the gun-frame 7 of the rear end of the action-bar 13 in proper relation to the breech-block which it operates. For this purpose I employ what for convenience I shall call a breech-block lock 21 located in a shallow horizontal recess 22 in the left hand side of the breech-block and confined in place therein by a screw 23 passing through its forward end, the said lock 21 consisting, as shown, of a bar or plate of spring-metal. At its rear end the said lock 21 is provided with an outwardly projecting horizontal locking-tooth 24 having its upper edge beveled and adapted to enter a locking-notch 25 suitably positioned in the inner face of the left hand side wall of the gun-frame 7 at a point just above the groove 26 formed therein for the reception and longitudinal movement of the rear end of the action-bar 13. The said lock 21 is also formed at its rear end with an outwardly projecting horizontal retiring-lug 27 located in the path of the action-bar 13 and engaged by the inner face thereof so as to maintain the said lock normally in retirement in which its tooth 24 is cleared from the notch 25 aforesaid. For initially retiring the lock 21 at the time the gun is put together, the rear end of the action-bar is formed with a self-contained cam or bevel 28 located directly to the rear of its operating-lug 14 formed by cutting a portion of the said bar away, and spoken of as a self-contained cam or bevel since it is located entirely within the cross-sectional area of the action-bar so that the provision of the bar with this cam and its consequent endowment with an additional function, does not interfere with the movement of the bar back and forth in the usual groove formed in the left hand side wall of the gun-frame 7 for the reception and longitudinal movement of the bar. By making the cam or bevel 28 self-contained as described, it becomes unnecessary to enlarge the groove 26 for the reception of the bar. When the gun is put together, the lock 21 is maintained in its normally retired position as clearly shown in Fig. 2, in which its tooth 24 is cleared from the notch 25 by the engagement of its lug 27 with the action-bar 13 whereby the lock 21 does not in any way interfere with the vertical movement of the block in being locked and unlocked.

Preparatory to taking the gun down, it is necessary to move the breech-block 16 into its fully closed and locked position. Now when

the gun is taken down and the action-bar 13 is drawn forward, it clears the retiring-lug 27, giving the spring of the lock 21 an opportunity of swinging the lock outward so as to enter its tooth 24 into the notch 25, whereby the rear end of the breech-block is held up in its locked or recoil-taking position in the gun-frame 7. Now when the gun is put together again, the breech-block 16 will not interfere with the reëntance into the gun-frame of the rear end of the action-bar 13 the bevel 28 of which will engage with the retiring-lug 27 of the lock 21 and spring the same inward so as to clear its tooth 24 from the locking-notch 25 in the gun-frame in which the breech-block will then be free to be moved back and forth and up and down at its rear end, just as though it were not provided with the means described for locking its rear end in its locked and recoil-taking position at the time of taking the gun down.

By locating the means for holding the breech-block in its locked position in the gun-frame after the gun has been taken down, in the breech-block itself rather than in a recess in one of the side walls of the gun-frame, I reduce the friction between the action-bar and the receiver to the minimum, inasmuch as the breech-block travels with the action-bar and has but little movement independent thereof compared with the long movement the bar has with respect to the gun-frame or receiver.

I claim:—

1. In a take-down gun, the combination with the frame thereof, of a longitudinally and vertically movable breech-block, a sliding operating handle, an action-bar extending rearwardly from the said handle and connected with the breech-block for the operation thereof, and means carried by the breech-block for holding the block in its elevated position in the gun-frame after the gun has been taken down, the said means being unlocked and maintained in unlocked position by the action-bar.

2. In a take-down gun, the combination with the frame thereof, of a longitudinally and vertically movable breech-block, a sliding operating handle, an action-bar extending rearwardly from the said handle and connected at its rear end with a breech-block for the operation thereof, and a yielding breech-block lock located in a recess in one of the side walls of the breech-block and engaging with the adjacent side wall of the frame for holding the breech-block in its elevated position when the gun is taken down, and the said lock being adapted to be unlocked and held in its retired position by the action-bar.

3. In a take-down gun, the combination with the frame thereof, of a longitudinally and vertically movable breech-block, a slid-

ing operating handle, an action-bar extending rearwardly from the said handle and connected at its rear end with the breech-block for operating the same, and a yielding breech-block lock located in a recess in one of the side walls of the breech-block, secured in place at its forward end, and provided at its rear end with a locking-tooth entering a locking-notch in the adjacent side wall of the gun-frame, and with a retiring-lug located below the said tooth and co-acting directly with the action-bar which acts through the said lug to effect the initial retirement of the lock into its recess when the gun is put together and which is normally engaged by the bar to maintain the lock in its retired position.

4. In a take-down gun, the combination with the frame thereof, of a gun-barrel adapted to be connected with and disconnected from the said frame at pleasure, a longitudinally and vertically movable breech-block mounted in the frame, a sliding operating handle, an action-bar extending rearward therefrom and provided with a lug for its connection with the breech-block which it operates and at its extreme rear end with a bevel, and a breech-block lock located in a recess formed in one of the side walls of the breech-block and consisting of a spring plate rigidly secured in place at its forward end and having its rear end provided with an outwardly projecting locking-tooth having its upper edge beveled and adapted to enter a locking-notch in the inner face of the adjacent side wall of the frame, and the said lock being also provided at its rear end with an outwardly projecting retiring-lug normally engaged by the inner face of the action-bar by which it is normally held in retirement, the said lug being initially engaged by the bevel at the rear end of the bar for forcing the lock into its retired position in which its tooth is cleared from the said notch in the gun-frame.

5. In a tubular magazine take-down gun, the combination with a gun-frame having a locking-notch in the inner face of one of its

side walls, of a gun-barrel, a tubular magazine, a longitudinally and vertically movable breech-block having a recess in one of its side walls, a sliding operating-handle mounted upon the said magazine, an action-bar extending rearwardly from the said handle and connected at its rear end with the breech-block, and a yielding breech-block lock located in the said recess in the breech-block, secured in place in the said recess by its forward end, provided at its rear end with a projection adapted to enter the said locking-notch in the gun-frame, and adapted to be engaged directly by the rear end of the action-bar, whereby the lock is forced at its rear end into the said recess for the clearance of its said projection from the locking-notch in the gun-frame, and whereby the said lock exerts a constant effort to push the action-bar outward and hold it in proper alinement.

6. In a take-down gun, the combination with a gun-frame having a locking-notch in the inner face of one of its side walls, of a longitudinally and vertically movable breech-block having a recess in one of its side walls, a sliding operating-handle, an action-bar attached at its forward end to the said handle, connected at its rear end with the breech-block, and provided at its rear end with a cam; and a yielding breech-block lock located in the said recess in the breech-block, secured in place in the said recess by its forward end, provided at its rear end with a projection adapted to enter the said locking-notch in the gun-frame, and adapted to be engaged directly by the said cam which effects the initial retirement of the lock when the gun is put together, the said lock exerting a constant effort to push the action-bar outward and thus maintain it in alinement.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

FRANKLIN F. KNOUS.

Witnesses:

THOMAS C. JOHNSON,
DANIEL H. VEADER.