

No. 749,877.

PATENTED JAN. 19, 1904.

F. NEUBER & J. TAMBOUR.

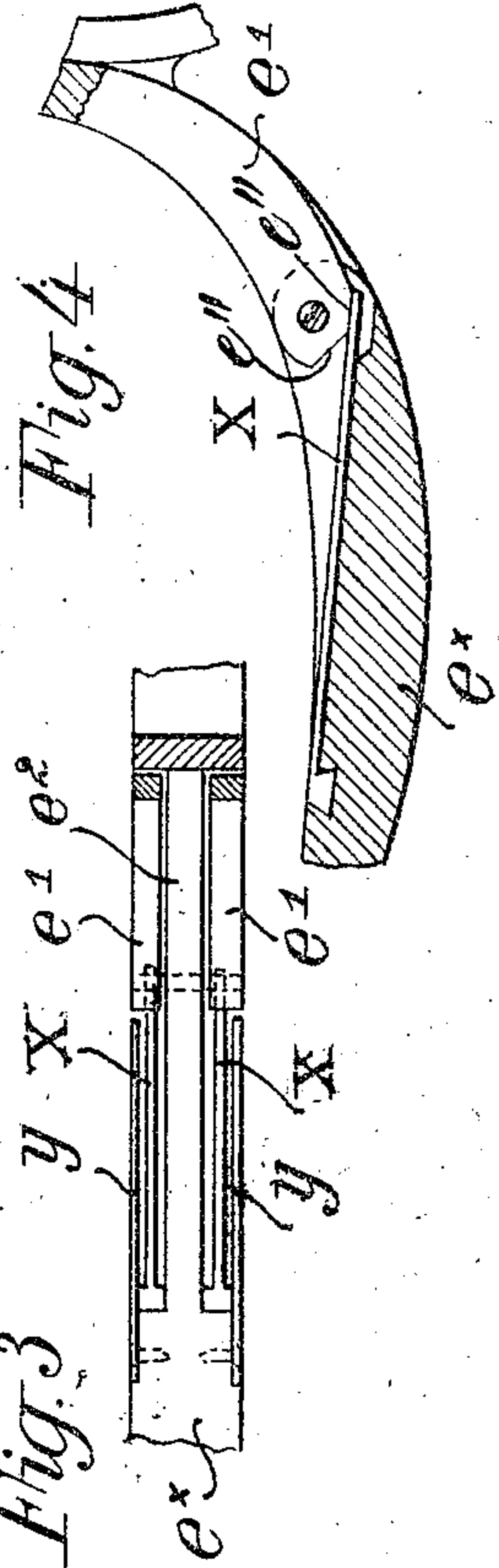
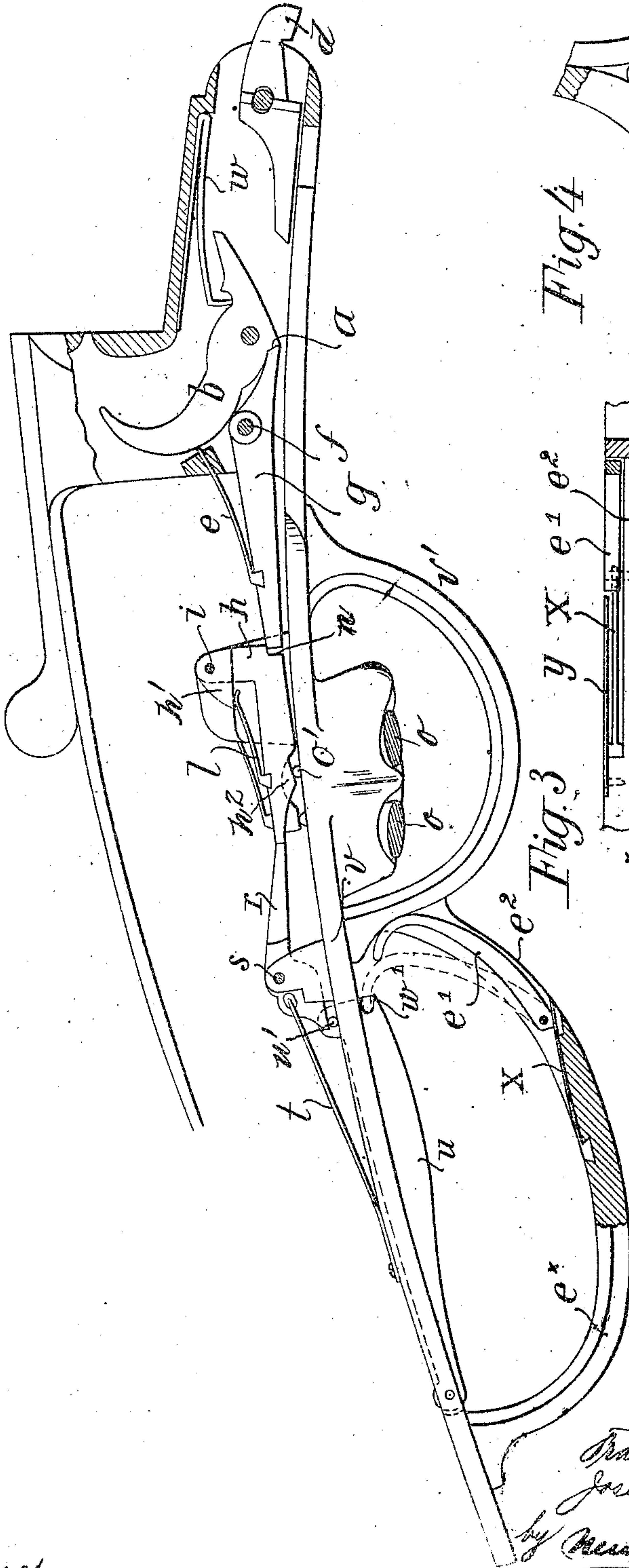
SMALL ARMS.

APPLICATION FILED NOV. 22, 1900.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1



Witness:
Attest:
B. L. Summers

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2 SHEETS—SHEET 2.

Fig. 2

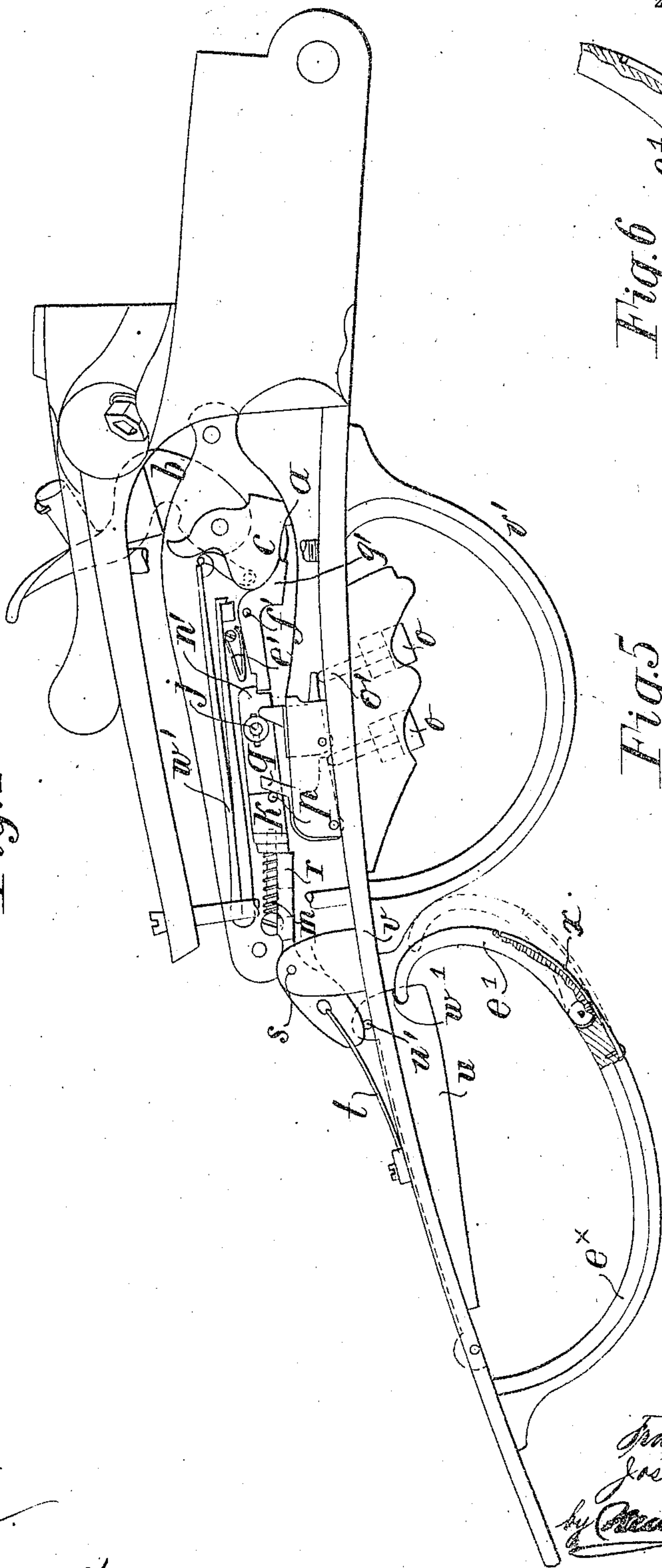


Fig. 5

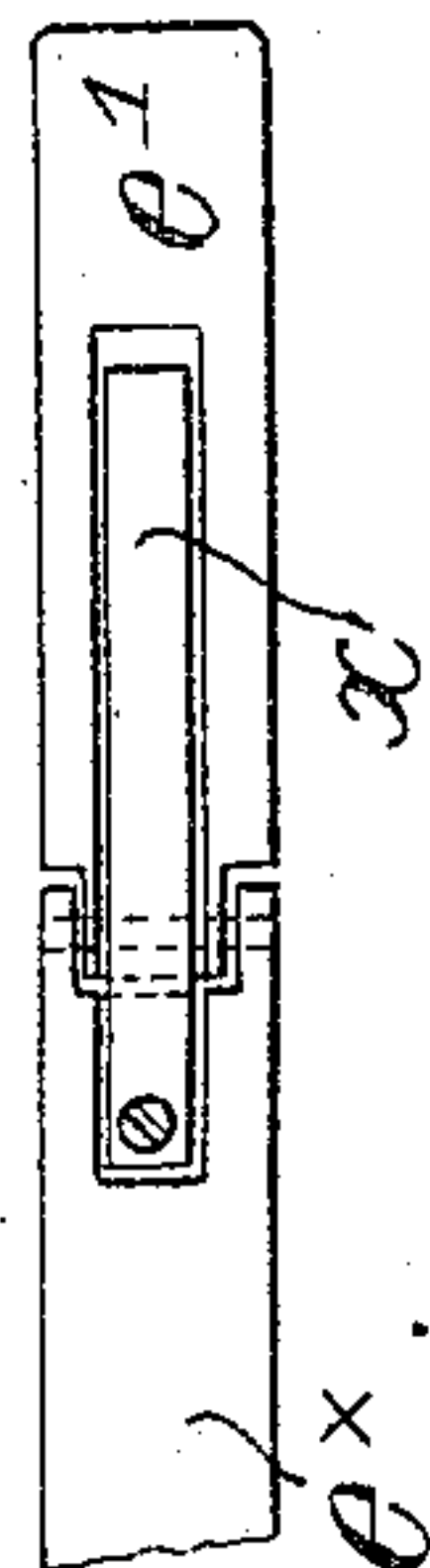
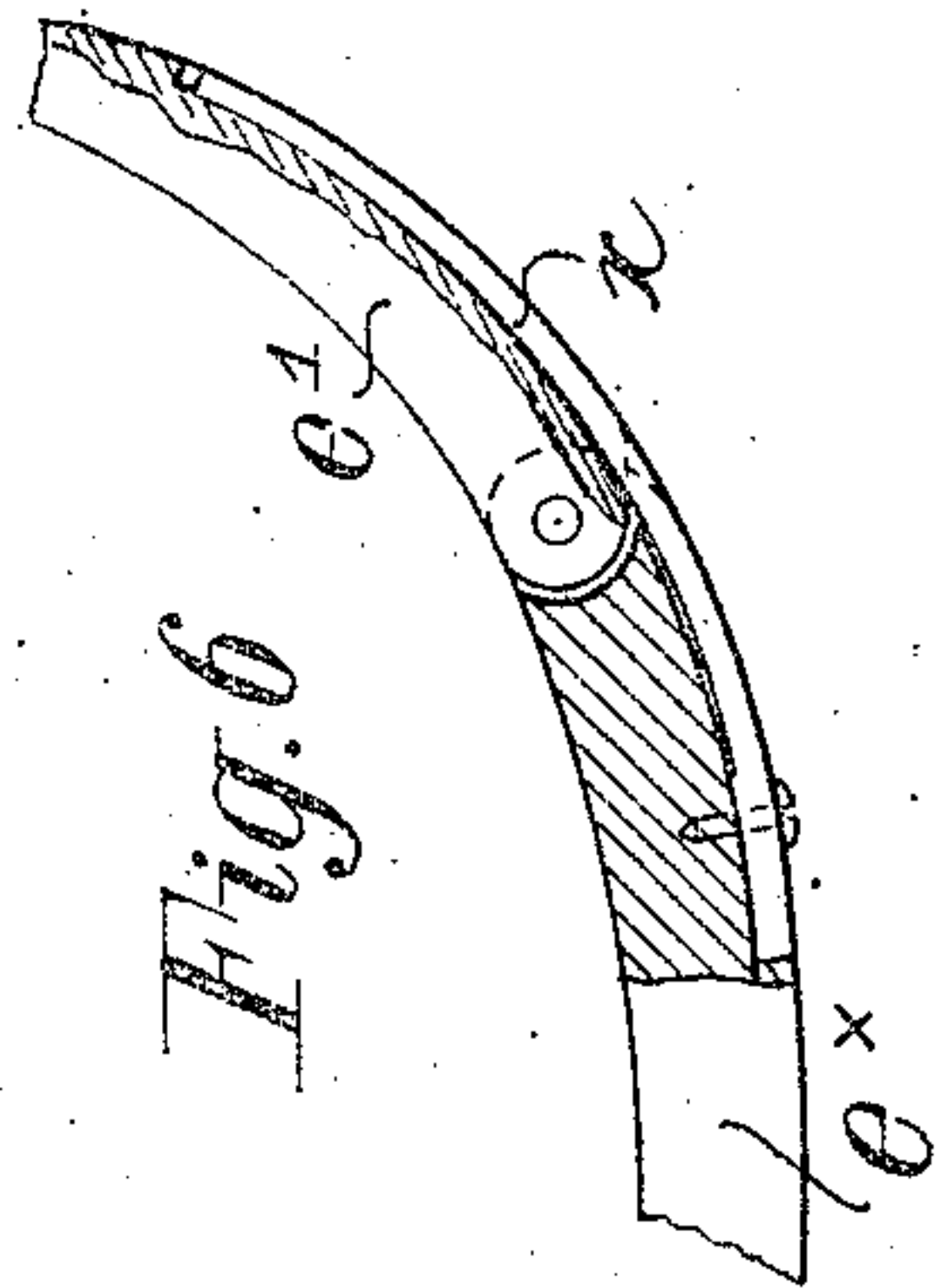


Fig. 6



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UNITED STATES PATENT OFFICE.

FRANZ NEUBER, OF WIENER-NEUSTADT, AND JOSEPH TAMBOUR, OF VIENNA, AUSTRIA-HUNGARY, ASSIGNORS OF ONE-THIRD TO CARL COLBERT, OF VIENNA, AUSTRIA-HUNGARY.

SMALL-ARMS.

SPECIFICATION forming part of Letters Patent No. 749,877, dated January 19, 1904.

Application filed November 22, 1900. Serial No. 37,364. (No model.)

To all whom it may concern:

Be it known that we, FRANZ NEUBER, residing at Wiener-Neustadt, and JOSEPH TAMBOUR, residing at Vienna, in the Province of Lower Austria, in the Empire of Austria-Hungary, subjects of the Emperor of Austria-Hungary, have invented certain new and useful Improvements in Small-Arms; and we 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 of reference marked thereon, which form a part of this specification.

This invention has relation to that type of hand-firearms in which the hammer is held in position for firing by a bar-shaped sear. With a view to facilitate the disengagement of the sear from the tumbler or hammer and for the purpose of safely holding said hammer in its position for firing it has been the practice heretofore, in the type of firearms referred to, to form in the tumbler or hammer an acute-angled notch, so that the end of the bar sear engaging said notch had to be in the form of a knife-edge, or substantially so. This construction has the disadvantage that if the gun is subjected to concussion, as is liable to be the case, the sear is liable to spring out of the aforesaid notch or break, causing the unintentional discharge of the gun.

This invention has for its object a construction of gun-lock whereby the recited disadvantage is avoided by providing the tumbler or hammer with a notch of such angular form and having its straight face in such radial relation relatively to the axis of rotation of said tumbler or hammer as to admit of the use of a bar sear of sufficient strength to prevent its breaking under practically any strain and the provision of means for preventing the accidental disengagement of the sear from said notch should the gun be subjected to concussion or under the stress of the hammer-spring.

Our invention has for its further object the combination, with the firing mechanism, of means whereby said mechanism cannot be accidentally released when the hammer is in its

firing position by inadvertent or accidental pressure on the trigger, said means being so organized that the trigger cannot be pulled to fire the gun unless the stock is grasped in the usual manner to bring the gun to firing position.

Our invention has for its further object the provision of auxiliary safety devices whereby the trigger is kept locked even when the gun is grasped as above set forth and cannot be released without first actuating said safety device.

That our invention may be fully understood, we will describe the same in detail, reference being had to the accompanying drawings, in which—

Figure 1 is a fragmentary longitudinal sectional view showing our improvements applied to a double-barrel breech-loading firearm of the so-called "hammerless" type—i. e., of that type in which the hammers are concealed. Fig. 2 is a similar view showing our improvements applied to an ordinary double-barrel breech-loading gun also showing a modified construction of auxiliary safety appliances. Fig. 3 is a fragmentary sectional plan view, and Fig. 4 a fragmentary longitudinal section, of the auxiliary safety appliance shown in Fig. 1. Fig. 5 is a fragmentary under side view, and Fig. 6 a fragmentary longitudinal section, of the modified auxiliary appliance shown in Fig. 2.

Referring to Fig. 1, the hammers *b* are cocked in the usual manner by the lever or levers *d* when the barrels are turned down for the introduction of the load, and, as shown, said hammers have an obtuse-angled or practically a right-angled notch *a*, each hammer being actuated by a spring *w*. Owing to the described conformation of the notch *a*, the straight face of which has such radial relation relatively to the axis of rotation of the hammer as to lie in a substantially vertical plane when said hammer is in firing position, we are enabled to make use of a bar sear *g* having a comparatively thick and a correspondingly beveled end for engagement with the aforesaid notch, as shown. The sear is constructed in the form of a two-armed straight or bar le-

ver having arms of unequal length and is fulcrumed at f , a spring e exerting sufficient power on the longer arm to depress the same, and consequently elevate its shorter arm when the latter is not in engagement with the hammer-notch a —that is to say, when the hammer is in its position after firing—in which case the heel of said hammer rests upon the nose or end of the sear and holds its shorter arm down under the greater stress of the hammer-spring. When, however, the barrels are swung down, the hammer is turned back on its pivot, its heel clearing the end or nose of sear g , and thus enabling the spring e to depress the longer arm of said sear and move the end of its shorter arm against the then substantially vertical face of the hammer-notch a , as shown in said Fig. 1. To prevent the accidental release of the hammer from any cause, we provide a right-angled or elbow locking-lever h , the vertical short arm of which is fulcrumed at i , and in the forward vertical face of said lever is formed a right-angled notch n to engage the rear end of the longer arm of the sear g and hold the latter in engagement with the hammer-notch a against the stress of the hammer-spring w . On the fulcrum-pin i , which is rigidly connected to the lock-frame, is secured an abutment h' , on the under face of which bears the free end of a spring l , whose opposite end is secured to said lever near its rear end, said spring tending to turn the lever on its fulcrum i from left to right, and thus hold its notch n in the path of the end of the longer arm of the sear g and prevent the latter from being tilted in the same direction out of engagement with the hammer-notch a , the rotation of the lever h in an opposite direction being limited by the trigger-guard strap v of the gun-lock. This lever h may be actuated by an ordinary trigger in such a manner that when said trigger is pulled back an arm thereof impinging upon the longer horizontal arm of said lever h will tilt the same to the right, and thus move its notch clear of the end of the longer arm of the sear g and allow the hammer-spring w to throw the hammer b forward.

In the gun shown in Fig. 1 we substitute the well-known push-pin or pin-trigger o for the usual trigger, the inner end o' of which pin acts on the rearwardly-inclined face of a notch h^2 in the under side of the lock-lever h . By means of the lever h the sear g is securely held in engagement with the hammer and can therefore not be disengaged therefrom otherwise than by a manipulation of the trigger.

In Fig. 2 we have shown our improvements applied to a double-barrel breech-loading gun having exposed hammers b, c , hand-cocked hammers—and in this case the sear-notch above referred to is formed in the tumbler e , the sear g' being constructed in the form of an angle-lever to suit the altered conditions of gun-lock, w' indicating the spring which

acts on the longer arm of said sear, and f' the pivot for the latter. The locking device here employed is a slide-bar k , sliding on a pin j , which extends through a longitudinal slot in said bar, which has the lock-notch u' formed in its forward vertical face for engagement with the rear end of the longer arm of the sear g' . The bar k is under the stress of a spring m , which tends to push the bar forwardly, and thus holds the same in engagement with the sear so long as the hammer is in its firing position. The bar is retracted against the stress of its spring m , and thereby moved out of engagement with the sear g' by an angle-lever q , one arm of which has bearing on pin p , projecting laterally from said arm, while the inner end o' of the pin-trigger o impinges or is adapted to impinge upon the other arm of said angle-lever, as clearly shown. In said Fig. 2, w' indicates the main or hammer spring, connected in a well-known manner with the tumbler e .

The described arrangement of sear and locking-lever has the advantage over similar appliances heretofore proposed, in that by the alinement and relative arrangement of the lock-lever and sear the former sustains but a very small proportion of the pressure exerted by the hammer-spring instead of sustaining the whole pressure of said spring, so that but a very slight pressure on the long arm of said lever will disengage it from the sear.

It will be seen that with a gun-lock organized as described in reference to Figs. 1 and 2 an accidental release of the hammers by reason of shock or concussion cannot take place; but the construction would not prevent such a release by inadvertent pressure on a trigger, as may be the case in careless handling of the gun. To guard against a premature discharge of the gun by reason of such careless handling or inadvertent pressure on the trigger-pins, we provide a safety device so organized that the release of the hammer cannot take place unless the gun is grasped in the usual manner to bring it into position for firing, whereby the said safety device is thrown or moved out of operative position, so that the gun can be fired by pressure upon the trigger.

In Figs. 1 and 2 we have shown a lever u fulcrumed at its rear end to the trigger-guard strap v and having at its forward end a vertical extension from which projects laterally a pin or stud u' , bearing against the rear shorter arm of a two-armed lever r , fulcrumed at s , the longer arm of said lever impinging on or bearing against the rear end face of the locking-lever h , Fig. 1, or the locking-bar k , Fig. 2, and t is a spring connected to the trigger-guard strap at one end and having its opposite end so connected to said short arm of the safety-lever r as to hold the longer arm thereof substantially in alinement with said locking-lever h or bar k . The releasing-lever u

projects sufficiently from the trigger-guard strap *a*, so that when the gun-stock is grasped in rear of the trigger-guard the pin *a'* at the forward end of the releasing-lever *a* will tilt the safety-lever *r* to the right out of engagement with the locking-lever *h* or bar *k*, and thus admit of said lever or bar being operated by the trigger to disengage the sear from the hammer.

10 In practice we prefer to provide an additional safeguard in the form of a locking device arranged to lock the safety-lever *a* against motion under pressure of the hand, said locking device being so arranged that its disengagement from the lever can readily be effected by sliding the hand along the gun-stock toward the barrel, for instance, in the act of raising the gun to or after it has been raised to the shoulder for firing.

20 In Figs. 1 and 2 we have shown a suitable guard *c'* for the pin-triggers *a* and a suitable guard *c''* for the lever *a*. In Figs. 2, 5, and 6 the latch *c'* constitutes the forward portion of said guard *c''* and is pivoted to the latter.

25 The end of the latch portion *c'* of the guard *c''* is recurved and is held in normal engagement with a notch or recess in the forward vertical face of lever *a* by a spring *s*, secured to the fixed guard portion *c''* and extending along a recess in the latch portion *c'*. This latch *c'*

30 may be duplicated, as shown in Figs. 1, 3, and 4, one on each side of the guard *c''*, and adapted to engage suitable notches or recesses in the opposite sides of lever *a*, so that

35 should one of said latches become accidentally disengaged from said lever *a* from any cause the other will still hold said lever against motion until the other latch is also disengaged from said lever, both latches being simultane-

40 ously moved out of engagement with the lever by sliding the hand along the gun-stock, as above explained. The latch or latches *c'* may have flat faces *c''* formed at their pivoted end, Fig. 4, against which bears the spring *s*, so as to

45 hold said latch more firmly in locking and disengaged positions, requiring some force to move such latch from one position into the other. Should the gun be raised and made ready for firing and not fired, the lever *a* is to be

50 relieved of pressure, in the arrangement shown in Figs. 2, 5, and 6, before the hand is withdrawn from the guard *c''* to release the latch or latches *c'*, thereby enabling the spring *t* to depress said lever into position to be engaged

55 by said latch or latches when the hand is withdrawn from said guard. A jamming of the parts is thus rendered impossible, especially in view of the fact that the spring *t* is more powerful than the latch-actuating spring, Figs.

60 2, 5, and 6. In the construction shown in Figs. 1, 3, and 4 the hand may be withdrawn from the guard *c''*, because the spring *s* holds the latch in its disengaged position, so that it does not snap toward said lever when relieved

65 of the pressure, but must be forcibly thrown

into engagement with said lever against the stress of the spring exerted on one of the faces *c''*.

Having thus described our invention, what we claim as new therein, and desire to secure by Letters Patent, is

1. In a hand-firearm, a sear composed of two interlocking movable parts, a trigger adapted to move the rearward part out of engagement with the forward part, a spring-actuated hammer or tumbler adapted to be engaged by the forward end of the forward part of the sear and provided with a cam-face acting on said forward end to move it out of engagement with said hammer when said forward part is disengaged from the rearward part and a spring maintaining the hammer or tumbler and forward part of the sear in contact with each other, for the purpose set forth.

2. In a hand-firearm, a sear composed of two interlocking movable parts, a trigger adapted to move the rearward part out of engagement with the forward part, a spring-actuated hammer or tumbler adapted to be engaged by the forward end of the forward part of the sear and provided with a cam-face acting on said forward end to move it out of engagement with said hammer when said forward part is disengaged from the rearward part and a spring maintaining the hammer or tumbler and forward part of the sear in contact with each other, in combination with a safety locking device adapted to lock the rearward part of the sear against disengagement from the forward part and means for operating said locking device, for the purpose set forth.

3. In a hand-firearm, a sear composed of two substantially bar-shaped interlocking movable parts, a trigger adapted to move the rearward part out of engagement with the forward part, a spring-actuated hammer or tumbler adapted to be engaged by the forward end of the forward part of the sear and provided with a cam-face acting on said forward end to move it out of engagement with said hammer when said forward part is disengaged from the rearward part and a spring maintaining the hammer or tumbler and forward part of the sear in contact with each other, for the purposes set forth.

4. In a hand-firearm, a sear composed of two substantially aligned and bar-shaped interlocking movable parts, a trigger adapted to move the rearward part out of engagement with the forward part, a spring-actuated hammer or tumbler adapted to be engaged by the forward end of the forward part of the sear and provided with a cam-face acting on said forward end to move it out of engagement with said hammer when said forward part is disengaged from the rearward part and a spring maintaining the hammer or tumbler and forward part of the sear in contact with each other, for the purpose set forth.

5. In a hand-firearm, a sear composed of two

interlocking movable parts, a trigger adapted to move the rearward part out of engagement with the forward part, a spring-actuated hammer or tumbler provided with a cam-face terminating in an abrupt shoulder, the latter adapted to be engaged by the forward end of the forward part of the sear and said cam-face adapted to act on said forward end of the sear to disengage it from the aforesaid shoulder when the forward part of the sear is disengaged from the rearward part and a spring maintaining sear and hammer or tumbler in contact with each other, for the purpose set forth.

6. In a hand-firearm, a sear composed of two substantially bar-shaped abutting movable parts the forward end of the rear part of the sear provided with a lock-notch for the rear end of the forward part, a trigger adapted to move the rearward part out of engagement with the rear end of the forward part, a spring-actuated hammer or tumbler provided with a cam-face terminating in an abrupt shoulder adapted to be engaged by the forward end of the forward part of the sear, and said cam-face acting on said forward end to disengage it from the aforesaid shoulder when the forward part of the sear is disengaged from the rearward part, and a spring maintaining contact between the hammer or tumbler and said forward end of the sear, for the purposes set forth.

7. In a hand-firearm, a sear composed of two substantially bar-shaped and abutting parts, the forward end of the rearward part adapted to engage the rear end of the forward; in combination with a movable straight arm, means moving its outer end into engagement with the rear end of the rearward part of the sear and means moving said arm out of engagement therewith, for the purposes set forth.

8. The combination with the tumbler or hammer of a hand-firearm provided with a sear-notch; of a bar-shaped two-armed pivoted sear, a like-shaped trigger-controlled locking device in alinement with the sear, and an angular safety-lever arranged with one of its arms in alinement with the locking device, one arm of the sear engaging the aforesaid notch, one end of the bar-shaped locking device engaging the end of the other arm of said sear, and the arm of the safety-lever abutting against the rear end of the locking device when the hammer is at full-cock, a spring for each of said elements acting to maintain them in the relative positions described, and means adapted to be operated by pressure of the hand in grasping the gun-stock for disengaging the safety-lever from the locking device, for the purpose set forth.

9. The combination with the tumbler or hammer of a hand-firearm provided with a sear-notch; of a two-armed pivoted sear, one of the arms of which engages said notch when the hammer is at full-cock, a longitudinally-slid-

able and trigger-retracted locking-bar engaging the other arm of the sear when said hammer is at full-cock, and springs acting on the sear and locking-bar to maintain them in the relative positions set forth, for the purposes specified.

10. The combination with the tumbler or hammer of a hand-firearm provided with a sear-notch; of a two-armed pivoted sear, one of the arms of which engages said notch, a longitudinally-slidable and trigger-retracted locking-bar engaging the end of the other arm of the sear, and an angular safety-lever whose horizontal arm abuts against the rear end of said locking-bar when the hammer is at full-cock, springs acting on the sear-locking bar and safety-lever to maintain them in the relative positions set forth, and means acting on the vertical arm of the safety-lever by pressure thereon of the hand in grasping the gun-stock to release the locking-lever, for the purposes specified.

11. A gun-lock comprising a hammer, or tumbler and hammer, a sear, a trigger-operated locking device and a safety-lever, said parts arranged in substantially the same horizontal plane in the order named, engaging one another when the hammer is at full-cock and preventing the release of the tumbler or hammer through the trigger, and means for disengaging the safety-lever from the locking device, for the purpose set forth.

12. The combination with the sear, its trigger-operated locking device and a safety-lever adapted to engage and lock said locking device; of the lever *u* connected to and actuating said safety-lever and means locking lever *u* against motion, for the purpose set forth.

13. The combination with the sear, its trigger-operated locking-bar, and a safety-lever adapted to engage and lock said bar; of the lever *u*, a guard for said lever and a spring-controlled locking device pivoted to said guard and adapted to engage the forward end of the lever *u*, for the purpose set forth.

14. The combination with the gun-stock, the guard *x*, the lever *u* and the mechanism locked thereby; of a locking-latch pivotally connected with said guard and having its free ends recurved and adapted to engage a recess or recesses in said lever, said latch having flat faces *y*, *y'*, formed at its heel, and a spring secured to said guard and having bearing on one or the other of said faces according as the latch is moved into or out of engagement with said lever, for the purpose set forth.

In testimony that we claim the foregoing as our invention we have signed our names in presence of two subscribing witnesses.

FRANZ NEUBER.
JOSEPH TAMBOUR.

Witnesses:

JOSEF RUBARCH.
ALVISTO S. HOGUE.