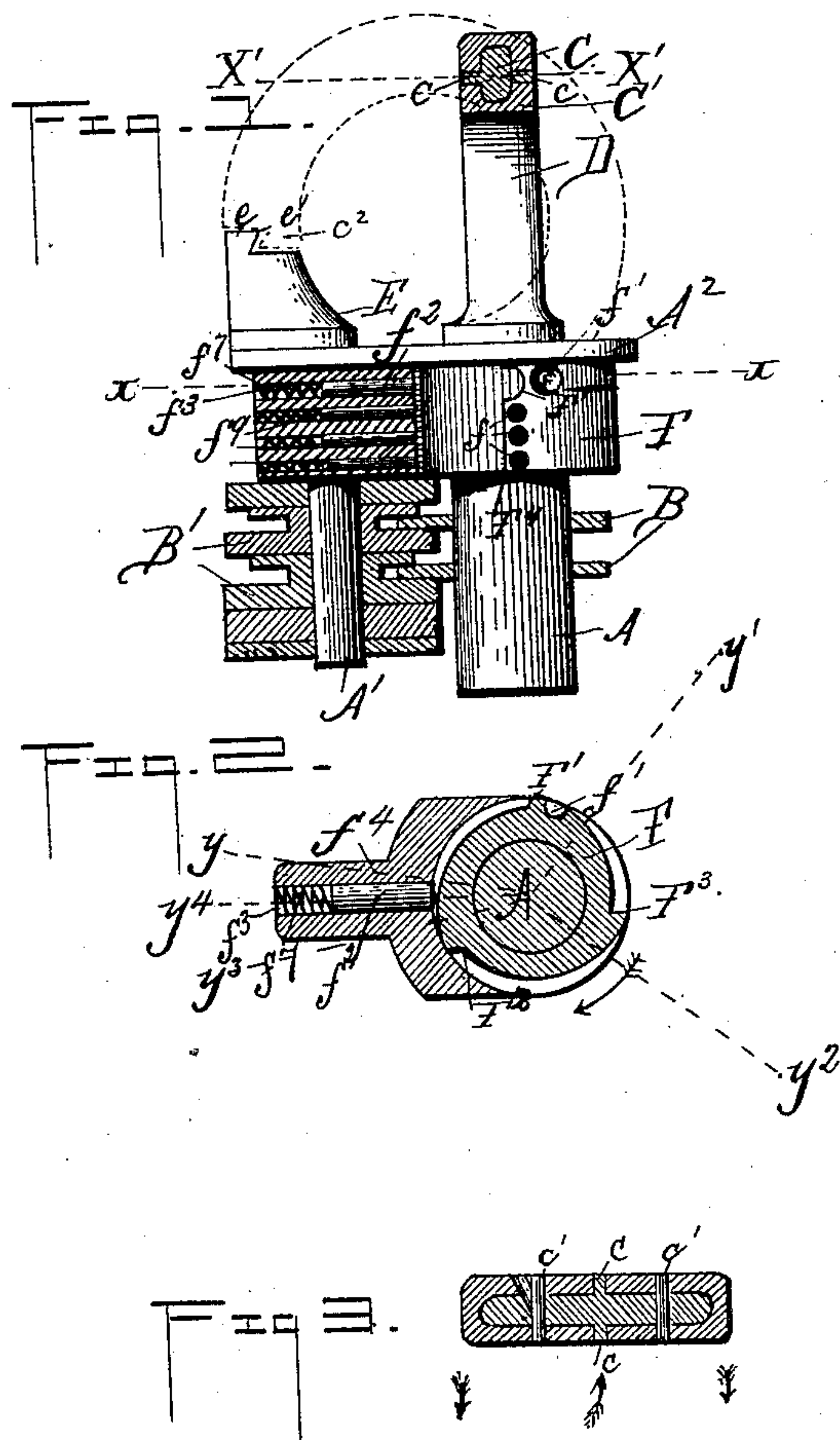


(No Model.)

W. F. BEASLEY.
REGISTERING LOCK.

No. 452,433.

Patented May 19, 1891.



WITNESSES:

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WILLIAM F. BEASLEY, OF BALTIMORE, MARYLAND.

REGISTERING LOCK.

SPECIFICATION forming part of Letters Patent No. 452,433, dated May 19, 1891.

Application filed September 2, 1890. Serial No. 363,786. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. BEASLEY, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Registering Locks; and I do 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 the letters of reference marked thereon, which form a part of this specification.

My invention consists in certain improvements in locks, and it more especially relates to the same class thereof as that to which the patent, No. 220,124, granted September 30, 1879, to Henry Clarke, belongs, upon which patent my present invention is an improvement, consisting in the following features designed to accomplish the hereinafter-mentioned objects. In order to prevent the lateral bending of the shackle of the lock, (which has heretofore been made of brass, as that has been found most advantageous on account of the facility with which it may be worked,) I cast the metal forming the outside thereof around a central core of steel, which is elliptical in cross-section, the major axis of the ellipse being vertical. This core, which I by preference secure in place by lugs upon its sides, may be formed of hard steel, so that upon a bending of the shackle it will be broken, preventing a concealment of the injury, such as would be attempted by any one tampering with the lock who would desire to conceal his attempt, and it will be seen that the core will strengthen the hasp not only against lateral bending, but against an attempt to straighten it. I may also form perforations extending through the said outer casing and core, the said perforations being normally in line with each other; and it is obvious that if a hasp having these perforations is bent, on account of the compression of the outer casing upon one side and the expansion upon the other, the perforations will no longer register, nor will there if the hasp be bent in the opposite direction, thus straightening it, as the outer casing will slide upon the metal of the core, leaving a ready means of ascertaining whether the hasp has

been subjected to violence. In order to prevent the backward movement of the barrel carrying the shackle, which in this class of locks is objectionable, as it renders the register thereof useless, and in order to relieve the locking-pins proper of the barrel from strains attending resistance to such backward motion, I provide an independent pin engaging shoulders arranged upon the barrel at different points on the circumference thereof, one of the said shoulders on the barrel being so situated as to be engaged by the said pin upon the locking-pins dropping in their holes in the barrel. It will thus be noticed that much of the strain that has heretofore been borne by the locking-pins is now carried by the independent pin, which, as it does not enter any holes, may be made much heavier than the locking-pins and may be slightly bent without impairing its efficiency.

My invention also consists in the construction, arrangement, and combination of the parts of which it is composed, as will be hereinafter more fully described and claimed.

Referring to the accompanying drawings, in which corresponding parts are designated by similar letters, Figure 1 is a side view of a lock constructed in accordance with my invention, the casing thereof being removed and the shackle being in section and being also shown in dotted lines in a locked position. Fig. 2 is a section on line X X of Fig. 1. Fig. 3 is a section on line X' X' of Fig. 1.

The barrel A is constructed in the manner as described in the said patent to Clarke and carries the indicating-wheels B thereon in the manner made known thereby, the post A', mounted on the top plate A², carrying the train-wheels B', which are also shown therein and now need no further description. The curved elliptical steel piece C (the major axis of which is vertical) is contained within the shackle D, which is formed upon the upper end of the barrel A, it being secured therein by lugs c upon its sides, which are held by the outer brass coating C' of the shackle which is cast around the core C, the perforations c' passing through the core C and outer coating C', as is seen in Fig. 5. If the shackle be bent in the direction indicated by the arrows and subsequently straightened, it will be found that the holes no longer reg-

ister, but have the relative position shown in dotted lines in Fig. 5, thus affording a means of detecting whether the lock has been tampered with. It will also be seen that if the steel is hard it will break if bent, thus giving additional evidence and at the same time strengthening the shackle against bending.

The projection E upon the top of the top plate A² has a shoulder e upon the outer end of its top, the inner face of the said shoulder being inclined and overhung, as at e', while the lower surface of the free end of the shackle has a shoulder c² upon its inner end, the outer face of the shoulder c² being inclined to correspond with the inner face of the shoulder e'. It will thus be seen that the said shoulders being engaged, as shown in dotted lines in Fig. 1, it will be exceedingly difficult to lift the end of the shackle in the direction indicated by the arrow in the said figure, which would straighten it.

The collar F, secured to the barrel A, has a series of shoulders F' F² F³ in the upper end thereof, the said shoulders being on the circumference of a circle taken at right angles to the axis of the barrel, while a shoulder F¹ extends entirely across the collar in the rear of the shoulder F' and the locking-holes f, the two latter being aligned, as seen in Fig. 1, while a depression f' is cut in the collar slightly in advance of the shoulder F', the said shoulders having rear square faces and inclined forward ones, the reverse being true of the depression.

In addition to the usual locking-pins f¹, which enter the locking-holes f, I provide an extra pin f², (preferably of a greater size than it is usual to make the locking-pins,) which is housed in the aperture f³ in the housings f⁴ on the base of the top plate A² and in the same plane as the shoulders F' F² F³ and depression f', with which the said pin is therefore adapted to engage. As the pin is aligned with the locking-pins, it will be seen that it will engage the rear square face of the shoulder F' when the locking-pins enter the holes f, thus relieving the locking-pins against any backward strain that may be exerted upon the shackle while in a locked position, the pin f² being held against the bottom of the shoulder by means of the usual spring f⁵. If the key be now inserted, the locking-pins will be forced outward, liberating the barrel, which may then be turned slightly in a forward direction (*i. e.*, that of the arrow in Fig. 2) until the locking-pins fall behind the shoulder F¹, again locking the barrel against backward rotation, the end of the shackle then having

the position γ . If the rotation be continued, the pin f² will engage the shoulder F², or, if further continued, the shoulder F³, the end of the shackle then being γ' and γ^2 , respectively. The rotation may be still further continued until the pin f² engages the depression f', again locking the barrel against backward rotation, the end of the shackle being now at γ^3 . If the movement be still further continued, the locking-pins will fall into the holes f, while the pin f² will engage the shoulder F', as has been described, the end of the shackle being now at γ^4 . I by preference so arrange the registering mechanism that the wheels will be actuated by the movement of the end on the shackle between γ^1 and γ , the latter point being at such a distance from the projection E that it will be impossible to release the hasp held within the shackle until the rotation has been registered. It will be seen that by this construction the locking-pins are relieved from all strain against backward rotation, except in position γ , while the registering wheels are entirely relieved from strain.

Having thus described my invention, what I claim is—

1. A shackle composed of flexible material having a central core of brittle material therein, as described.

2. A shackle of flexible material having a central core of brittle material therein, the said core having lugs upon its sides, as described.

3. A shackle consisting of an outer casing and a central brittle core and having perforations extending through the said parts, as described.

4. A shackle consisting of an outer flexible casing and a central brittle core of elliptical cross-section having lugs upon its sides, the said core and a casing having perforations extending therethrough, as described.

5. In a lock, the combination of a barrel having a collar thereon, the said collar having a shoulder extending across its surface and a series of independent shoulders upon its upper end extending around its periphery, pins locking the said barrel in position, and an independent pin engaging the said independent shoulders upon the collar, as described.

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

WILLIAM F. BEASLEY.

Witnesses:

W. S. ODELL,
V. M. DORSEY.