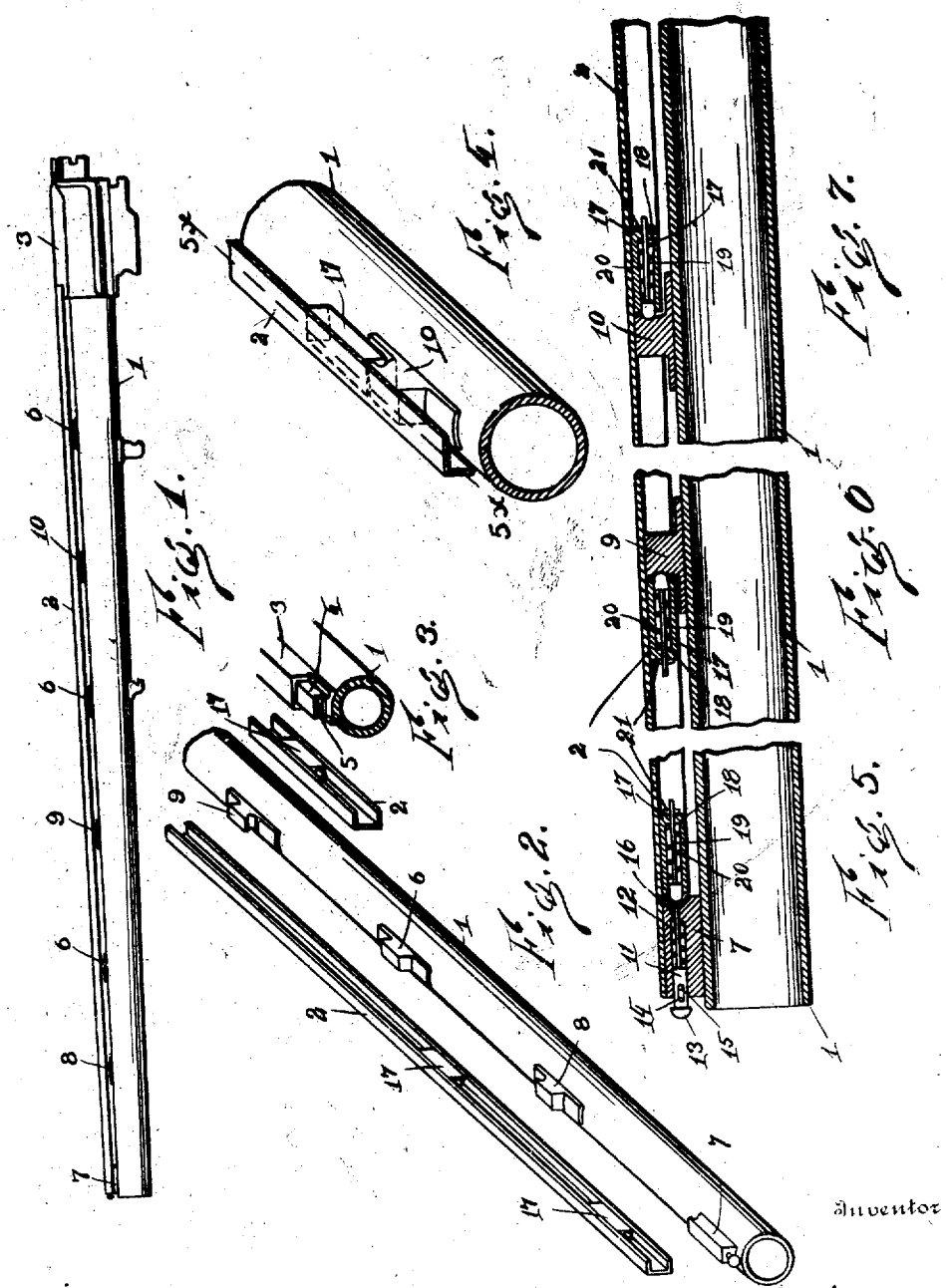
E. F. FLUES.

RIB FOR GUN SIGHTS.

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Witnesses

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RIB FOR GUN-SIGHTS.

1,160,157. Specification of Letters Patent. Patented Nov. 16, 1915.

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To all whom it may concern:

Be it known that I, EMIL F. FLUES, a citizen of the United States, residing at Ithaca, in the county of Tompkins and State of New York, have invented certain new and useful Improvements in Ribs for Gun-Sights, of which the following is a specification.

The object of this invention is to provide a new and improved rib for gun sights, the rib being mounted in such a way so as not to interfere with the lineal expansion and contraction of the gun barrel regardless of what might be the difference in temperature between the rib and the gun barrel. The rib is also mounted so as to be readily detached from the gun barrel when it is desired to remove it, yet it is held normally firmly in place on the barrel. The rib is also mounted so as to preserve good ventilation between it and the barrel so that the rib will not heat up, it being understood that the barrels of rifles and shot guns to which it is applied do heat up when fired rapidly sometimes as much as 300° above the surrounding air. This heating of the barrel sets the air along and above the barrel in vibration with heat waves which vibrations interfere with the sighting of the gun in the absence of the rib. The rib is so mounted that it will not heat up but will remain cool and will therefore not set up any heat waves on its own account and will deflect the heat waves that are set up by the heating of the barrel so that the air above the sighting rib will remain still and permit good sighting of the gun.

These and other objects of the invention will be fully illustrated in the drawings, described in the specification and pointed out in the claims at the end thereof.

In the drawings, Figure 1 is a side elevation of a gun barrel provided with my improved rib. Fig. 2 is a perspective view of the forward part of the gun barrel showing the rib removed therefrom and turned on its side. Fig. 3 is a perspective view of the rear part of the gun barrel with the rib removed therefrom and turned on its side. Fig. 4 is a perspective view of the gun barrel showing a portion of the rib thereon partly broken away. Figs. 5, 6 and 7 are vertical sections through the gun barrel, the sections being taken on the line 5ˣ—5ˣ of Fig. 4, and showing the devices by which the sighting rib is supported and held in place on the barrel.

In the accompanying drawings like reference numerals indicate like parts.

In the drawings reference numeral 1 indicates a gun barrel.

2 indicates a sighting rib therefor which rib extends substantially the length of the barrel. At the rear of the barrel is formed a block 3 integral with the barrel. At the forward end this block is cut away to form a reduced portion 4 having a shoulder between said reduced portion and the rest of the block. At the forward end the block is cut away at the bottom to form a projecting lip 5. This block is adapted to engage with and hold the rear end of the rib in place on the barrel.

On the barrel is formed a series of blocks such as is illustrated at 6 in Fig. 2. These blocks are all solid and their only function is to support the rib and hold it in alinement on the barrel. They do not have a locking function, the locking function being performed by other blocks that will now be described. Interspersed with these blocks are the blocks which are numbered 7, 8, 9 and 10.

The blocks 8, 9 and 10 are each formed with a projecting lip at the top, which lips project backward as shown in block 8 and forward as appears in block 9. The block 7 is also provided with a rearwardly projecting lip at the top. The block is also perforated longitudinally, the block being bored out from front toward the rear with a large opening leaving a shoulder near the rear end of the block through which extends a small opening, which opening is under the rearwardly extending lip of the block. In this opening a pin 11 extends through the block. As shown in Fig. 5 the pin 11 is large at one end and is reduced at the other end and has a rounded head 13 thereon. It is slotted as indicated at 14 and through this slot passes a pin 15 which is rigid in the block, which holds the pin 11 in place in the block and limits the travel thereof. The small end of the pin 11 extends clear through the block and projects under the lip at the rear end thereof. Surrounding the reduced end of the pin 11 and held in place between the large end of the pin and

the shoulder 16, formed in the block, is the spring 12 which presses the pin forward and holds it normally in the position shown in Fig. 5. The block 7 is the only block of those mounted on the gun barrel that is perforated and provided with a sliding pin.

The sighting rib 2 consists of a channel shaped bar having a series of blocks 17 fastened therein at suitable intervals to correspond with the placing of the blocks 7, 8, 9, 10 and 3 of the gun barrel with which the blocks serve to coöperate for holding the sighting rib in place on the barrel in the manner that will now be described. Each of these blocks is bored out to form an opening therein leaving a shoulder 18 at one end thereof, through which shoulder passes a small opening. In each of these blocks is mounted to slide a pin 19 having a small shank and a large head, the head forming a square shoulder with the shank. Between the head of the pin and the shoulder in the block is held a spring 20 which expands and moves the head of the pin away from the shoulder of the block. The small end of the pin is perforated transversely and has a pin 21 in said perforations, which pin 21 contacts with the end of the block and limits the travel of the pin 19, due to the expansion of the spring 20. The outer end of the head of the pin is rounded and is positioned so as to extend slightly outside of the block so as to be partially exposed. Each of these blocks 7, 8, 9, 10 and 3 are alike in the foregoing respects and are placed in the channel of the sighting rib with the rounded heads of their pins 19 pointing forward or back to correspond with the position of the projecting lips of the blocks on the barrel with which they are intended to coöperate.

As shown in Figs. 2 and 5 the block 17, at the forward end of the sighting rib, that is at the left hand end of the gun barrel, is positioned to abut directly against the lip at the rear end of the block 7 so that the large end of the pin 19 will project forwardly and engage under the lip formed at the rear end of the block 7. A similar block 17 will be positioned in the sighting rib with reference to the block 8 on the gun barrel so that the large head will engage under the rearwardly projecting lip of the block 8. A similar block 17 will be positioned on the sighting rib with reference to the block 9 on the gun barrel and as the block 9 has a forwardly projecting lip the block 17 will be positioned in the channel of the sighting rib forward of the block 9 with the large head of the pin projecting rearwardy from the block 17. The block 10 on the barrel has its projecting lip extending rearward and the block 17 on the rib will be placed to correspond with the big head of the pin projecting forward. For the block 4 at the rear end of the gun barrel a block 17 will be provided on the sighting rib with a spring pressed pin having a rearwardly projecting head to engage therewith.

It will be seen that the pins 19 are placed so that some of them tend to push the sighting rib in one direction and the others tend to push the sighting rib in the other direction and between these spring pressed pins 19 the sighting rib is held firmly in suspension on the gun barrel. These pins can yield when the barrel heats and expands, due to rapid firing and by yielding any interference with the expansion of the barrel and consequent distortion thereof is avoided.

Sufficient clearance is provided between the intermediate blocks on the gun barrel and the corresponding blocks on the rib so that they will not come directly in contact with each other, but they will be connected only by the pins 17.

As shown in the several figures the blocks 7, 8, 9 and 10 are cut away below the projecting lips with a sloping surface so that when the rounded heads of the pins 19 engage under the projecting lips they have ample room below so they can go firmly to place under the lips, the heads of the pins 19 being suitably rounded to facilitate the seating thereof.

For convenience the pins 19 may be referred to as latches or bolts and the blocks 7, 8, 9 and 10 etc., on the barrel with which they coöperate, may be described as having recessed ends with which said pins are adapted to engage.

In operation the rib is applied to the barrel with the block 17 at the rear end thereof nearly abutting against the lip of the block 4, and the sliding pin engaging under the lip of said block. The rib is then lowered into contact with the barrel throughout the whole length thereof with the sliding pins engaging with the projecting lips of their respective blocks on the barrel. The block 17 at the forward end of rib engages with the projecting lip of the block 7 at the front of the barrel. All of the pins 19 on the blocks 17 simultaneously engage with their respective blocks on the barrel and hold the rib in place permitting either a variable or equal expansion of the gun barrel throughout its length without interference therewith from the rib. The spring pressed pins 19 on the rib yieldingly compensate for the expansion of the barrel while they still maintain engagement therewith. It will be understood that a 34 inch gun barrel will lengthen as much as a $\frac{1}{16}$ of an inch when the gun is being rapidly fired with little or no lengthening of the sighting rib. When it is desired to remove the sighting rib the pin 11 will be pressed in. The rear end of the pin 11 will engage with the pin 19 and push it away from the projecting lip of the block 7 and permit the forward end of the

sighting rib to be moved vertically to disengage it from the block 7 after which the sighting rib may be readily pulled from the remaining blocks on the barrel.

The shape of the heads of the pins 19 is such as to cause their disengagement from the projecting lips with a slight pull but it will be understood that the engagement between the pin at the forward end of the sighting rib and the block 7 is greater than the engagement between the pins and the other blocks 8, 9, 10, etc. This engagement being sufficient to prevent any displacement of the sighting rib by a vertical pull thereon unless the pin 11 is pushed in.

I claim:

1. The combination of a gun barrel and a sighting rib therefor, yielding connections between said rib and said barrel by which said rib is held positively in place, said connections permitting the removal of said rib from said barrel at will.

2. The combination of gun barrel and a sighting rib therefor, yielding connections between said rib and said barrel by which said rib is held positively in place, said connections permitting the removal of said rib from said barrel at will, said connections permitting the barrel to expand and contract at will without interference therewith from said rib.

3. The combination of a gun barrel having recessed blocks thereon, a sighting rib having spring pressed pins thereon adapted to engage with the recessed blocks on the barrel and hold the rib in place thereon.

4. The combination of a gun barrel having recessed blocks thereon, a sighting rib having spring pressed pins thereon adapted to engage with the recessed blocks on the barrel and hold the rib in place thereon, the pin at the end of the rib having a greater engagement with its block on the barrel than the remaining pins have with their blocks, means for disengaging said end pin from its block to permit the removal of the rib from the gun.

5. The combination of a gun barrel having recessed blocks thereon, a sighting rib having spring pressed pins extending longitudinally therein adapted to engage with the recessed blocks on the barrel, some of said pins pressing forwardly on said blocks and others of said pins pressing rearwardly on said blocks, said rib being held suspended on said barrel by said pins.

6. The combination of a gun barrel having recessed blocks thereon, a sighting rib having spring pressed pins thereon adapted to engage with the recessed blocks on the barrel and hold the rib in place thereon, blocks intermediate said recessed blocks for supporting said rib and holding it in alinement.

7. The combination of a gun barrel having recessed blocks thereon, a sighting rib having spring pressed pins thereon adapted to engage with the recessed blocks on the barrel and hold the rib in place thereon, the pin at the end of the rib having a greater engagement with its block on the barrel than the remaining pins have with their blocks, a pin in the end block on the barrel adapted to push the end pin on the rib out of engagement with the end block on the barrel to permit the removal of the rib from the gun.

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

EMIL F. FLUES.

Witnesses:

ERIC ISCHINGES,

EDNA K. BOOTH.