S. P. SMURR.

CUT-OUT FOR EXHAUST PIPES.

APPLICATION FILED JAN. 12, 1920.

1,400,325. Patented Dec. 13, 1921.

Fig. 1.

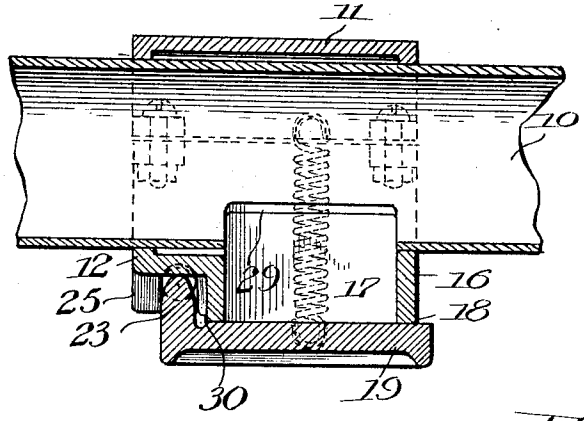


Fig. 2.

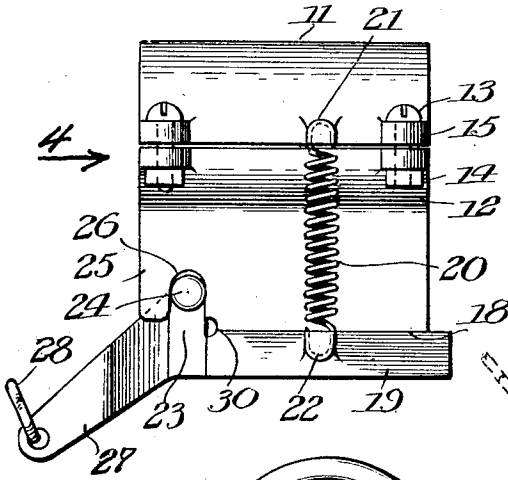


Fig. 3.

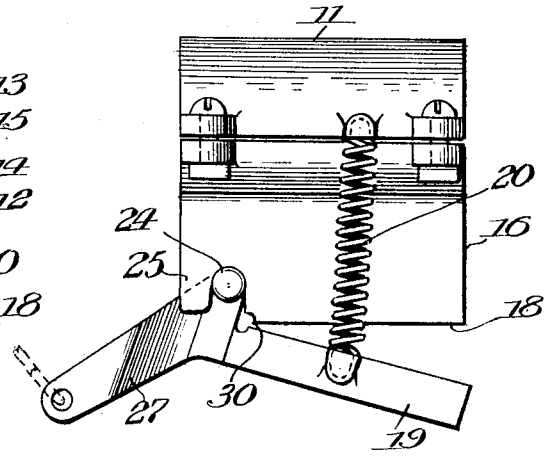
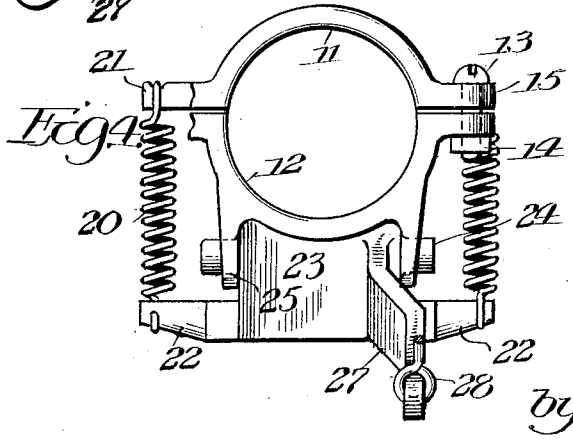


Fig. 4.



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CUT-OUT FOR EXHAUST-PIPES.

1,400,325. Specification of Letters Patent. Patented Dec. 13, 1921.

Application filed January 12, 1920. Serial No. 350,792.

To all whom it may concern:

Be it known that I, SAMUEL P. SMURR, a citizen of the United States of America, and a resident of Chicago, county of Cook and State of Illinois, have invented certain new and useful Improvements in Cut-Outs for Exhaust-Pipes, set forth in the following specification.

My invention relates to a cut-out designed to be applied to the exhaust pipe of an internal combustion engine, and has for its object improvements in a device of that character.

In the accompanying drawings,

Figure 1 is a central longitudinal section of a portion of the exhaust pipe with the cut-out attached;

Fig. 2 is a side elevation of the cut-out in a closed position;

Fig. 3 is a similar elevation in a partially open position; and

Fig. 4 is an end elevation in the direction of Fig. 2.

The body of the cut-out consists of an upper half 11 and a lower half 12 which are secured together by bolts 13 and nuts 14 applied to lugs 15 on said halves. As so constructed, the two halves are readily clamped upon an exhaust pipe 10, as shown in Fig. 1.

Extending downwardly from the lower half is a rectangular or box-shaped portion 16 which provides a channel 17 connecting the interior of the body with the outside. The lower face 18 of the portion 16 is ground flat and the open lower end of channel 17 is closed by a flat plate 19 held against the face 18 by springs 20 extending from lugs 21 on the upper half or cap 11 to lugs 22 on plate 19.

At one end the plate 19 extends beyond the box portion 16, and on this extension is an upwardly projecting lug 23 which has thereon laterally projecting pins 24. The box portion 16 has wings 25 which extend over the pins 24, but which are normally clear of the pins as shown at 26 in Fig. 2. Integral with plate 19 and lug 23 is an arm 27, to which arm there may be connected a chain 28 extending to a convenient place for operating the cut-out.

The exhaust pipe 10 has a cut 29 made therein, as shown in Fig. 1, and the cut-out is clamped to the pipe so that the upper end of the channel 17 will match the opening 29. With the springs 20 holding the plate 19 against the face 18, exhaust cannot pass from the pipe 10 through the opening 29 to the outside air. But by a pull upon the chain 28, the plate 19 is given a pivotal movement to open the channel 17 and permit the escape of exhaust therethrough.

In this pivotal movement, the plate first turns upon the corner 30 as a pivot, until the pins 24 close up the gaps 26 over them, after which the plate turns upon said pins as a pivot. Upon releasing the strain upon chain 28, the springs 20 operate to close plate 19 by causing it to turn upon pins 24 until the plate strikes the corners 30, and thereafter the plate turns upon said corners until closed.

In the construction described, the plate 19 is connected to the body of the cutout only by the initial tension given to springs. The pivoting pins 24 are normally entirely free from the wings 25 except as they engage the sides of the slots in said wings to properly position the plate 19 on the lower open end of the box 16. There is no drilling for pivotal connections and no permanent connections of any kind. The plate 19 is simply placed against face 18 and the spring 20 attached. The construction which provides two pivoted points upon which the plate 19 turns successively is one which makes it possible to retain a tight joint at face 18 no matter what the wear may be. As the pins 24 may be anywhere in the slots in wings 25 when plate 19 is closed, it will be evident that no wear on either pins or slots will affect the closure. The other wearing point is the corner 30, and an inspection of Fig. 1 will make it evident that a rounding of this corner by wear will not affect the joint between 16 and 19.

What I claim is:

1. In a device of the class described, a body providing a channel from its interior to its exterior, a plate serving to close the exterior end of said channel, connections by which the plate may be opened, and two pivot points upon which said plate moves in succession when being opened or closed.

2. In a cut-out, a body providing a channel from its interior to its exterior, a plate for closing said channel, said plate having pins arranged to slide in slots in said body when the plate is opened or closed, springs for holding the plate closed, and

connections for opening the plate against the action of said spring.

3. A body providing a channel from its interior to its exterior, a plate arranged to close said channel, a spring serving the double purpose of connecting the plate to the body and holding said plate in its closed position, connections by which said plate may be moved away from the channel to open it, and a guide on the body for preventing lateral displacement of the plate when the channel is opened.

SAMUEL P. SMURR.