

(No Model.)

E. NORTON.

POURING NOZZLE FOR SHEET METAL CANS.

No. 437,231.

Patented Sept. 30, 1890.

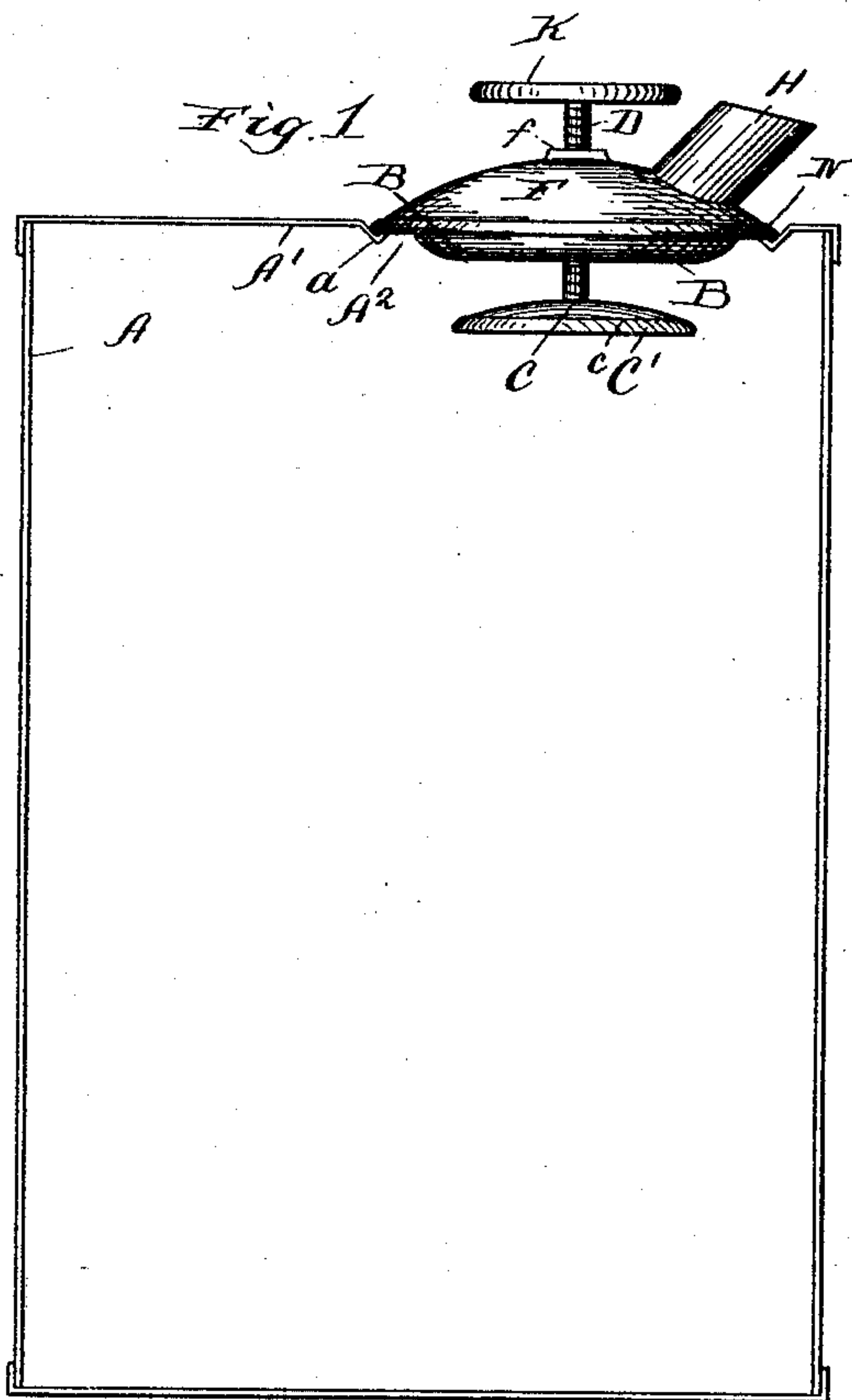


Fig. 3.

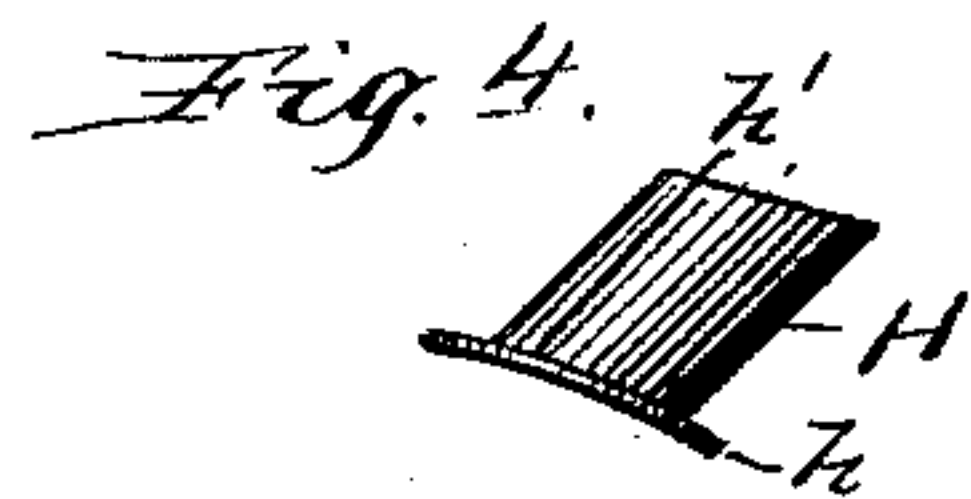
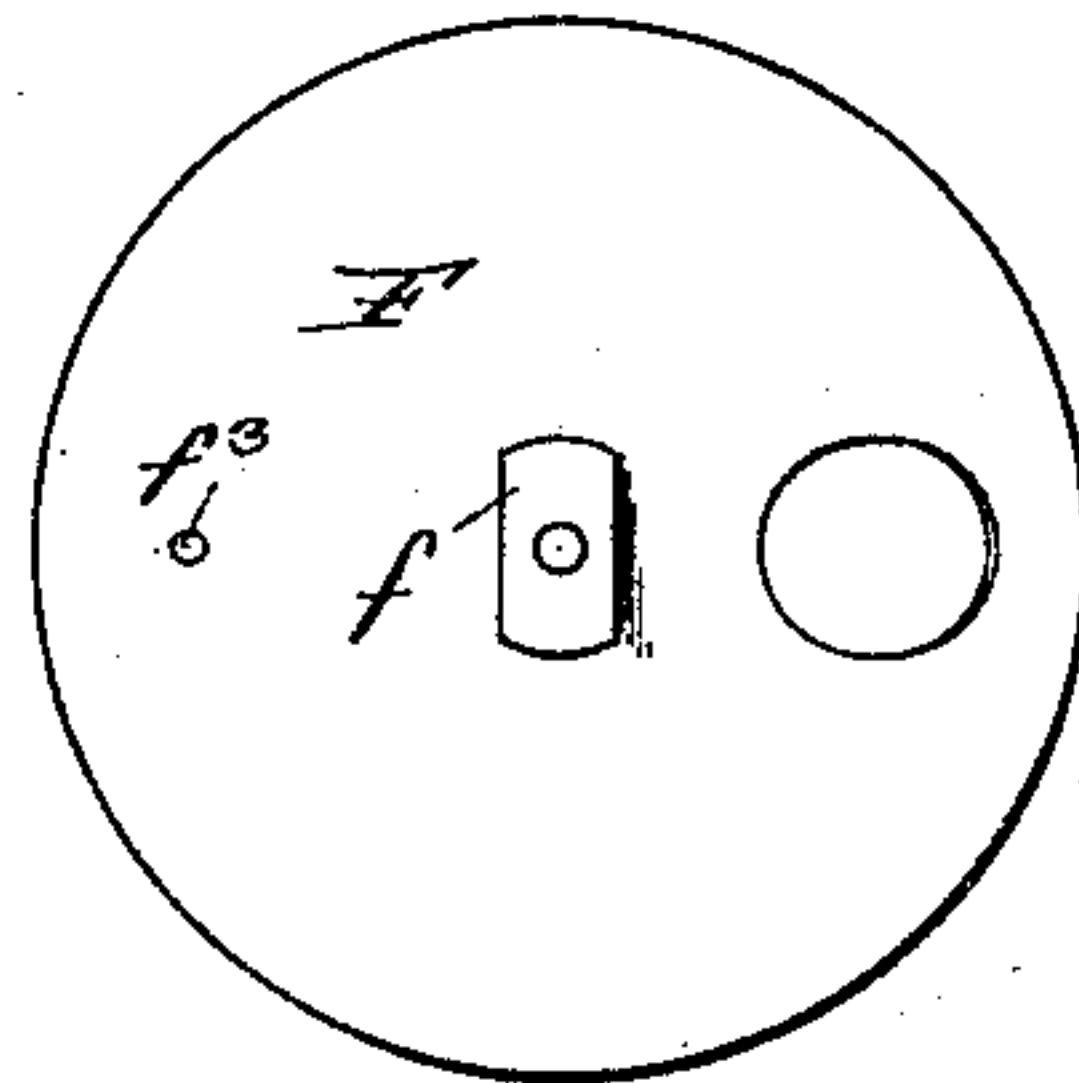


Fig. 5.

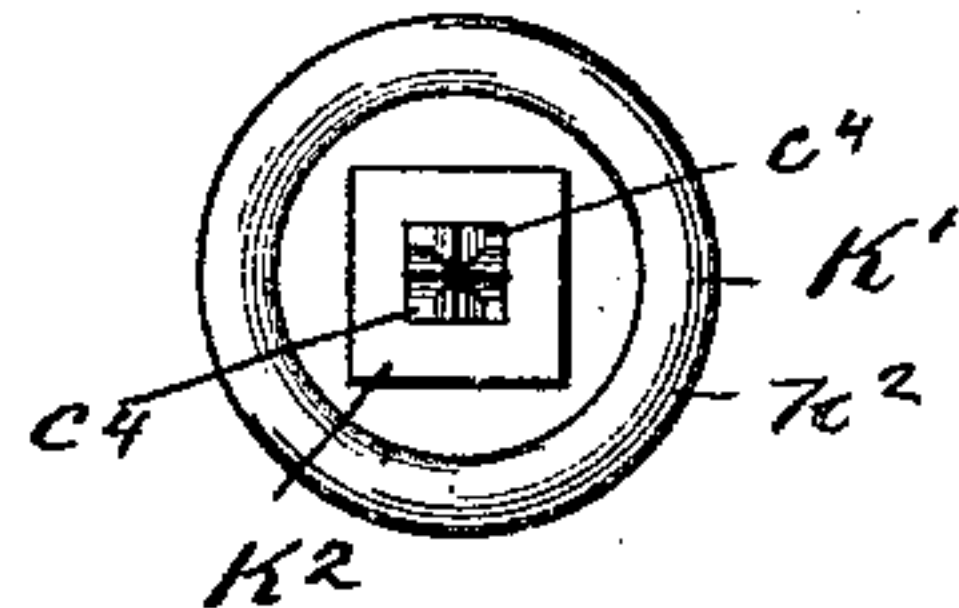
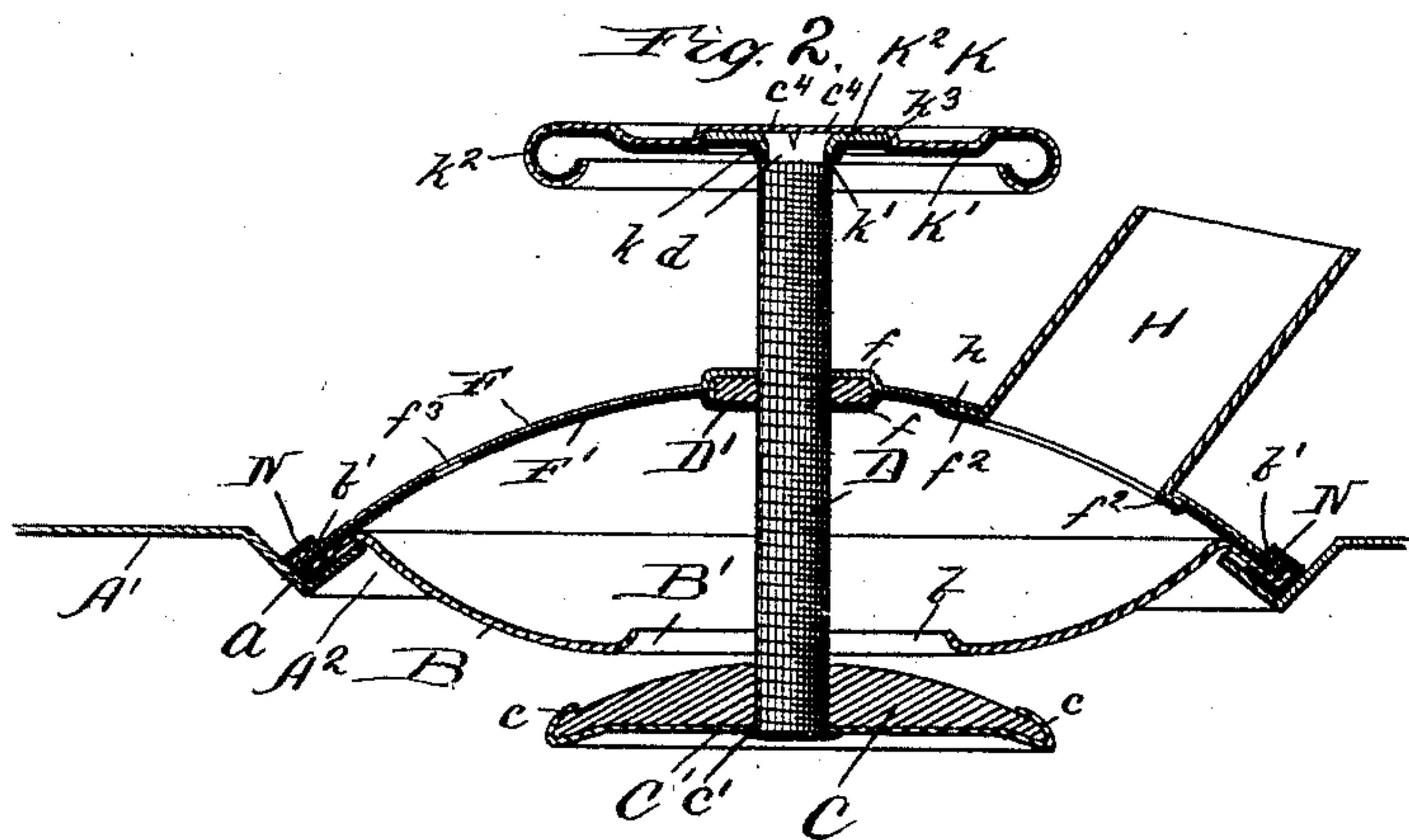
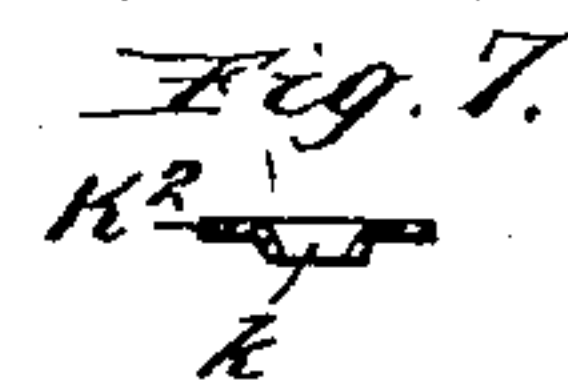
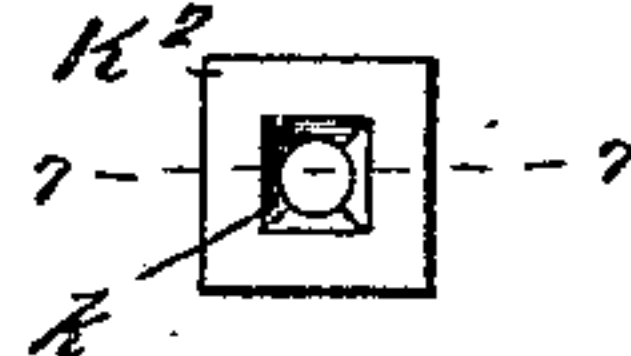


Fig. 6.



Witnesses:

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UNITED STATES PATENT OFFICE.

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POURING-NOZZLE FOR SHEET-METAL CANS.

SPECIFICATION forming part of Letters Patent No. 437,231, dated September 30, 1890.

Application filed March 10, 1890. Serial No. 343,240. (No model.)

To all whom it may concern:

Be it known that I, EDWIN NORTON, a citizen of the United States, residing at Maywood, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Pouring-Nozzles for Sheet-Metal Cans, of which the following is a specification.

My invention relates to pouring-nozzles for oil-cans and other vessels.

Heretofore pouring-nozzles have usually been constructed of a number of different pieces of sheet metal soldered together, and, owing to the shape and construction of the different pieces, it has usually been necessary or customary to solder many of the pieces together by hand, so that the nozzles are of a comparatively expensive construction.

The object of my invention is to produce a pouring-nozzle and cap for closing the opening in the can through which it is filled of a simple, strong, efficient, and durable construction, the different pieces or parts of which may be cheaply and rapidly made by machinery and assembled or put together without solder.

To this end the invention consists in the novel devices and novel combinations of parts and devices herein shown and described, and more particularly pointed out in the claims.

In the accompanying drawings, which form a part of this specification, and in which similar letters of reference indicate like parts, Figure 1 is a side elevation of a device embodying my invention, the can to which it is applied being indicated in section. Fig. 2 is an enlarged sectional view of the pouring-nozzle. Fig. 3 is a plan view showing the upper plate or disk of the nozzle with the valve-screw, thumb-piece, and spout removed. Fig. 4 is a side view of the spout. Fig. 5 is a detail plan view of the thumb-piece with its upper or covering disk removed. Fig. 6 is a plan view of the washer. Fig. 7 is a section on line 7 7 of Fig. 6.

In the drawings, A represents the can, and A' the upper head or cover, having the opening A² through which the can is filled. The opening A² is surrounded by the usual V-shaped cap-groove *a* to form a seat for the nozzle or cap disk B, which is soldered in place

therein. The nozzle or cap disk B is provided with the valve-opening B', which is closed by the valve C. The valve-seat *b* is formed by turning in the annular edge of the disk B, surrounding the opening B'. It is clearly shown in Fig. 2. The valve C consists of an oval disk of cork or other suitable material supported on a metal disk C', having a flange or edge *c* turned over the cork disk, so as to embrace and secure the same. The valve-disk C' is furnished with a central hole *c'*, through which the valve-stem D is inserted, and secured by soldering. The valve-stem D is screw-threaded and works in the threaded nut D', which is secured between the upper or dome disks F F' of the nozzle. The dome or bridge disks F F' of the nozzle are one or both, preferably both, furnished with countersinks or pockets *f* to receive the nut D'. The countersinks or pockets *f f* correspond to the nut in outline, so that they serve to hold the nut from turning and to fix it readily and securely in place.

The dome or bridge disks F F' are securely clamped together, and at the same time united to the cap or valve-seat disk B by folding or crimping the flange of one of the disks over the other two, preferably the flange or edge *b'* of the disk B over the two dome-shaped plates or disks F F'. The flange, crimp, or fold *b'*, by which the three plates or disks F F' B are readily united together, may be formed in any suitable manner or by any suitable means.

H is the pouring-spout. It consists, preferably, of a short cylindrical tube having its ends cut at an angle about as shown in the drawings. The lower end of the spout is furnished with a flange *h*, the plane or surface of which is or should be curved to fit the curvature of the upper or bridge disks F F' of the nozzle. The spout is secured in place by inserting its flange *h* between the dome-disks F F', so it will be clamped and held rigidly between them, one of the disks, and preferably the lower disk F', being provided with a countersink *f*² to receive the flange of the spout.

Owing to the curved or spherical form of the disks F F' and to the elliptical outline of the inclined end of the spout H and its flange

h, the spout is rigidly locked and held in place, so that it cannot turn. The side seam h' of the spout is preferably soldered. It will of course be understood that the nut D', as well as the spout H, is inserted in place between the plates or disks F F' before said disks are secured together by folding or seaming the flange b' of the disk B over the same. The disks F F' are provided with a vent f³.

10 K and K' are the thumb-piece disks by which the screw-threaded valve-stem D is turned, and K² is a washer embraced between the disks K K' and to which the shouldered or offset end d of the valve-stem is riveted.

15 The washer K² is preferably of rectangular form, and is provided with a rectangular countersink k, into the corners of which the quarters c⁴ of the divided end of the shouldered valve-stem are bent or riveted, so as to prevent any possibility of the valve-stem turning in the washer K², and whereby the valve-stem is rigidly and firmly secured to the washer. The lower thumb-piece K' is furnished with a hole k', through which the offset end d of the valve-stem is inserted, so that the disk K' may rest upon the shoulder d of the valve-stem.

The rim or edge of the disks K K' are formed into a roll k², and the outer surface of the roll is milled or knurled to afford a bearing for the thumb. The roll k² serves also to bind and clamp the two disks K K' rigidly and firmly together and the washer K² between them. The upper thumb-disk K is furnished with a countersink k³, corresponding to the washer K², to prevent the washer turning in respect to the disks and to fix the washer rigidly in place.

The opening in the outer dome-disk F to receive the spout should be slightly oval or elliptical to correspond to and properly receive the end of the spout H.

N is a ring of sheet solder folded over the rim of the cap or nozzle-disk B for use in soldering said disk in the cap groove or seat a of the can-top, and simultaneously uniting or soldering together the plates B and F F'.

The several parts of my combined can-cap and valved pouring-nozzle, it will be observed, are rigidly and tightly secured and combined together without the use of solder, with the single exception of the solder used to unite the valve-stem D to the valve-disk C', and for this reason I am enabled to make, assemble, and secure together the various parts very rapidly and cheaply, and at the same time I produce a much stronger, neater, better, and more durable valved pour-out nozzle than those heretofore generally in use.

60 I claim—

1. In a valved pouring-nozzle for cans, the combination of a valve-seat disk B, a valve C, a threaded valve-stem D, a nut D', a pair of dome or bridge disks F F', a spout H, having flange h, said nut D' and the flange of said spout being embraced and clamped between said disks F F', and said disks F F'

being secured together and to said disk B by a flange or fold b' on said disk B, substantially as specified.

2. In a valved pouring-nozzle for cans, the combination of the valve-seat disk with a valve and threaded valve-stem, a spout, a nut in which said valve-stem is mounted, and a pair of dome or bridge disks by and between which said nut is clamped or embraced, all three of said disks having concentric rims adapted to fit in the cap groove of the can, so that said disks may be all soldered securely together by the act of soldering the nozzle in place on the can, substantially as specified.

3. In a valved pouring-nozzle, the combination of the valve-seat disk with a pair of dome or bridge disks, a valve, valve-stem, and nut mounted upon said dome-disks, said nut being clamped between said dome-disks, one of said disks having a flange folded over the other disk, whereby they are secured together temporarily and adapted to be permanently soldered together by the act of soldering the nozzle in place in the cap-groove in the can, substantially as specified.

4. In a valved pouring-nozzle for cans, the combination of a valve and a valve-seat disk with a pair of upper dome or curved disks F F' and a spout having a flange embraced and clamped by and between said disks F F', substantially as specified.

5. The combination of the valve-seat disk with a valve and threaded valve-stem, a nut in which said valve-stem is mounted, and a pair of dome or bridge disks by and between which said nut is clamped or embraced, said valve-seat disk having a flange folded over said dome or bridge disks, whereby they are clamped and secured together and adapted to be simultaneously soldered in place and together in the cap-groove of the can, substantially as specified.

6. In a valved pouring-nozzle for cans, the combination of a valve-seat disk and valve with a pair of upper disks F F' and a spout having a flange embraced and clamped by and between said disks F F', said valve-seat disk having a flange b' folded or crimped over said disks F F', whereby they are secured together and adapted to be simultaneously soldered in place and together in the cap-groove of the can, substantially as specified.

7. The combination of the valve-seat disk with a valve and threaded valve-stem, a nut in which said valve-stem is mounted, and a pair of dome or bridge disks by and between which said nut is clamped or embraced, said bridge or dome disks being provided with a countersink to receive said nut and prevent its turning, all three of said disks having concentric rims adapted to fit in the cap-groove of the can and be simultaneously soldered in place and together, substantially as specified.

8. In a valved pouring-nozzle for cans, the combination of a valve-seat disk and valve with a pair of dome shaped or curved upper

disks F F' and a spout having a flange embraced and clamped by and between said disks F F', one of said disks having a countersink to receive the flange on said spout, substantially as specified.

9. The combination of a valve-seat disk B, valve C, valve-disk C', threaded valve-stem D, nut D', nut-supporting disks F F', secured to said disk B, thumb-piece K K', secured to said valve-stem D and furnished with a roll *k* to secure them together, and washer K², clamped between said disks K K', substantially as specified.

10. The combination of a valve and valve-stem D, having shouldered end *d*, and a rectangular countersink washer K², the end of

said valve-stem being divided and spread into the corners of said countersink to prevent the washer turning, and thumb-piece disks K K', secured to said valve-stem by said washer, substantially as specified.

11. The combination of a valve and screw-stem D, having shouldered end with washer K² riveted thereon, and thumb-disks K K', having their rims rolled together and clamping said washer between them, substantially as specified.

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Witnesses:

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