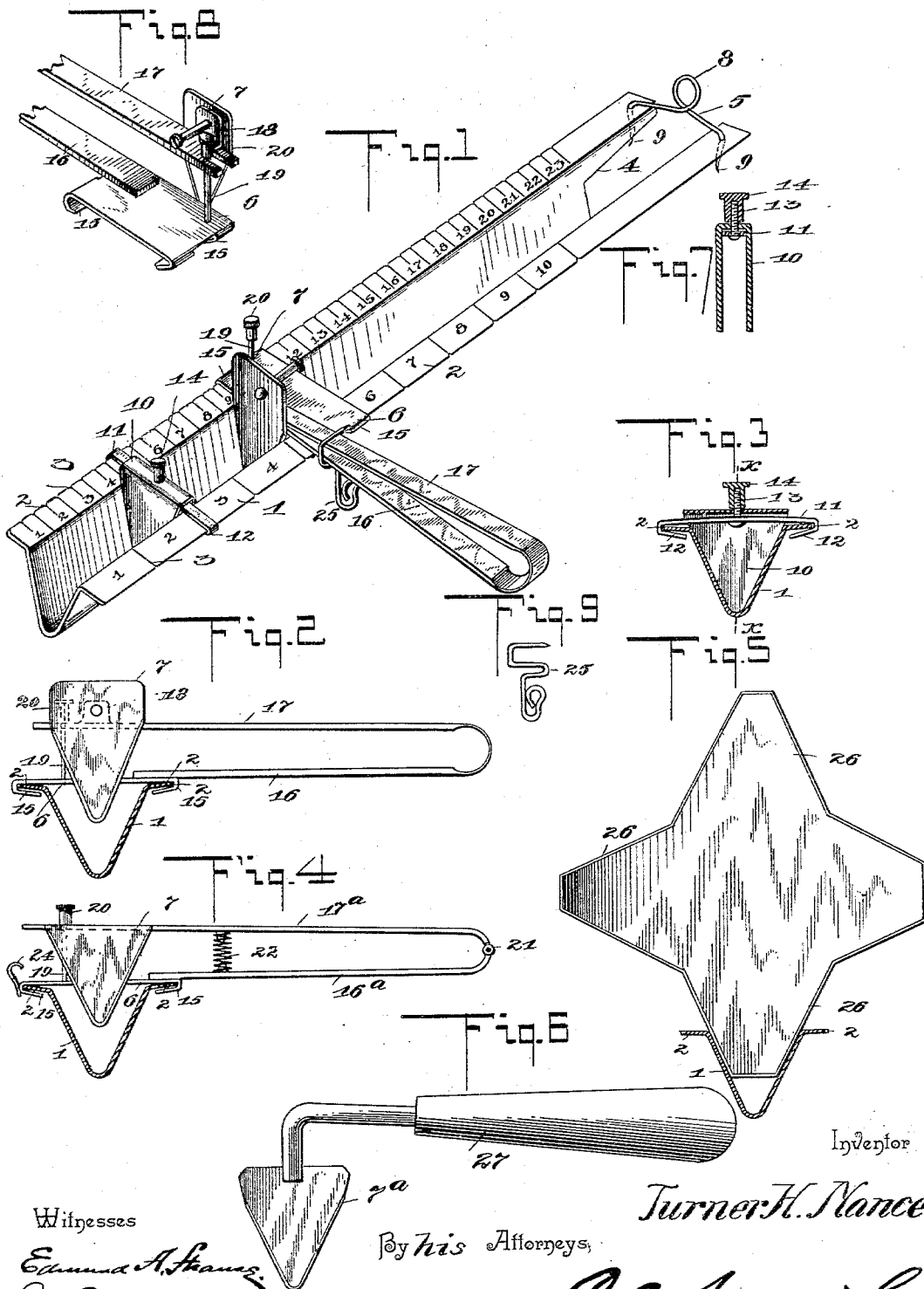


(No Model.)

T. H. NANCE.
POWDER DIVIDER.

No. 597,188.

Patented Jan. 11, 1898.



Inventor

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UNITED STATES PATENT OFFICE.

TURNER HUNT NANCE, OF TALLADEGA, ALABAMA.

POWDER-DIVIDER.

SPECIFICATION forming part of Letters Patent No. 597,188, dated January 11, 1898.

Application filed June 16, 1896. Serial No. 595,806. (No model.)

To all whom it may concern:

Be it known that I, TURNER HUNT NANCE, a citizen of the United States, residing at Talladega, in the county of Talladega and State of Alabama, have invented a new and useful Means for Dividing Powder, &c., of which the following is a specification.

This invention relates to means for dividing powders and other substances into any required equal number of parts, and is designed especially for the pharmacist, to facilitate filling prescriptions requiring a given quantity of medicament to be subdivided into a required number of parts of equal bulk.

For a full understanding of the merits and advantages of the invention reference is to be had to the accompanying drawings and the following description.

The improvement is susceptible of various changes in the form, proportion, and the minor details of construction without departing from the principle or sacrificing any of the advantages thereof, and to a full disclosure of the invention an adaptation thereof is shown in the accompanying drawings, in which—

Figure 1 is a perspective view of the improved means for attaining the objects of this invention. Fig. 3 is a transverse section thereof, showing the blade released. Fig. 3 is a detail view in section of the adjustable gate. Fig. 4 is a view similar to Fig. 2, showing a different construction. Fig. 5 is a detail view of a leveler for uniformly distributing the powder or substance to be subdivided in the trough. Fig. 6 is a side elevation of a different form of blade for penetrating and dividing the powder or substance to be separated. Fig. 7 is a cross-section of the gate on the line X X of Fig. 3. Fig. 8 is a detail perspective view of the slide, blade, and connections. Fig. 9 is a view of the clip for holding the arms together.

Corresponding and like parts are referred to in the following description and indicated in the several views of the drawings by the same reference-characters.

The device consists, essentially, of a trough for containing the powder or substance to be divided and a blade to cooperate with the trough for separating the substance into the required number of parts, the latter being determined by properly-graduated scales im-

printed or otherwise provided on the trough at a convenient point.

The trough 1 may be of metal, vulcanite, porcelain, glass, or other suitable material, and in cross-section is approximately of V form, the lower portion being rounded, so as to admit of the powder or substance being more readily moved along the trough by means of the blade when the device is in use. Longitudinal lips or flanges 2 are provided along the edges of the trough and serve to strengthen and stiffen the latter and at the same time provide for the reception of graduated scales 3, by means of which the powder or other substance to be parceled can be subdivided into any required number of equal parts. The graduations or scales on one lip or flange will indicate small divisions, whereas the scales on the opposite lip or flange will denote large divisions, the scale being selected which will meet the requirement. The lower portion of the trough is cut away at the delivery end, as shown at 4, to provide for the escape of the portion of the powder or substance separated, and a stop 5 is located at the delivery end to limit the movement of the slide 6, carrying the blade 7, by means of which the separating or subdividing of the substance is effected. The stop 5 is constructed of a length of wire which is doubled upon itself and formed into an eye 8 at the fold, so as to afford a finger-grip, and has the portions upon opposite sides of the eye projecting in opposite directions and the terminal portions 9 bent so as to extend parallel with each other and extend through openings provided in the rear end portions bordering upon the cut-away part 4.

The trough is open at its rear end and is closed at its opposite or front end by a gate 10, which in elevation approximates the form of the trough in cross-section, so as to snugly fit therein. This gate is movable, so it can be set to correspond with the zero of either scale or so it can be adjusted to any required point in the length of the trough, thereby obviating the necessity of moving the fractional part of a powder or substance the full length of the trough when subdividing the same. The gate is formed so as to have a space at its upper end through which extends a strip 11, having its end portions 12 recurved or

bent, so as to embrace the lips or flanges 2. A threaded stem 13 extends from the strip 11 and passes loosely through an opening in the outer end of the gate and receives a thumb-nut 14, by means of which the strip 11 and outer end of the gate are caused to advance toward each other, thereby resulting in forcing the gate into the trough and causing the bent ends 12 of the strip to bind against the under side of the lips or flanges 2, thereby fixing the gate in the located position.

The slide 6 is a plate having its end portions 15 bent or recurved, so as to embrace the lips or flanges 2, by means of which the slide is held in place upon the trough. Arms 16 and 17 have connection with the slide 6 and are united so as to move relatively to each other, the lower arm 16 being attached directly to the slide, and the upper arm 17 having an elastic connection with the outer end of the arm 16, whereby the inner or free end of the said arm 17 will normally stand away from the slide and the corresponding end of the arm 16. The arm 17 has a lug 18, to which is connected the blade 7, the latter being constructed so as to snugly fit within the trough and touch the bottom and sides thereof, so as to thoroughly separate the portion of the powder or substance divided by projecting the blade across the space formed between the bottom and sides of the trough. A post 19 is secured to the slide and projects about at right angles therefrom, and is threaded at its upper or outer end and receives a button or nut 20. The end of the arm 17 is notched to receive the post 19, thereby directing the arm 17 in its movements, whereby the blade 7 in its upward or outward movement will be held so as to bear against the adjacent edge of the slide, which latter serves as a scraper to remove any powder or substance which may tend to cling or adhere to the blade when the latter is moving, so as to free the portion separated. The arms 16 and 17 may form parts of a stout strip, which latter is reduced at the fold, so as to provide a spring or elastic connection, whereby the arms will normally stand apart and thereby move the blade 7 outward when released.

In Fig. 4 the arms 16^a and 17^a are connected by a hinge-joint 21 and are held apart by an interposed spring 22, which latter is retained in place by having teats 23 on the inner or opposing sides of the arms enter the ends of the spring 22. The blade 7 may be attached to the arm 17^a similar to the manner of connecting the blade with the arm 17, or in any convenient way, and, as shown, the lug is dispensed with and the blade has direct attachment with the arm, being soldered or brazed thereto. When leveling the powder or substance in the trough, it is essential that the blade 7 be retained within the trough, so as to close the latter, and to effect this result suitable means are resorted to, and, as shown in Fig. 4, the same consists of a catch 24, which latter is hinged or pivoted to the

slide 6 and is adapted to engage over the free end of the arm 17^a, and in Fig. 1 the said means consists of a clip 25, which is constructed of a length of wire bent so as to embrace the arms 16 and 17 and having a projecting portion to be grasped between the fingers when placing the clip in position or removing it from the arms.

In order to secure the advantages of the invention, the powder or substance to be subdivided must be leveled in the trough, and as the depth will vary according to the bulk of the substance and the number of portions into which it is to be subdivided so different levelers must be provided to project into the trough the required distance. As shown in Fig. 5, the leveler consists of a plate having a series of points 26 grouped about a common center, the points 26 corresponding to the form of the trough in cross-section and being truncated, so as to extend into the trough a greater or less distance. The edges of the points are beveled, so that the leveler may the better perform the work for which it is designed.

A powder or substance of given bulk being required to be subdivided into a desired number of equal parts is placed within the trough between the gate 10 and the blade 7, the latter being held projected across the trough by the retaining means herein described, or in any way so as to secure the desired end. By means of the leveler the substance is uniformly distributed throughout the trough between the gate and blade, the required point of the leveler being selected so as to distribute the substance smoothly and uniformly and to an equal depth throughout the portion of the trough located between the gate and blade. The arm carrying the blade is now released and the blade will spring outward, and by moving the slide to the required point, which may be determined by the scale previously selected, and moving the blade inward a portion of the substance will be divided, and by sliding the part 6 toward the delivery end of the trough the portion previously separated will be discharged from the trough through the escape provided by the cut-away part 4. This operation is repeated until the substance has been subdivided.

In order to facilitate the positioning of the slide, the edges of the lips or flanges 2 are nicked at points corresponding to the graduations, so that the nail of the forefinger or any finger of the hand may enter the nick, and thus provide a stop to limit the movement of the slide when moving it to a new position prior to depressing the blade for separating or dividing the substance. In some instances the blade 7^a may be provided with a handle 27, thereby providing a means for separating the substance independent of the blade carried by the slide, and a hand device of this character is clearly illustrated in Fig. 6.

The manner of providing and noting the graduations is immaterial so long as it serves

to facilitate the subdividing of the substance to be parceled.

Having thus described the invention, what is claimed as new is—

- 5 1. In a powder-divider, the combination with a trough, of a gate movable longitudinally of the trough, a strip having engagement at its ends with the sides of the trough, and means attached to and carried by the
10 gate and strip for positively moving them relatively to each other in opposite directions to cause them to bind against the trough, substantially as set forth for the purpose specified.
- 15 2. In a powder-divider, the combination of a trough having graduated scales along its edges, a strip spanning the sides of the trough and having its end portions bent to engage with the edges thereof, a gate having a bent
20 portion to extend across the said strip, means attached to and carried by the said gate and strip for positively moving them relatively to each other in opposite directions, whereby they are caused to bind against the trough
25 and are held in place, and a dividing-blade movable along the trough and properly positioned by the aforesaid graduated scales, substantially as and for the purpose set forth.
- 30 3. In a powder-divider, the combination of a trough having outwardly - extending flanges, a strip spanning the trough and having its ends bent to embrace the said flanges, a gate mounted upon the strip, a threaded stem extending from the strip and passing

loosely through an opening in the end of the 35 gate, and a thumb-nut mounted upon the threaded extremity of the stem, substantially as and for the purpose set forth.

4. The combination with a trough, of a slide movable upon the trough, arms having 40 connection with the slide and normally held apart by a spring action, and a blade carried by the outer arm and adapted to be projected into the trough, substantially as and for the purpose set forth.

5. The combination with a trough, a slide movable upon the trough, and arms having 45 connection with the slide and normally held apart by a spring action, of a blade carried by the outer arm, and means for holding the two arms together and the blade within the trough, substantially as and for the purpose set forth.

6. The combination with a trough, of a slide, arms having connection with the slide 55 and held apart by a spring action, a blade carried by the outer arm, and a post projecting from the slide and engaging with the outer arm so as to direct it in its movements, substantially as set forth.

60 In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

TURNER HUNT NANCE.

Witnesses:

JNO. H. HICKS,
JAS. H. HAYDEN.