J. P. REMINGTON.

CAPSULE PLACING DEVICE,

APPLICATION FILED FEB. 7, 1908.

899,760. Patented Sept. 29, 1908.

3 SHEETS—SHEET 1.

FIG. I.

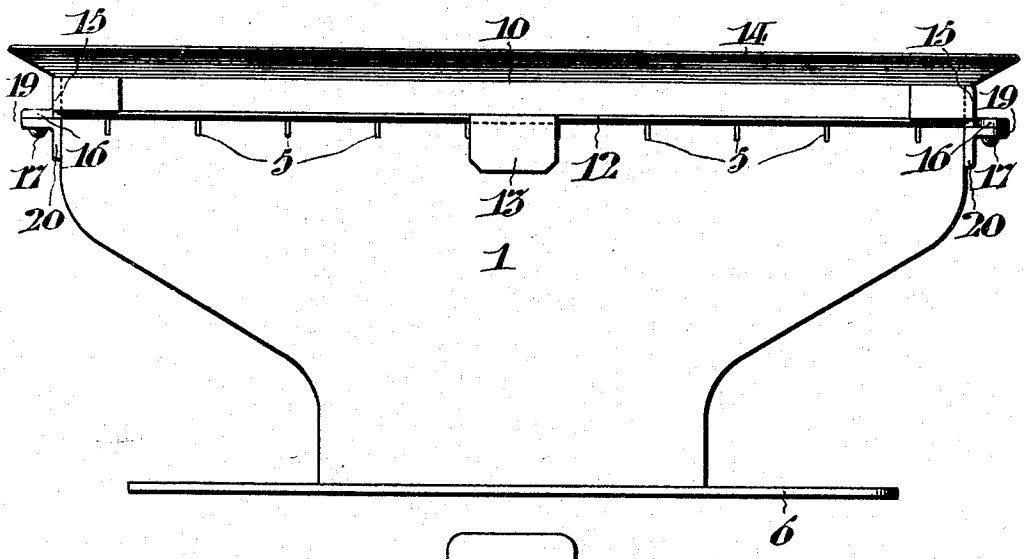
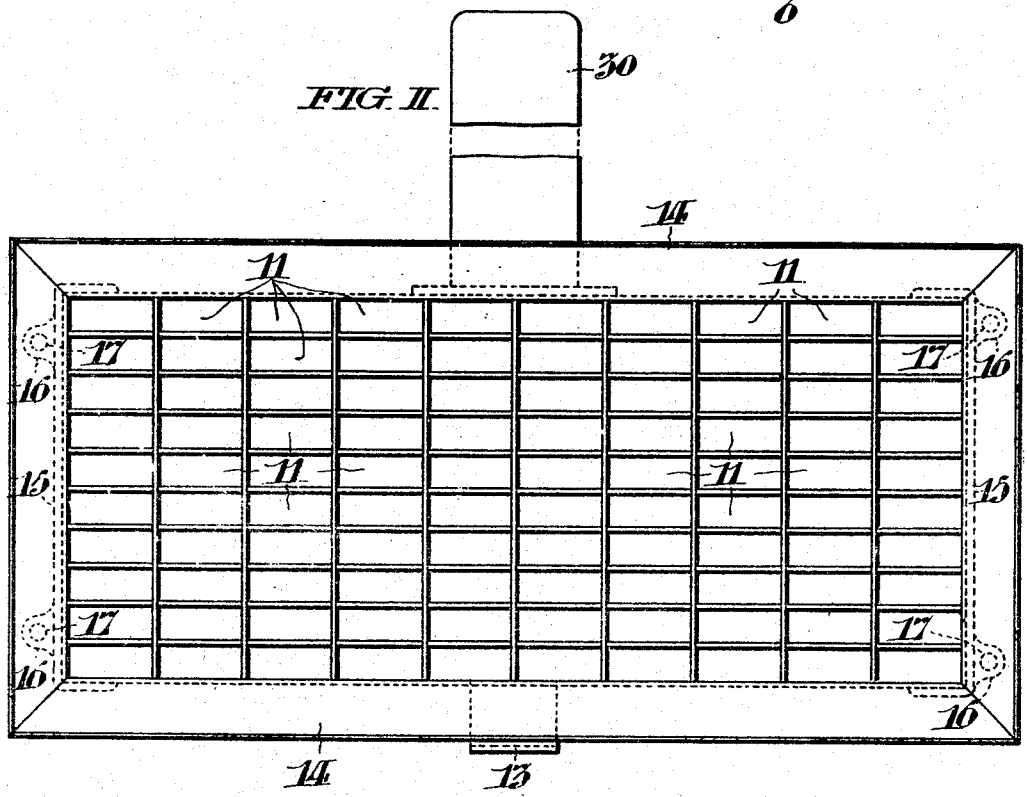


FIG. II.



WITNESSES:

John C. Bergner.

Wm. J. Sperl.

INVENTOR.

JOSEPH PERCY REMINGTON,

by his Attorneys

Mulvey & Paul

J. P. REMINGTON.

CAPSULE PLACING DEVICE,

APPLICATION FILED FEB. 7, 1908.

899,760. Patented Sept. 29, 1908.

3 SHEETS—SHEET 2.

FIG. III.

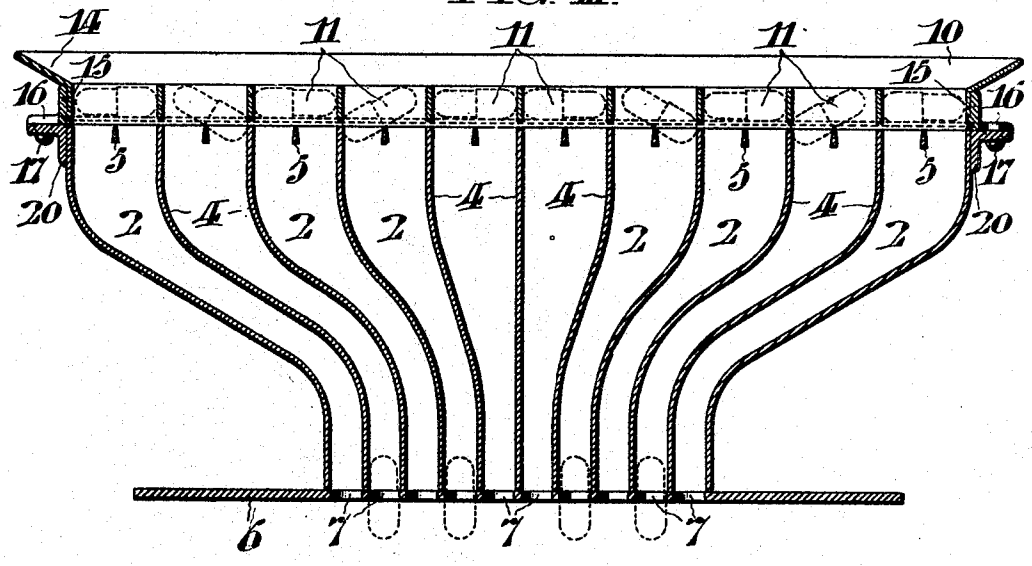
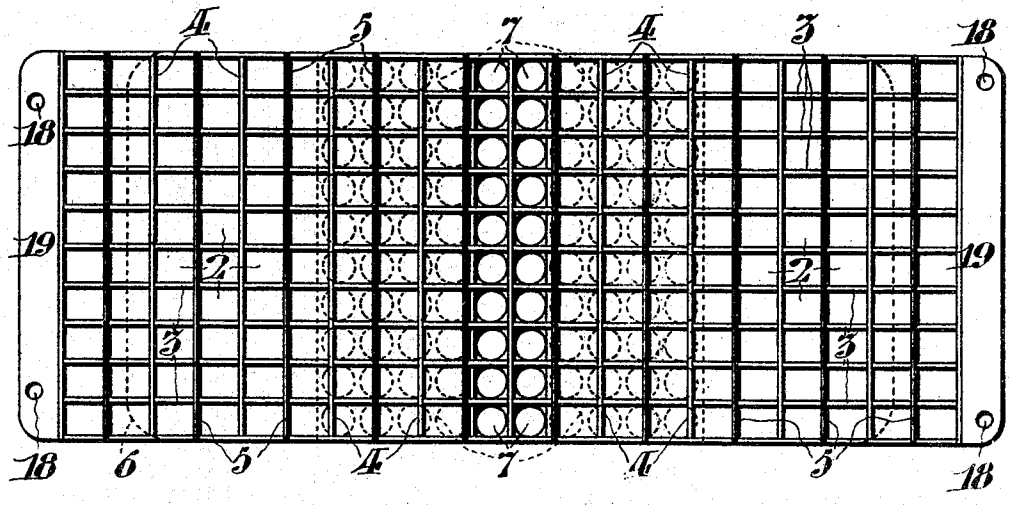


FIG. IV.



WITNESSES:

John C. Bergner.

Wm. J. Sperl.

INVENTOR:

JOSEPH PERCY REMINGTON,

by his attorneys

Fulley & Lamp

J. P. REMINGTON.

CAPSULE PLACING DEVICE,

APPLICATION FILED FEB. 7, 1908.

899,760.

Patented Sept. 29, 1908.

3 SHEETS—SHEET 3.

FIG. V.

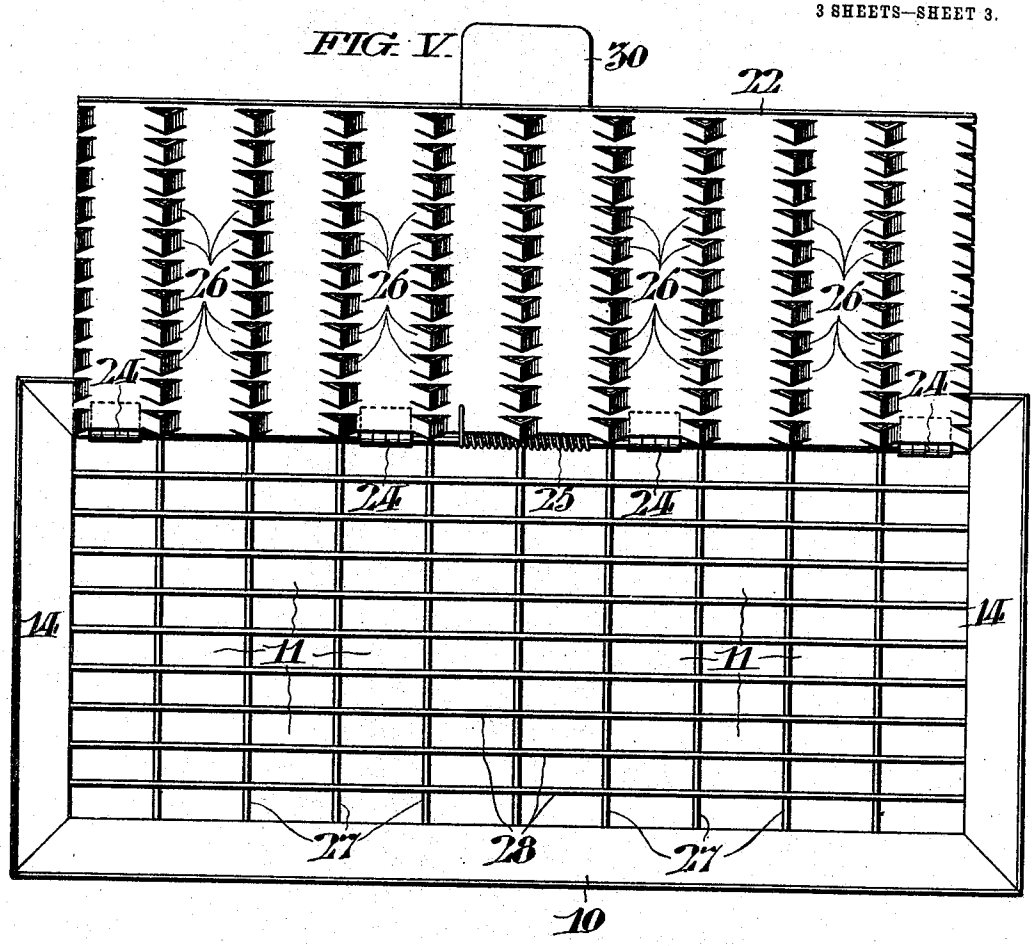
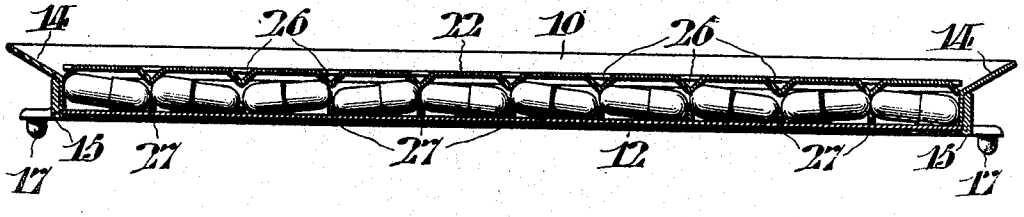


FIG. VI.



WITNESSES:

John C. Bergner

Wm. J. Sperl

INVENTOR:

JOSEPH PERCY REMINGTON,

by his attorneys

Murray & Page

UNITED STATES PATENT OFFICE.

JOSEPH PERCY REMINGTON, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO REMINGTON MANUFACTURING COMPANY, INC., OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

CAPSULE-PLACING DEVICE.

No. 899,760. Specification of Letters Patent. Patented Sept. 29, 1908.

Application filed February 7, 1908. Serial No. 414,705.

To all whom it may concern:

Be it known that I, JOSEPH PERCY REMINGTON, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Capsule-Placing Devices, whereof the following is a specification, reference being had to the accompanying drawings.

My invention relates to a device for placing capsules in juxtaposition and with the proper end down. It may conveniently be used in conjunction with a capsule filling device which forms the subject matter of a separate application filed simultaneously herewith, although its use is not limited to such a filling device.

Gelatin capsules as ordinarily used in medicine consist of a cup and a cap which overlaps and closes the cup, and it is the object of my invention to provide a device by means of which all the capsules shall be placed with the same end down, in this instance, the cap end.

My invention consists in means for receiving a number of capsules, and adjusting their length and means for causing said capsules to assume a particular position.

In the accompanying drawings, Figure I, is an elevation of the capsule funnel with the receiving tray in position thereon. Fig. II, is a plan view of the receiving tray. Fig. III, is a central longitudinal section of the combination shown in Fig. I, with the false bottom of the tray removed. Fig. IV, is a plan view of the funnel, the tray having been removed. Fig. V, is a plan view of a modified form of receiving tray having means for adjusting the length of the capsules. Fig. VI, is a longitudinal vertical section through the tray with the adjusting lid in partially closed position.

In said drawings, the body of the funnel 1, is formed with a plurality of rows of compartments or chutes 2, formed by longitudinal partitions 3. The longitudinal partitions 3, are straight and spaced apart a distance approximately equal to the largest diameter of a capsule, whereas the transverse partitions 4, are curved, being spaced apart at their upper edges a distance approximately equal to the length of a closed capsule, and at their lower edges a distance approximately equal to the largest diameter of a capsule. Thus the compartments 2, are oblong at the upper end, and nearly square at the lower end. Extending transversely across the funnel body, are a series of wedge shaped strips 5, having their upper edges about on a line with the upper edge of said funnel body, and dividing the upper end of each compartment 2, into two equal parts. To the bottom end of the funnel body a plate 6, is secured, which is provided with a series of circular apertures 7, adapted to receive the cap end of a capsule and each located concentrically, with the lower end of a compartment 2. These apertures 7, are so spaced as to register with the apertures in the cap table on the capsule filling device above referred to, but they obviously may be spaced in any other desired manner. I have conveniently shown a placing device having ten rows of ten compartments each, but any other suitable lay-out may be employed.

Fitted to the upper end of the funnel body 1, is the removable tray 10, which is divided into compartments 11, of the same size, and location, as the upper end of the compartments 2. Said tray has a removable sliding bottom 12, having a finger hold 13, and has outwardly flaring sides and ends 14. At each end of the tray 10, a bracket 15, is secured having two horizontal shelves 16, each provided with a depending dowel pin 17, which is adapted to register with a hole 18, formed in the horizontal legs 19, of the brackets 20, which are fastened to the ends of the funnel body 1. The tray therefore comprises a number of shallow oblong compartments, each of a size to receive a closed capsule when lying horizontally upon the bottom of the tray as shown in dotted lines in Fig. III.

In practice it is found that the capsules before being filled are not uniform in length and I have therefore found it desirable to provide means for adjusting the lengths of the capsules so that they may be uniform. This means comprises a modified form of tray having a lid 22, hinged at 24, 24, and normally held in its open position as shown in Fig. V, by means of the spring 25. Upon the under side of the lid 22, there are a plurality of rows of wedge-shaped projections 26, having their apexes in line with the transverse partitions 27, which are about half as high as the longitudinal partitions 28. Said projections may be formed by cutting a series of pairs of short parallel slits through the lid and then bending the metal between each pair into the

form shown. Obviously other ways of producing projections answering the same purpose will readily suggest themselves. By reference to Fig. VI, it will readily be seen that by forcing the lid downwardly, the projections 26, enter between the ends of contiguous capsules and force them to assume a horizontal position and push the cap and cup portions together to form capsules of a uniform length. For conveniently handling the tray a handle 30, is provided.

The operation of the device is as follows:— If the capsules are not uniform in length the adjusting device shown in Figs. V, and VI, may be employed to adjust them all to a uniform length. If the capsules are all uniform it will be sufficient to merely fill the compartments of the tray with capsules lying horizontally therein upon the bottom. Any desired number of compartments may be thus filled. The tray is then placed in position upon the upper end of the funnel body 1, and the bottom 12, withdrawn from the tray. The capsules thereupon come in contact with the centrally located wedges or knife edges 5, and are tilted with their cap ends down owing to the fact that the cap ends are heavier than the cup ends. The capsules then drop through their respective compartments or chutes 2, and into the apertures 7, at the bottom of said chutes, all with their cap ends lowermost as indicated at the bottom of Fig. III. If the device were used in connection with the filling device above referred to, suitable means would be provided for securing the capsules thus positioned.

Having thus described my invention, I claim:—

1. In a capsule placing device the combination with means for receiving a plurality of capsules; of means for causing all of said capsules to assume a predetermined position with respect to a given end when discharged from said receiving means.

2. In a capsule placing device the combination with means for receiving a plurality of capsules; of means whereby the superior weight of the cap end of the capsules is utilized to cause all the capsules to assume a predetermined position when discharged.

3. In a capsule placing device, the combination of a tray having a plurality of compartments and a removable bottom; a funnel having a corresponding number of compartments or chutes adapted to register with the compartments of the tray; and means located below the bottom of said tray for causing capsules coming in contact therewith to assume a predetermined position.

4. In a capsule placing device, the combination of a tray having a plurality of oblong compartments; a removable bottom for said tray; a funnel body having a corresponding number of compartments or chutes having their upper ends corresponding in size and location to the compartments in said tray, said chutes narrowing to a substantially square cross section at their lower ends; and means extending across said chutes for causing capsules coming in contact therewith to assume a predetermined position in said funnel body.

5. In a capsule placing device, the combination of a tray having a plurality of oblong compartments; a removable bottom for said tray; a funnel body having a corresponding number of compartments or chutes having their upper ends corresponding in size and location to the compartments in said tray, said chutes narrowing to a substantially square cross section at their lower ends; means extending across said chutes for causing capsules coming in contact therewith to assume a predetermined position in said funnel body; and a plate on the bottom of said funnel body having apertures concentric with the lower ends of said chutes and adapted to receive the cap end of a capsule.

6. In a capsule placing device, the combination of a tray having a plurality of rows of oblong compartments; a removable bottom for said tray; a funnel body having a plurality of rows of compartments or chutes adapted to register with the compartments in said tray and having their upper ends of the same size as said tray compartments; and means extending across the middle of each chute below the tray bottom for directing the capsules so that they will fall with their cap ends lowermost.

7. In a capsule placing device, the combination with means for receiving a plurality of capsules; of means for adjusting the lengths of said capsules; and means for causing said capsules to assume a predetermined position when discharged from said receiving means.

8. In a capsule placing device, the combination of a tray having a plurality of compartments for receiving capsules; a bottom for said tray; and a lid provided with a series of projections adapted to engage said capsules to adjust their length.

9. In a capsule placing device, the combination with means for receiving a plurality of capsules; of means below said receiving means for co-acting with said capsules, whereby the superior weight of the cap end of said capsules causes them all to assume a predetermined position when discharged.

In testimony whereof, I have hereunto signed my name, at Philadelphia, Pennsylvania, this fifth day of February 1908.

JOSEPH PERCY REMINGTON.

Witnesses:

JAMES H. BELL,

E. L. FULLERTON.