June 2, 1936. G. HÖFLER ET AL 2,042,896

POTATO PLANTER

Filed Dec. 14, 1933

Fig.1.

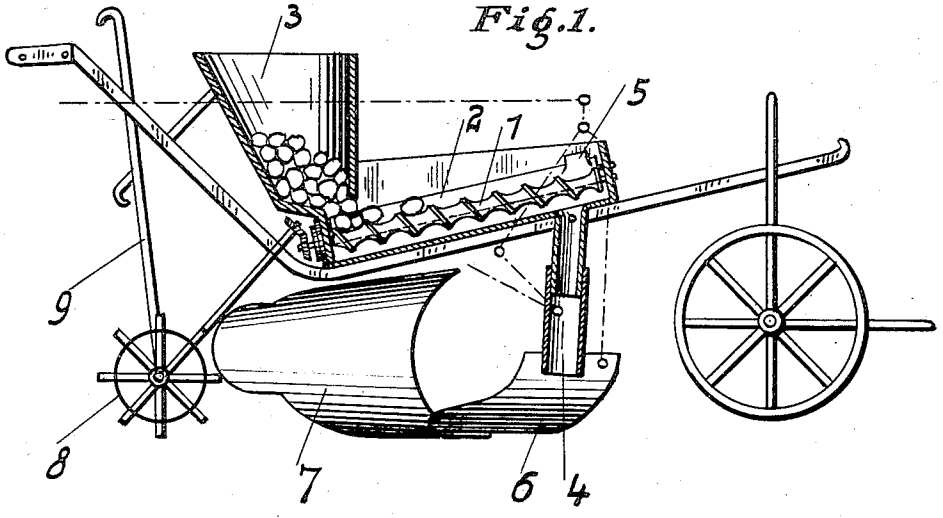


Fig.2.

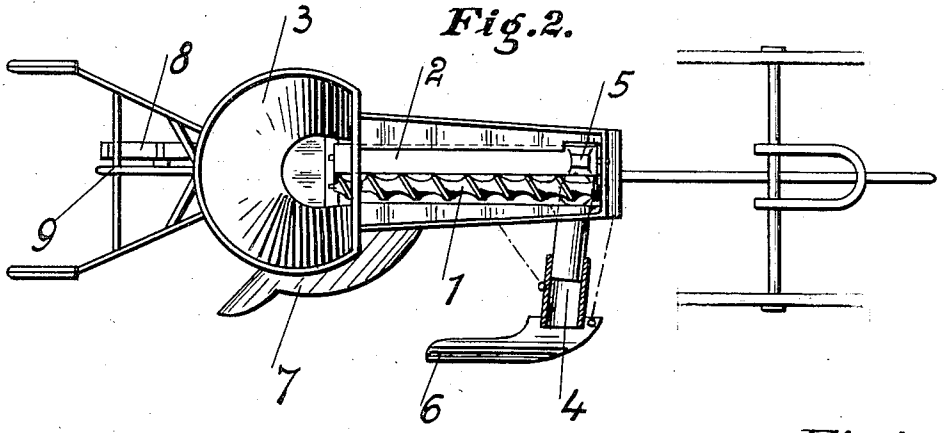


Fig.3.

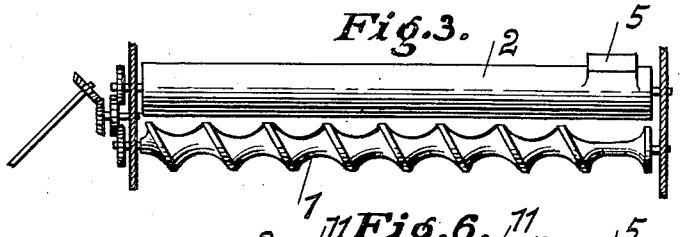


Fig.4.

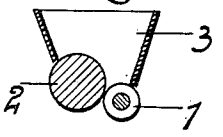


Fig.6.

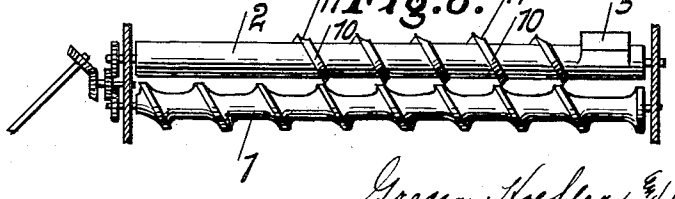
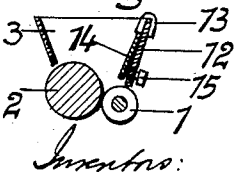


Fig.5.



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POTATO PLANTER

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Application December 14, 1933, Serial No. 702,380
In Germany December 14, 1932

1 Claim. (Cl. 221—129)

The object of our invention is a potato-planter, the isolating device of which consists in a worm-shaped shaft. With the well known arrangements of this kind the worm-shaft is placed within a trough, sometimes two or more worms are arranged aside of each other.

The object of our invention is distinguished from the above mentioned by providing a smooth roller in parallel to the worm-shaft, rotating in the same direction. In comparison to the well known arrangements a progress is obtained in that way, that the tubers cannot be mashed and the germs or buds cannot be pressed off, while at the same time a perfect isolation of the single tubers is guaranteed. Also it is appropriate to journal the roller higher than the worm-shaft and to arrange both in a position slanting upwards towards the dropping end. For the purpose of an exact dropping of the tubers a cam can be provided at the end of the roller.

The invention is illustrated by way of example on the enclosed drawing.

Fig. 1 shows in a longitudinal section a diagrammatical illustration of a potato-planter, fastened onto a plough, designed for planting one single row of tubers. The object of the invention may also be used for machines planting several rows of tubers at the same time.

Fig. 2 shows a view from above of Fig. 1.

Fig. 3 shows in enlarged scale the worm-shaped shaft and the roller with the driving gear.

Fig. 4 shows a cross section of the worm-shaft and the roller.

Figs. 5 and 6 illustrate details of the potato-planter.

For the purpose of an exact isolation of the single tubers, the worm-shaft 1 and the roller 2 are inclined towards the hopper 3. Furthermore they are thus arranged, that the roller is journalled higher and that the worm-shaft and the roller rotate in the same direction. The tubers to be planted are transported within the spiral turns of the worm towards the dropping tube, sliding along the rotating surface of the roller 2. The worm-shaft 1 rotates in such manner, that the tubers are shoved against the roller 2. The roller 2, rotating at the same time in upward direction, a damaging of the seed-potatoes by means of squeezing or mashing is avoided. Furthermore by means of this rotation of the form-shaft and the roller in connection with the above mentioned incline towards the hopper 3 the tubers moving within the spiral turns of the worm and exceeding the required number, are shoved back towards the preceding spiral turn. The throwing-out of the single tubers, after having moved through the last spiral turn, is effected by means of a cam 5 of the roller 2. As the worm and the roller rotate at the same number of revolutions, the dropping of the tubers always ensues when the following tuber lies within the last spiral turn of the worm.

The drive of the machine from the plough is done by means of a running wheel 8, in connection with gears on the worm-shaft 1 and the roller 2. The potato, dropped into the planting tube, is held in position by means of the additional plough-share 6 until it has been covered by the ground, thrown up by means of the main plough-share 7.

The hopper 3 may be provided with an adjustable partition 14, arranged at the side of the projection, containing the worm-shaft 1 and the roller 2, and fastened to the wall 12 of the hopper, situated next to the worm-shaft 1 by means of a joint 13, or in some other suitable way, the partition being adjusted according to the size of the tubers or potato-slices to be transported. For this purpose the partition 14 is brought into a more or less inclined position towards the side wall 12 of the hopper, by means of adjusting the set-screws 15 or the like, which pass through the side wall 12 and thrust against the partition 14, in order to regulate the space between the partition 14 and the roller 2. (Fig. 5.)

The roller 2 may also be provided with a spiral-shaped projection 10, starting about at the middle of its circumference and being led towards the higher situated end of the roller and following the spiral turns of the worm-shaped shaft 1, thus preventing the tubers from falling back, when the machine is used on rising ground. Preferably the surface 11 of the said projection 10, turned towards the tubers or potato-slices to be transported, is curved inwardly. (Fig. 6.)

We claim:

In a potato planter, a worm having a spiral of a depth and pitch to convey single tubers, and a roller arranged parallel thereto, means for rotating the roller and worm in the same direction, and a cam on the end of the roller operative to engage and displace tubers from the worm.

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