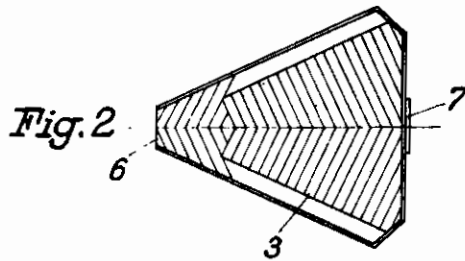
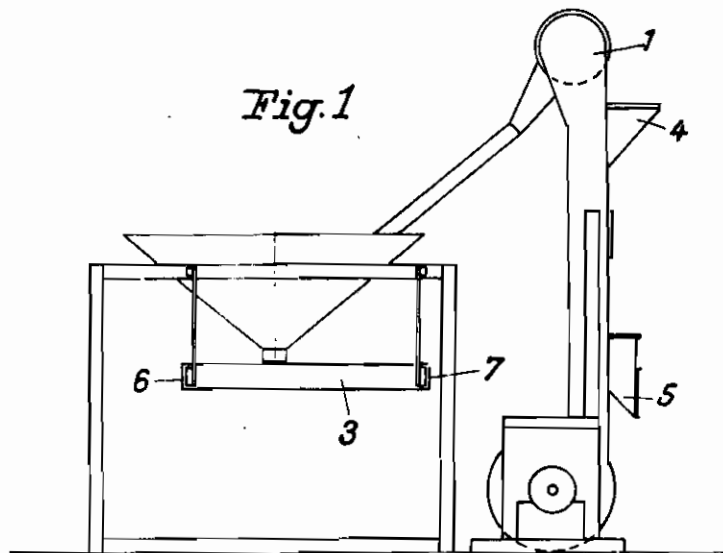


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ALIEN PROPERTY CUSTODIAN

SIFTING APPARATUS FOR THE SEPARATION OF MAIZE HUSKS FROM MAIZE SEED AND SIMILAR MIXTURES

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Application filed March 5, 1941

In my copending U. S. Patent application Serial No. 340,800 I have described a process and an apparatus for screening seeds, in particular maize. This process consists in that the grain seeds are either slung against a smooth hard surface, or are beaten. To separate the falling mixture of seed and husks which accumulates as a result of this, vertical separators are used, proceeding as follows; the maize seed-husk mixture is passed two, three or four times through a wind-separator until the desired separation is attained. Now it is difficult to put this process into practice, since an hourly output is involved with which the wind-separators alone cannot cope. Furthermore, even oscillating tables are not faultless, if not the mixture is presorted into four or five gradings, but this results in the continuous working process becoming expensive and too complicated.

It was now found that the accumulation of husks and seeds as developing in accordance with my copending patent application Serial No. 340,800 can be very easily and completely disintegrated into its respective ingredients if proceeded with as follows:

The mixture of husk and seed is in the first instance fed to a vertical separator, in which it is—in accordance with counter-current principles—directed against the air-current to a height of 1 to 1½ m; hereby the seed and a portion of the maize is passed up and reaches a special collective outlet. The remaining maize husk falls contrary to the air-current onto an inclined sieve from which it is sacked.

By means of this working process approximately two-thirds of the maize husks are removed. The rest of the mixture interspersed with maize seed in concentrated form reaches

an oscillating table of known construction, whose horizontal bottom is arranged with projecting edges or flutes set at a special angle to the direction of motion, said edges or flutes being produced e. g. by sheet-metal plates of approximately 2 mm thickness fitted in a slat-like position one above the other. Through the to and fro motion of the oscillating table the lighter seed separates itself and passes over the flutes, thus reaching the respective seed outlet, whilst the heavier maize husk passes along the flutes to the outer wall of the casing, and from thence travels automatically into the husk outlet.

In conformity with the continuous charge to oscillating plate also the discharge separated into seed and husk takes place.

My improved apparatus can of course be utilized with the same results for mixtures constituted similarly to the maize husk-seed mixture.

In the drawing a constructional form of the invention is shown.

Fig. 1 illustrates an elevation of the total apparatus, while Fig. 2 shows a plan view of an oscillating table.

The apparatus consists of a vertical separator 1 and a shaking apparatus 2 with oscillating table 3, at 4 the point of supply for the mixture to vertical separator, and at 5 the discharge outlet for seeded maize are shown, at 6 on oscillating sieve 3 the maize husks, and at 7 the seeds are discharged.

If desired, several oscillating tables, advantageously arranged beneath each other, or several vertical separators with one or more shaking appliances may be combined with each other.

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