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Crushing and Grinding Mill.

The annexed figures represent the improved machine for grinding corn and cobs, for which a patent was granted to Joel Weigle, of Swan Station, Erie Co., Pa., on the 6th of February.

Figure 1 is a longitudinal section of the machine, and figures 2 and 3, represent detached views of it. Similar letters refer to like parts.

The nature of the invention consists in forming a crushing and grinding apparatus by uniting with each other upon the same shaft, the smaller ends of two corrugated segments of cones, and combining with them corrugated inclosing casings supplied with two feeding apertures, and arranged in such a manner that corn and cobs can be fed into one opening, and ground shelled corn be fed into the other aperture and be converted into meal.

Figure 3 represents the united corrugated conical grinders attached to their shaft, and detached from the machine. The grinder, *b*, it will be perceived, is larger and has coarser corrugations than the grinder, *c*. The portion, *d*, of the casing which incloses the grinder, *b*, is secured to the platform, *k*, of the frame of the machine in such a manner that it can be moved laterally. This is accomplished by forming slots in the supporting ears, which project from the base of the casing for the reception of the screws, which confine the said casing to the platform, *k*. The casing, *e*, which incloses the grinder, *c*, is secured to the platform, *k*, by ears and set screws. The casings, *d* and *e*, are combined with each other by means of the lateral ears, *n n*, figure 3, projecting from the inner end of the former, and the ears projecting from the latter united to each other by screw bolts. The ears, *n n*, have slots in them, for the bolts to work in, and which allow the said casing, *d*, to be moved laterally upon the platform, *k*, for the purpose of producing a wider space between the descending side of the grinder, *b*, and its casing, than there is between the opposite side of the grinder and its casing, and to vary the same as circumstances may require. Corn and cobs are fed into the machine through the vertical tube, *g*, which rises from the casing, *d*, opposite the largest end of the grinder, *b*. They are first operated upon between the corrugated surfaces of the grinder, *b*, and its casing, the corrugations of which are of such a shape as to carry forward the stuff operated upon to the small end of the casing, *d*, and discharge it into the space between the grinder, *c*, and its casing, *e*, which carry it forward and discharge the same into the delivery trough, *i*. When shelled corn is to be ground in this improved mill it is fed from the hopper, *h*, into the receiving aperture, *f*, which opens into the casing, *d*, above the smaller end of the grinder, *b*. When it is desired to grind the meal finer or coarser the set screw, *v*, is turned to vary the distance between the grinder, *c*, and its casing, *e*. And when it is desired to vary the fineness or coarseness of the provender formed of cobs and corn in this mill, the casing, *d*, is moved laterally, so as to increase or diminish the space between the ascending side of the grinder, *b*, and its casing. Both the corn and cobs, and the shelled corn, are first crushed by the action of the grinder, *b*, and its casing, and are then ground finer by the action of the grinder, *c*, and its casing, *e*. The corn and cobs passing from the largest to the smallest end of the grinder, *b*, and then from the smallest to the largest end of the grinder, *c*, get thoroughly ground and incorporated with each other, more so, it is believed by the patentee, than in any other mill that has ever been devised. When it is desired to grind provender coarsely and rapidly, the casing, *d*, is so adjusted as to leave equal space on all sides of the grinder, *b*, at the same time that ample space is given (by means of the set screw, *v*) between the grinder, *c*, and its casing, *e*.

More information may be obtained by letter addressed to the patentee, Mr. Weigle.

NEW CRUSHING AND GRINDING MILL.

Fig. 1

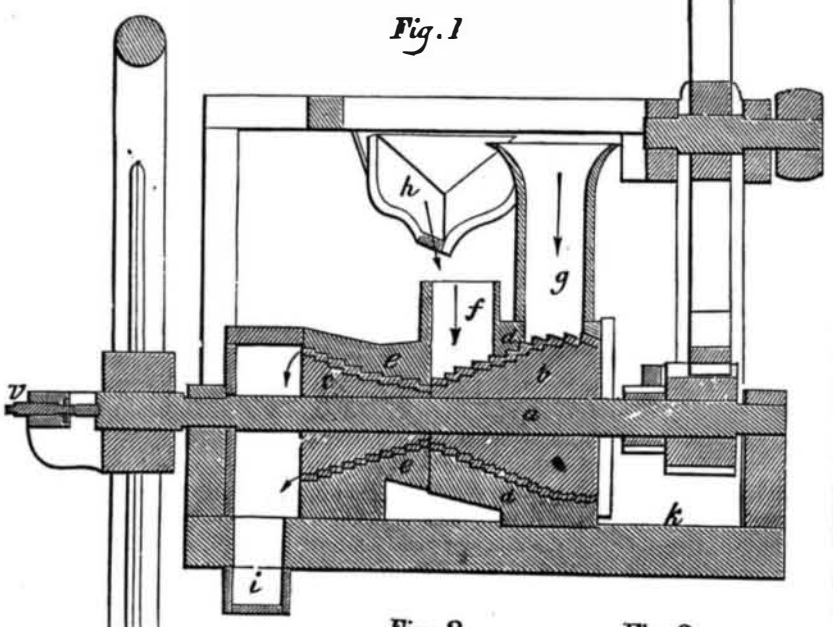


Fig. 2

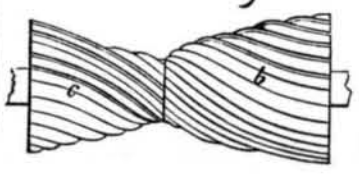
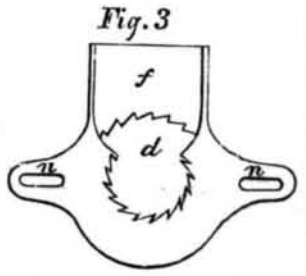


Fig. 3



CAST-IRON DRIVING WHEELS.

Fig. 1

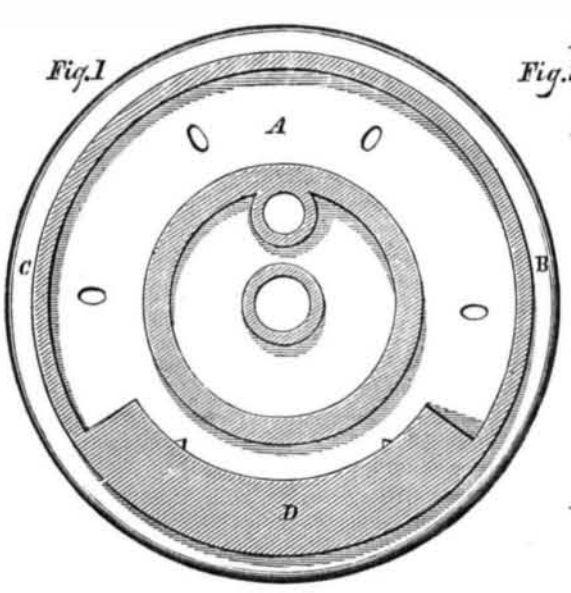


Fig. 2

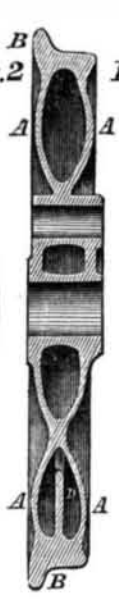
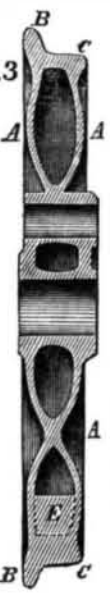


Fig. 3



The accompanying engravings represent an improvement in casting a counterbalance on double plated chilled cast iron railroad driving wheels, for which a patent was granted to Henry A. Chase, of Boston, on the 23rd of May, last year.

Figure 1 is a vertical longitudinal section of a chilled driving wheel having the improvement applied. Figure 2 is a vertical transverse section of the same. Figure 3 is a vertical transverse section of a similar wheel, with the counterbalance cast on it in the ordinary way. The view is merely shown to illustrate the invention more fully.

The nature of the invention consists in casting the counterbalance upon the inner face of the tread of the wheel in such a manner that it will be free and independent of the two side plates forming the wheel, and at the same time be supported by said tread in the most perfect manner. This method of casting the counterbalance renders the two plates of the wheel equal in thickness over their whole surface, and, consequently, they expand or contract equally at all points, while the counterbalance is left free to expand to any extent, without exerting strain on those parts of the wheel which so commonly break during the casting process, or while in use, on account of the counterbalance being cast solid with the tread and side plates of the wheel, thus making additional surface, and consequently causing unequal contraction or expansion at different points.

A A B and C represent a hollow chilled driving wheel of the ordinary construction, having the improvement applied to it; A A representing the two side plates, B the flange, and C the tread of the wheel. D is the counterbalance, cast on the inner face of the tread, C, and independent of the plates, A A, as seen in figs. 1 and 2, and extending from the tread, a short distance, toward the center of the wheel. And as it is made thin and light, it must be made to extend round the tread a suitable distance, to give the required weight to counterbalance the wheel. By examining fig. 3, the ordinary counterbalance, E, will be seen, and by comparing it with the counterbalance D, fig. 1 and 2, the utility of the latter will be apparent, for it will be understood that if the counterbalance, E, be employed, an additional solid surface is formed in the wheel, and consequently unequal contraction or expansion, and strain and breakage of the wheel at certain points will be experienced, whereas, if the counterbalance, D, be used, no such result will be felt, for all the parts are free and independent, and can expand without straining or injuring each other.

The claim is for casting the counterbalance, D, upon the inner face of the tread, C, of the wheel, and independent of the two side plates, A A, forming the wheel.

More information may be obtained by letter addressed to Mr. Chase, at the Boston Locomotive Works, Boston.

Yellow Fever Prevented by Inoculation.

La Cronica, a Spanish journal in this city, says that Dr. W. L. Humboldt, has discovered means to prevent yellow fever, by inoculation. The Government of Cuba, as *La Cronica* is informed, has directed the inoculation of the major part, amounting to one thousand, of the newly arrived troops, which has resulted in the greatest success, since none have been attacked by this terrible disease, which generally decimates the foreign population shortly after their arrival. The operation is similar to vaccination, by inserting the virus discovered by Dr. Humboldt, generally in both arms. A few hours after this trifling operation, the symptoms of a miniature yellow fever commence, and all the pathological consequences follow rapidly and slightly, rarely exceeding forty-eight hours in duration, and with nothing more than a slight feverish action.

Pulling Down Telegraph Wires.

In some sections of the State of Mississippi, the people, it is reported, have pulled down a number of miles of telegraph wires, because some learned ignoramus had demonstrated to the people, that the long drouth in these regions was caused by these wires carrying off the lightning, which used to bring heavy rains.