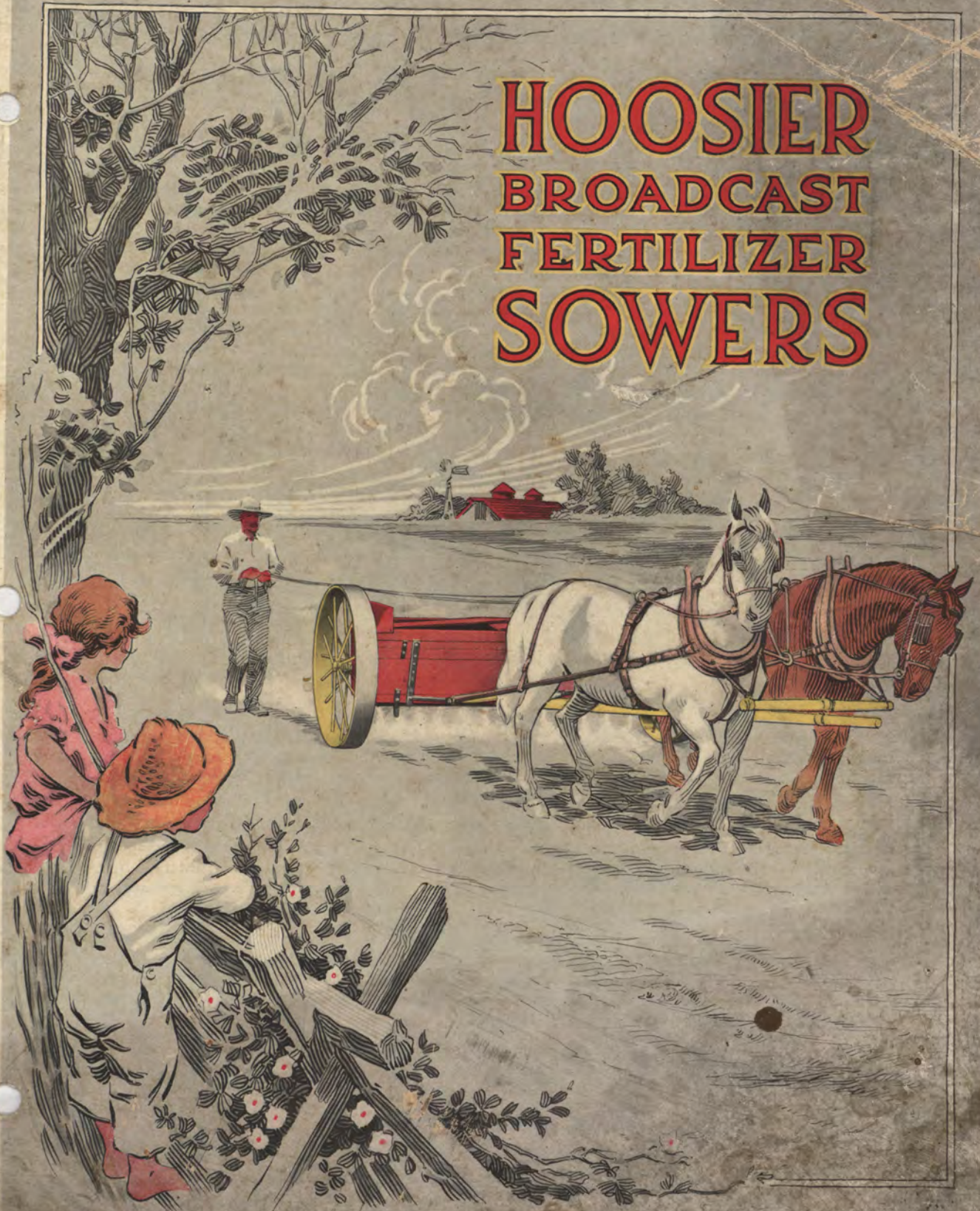


HOOSIER BROADCAST FERTILIZER SOWERS



EVERY harvest removes elements from the soil which must be replaced if fertility is maintained. The modern farmer follows a carefully planned crop rotation. Barnyard manure, when correctly applied, will aid in restoring the productivity of his land. Commercial fertilizer, containing the necessary chemicals, comes into play. And lime, heretofore little appreciated, has an important part in continuous farming.

It has been found that lime is an amendment, improving the soil by modifying its physical properties. It has the power to convert clay land into a more friable condition, making it easier to cultivate and more porous for water to filter through. On sandy soils its action is reversed, causing such ground to stick together and retain water. Acidity and sterility are relieved by a proper application. The majority of farm products depend more or less on the presence of lime. Corn, peas, tobacco, clover, barley, wheat and oats are especially benefited. Cucumbers, muskmelons, celery, spinach, cauliflower, onions, lettuce, beets and cabbage seem to show beneficial results. And alfalfa, only recently introduced in many sections of this country, requires a "deep, fertile, well drained soil rich in lime and reasonably free from weeds" (Farmers' Bulletin 339—United States Department of Agriculture).



The Hoosier No. 1 Fertilizer and Lime Sower

In the past, commercial fertilizer was usually drilled with seed through a combined machine with a comparatively small range of quantity. This plan, therefore, failed to satisfy any farmer who desired a large amount per acre and he was obliged to use a makeshift device to meet his special conditions.

And, with the spread of alfalfa, attention was turned to the need of lime on many farms in America. The average quantities wanted ranged from 1000 to 3000 pounds per acre. There was no machine on the market for handling so heavy a material in a satisfactory way and the farmer would resort to the slow, tedious process of scattering by hand, haphazard, and without regularity.

This company manufactured seeding machinery for over sixty years and occupied a leading position in the production of farm implements. From the experience gained through so long a contact with farming conditions, it felt qualified to design and perfect sowers for broadcasting fertilizer and lime. The Hoosier No. 1 and No. 2 Sowers, described in this catalog, are the result.

THE AMERICAN SEEDING-MACHINE COMPANY

(Incorporated)

RICHMOND, INDIANA

In designing the Hoosier Sower, the first consideration was a feed which would handle all classes of commercial fertilizer, granulated lime, land plaster, marl, etc. It was realized that many of these materials would be broadcasted in large quantities. It, therefore, followed that a large hopper would be necessary to save the farmer the trouble of frequent filling. The hopper should have abrupt sides to give the material a straight path to the feed. The feed, as a result, would turn under an enormous weight, requiring extreme strength. It was known that some material would be dry and finely pulverized, while others would absorb moisture from the atmosphere. All bearings, therefore, working in connection with the feed, should be as near dirt-proof as possible.

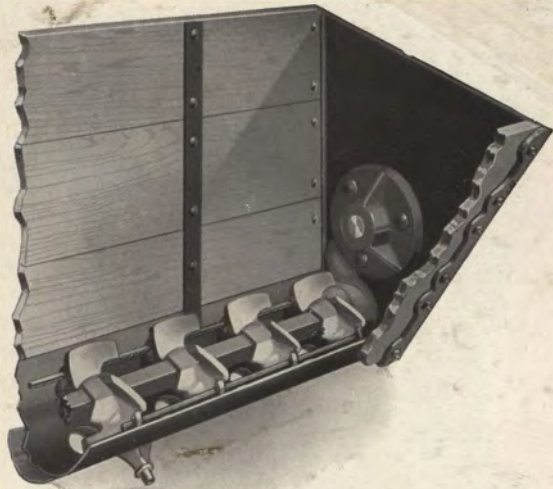


Figure 1

In Figure 1 we have pictured a sectional view of the hopper with one side cut away to show the interior.

Figure 2 is a photograph of the feed itself with relating parts. Two square steel bars are used, each extending through one head and to the center of hopper, thus eliminating any chance for the feeding mechanism to have more work than it can well perform. The heavy gear A, the chilled sleeve B and the boxing C are located on the outside of hopper head. This boxing members in the head and receives all wear occasioned by the revolving feed reel. It is liberally supplied with oil from the tube E. The chilled dust washer D is placed within the hopper and prevents material from entering the bearing.

Heavy wings on the steel bar are held exactly above discharge openings and they are so shaped as to follow the curve in hopper bottom. All material, therefore, is carried to the openings and the same amount by each wing. It will be noted that the feeds are connected by two rods which assist in preventing fertilizer from bridging. The Hoosier is made with extra strength in all parts, but should any wear or breakage occur, the repair work can be quickly done and at small cost.



Figure 2

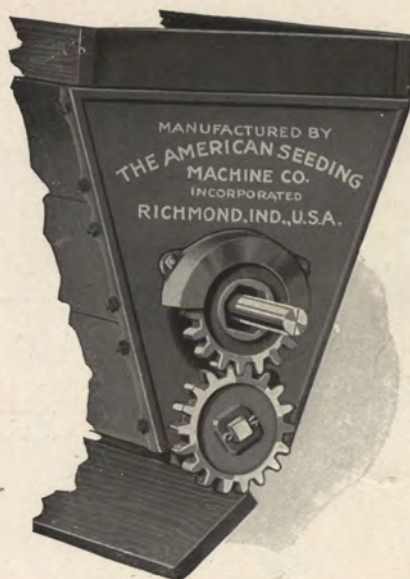


Figure 3

We have seen how the square bar, the center of the feed reel, extends through the hopper, and turns with a minimum amount of friction in a thoroughly oiled boxing. Figure 3 pictures the heavy gear, held with cotter on the end of square bar. This gear meshes with another gear on a cold rolled steel axle which centers in a cast circular block, bolted to hopper head. It is impossible for the axle to become loose, but after years of wear it may be renewed at small cost. The hexagon hole in upper gear fits over the hub of ground wheel. With a turn of the wheel, there is an immediate, simple, transmission of power to the feed reel. Both gears are amply strong for all requirements and are protected from dirt by a shield which bolts to hopper head.

Another view of the feeding mechanism appears in Figure 4. A is the chilled dust washer, fitting snugly against the inner end of the boxing E, which extends within the hopper. The oil tube of this boxing rests in recess B, removed from dirt but convenient for filling. C is the square bar and D the chilled sleeve. By this combination of parts, the Hoosier Hopper Head is free from any wear. If

parts, from long usage, must be replaced, they can only consist of small castings, costing little, and quickly attached.

F shows a portion of a steel slide which is controlled by a quantity lever on the rear of hopper. The position of the slide determines the size of discharge opening and the quantity broadcasted. There are two slides and two quantity levers for each machine. We have learned that the feed rod is divided, each half being driven by one of the ground wheels. It is, therefore, possible on the Hoosier to broadcast 4 or 8 feet, as desired—both sides giving the same amount, or different quantities, if necessary.

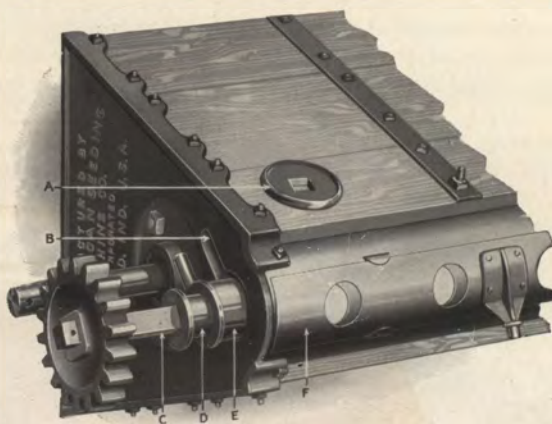


Figure 4

The Hoosier uses 44-inch staggered spoke wheels with 4-inch tires and removable sleeves. While these are expensive wheels to furnish, their size gives lighter draft and less tendency for whipping of the tongue. The feed reels are geared down below the axles and a low spread, unaffected by wind, is therefore secured. By having the feed reels separate from the axles, there is no chance for either to be overburdened. Furthermore, a high axle, located in the center of hopper head, provides an even balance and enables the farmer to clean his machine by turning it over.

The Hoosier Hopper is made of well seasoned lumber, and thoroughly braced. A substantial screen top with galvanized wire of $\frac{1}{2}$ -inch mesh is furnished. All commodities to be broadcasted, should pass through the sieve to remove stones, nails, etc. The top has guard rails to keep material from spilling out, mud guards at the ends, and a convenient seat for the operator. The hopper will hold 8 bushels, the top 2 bushels, making a total carrying capacity of 10 bushels.

Two adjustable scattering boards are regular equipment.

The quantity levers pass through quantity racks and are within easy reach.



The Hoosier No. 2 Fertilizer and Lime Sower

The Hoosier has given excellent satisfaction, except at those points where a small quantity of commercial fertilizer was desired or where ground rock was broadcasted.

A remedy for the first complaint is for the user to mix an equal quantity of sand or dry soil with the fertilizer. Then, by setting the levers for double the quantity, the machine will sow the desired amount of fertilizer.

Were we to change our construction and secure a small amount of commercial fertilizer per acre, our maximum quantities could not be obtained. Also, it is to be remembered that small quantities of fertilizer are usually drilled with seed through a combined machine.

In the second complaint, it was found that ground rock, owing to the enormous quantities required per acre, its great weight, and moist condition, would occasionally bridge in the upper part of hopper and the farmer was obliged to stir the material, enabling it to reach the feed reels. To meet this special complaint arising from ground rock, a second machine was constructed containing an agitator device to prevent bridging. The original Hoosier which gave such good results under the large majority of cases, was stenciled No. 1 and the new machine was stenciled No. 2. Both Sowers, in the main, have the same form of construction, the only difference being the agitator, which renders the No. 2 more suitable for ground rock in its worst condition.

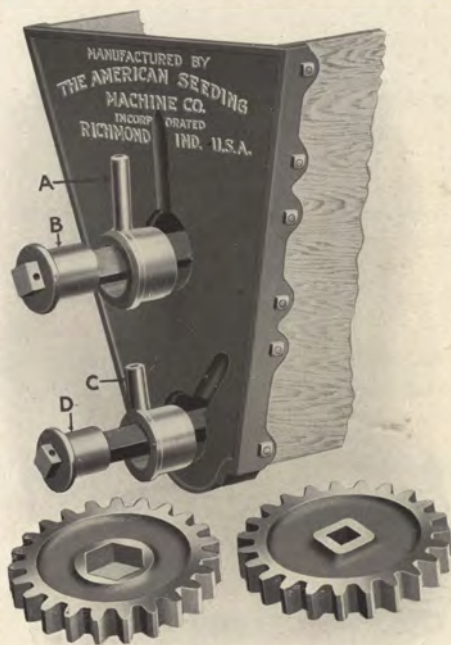


Figure 5

Figure 5 shows a combination of parts used on the Hoosier No. 2.

A is the boxing and B the chilled sleeve on agitator shaft.

C is the boxing and D the chilled sleeve on the feed bar. As the complete feed reels on the No. 2 are the same as on the No. 1, no further description is necessary. The agitator on the No. 2 alone needs comment.

It will be noted that the boxing A, through which the agitator shaft passes, is provided with an oil tube for proper lubrication. This tube fits in a recess, easily reached, but forming a protection from dirt. The agitator shaft, as pictured in Figure 6, is divided to correspond with the divided feed bar. The chilled center bearings have convenient oil ways assuring long wear, and a minimum of friction. The agitator fingers are malleable, with a wide sweep, eight to a side, and effectively preventing any bridging. All material will reach the feed reels and through discharge openings to scattering boards.

The same gears, with a wide margin of strength, are used on the No. 1 and No. 2. On the latter sower the agitator shaft serves also as an axle. This

plan is satisfactory because only a small amount of power is required to turn the fingers, and, furthermore, there are two axles for each machine.

Otherwise, the Hoosier No. 1 and No. 2 Sowers are practically the same, each conforming to the high standard of material and workmanship found on all farm implements bearing the Hoosier Brand. Chilled bearings, steel feed rods, bolted hoppers, steel bottoms, steel wheels—strong machines for good work through a long period of time.

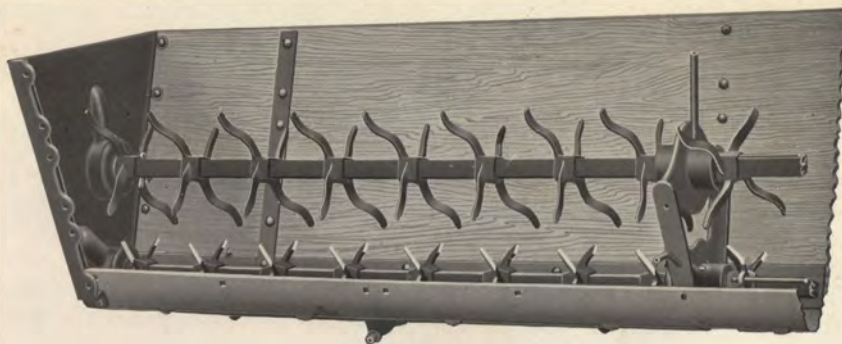


Figure 6



**SOWING TABLES FOR HOOSIER NO. 1 AND
NO. 2 FERTILIZER AND LIME SOWERS**

Lever Set In Notch	Ground Rock	Hydrate of Lime	Commercial Fertilizer
1	34 qts.	38 qts.	
2	96 qts.	75 qts.	
3	194 qts.	150 qts.	235 qts.
4	305 qts.	204 qts.	328 qts.
5	463 qts.	284 qts.	440 qts.
6	658 qts.	398 qts.	544 qts.
7	780 qts.	500 qts.	682 qts.
8	962 qts.	610 qts.	855 qts.
9	1133 qts.	729 qts.	962 qts.
10	1402 qts.	849 qts.	1175 qts.
11	1621 qts.	957 qts.	1350 qts.
12	1745 qts.	1099 qts.	1585 qts.
13	1884 qts.	1241 qts.	1972 qts.
14	2090 qts.	1497 qts.	2360 qts.
15	2145 qts.	1744 qts.	2588 qts.
16	2645 qts.	1940 qts.	3072 qts.
17	3028 qts.	2095 qts.	3286 qts.
18	3213 qts.	2200 qts.	3535 qts.
19	3451 qts.	2385 qts.	3985 qts.
20	3582 qts.	2540 qts.	4587 qts.
21	3854 qts.	2690 qts.	4753 qts.

The quantities above given are for dry materials, weighing per bushel: Ground Rock, 120 pounds; Hydrate of Lime, 45 pounds; Commercial Fertilizer, 55 pounds. The amount broadcasted must of necessity depend on the condition of the material and the tables can only be approximately correct.

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