

(No Model.)

2 Sheets—Sheet 1.

E. G. N. SALENIUS.
SHAKING SIEVE FOR WINNERS.

No. 472,275.

Patented Apr. 5, 1892.

Fig. 9

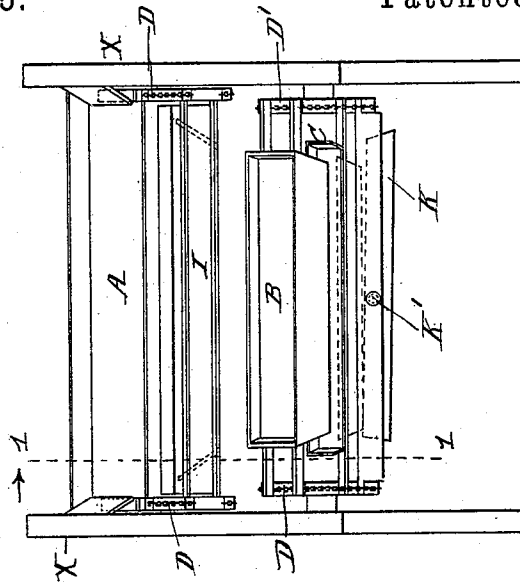
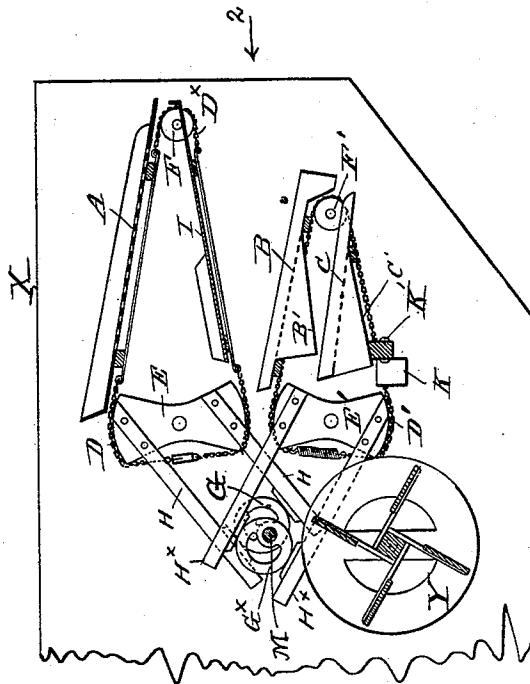


Fig. 1



Inventor:-

Witnesses:

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J. M. Caplinger

E. G. N. Salenius.

By Henry Cornwell
att'y.

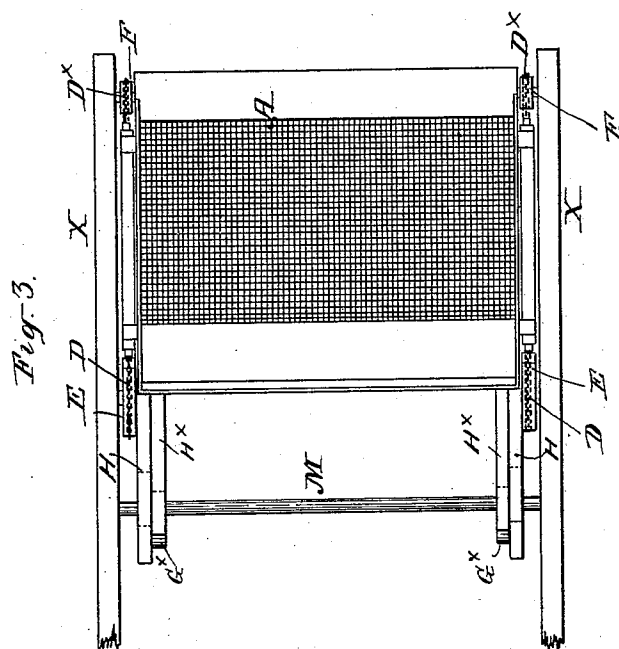
(No Model.)

2 Sheets—Sheet 2.

E. G. N. SALENIUS.
SHAKING SIEVE FOR WINNERS.

No. 472,275.

Patented Apr. 5, 1892.



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UNITED STATES PATENT OFFICE.

ERIK GUSTAF NICOLAUS SALENIUS, OF STOCKHOLM, SWEDEN.

SHAKING SIEVE FOR WINNOWERS.

SPECIFICATION forming part of Letters Patent No. 472,275, dated April 5, 1892.

Application filed September 26, 1889. Renewed November 10, 1891. Serial No. 411,445. (No model.) Patented in Norway November 17, 1888, No. 1,222; in England November 21, 1888, No. 16,962, and in Austria-Hungary March 17, 1889, No. 48,364 and No. 9,431.

To all whom it may concern:

Be it known that I, ERIK GUSTAF NICOLAUS SALENIUS, a subject of the King of Sweden and Norway, and a resident of Stockholm, Sweden, have invented certain Improvements in Shaking Sieves for Winnowers, (for which patents have been granted in Great Britain, No. 16,962, dated November 21, 1888; in Austria-Hungary, No. 48,364 and No. 9,431, dated March 17, 1889, and in Norway, No. 1,222, dated November 17, 1888,) of which the following is a specification.

My invention relates, mainly, to fan-mills, separators, and winnowers whereby the chaff, straw, and other foreign substances are separated from grain by the aid of an air current or blast. Such devices usually employ a shaking screen or riddle and a fan.

My invention relates to the mechanism whereby the screens are shaken or vibrated. It will be fully described hereinafter, and its novel features carefully defined in the claims.

In the accompanying drawings, illustrative of my invention, I have shown it as it will be applied in or to a thrashing-machine for winnowing the grain thrashed by the machine; but all the parts of the thrashing-machine are omitted from the drawings except those which are necessary to illustrate the application of my invention.

In the drawings, Figure 1 is a sectional side elevation of the winnower provided with my improvements, the plane of the section being indicated by line 1 1 in Fig. 2; and Fig. 2 is a front or end view as seen from the arrow 2 in Fig. 1. Fig. 3 is a plan.

X are the sides of the casing, and Y is the fan.

A is the upper coarse screen or riddle, which is attached at its rear and front, respectively, to chains or similar flexible connectors D and D^x. The front chains D^x pass over small pulleys F, mounted on the respective sides X, and the rear chains D pass over larger pulleys E, here shown as mutilated. The lower ends of the chains are attached to a chute or bottom I, which stands inclined oppositely to the coarse screen A. If the chains D are inclined to slip on the pulleys E, they may be fastened thereto. The pulleys E are vibrated or rocked

on their centers, and this imparts a reciprocating motion to the screen A and bottom I. The flexible support of the screen A provided by the chains causes said screen to shake as well as reciprocate.

To impart a vibrating motion to the screen A, I provide eccentrics G on a rotating shaft M, said eccentrics revolving between branches or arms H, suitably attached to the respective pulleys E. These embracing arms may be the branches of a fork. The grain falls from the coarse riddle or screen A onto the inclined bottom I, which delivers it onto the elevated end of the upper screen of the pair of finer screens below the screen A. These finer screens are mounted and shaken in the same manner as the screen A—that is to say, the upper fine screen B is mounted on endless chains D', carried by pulleys F' and E'. The lower fine screen C is arranged below screen B and mounted, also, on the chains D'. The grain from screen B passes down the chute B' and falls upon the elevated end of screen C, from which it runs down the chute C' into an off-bearing spout K, which is pivoted at K', so as to enable it to be inclined so as to deliver the grain from either end. The pulley E' is rocked in precisely the same manner as the pulley E—that is to say, on the shaft M are secured eccentrics G^x, which are embraced by branches or arms H^x from the pulleys E'.

I have called the rockers E and E' "pulleys," and they may be pulleys; but, as the vibration is not great, I prefer to cut away or omit the parts of the pulley not needed, leaving simply two arms, as shown, projecting in opposite directions radially from the center.

It will be evident that the screen A and chute I may be mounted on endless chains, the same as screens B and C. I have shown in the drawings two modes of mounting the screens on the chains merely for purposes of illustration.

My manner of mounting the screens and shaking them may be employed for sifting merely and where no fan is used.

As will be seen by reference to Figs. 2 and 3, there will be two sets of chains and pulleys, one set situated near either side of the casing

X, and there are also four eccentrics on shaft M, arranged in pairs.

Having thus described my invention, I claim—

5 1. The combination, with a pulley F, a rocker E, provided with branches or arms H, and the connected chains D and D^x on said rocker and pulley, said chains forming a support for the inclined screen, of the said screen, 10 the eccentric G, and its shaft M, said eccentric being embraced by the arms H, and all operating substantially as set forth.

2. The combination, with the smaller bearing-pulley, the larger rocking pulley, the con-

nected chains on said pulleys, and the eccentric-embracing arms projecting from said rocking pulley, of the screens mounted on said endless chain, the operating-eccentric embraced by said arms, and the shaft of said eccentric, all arranged and operating substantially as set forth. 15 20

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

ERIK GUSTAF NICOLAUS SALENUS.

Witnesses:

NERE A. ELFWING,
ERNST SVANQVIST.