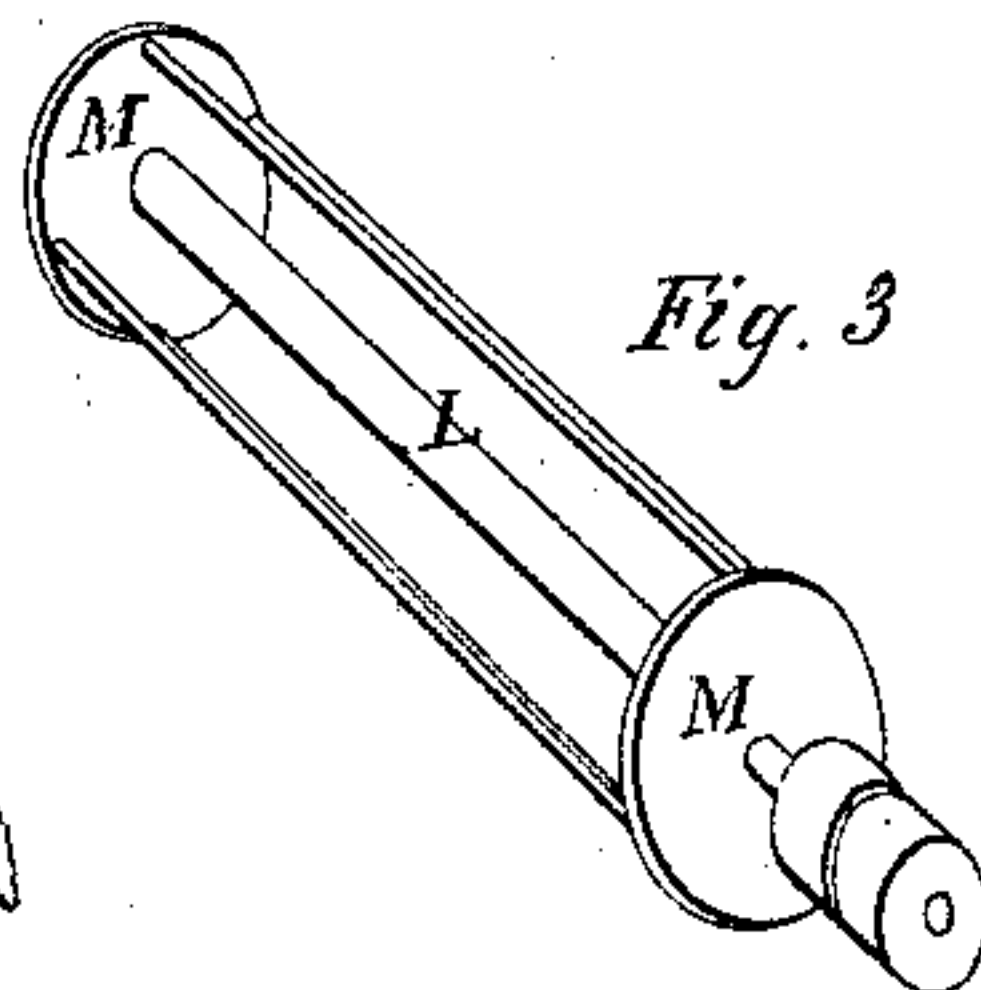
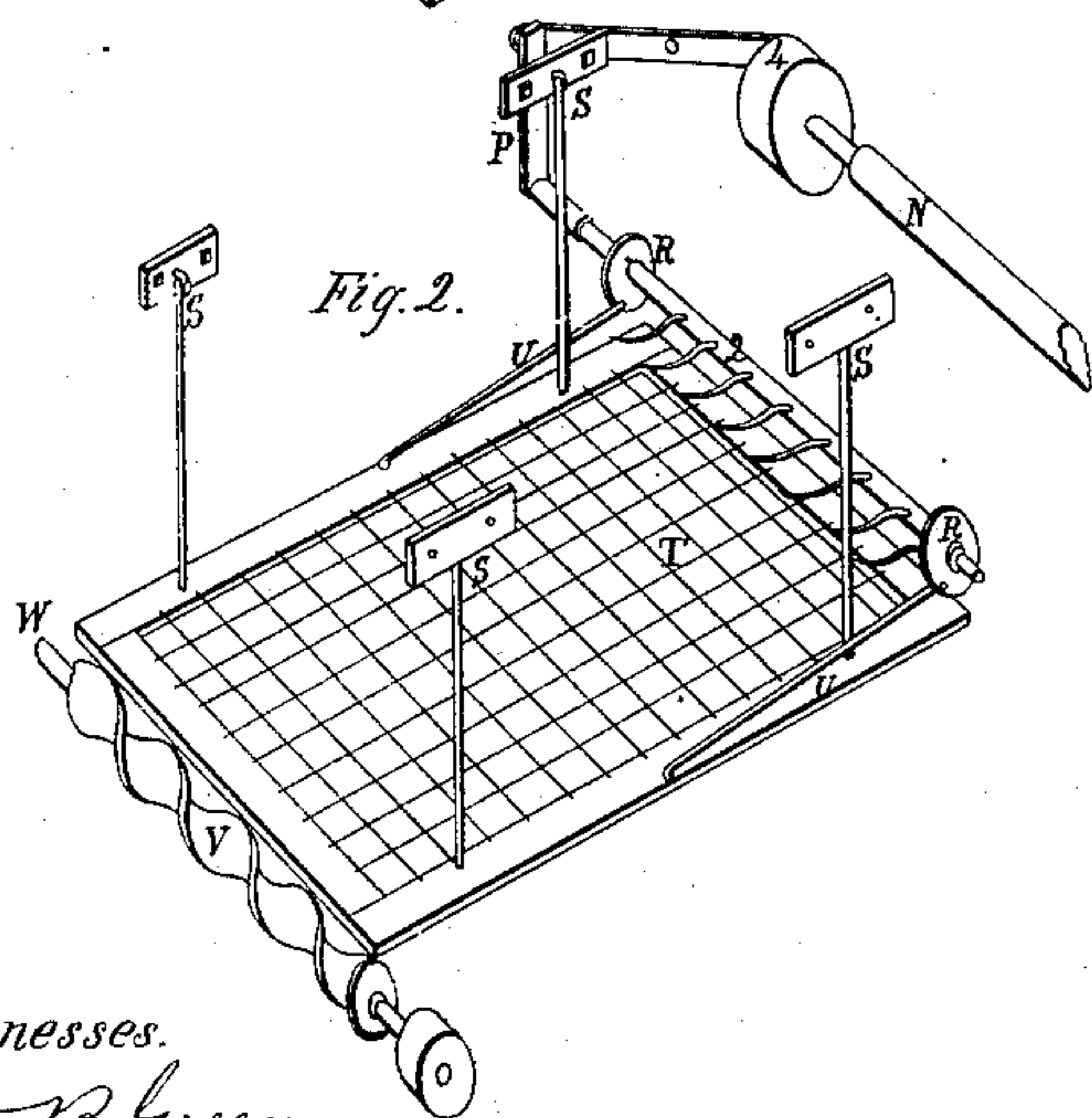
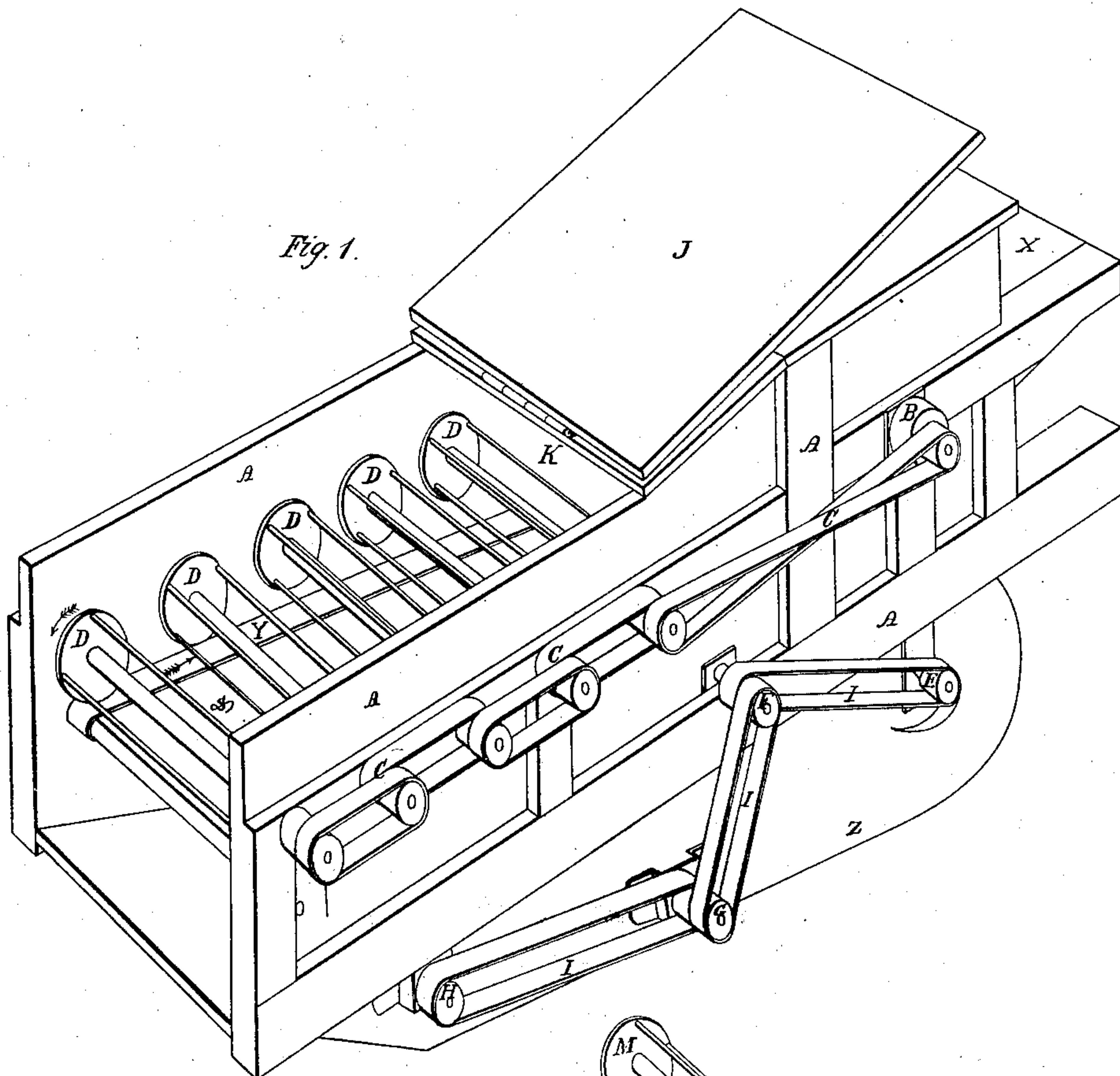


No. 32,883.

PATENTED JULY 23, 1861.

A. P. MERRILL.
GRAIN SEPARATOR.

2 SHEETS—SHEET 1.



Witnesses.
D. B. Green
C. F. Ashley

Inventor
A. P. Merrill

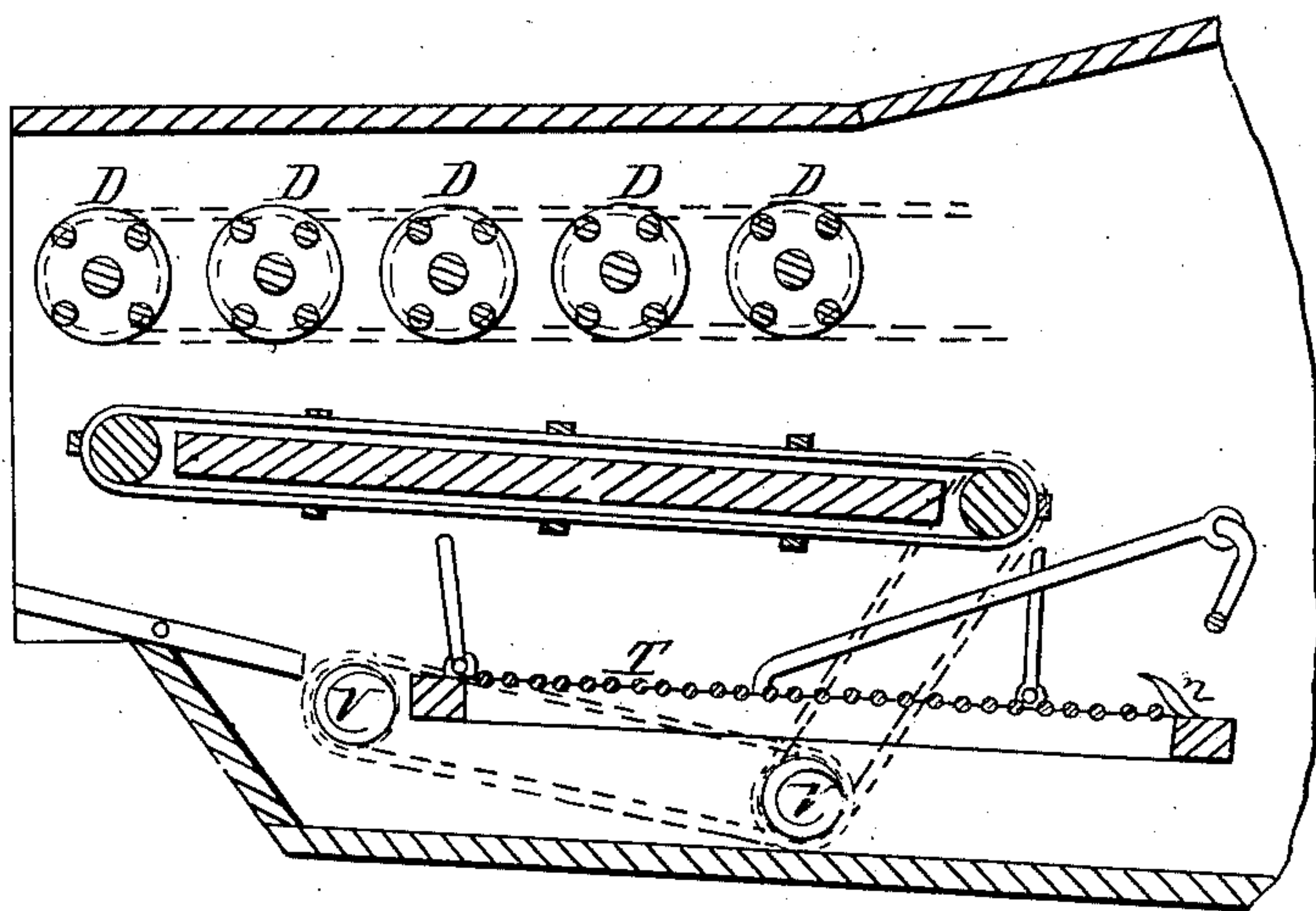
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Fig. 4



Witnesses
D. B. Green
C. L. Ashley

Inventor
A. P. Merrill

UNITED STATES PATENT OFFICE.

A. P. MERRILL, OF YPSILANTI, MICHIGAN.

GRAIN-SEPARATOR.

Specification of Letters Patent No. 32,883, dated July 23, 1861.

To all whom it may concern:

Be it known that I, ALMERUN P. MERRILL, of Ypsilanti, in the county of Washtenaw, and State of Michigan, have invented a new and useful Improvement in Machines for Separating and Cleaning Threshed Grain from the Straw and Chaff; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view of the machine. Fig. 2 shows the sieve and its attachments and Fig. 3, one of the reels separate from the machine.

In Fig. 1 A, A, A, A, shows the frame work of the machine. B, is a pulley on the cylinder to which the belt from the jack is attached. C, C, C, is a series of belts communicating motion from the threshing cylinder B, to the reels D, D, &c., and so arranged as to give the reels a uniform motion in the direction indicated by the arrow over the forward reel. D, D, &c., is a series of reels, whippers or beaters used in place of a saddle, or a canvas or lattice work belt to carry forward the straw and at the same time shaking out loose kernels of grain. E shows the position of the fanner. F shows the end of the inner shaft carrying the lattice or wheat belt. G shows the end of the wheat screw, and H the end of a tailings screw. I, I, I, is a series of belts deriving motion from the fanner and moving the wheat belt, and wheat and tailings screws. J is a cover overlying the reels, &c. K is an opening through which the straw passes to the thresher, upon the reels, whippers or beaters. X is the feeding point and Z the lower floor, inclosing fanner, screws, &c. Y is the wheat belt—having a motion on its upper surface as indicated by the arrow upon it.

In Fig. 2, N shows part of the fanner shaft, being the opposite end from that seen in Fig. 1. There is a pin in the opposite side of the pulley 4 on which a crank is made and to which the pitman O, is attached communicating motion to the crank P of the rock shaft Q. R, R, are two shake wheels or cranks, which by the pitmen U, U, give motion to the sieve T. S, S, S S are the hanging blocks and rods of the sieve T. V is a tailings screw—working out the tailings

at an orifice in the side of the machine at the end of the screw W. The rods of the sieve hangings S, S, S, S, are made fast in the sieve and in the blocks, and are hammered thin in the middle so as to spring, so no motion is lost.

In Fig. 3, L, shows the center shaft of one of the reels, M, M, the wheels or rims at the ends upon which are placed the four rods making up the reel. Fig. 4 represents a longitudinal vertical section of a portion of the machine in which the relative positions of the several parts hereinafter claimed in arrangement are seen.

The operation of the machine is substantially as follows: The machine being arranged and put up in the manner already described, is fed at the point X, Fig. 1, the straw comes at once upon the reels D, D, &c., which have a common motion forward upon the upper surface, and being constructed in the manner shown readily carry forward the straw but allow all loose grain to fall below, and do not carry or throw the grain over. The wheat or lattice belt Y, passes around a stationary bottom and which is inclined inward toward the rock shaft and rake Q—the inner end being over the sieve T. The wheat or grain passes down this stationary bottom, inclined as stated and falls upon the sieve which has a back and forward, end motion, and is in the current from the fanner. The rake and rock shaft at the same time constantly toss up the short straw and chaff, at once shaking out the grain, and exposing the chaff and straw to be blown away. The sieve has an end motion, and is so arranged that the end next the rake is the lowest—thus preventing the grain working over the front end. Whatever heads contain wheat are blown to the front edge of the sieve, and carried out by the tailings screw V and again returned to the thresher by apparatus not shown in the drawings, and not needed as part of this specification. By this arrangement the shoe of the sieve is dispensed with, and the sieve is so placed and so moved that much less wheat or grain is thrown over and lost. The sieve is hung in the manner described, and moved by the pitmen as shown in Fig. 2, which allows the inclination of the sieve to be toward the rake, and fanner as it should be, and secures a much more satisfactory and uniform motion. In the com-

mon form, the sieve being hung on a pivot at the inner end, has but a slight motion at the very point where motion is most needed, that is, at the inner end, where most of the
5 wheat falls upon it. Being made without the shoe, it is made of the full width of the machine and thus gives more cleaning surface of the sieve. Its motion is quicker and more effective in cleaning—and, at the same
10 time there is a saving of one horsepower in working it when the weight of the shoe is removed.

I do not claim any of the devices herein

named separately and individually as they are not new but

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What I do claim is—

Arranging the reels D, D, D, the endless grain carrier, the rake Q, the sieve T, and the screw conveyers V, together in the manner herein represented when the several
20 parts are connected and made to operate as specified.

A. P. MERRILL.

Witnesses:

D. B. GREEN,
C. F. ASHLEY.