(No Model.)

L. G. SCOFIELD.

COMBINED COAL ELEVATOR, SCREEN, AND LOADER.

No. 356,165. Patented Jan. 18, 1887.

Fig: 1.

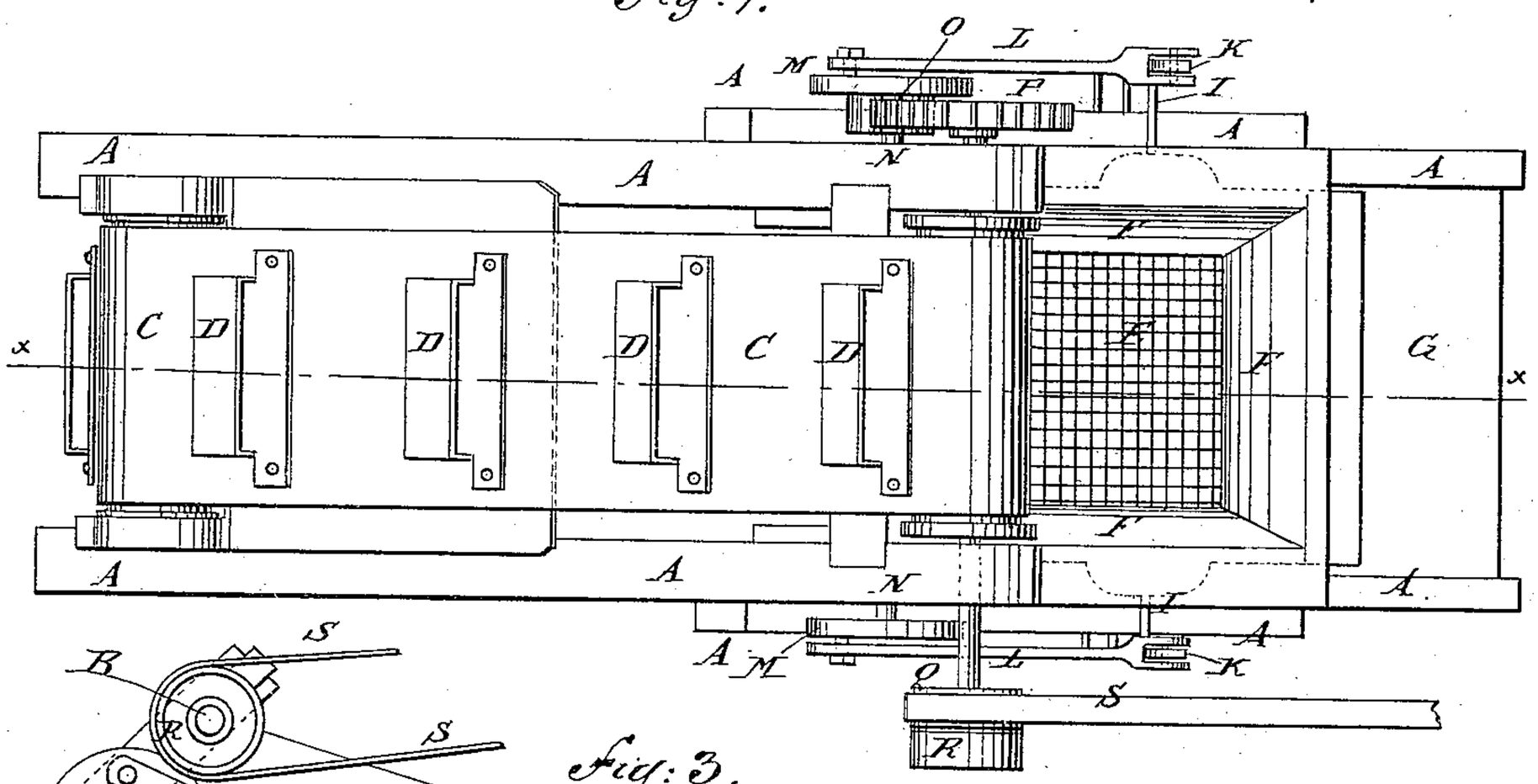

Fig: 3.

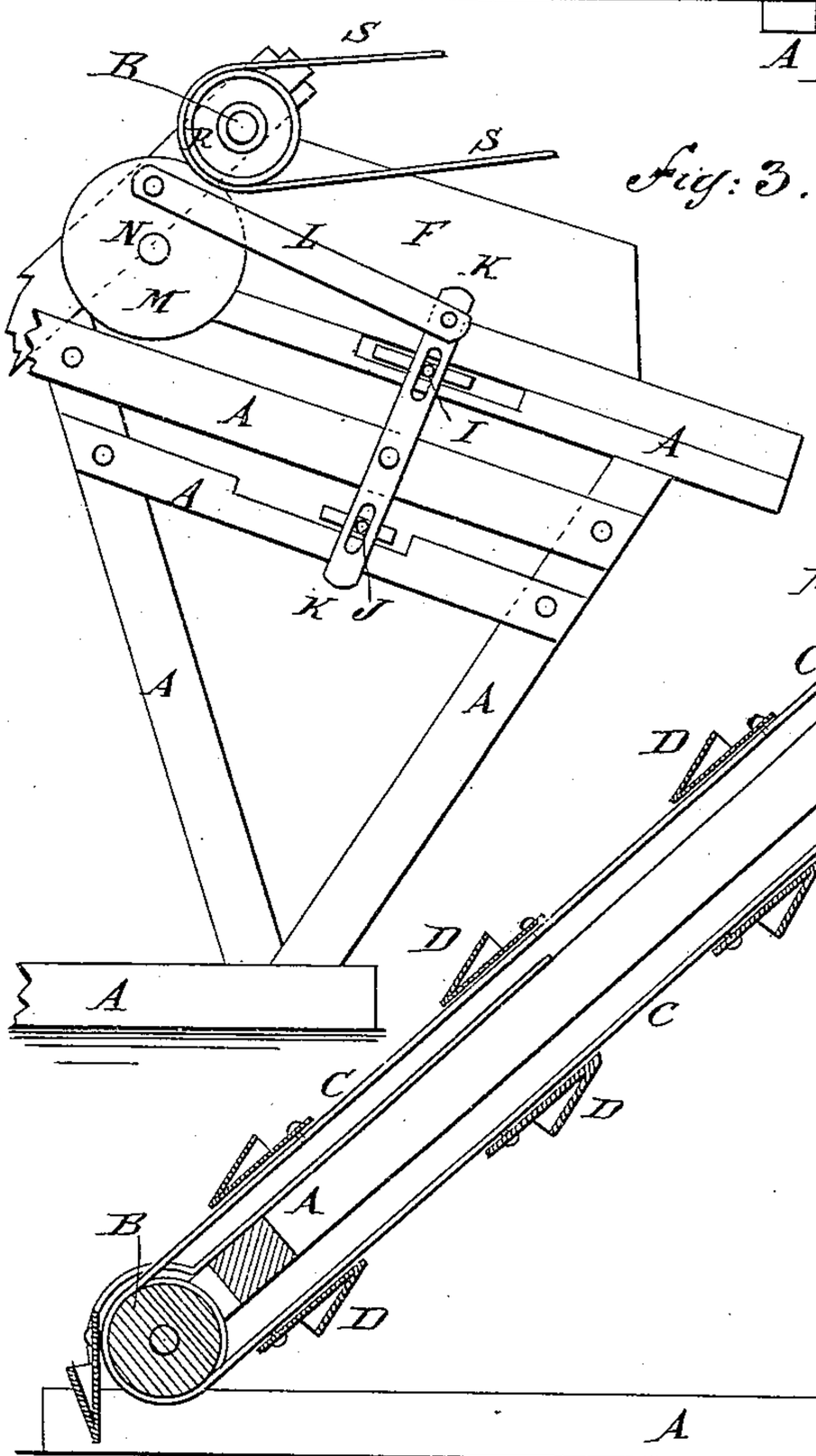

Fig: 2.

WITNESSES:

Chas. Nida.

C. Sedgwick

INVENTOR:

L. G. Scofield

BY Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

LEWIS G. SCOFIELD, OF PHILADELPHIA, PENNSYLVANIA.

COMBINED COAL ELEVATOR, SCREEN, AND LOADER.

SPECIFICATION forming part of Letters Patent No. 356,165, dated January 18, 1887.

Application filed March 4, 1886. Serial No. 193,967. (No model.)

To all whom it may concern:

Be it known that I, LEWIS G. SCOFIELD, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in a Combined Coal Elevator, Screen, and Loader, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of my combined coal elevator, screen, and loader. Fig. 2 is a sectional side elevation of the same, taken through the line *x x*, Fig. 1. Fig. 3 is a side elevation of the rear part of the same.

The object of this invention is to provide combined coal elevators, screens, and loaders constructed in such a manner that the coal can be shoveled from the bin or yard into the elevator, raised to the screen, screened, and discharged from the screen into a cart, only one shoveling being necessary.

The invention consists in the construction and combination of various parts of the machine, as will be hereinafter fully described and claimed.

A represents the frame of the machine, the base of which is horizontal and its front and rear parts are inclined to the rearward, as shown in Fig. 2.

To the upper and lower parts of the front of the frame A are journaled rollers B, around which passes an endless elevator-belt, C. To the elevator-belt C are attached buckets D, by which the coal shoveled upon the belt C from the floor of a bin or yard will be carried over the upper roller, B, and discharged upon the screen E. The screen E inclines downward and rearward and rests and slides upon rabbeted bars of the frame A, or upon bars or other ways attached to the said frame.

To the frame A, above the screen E, are attached guard-boards or a hopper, F, to prevent the coal from jumping off when discharged upon the said screen.

To the frame A, beneath the screen E, is attached an apron, G, the rear part of which is parallel with the said screen E, projects in the rear of the said screen, and is designed to guide the screened coal that passes off the tail end of the said screen into a cart placed at the rear of the machine.

The forward part, G′, of the apron G inclines downward and forward to guide the dust and small coal that pass through the screen E to the head end of the screen H, placed below and parallel with the said screen E.

The screen H rests and slides upon rabbeted bars of the frame A, or upon other ways attached to the said frame, and is made of such a fineness of mesh that the dust will pass through the screen and the small coal will fall from the tail end of the said screen. The dust and small coal can be received in boxes, bins, or other receptacles placed in or beneath the frame A, or the small coal can be received in a receptacle and the dust allowed to fall to the floor or ground.

To the sides of the screens E H are attached pins I J, which pass through longitudinal slots in the end parts of the bars K, placed at the sides of the frame A, and pivoted at their middle parts to the said frame. To the upper ends of the bars K are pivoted the rear ends of the connecting-bars L, the forward ends of which are pivoted to crank-pins attached to the wheels M. The crank-wheels M are attached to the ends of a shaft, N, journaled in bearings attached to the frame A. To the shaft N is attached a gear-wheel, O, the teeth of which mesh into the teeth of the gear-wheel P, attached to a journal of the upper roller, B.

To a journal of the roller B are attached a fast pulley, Q, and a loose pulley, R, to receive a driving-belt, S, from any convenient power. With this construction the coal is shoveled from a bin or yard upon the lower part of the elevator-belt C, is carried up by the buckets D, and is discharged upon the screen E, from the tail end of which the screened coal falls upon the rear part of the apron G and passes thence to the cart. The dust and small coal that pass through the screen E fall upon the forward part, G′, of the apron G, and slide down the said apron to the head end of the screen H. The dust falls through the screen H to the ground or into a receiver and the small coal falls from the tail end of the screen H into a receiver.

With this machine, with one shoveling the coal will be raised, screened, and discharged

into a cart, and at the same time the small coal in the screenings will be separated from the dust; or if the coal be taken from a car or coal-dump with the aid of a chute or otherwise conveyed to the elevators, or from a bin slightly elevated from the ground or floor, the coal can be screened and loaded without shoveling.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with the frame A, of the elevator B C D, the two screens E H, the interposed guide-apron G G′, and a driving mechanism, substantially as herein shown and described, whereby the coal will be raised, screened, and discharged and the dust and small coal in the screenings separated, as set forth.

2. The combination, with the frame A, the elevator B C D, and the two screens E H, of the gear-wheels P O, the crank-wheels M, the connecting-bars L, and the pivoted slotted levers K, substantially as herein shown and described, whereby the said screens are vibrated from the driving-roller of the elevator, as set forth.

LEWIS G. SCOFIELD.

Witnesses:
CHAS. F. LONG,
H. R. SHULTZ.