

(No Model.)

W. D. EWART.  
APPARATUS FOR HANDLING COAL.

No. 502,250.

Patented July 25, 1893.

FIG. 1.

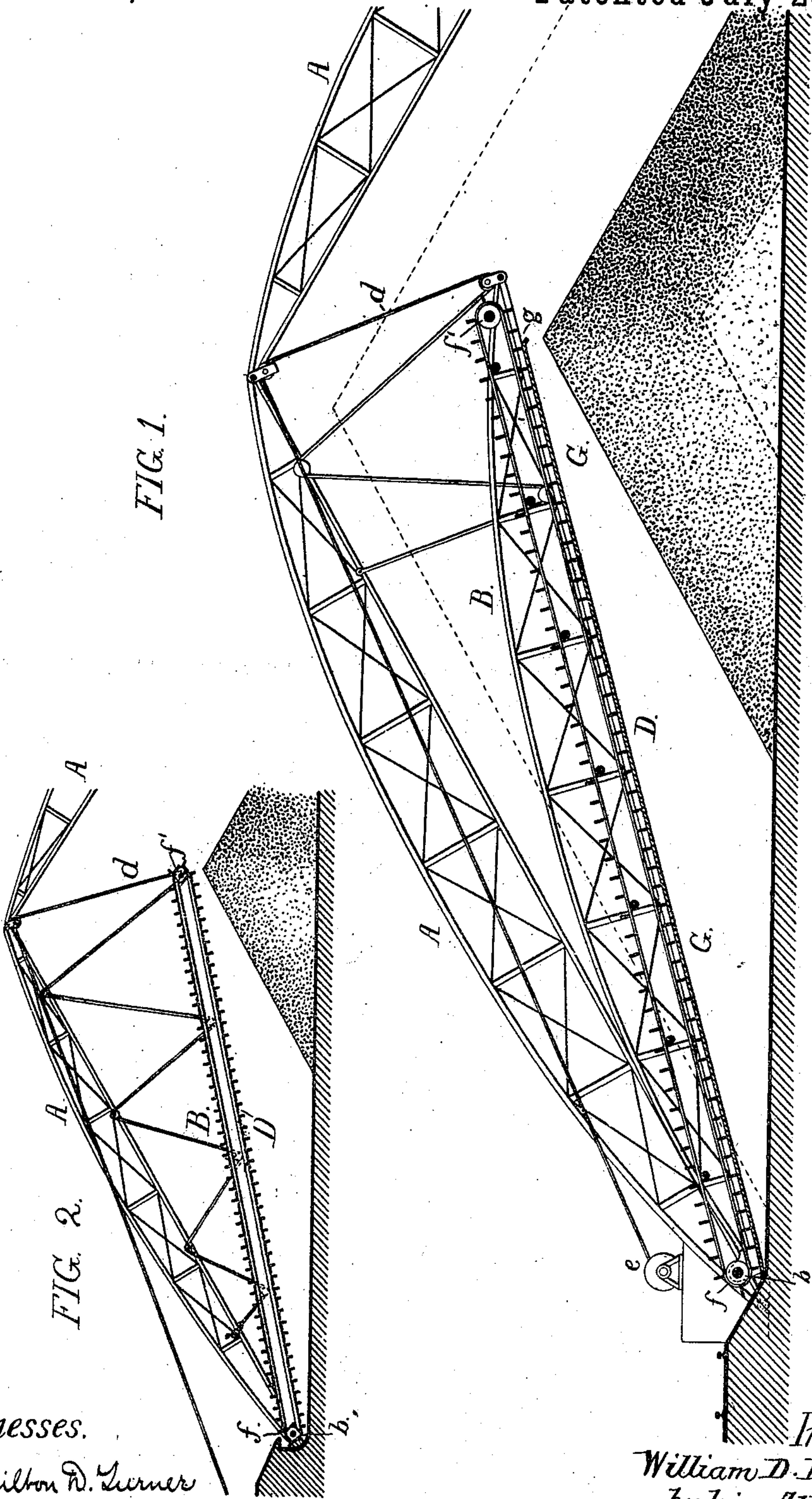
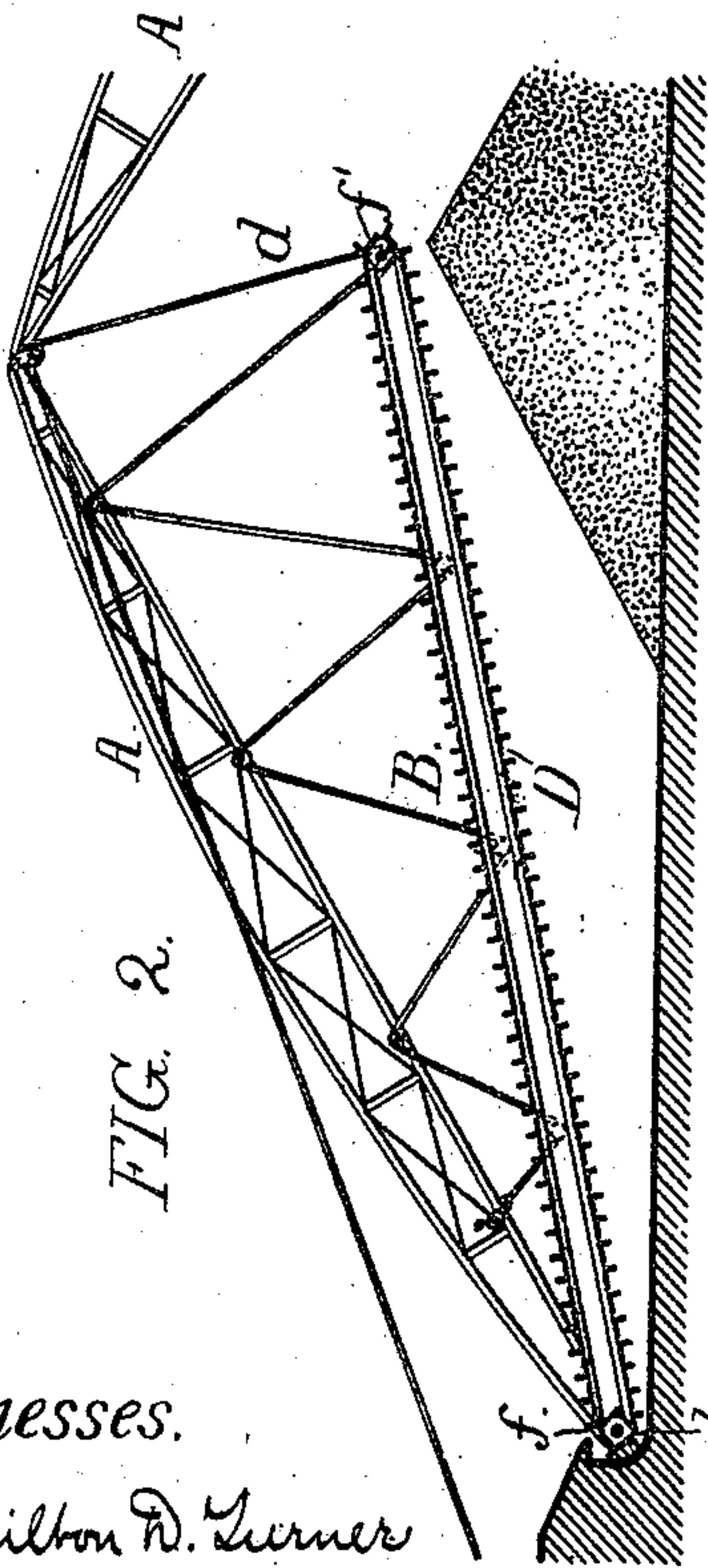


FIG. 2.



Witnesses.  
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# UNITED STATES PATENT OFFICE.

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## APPARATUS FOR HANDLING COAL.

SPECIFICATION forming part of Letters Patent No. 502,250, dated July 25, 1893.

Application filed February 16, 1891. Serial No. 381,619. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM D. EWART, a citizen of the United States, and a resident of Chicago, Cook county, Illinois, have invented certain Improvements in Machinery for Handling Coal or Analogous Material, of which the following is a specification.

The object of my invention is to construct a machine for piling coal or analogous material in storage piles or heaps by means of a conveyer as fully described hereinafter, reference being had to the accompanying drawings, in which—

Figure 1, is a sectional elevation of my improved piling machine; and Fig. 2, is a view showing a different form of elevating tackle.

In piling coal the one thing to be avoided is the breaking or disintegration of the particles or lumps of coal by allowing the material to fall from a height and it is to avoid this breakage and at the same time to pile the coal to a great height that my invention relates.

Referring to Fig. 1, A, A are the supporting trusses secured together at the top forming shears, and are suitably guyed either by ropes or other trusses.

Pivoted at *b* near the ground is a truss B, in the present instance adapted to swing between the side members of the shears; the outer end of the truss B is hung by means of a chain or wire rope *d* and pulleys to the shears as shown, said chain or rope passing to a suitable windlass or winding drum *e*. By operating this drum the outer end of the truss can be raised and lowered.

Carried by the truss B is an endless conveyer D which passes around the wheels *f, f'*, one at the lower end and the other at the upper end of the truss as shown in Fig. 1 of the drawings. The conveyer may be provided with flights as shown, or with buckets, or in some cases a screw conveyer may be substituted for the endless chain conveyer.

G is a bottom plate carried by the truss B which extends from the pivot point to the point *g* near the upper end of the truss.

The shears formed by the trusses A, A' are

arranged about the natural angle of repose of the material to be piled and span the pile in the present instance, so that the extreme limit of the upward movement of the piling truss B is at about the same angle as the truss A.

The process of piling is as follows:—The piling truss B is lowered so that the discharge point *g* is as near the ground as possible; coal or other material to be piled is fed to the conveyer carried by the truss, which forwards it to the discharge point *g*, allowing it to fall by gravity forming a pile of coal. When the apex of this pile nears the discharge point the end of the piling truss is raised to a height sufficient to allow the coal to drop on the previously formed pile without breaking, and when the apex of the pile nears the discharge point again the truss is again raised, and so on until the angle of the truss is at or about the angle of repose of the material piled. Where circumstances permit, the piling truss may be suspended from more than one point of the support, as for instance, a series of adjustable chains or ropes may be laced to bearings on the piling truss and support as shown in Fig. 2. Thus a lighter conveying truss or support may be used. The flights may also be formed as shown in Fig. 2, carrying the material on the upper run of the belt in place of the lower run, dispensing with the trough.

I claim as my invention—

1. The combination in a machine for piling coal or analogous material, of the shears having legs adapted to span the pile to be formed, the pivoted piling conveyer support, conveyer thereon and a rope connecting the support to the shears whereby the discharge end of the conveyer support can be raised and lowered while the receiving end is fixed, substantially as set forth.

2. The combination of the shears having legs adapted to span the pile to be formed, the piling conveyer support pivoted at the base of one of said legs, a continuous forward feed conveyer carried by the support, and tackle extending from the shears to the piling conveyer support, substantially as specified.

3. The combination of the shears, a piling  
conveyer support pivoted at the base of one  
of the legs of the shears, and suspended from  
the said shears, a trough for supporting the  
5 material as it is conveyed, and an endless  
chain conveyer the lower run of which travels  
over the trough and conveys the material to  
the discharge point, substantially as specified.

In testimony whereof I have signed my  
name to this specification in the presence of 10  
two subscribing witnesses.

WILLIAM D. EWART.

Witnesses:

HENRY HOWSON,  
HARRY SMITH.