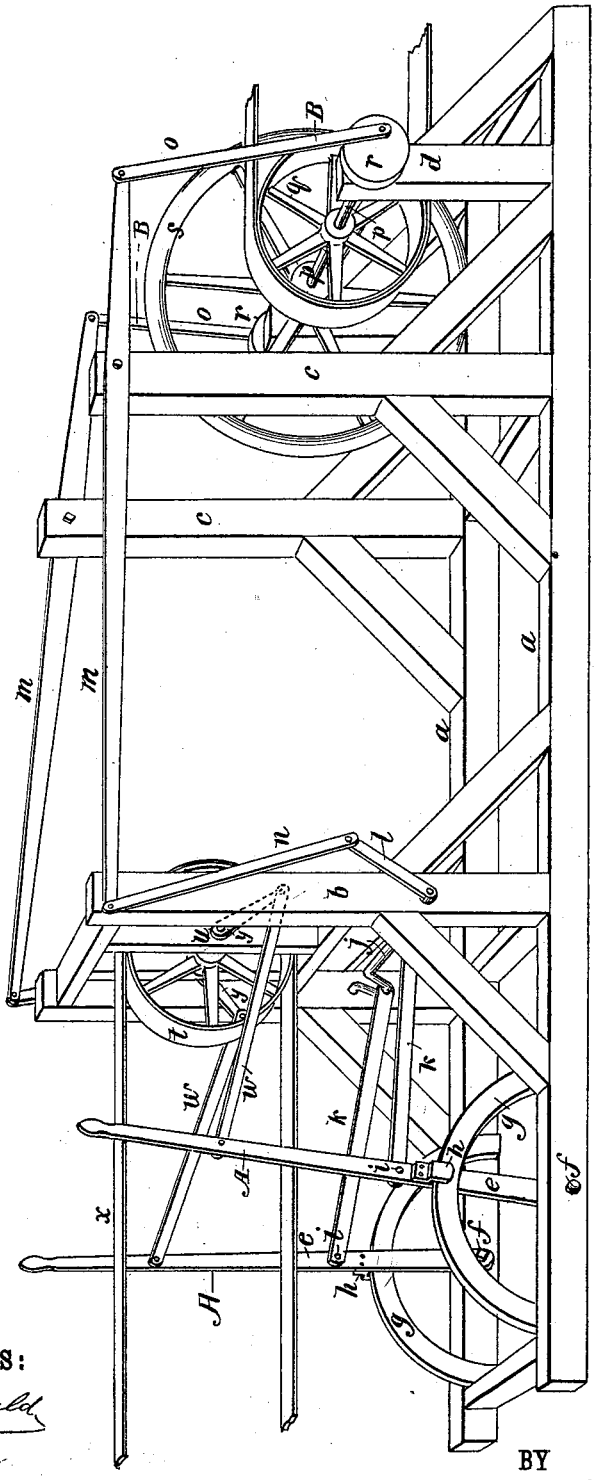
(No Model.)

D. K. HALL.

POWER MACHINE.

No. 262,763. Patented Aug. 15, 1882.



WITNESSES:

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UNITED STATES PATENT OFFICE.

DAVIS K. HALL, OF UNITY, WISCONSIN.

POWER-MACHINE.

SPECIFICATION forming part of Letters Patent No. 262,763, dated August 15, 1882.

Application filed June 21, 1882. (No model.)

To all whom it may concern:

Be it known that I, DAVIS K. HALL, of Unity, in the county of Marathon and State of Wisconsin, have invented a new and Improved Power-Machine, of which the following is a full, clear, and exact description.

My invention consists of a simple contrivance of apparatus for the employment of hand and other power to produce rotary motion for driving farm, mill, and all other machinery not too heavy to be operated by it, the object of the machine being to provide an advantageous arrangement whereby the effect of the initial force will be delivered with better advantage than in the common arrangements, as hereinafter fully described.

Reference is to be had to the accompanying drawing, forming a part of this specification, which is a perspective view of my improved power apparatus.

On any suitable bed-frame, *a*, provided with upright supports *b*, *c*, and *d*, of suitable height and distances apart proportioned according to the capacity required, I arrange first two hand-levers, *e*, pivoted to the bed-frame at *f*, and provided with guides *g* and guide-clips *h*. I connect these hand-levers at *i* by rods *k* with crank-shaft *j*, mounted in the uprights *b*, the cranks being set at right angles to each other to overcome the dead-centers.

To each end of the crank-shaft I attach other cranks, *l*, longer than the cranks of rods *k*, and these cranks *l*, I connect to the long levers *m* by rods *n*. Said long levers *m* are pivoted on the posts *c*, and connected at the ends of their short arms by rods *o* to crank-pins of wheels *r* on a shaft, *p*, sustained in standards *d*, carrying a driving-pulley, *q*, or a cog-wheel instead, and a balance-wheel, *s*. From this pulley the power is to be applied in any approved way to the machine to be driven, which may be sawing, planing, boring, mortising, or other wood or metal working machines, or any others.

When other power is to be used as auxiliary to hand-power, or in substitution of it, I arrange a pulley, *t*, and crank-shaft *u* in suitable supports between the uprights *b*, and connect the cranks *y* of said shaft to the levers *e* by rods *w*, to work them thereby instead of or in connection with hand-power, the auxiliary power being applied to pulley *t* by a belt, *x*.

By the arrangement of power apparatus above described it is believed that material advantages will be obtained in the application of hand-power to the driving of machinery, the power-receiving portion thereof being connected with the power-delivering portion B thereof by the transmitting-levers *m*.

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

1. The combination, in a power apparatus, of a pulley, *t*, and a crank-shaft connected with levers *e*, said levers being connected to a crank-shaft, *j*, and said crank-shaft *j* connected to the driving-shaft *p*, pulley or cog-wheel *q*, and a balance-wheel, *s*, substantially as described.

2. The combination, in a power apparatus, of hand-levers *e*, connecting-levers *k*, crank-shaft *j*, connecting-rods *n* and *o*, levers *m*, and shaft *p*, having crank-wheels *r*, balance-wheel *s*, and pulley *q*, substantially as described and set forth.

3. In a power apparatus, the combination of the power-receiving portion A thereof and the power-delivering portion B thereof with the power-transmitting levers *m*, substantially as described and set forth.

DAVIS KERSEY HALL.

Witnesses:

J. H. COOK,

W. H. H. HILTY.