

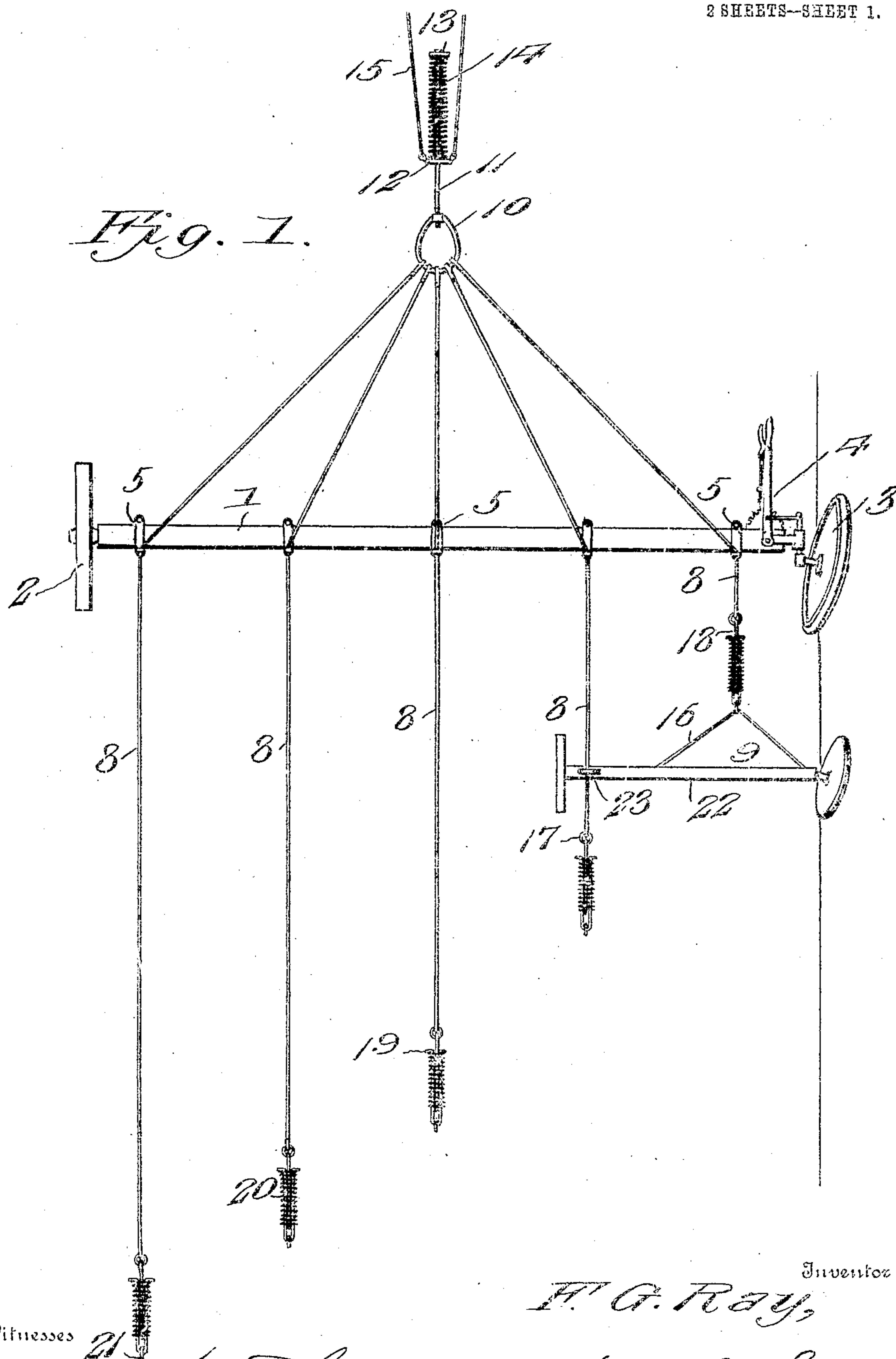
No. 786,679.

PATENTED APR. 4, 1905.

F. G. RAY.
GANG PLOW.

APPLICATION FILED DEC. 3, 1903.

2 SHEETS--SHEET 1.



Witnesses

Wm. L. Smith
Chas. S. Hoyer

Inventor

F. G. Ray,

By

Victor J. Evans

Attorney

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2 SHEETS—SHEET 2.

Fig. 2.

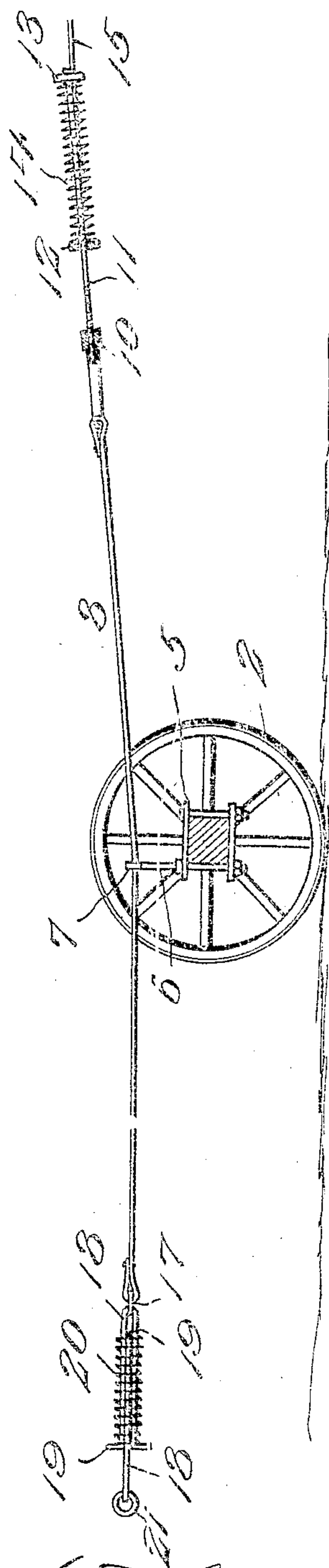


Fig. 1.

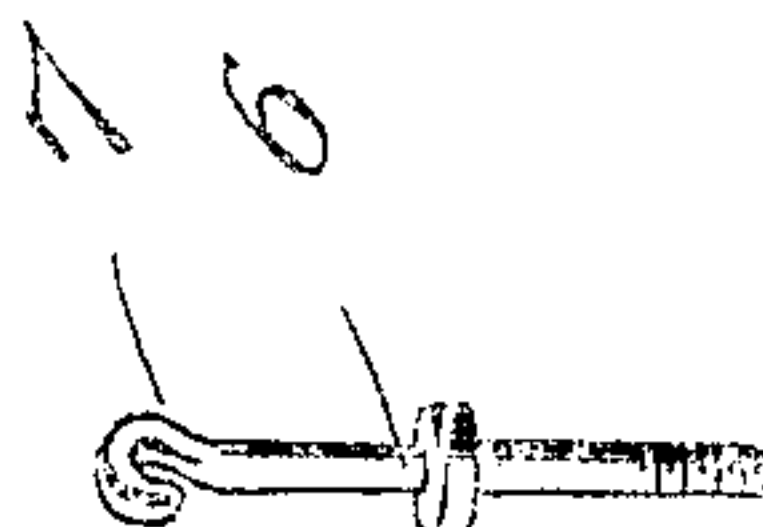
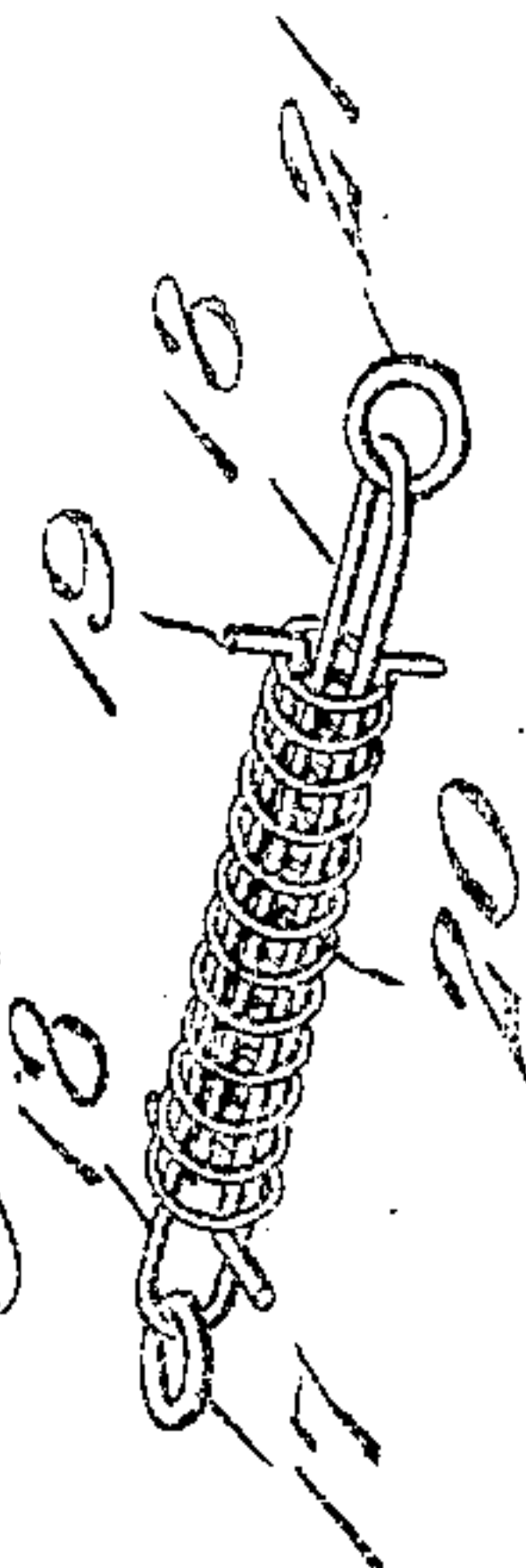


Fig. 3.



Witnesses

Chas. S. Hoyer.

Inventor

F. G. Ray,

By

Victor J. Evans

Attorney

UNITED STATES PATENT OFFICE.

FELLIX GRIFFIN RAY, OF ROANOKE, TEXAS.

GANG-PLOW.

SPECIFICATION forming part of Letters Patent No. 786,679, dated April 4, 1905.

Application filed December 3, 1903. Serial No. 183,591.

To all whom it may concern:

Be it known that I, FELLIX GRIFFIN RAY, a citizen of the United States, residing at Roanoke, in the county of Denton and State of Texas, have invented new and useful Improvements in Gang-Plows, of which the following is a specification.

This invention relates to a gang-plow which has been particularly devised for operation by a single engine and whereby a number of disk or other plows may be carried by a simple and light vehicle means; and the object of the same is to reduce the cost of breaking up large tracts of land and also expedite such operation without employing the usual animal and manual labor.

The invention consists in the construction and arrangement of the several parts, which will be more fully hereinafter set forth.

In the drawings, Figure 1 is a top plan view of a plow embodying the features of the invention. Fig. 2 is a longitudinal vertical section of the same. Fig. 3 is a detail perspective view of one of the connecting springs which is used between the draw-cables and beams of the plows included in the organization of the machine. Fig. 4 is a detail perspective view of one of the guide-bolts for engaging each of the draw-cables.

Similar numerals of reference are employed to indicate corresponding parts in the several views.

The numeral 1 designates a main supporting or axle beam having on one end an ordinary ground-wheel 2 and provided at the opposite end with an adjustable wheel 3, well known in the art to which this invention pertains, and controlled as to its obliquity to the line of draft by means of adjusting-levers and locking-segments 4. (Clearly illustrated in Fig. 1.) The supporting-beam 1 is of such length as to cover a wide expanse of land and accommodate the application thereto of a number of plows, and at regular intervals thereon are secured a series of clips 5, having rear guide bolts or pins 6 projecting thereabove and formed with upper guide-hooks 7, the said guide bolts or pins being held in connection with the clips by upper and lower nuts, as clearly shown by Fig. 2. Caught under

and extending through the guide-hooks 7 of the bolts 6 are a series of draw or draft cables 8, differing in length and to the rear ends of which are attached a series of disk plows 9, as shown in diagrammatic form at the right-hand side of Fig. 1. The use of hook-bolts 6 renders the application and detachment of the cables expeditious and convenient. The front terminals of the draft-cables 8 are converged and connected to a draft-ring 10, which has a draw-bolt 11 secured thereto and movably projected through a cushion-plate 12, between which and the head or forward extremity 13 of the bolt 11 a spring 14 is interposed and surrounds the said bolt to take up the shock or jar and reduce jerking strain on the cables to a minimum. The cushion-plate 12 has draft-cables or analogous devices 15, attached to opposite sides thereof and also of such length as to render them convenient in application to the rear of a traction or other engine.

Each disk-pLOW frame will be provided with a draft-bar 16 of substantially triangular contour and to the apex of which an eye or ring 17 at the rear end of a compensating device is secured, said device being clearly shown by Fig. 3. The compensating device consists of two elongated looped members 18 with their terminals bent at an angle, as at 19, to form stops, the said members being disposed in planes at right angles to each other and having between their bent terminals a spring 20. Each cable 8 is attached at its rear end to a forward ring 21, forming a part of this compensating device, and the function of the latter is to reduce jar and strain on the cable and the disk plow to which the cable is attached through the medium of the said device. By interposing the springs 14 and the compensating devices, respectively, between the engine and the disk plows the jerking strain on the several cables is relieved to such an extent as to avoid injury to the several parts of the improved structure, and when the improved plow apparatus is in operation it will be seen that a large expanse of land may be quickly broken up without the employment of manual labor and a large number of animals or the slow process that would result from the use of a single machine.

It will be understood that the wheel 3 is of the ordinary staggered form and will be preferably constructed with an angular tread to assist in guiding the beam and the parts co-
 5 operating therewith and regularly moving the several disk plows over the ground to be broken up.

The disk plows may be of well-known form and will be provided with adjusting means of
 10 the most approved pattern, and the operation of the entire apparatus is not dependent on any precise structure of the individual disk plows connected to the draft-cables 8.

The machine or apparatus as an entirety
 15 may be collapsed or reduced to compact form and conveniently carried in a wagon or other wheeled device from one point to another, owing to the flexibility of the draft-cables, and when not in use said apparatus may be
 20 detached from the several disk plows and stored in reduced space. The use of the cables is materially advantageous in reducing the machine or apparatus to compact form in contradistinction to analogous structures
 25 wherein rods are used and have to be disconnected and are cumbersome when stored. In the present apparatus it is only necessary to gather up the several plow attachments, close to, and place them on the supporting-beam 1.
 30 Furthermore, the cables adapt themselves more readily to the movements of the plow devices and the draft-power is more regularly transmitted thereby through the draft-ring 10 than would be by the use of rods.

The apparatus or machine embodying the features of the present invention will be found exceptionally useful, and in view of the simplicity of the several parts the cost of the same will be reduced to a minimum. The beam or
 40 frame of each disk or other plow that may be used in connection with the apparatus will be provided with a guide 23, near the inner end thereof, through which the next adjacent cable 8 will pass, and thus operate to keep the
 45 plow properly up in position and also obstruct any tendency to lateral or sliding move-

ment thereof. All the cables will be so arranged, and while only one plow is shown in the drawings it will be understood that all the cables will be similarly equipped with
 50 plows. Though five draft-cables are shown for use with as many disk plows, it will be understood that the number of said cables may be increased or decreased, as may be found necessary, and the beam 1 proportion-
 55 ately varied in dimensions.

Having thus fully described the invention, what is claimed as new is—

1. The herein-described gang-plows comprising a wheeled supporting-beam having
 60 guide-hooks arranged at suitable distances apart thereon, a series of continuous cables of different lengths extending forwardly and rearwardly of the beam and detachably connected to said hooks, the forwardly-extended
 65 portions of the cables being converged and having their terminal ends grouped together and mounted in a suitable securing means provided with a spring draw-bolt connected thereto, substantially as specified. 70

2. A gang-plow comprising a wheeled supporting-beam having guide-hooks arranged at suitable distances apart thereon, a series of continuous cables of different lengths extending forwardly and rearwardly of the beam
 75 and detachably connected to said hooks, the forwardly-extended portions of the cables being converged and having their terminal ends grouped together and mounted in a suitable securing means, and each of said cables being
 80 provided at their rear ends with spring actuating devices having elongated loops on opposite ends which are bent to form stops, and means on the terminal rear ends of the spring actuating devices, whereby to attach the plows,
 85 substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

FELIX GRIFFIN RAY.

Witnesses:

M. V. KERLEY,
 N. G. PICKETT.