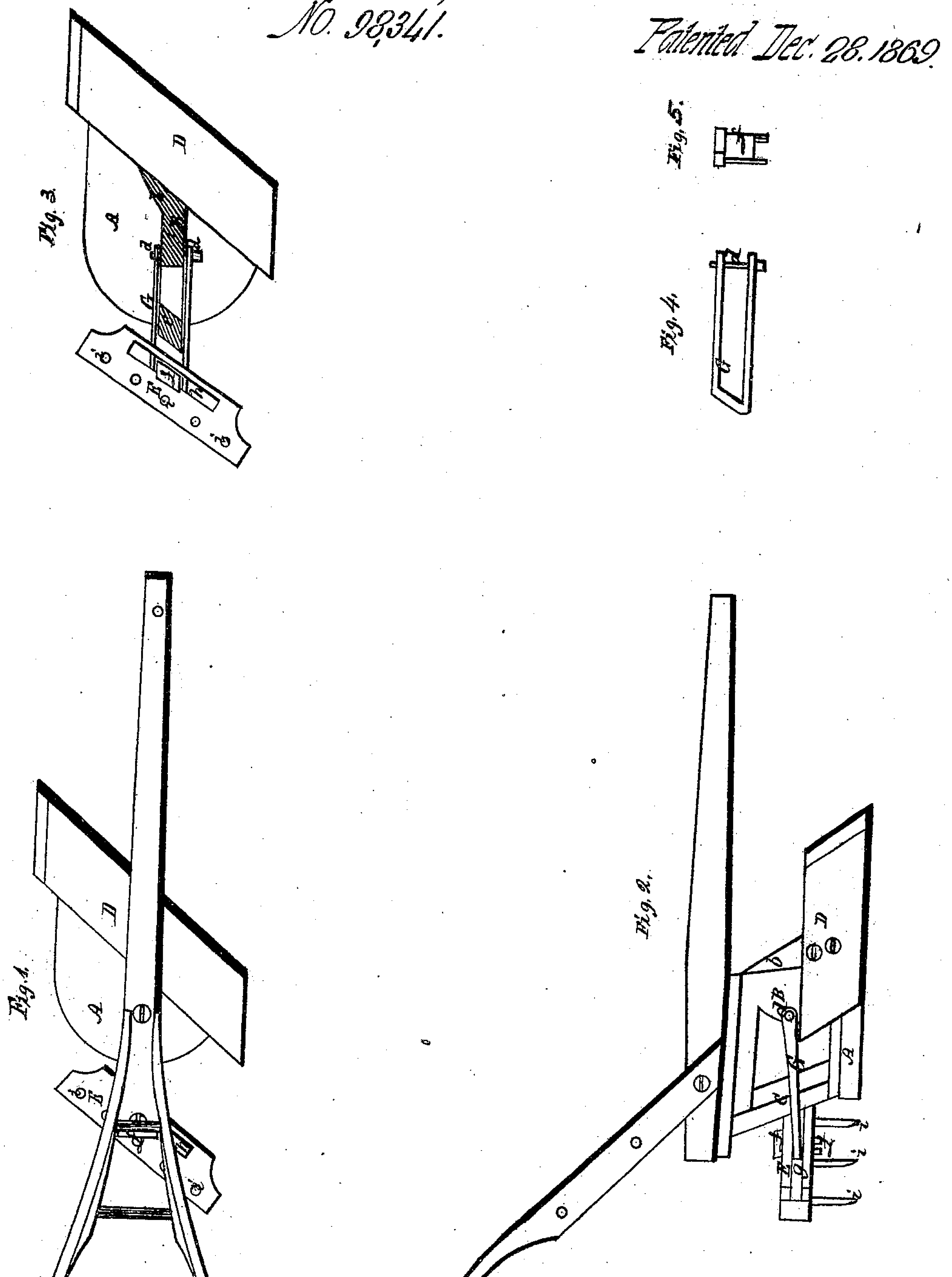
B. F. Bowling,

Shovel Plow.

No. 98,341. Patented Dec. 28, 1869.



Witnesses:
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UNITED STATES PATENT OFFICE.

B. F. BOWLING, OF HOLLY SPRINGS, MISSISSIPPI.

IMPROVEMENT IN COMBINED COTTON SCRAPER AND CULTIVATOR.

Specification forming part of Letters Patent No. **98,341**, dated December 28, 1869.

To all whom it may concern:

Be it known that I, B. F. BOWLING, of Holly Springs, in the county of Marshall and State of Mississippi, have invented a new and Improved Machine for "Scraping" Cotton, Corn, or other Crops; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, making part of this specification—

Figure 1 being a top view of the improved scraper; Fig. 2, a side elevation of the same; Fig. 3, a horizontal section thereof below the beam; Figs. 4 and 5, views of parts detached.

Like letters designate corresponding parts in all of the figures.

The nature of my invention consists in providing an adjustable and self-adjusting harrow to be used in conjunction with a scraping-blade, both being attached to a stool of cast-iron, the same secured to a common plow-beam by means of bolts, or their equivalent, passing through the beam and secured by pins. The harrow is to be fastened to said stool by means of a crooked bar of iron at the rear end, at the same angle with the scraping blade and harrow, to permit the harrow to be adjusted to the right or left, as needed, the forward ends secured to the front upright of the stool by means of a bolt passing through both the bars and upright; or two bars may be used to connect by the rear ends passing through the harrow-stock in mortises, to admit the harrow to be moved right or left. The harrow-stock can be made either of iron or wood. The stool may also be of wood.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

I first stock the scraper in any of the forms known. I attach a stool, A, of cast-iron or shank of wood of peculiar form, the front with oblique angles, the rear rounded, while two-thirds of the bottom of the stool remains straight. The front upright, B, which can pass through the beam or be fastened by bolts, has an oval-shaped projection, *b*, on the left side thereof. This improvement is to overcome two difficulties in cotton-scrapers: one, to prevent the too easy detachment, either right or left, by little obstructions on the scraping-surface, and enables the power drawing forward to be direct between the front of beam, and centrally between the handles, making it, therefore, far easier both for the operator and beast, and enables the scraper to perform work with or without a bed in rough or smooth ground, and enables the scraping-blade to be set at a greater angle, both upright and to the right, and to be longer scraping a wider surface. Said stool is to be of cast-iron, the bottom about one to one and a half inch thick, the uprights, say, one and a half inch thick, the forward upright to have cast on the same the oval projection, as described, and to have on its rear a rounded portion, through which the bolt *d* passes to attach the harrow E, the rear upright C to be about one and a quarter inch thick and one and a half inch wide, forming an angle, to admit the harrow-bar G to be in close contact on the sides thereof; also, to have a shoulder to prevent the connecting harrow-bar from coming in contact with bottom of stool and stock above, these shoulders to be sufficiently apart to allow the crooked or oblique bar or bars G to move up or down sufficiently to allow the harrow-teeth to be always in contact with the scraped surface, even if the scraping-blade D forward be on an elevation, and the teeth of the harrow be in a depression; or the blade may be in a depression and the teeth on an elevation, admitting the harrow to act freely of its own weight and adhesion on all surfaces, which constitutes the same its own adjuster, while it may be adjusted to or from plants by sliding the stock right or left. This is accomplished in either of two ways: one, by the crooked connecting-bar passing into or through the stock of the harrow through a mortise, *g*, and forward to the front upright of the stool, and regulated right and left by dropping a wedge, *f*, on the sides of bars through a mortise, *h*, as needed, to keep securely in position the stock; or, when two bars may be used, taps may be used on the rear ends and made secure, fastening the stock and connecting-bar of the scraper and harrow.

The harrow is to be set to run at any angle. In the first working of plants the same angle of the scraping-blade is best. If the plants be of sufficient size and require soil, a sixth tooth may be added to the left and a little to the rear, to sift the soil around plants. When the harrow is set with the scraping-blade's angle, when a second scraping and working of plants

is needed, set the right of the harrow forward, and reverse the angle of the teeth, moving the soil to or parting the same directly toward plants, as needed.

Hoes or teeth *i i* may be used as well as pegs, flatted, angled, and pointed forward. The whole overcomes several material objections to the common scraper without the harrow.

The two combined are operated by one man and team at the same time. The two form mutual aids to each other, while one forms by its weight, width, and length of blade a certain movement of the soil by its peculiar adjustment of central contact, both with the soil and obstructions. The other (the harrow) aids in its operation to keep in place the stool and scraping-blade, and thereby pulverizes the soil, leaving a loose soil on the scraped surface, entirely obviating a serious objection to the ordinary scraper, which leaves the scraped surface bare, that invariably, if left so to dry, forms a shield or crust that invariably breaks up in clods, often lodged on or against young plants in that condition, which tends to injure rather than assist the growth thereof; and, further, forms a lodgment for one of the cotton-plant's worst enemies: the louse—an insect which sucks the leaf and stalk. The harrow attachment accomplishes this greatly-desired object, particularly in cotton-cultivation. It at the same time thereby pulverizes the soil, and lodges, in lieu of clods, the soil in good condition against the stalks of plants, and on the scraped surface, thereby forming a cultivator in conjunction with the scraper.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of the adjustable harrow E with the scraper, substantially as and for the purpose herein set forth.

2. The construction and arrangement of the oblique connecting-bar G, pivoted to the front upright, B, of the stock, and guided and braced by the rear upright, C, thereof, as described.

B. F. BOWLING.

Witnesses:
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